REGIONE DEL VENETO

2017 STATISTICAL REPORT

Veneto: A story to tell, like no other

ABILITIES

Veneto Region
Regional Council Presidency
International Relations, Communication and SISTAR Management
Regional Statistical System O.U.

ISBN 978-88-909030-3-8

Statistical Report – Veneto: A Story to Tell, like No Other (Rapporto Statistico - il Veneto si racconta, il Veneto si confronta) is available as a PDF from the Regional Statistical System O.U. page on the Veneto Region website: http://statistica.regione.veneto.it/Pubblicazioni/RapportoStatistico2017

Recognising and making full use of "abilities", the main theme of this edition of the Regional Statistical Report, represents a decisive challenge in an increasingly globalised and interconnected context.

Through defining abilities as a combination of creative and, at the same time, pragmatic learning, talent in using knowledge, personal attitudes and expertise in dealing with problems, we can conclude that they constitute an authentic legacy of resources that play a major part in all aspects of life, not just the individual's, but the life of the very community itself: suffice it to think of the strategic value of such a concept in the world of education, work and business.

In this sense, we must build on the living and consolidated capital of the knowledge and expertise of companies, institutions, families and individuals to try to answer the issues of development, competitiveness and employment.

This is particularly true in a constantly changing society like ours, which requires a great ability to adapt at all levels by individuals and intermediate bodies.

At the regional level, by acknowledging and making the best use of the Veneto's excellent and particular qualities, its entrepreneurs' intelligence, the quality of its products, the protection of its territory and the development of tourism, we shall be able to support the growing signs of recovery from the global economic crisis.

In a context where true economic and social added value is not material but rather based on savoir-être and savoir-faire, the ability to cultivate and refine the abilities and abilities of individuals and group representatives is a key lever for planning the future development of the Veneto.

Luca Zaia
President of the Veneto Region

In an increasingly knowledge-based society, providing objective, reliable and timely information is a valuable and crucial asset in supporting the decision-making process of all local players: public administrations, businesses, associations and families.

Only official statistical information possesses such traits of quality and reliability and, therefore, provides a solid source of knowledge to plan, ex ante, individual and collective actions and to check, ex post, the results.

It is no coincidence that fact checking, i.e. the timely verification of facts on which opinions are based, is increasingly regarded as a key instrument for verifying information coming from the very different sources to which we are exposed on a daily basis.

In this sense, the Statistical Report, now in its 14th edition, is a reference text for the analysis and comparison of economic and social phenomena in the Veneto from a structural or economic point of view, capable of providing a documented quantitative and qualitative reading of the region's dynamics, with constant attention to benchmarking.

In particular, in this year's Statistical Report, focused on the Veneto's "abilities", a picture is painted of the current local economic and social system that places particular emphasis on the capabilities of the system to create intelligent, sustainable growth centred on the recognition and promotion of abilities and competences.

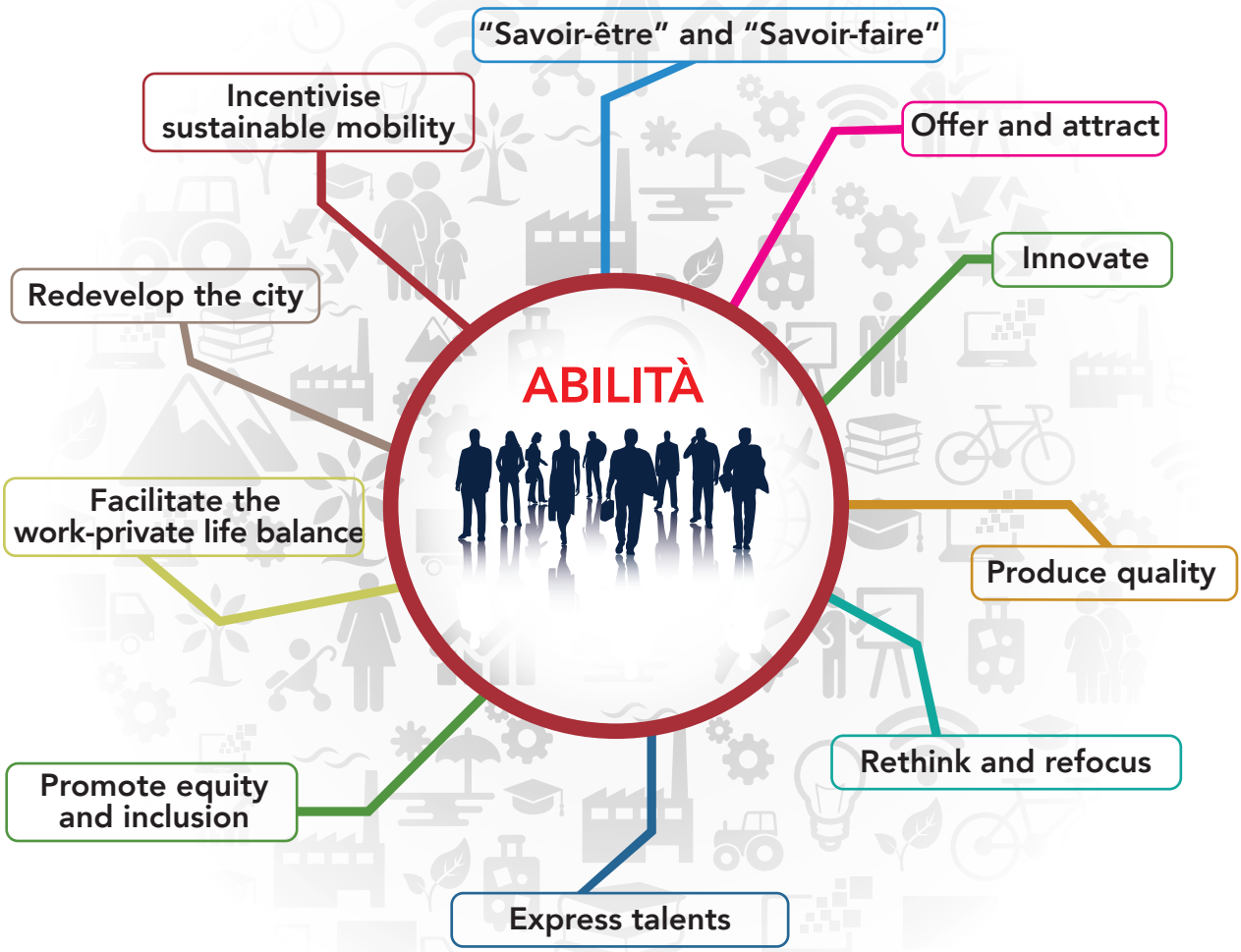
I am sure that for everyone reading this volume, available in both English and Italian on the Administration's website (http://www.regione.veneto.it/web/statistica), it will present a stimulating opportunity to reflect without preconceptions upon the current situation in the Veneto and its present and future potential.

Ilaria Bramezza

Secretary General of Planning
Veneto Region

OVERVIEW: THE VENETO AND ITS ABILITIES

The Veneto and its abilities



"Everybody is a genius but if you judge a fish by its ability to climb a tree, it will live its whole life believing that it is stupid"

Albert Einstein

We all have some abilities, even if it is just one. This is good news. Whether you have a special ability in dance, precision mechanics, sculpture, interpersonal relationships or philosophical reasoning. It is not just a question of personal characteristics or individual inclinations, but some form of talent or prowess in combining personal aptitudes with knowledge and education. Therefore, abilities can be acquired, and, this is the second good bit of news. We learn through experience, whether conventional face-to-face training or fieldwork does not matter. At a historic point of profound and rapid change, it becomes desirable to hone abilities and acquire new ones, concentrating on expertise and knowledge throughout life. This is why lifelong learning is recommended and encouraged, especially at a European level.

Sometimes, people are not always aware of their abilities or cannot always express themselves and therefore they lose themselves: those observing the younger generation report on how constant presence on social networking sites dissolves the social and community abilities of young people still in education; those watching the media world report on how the speed of news circulation reduces the ability to focus, analyse and identify fake news; those who look at the world of employment report unrecognised professionalism, transferred businesses, and untapped expertise. According to the Nobel Prize-winning economist Amartya Sen 1, each person's true abilities are the result of a mixture of their own capabilities and the degrees of freedom in being able to put these into practice. Therefore, there are social and economic conditions in which some abilities cannot be put to use, in whole or in part. In this case, those system abilities that help to identify and remove obstacles must intervene so that everyone can express their potential and so that nobody is left behind.

Given that nobody, be it an individual, a company, or an institution, possesses all the necessary abilities, it is essential that there be a system ability to interconnect the different abilities. It seems paradoxical, but in a society of permanent connection and instant messaging, the goal generally considered the most desirable is that of complete independence. Nothing could be more illusory, as affirmed by the recently deceased philosopher Zygmunt Bauman, according to whom happiness stems from interdependence and the pooling of different abilities. The emphasis of this interconnection is highlighted by the European Parliament2, which argues that "the key competences for lifelong learning are a combination of knowledge, abilities and attitudes appropriate to the context. Key competences are those which all individuals need for personal fulfilment and development, active citizenship, social inclusion and employment."

The reference to active citizenship and inclusion alludes not only to employment or technical and technological knowledge, albeit they are important and fundamental, but to other abilities, in a more humanistic sphere, which are also mentioned by Ignazio Visco, Governor of the Banca d'Italia. Specifically, he identifies a "set" of decisive abilities for the 21st century: "the exercise of critical thinking, problem-solving attitudes, creativity and positive readiness to accept innovation, the ability to communicate effectively, and openness to collaboration and teamwork"3.

Critical thinking, creativity, sharing of abilities, and inclusion: multifarious abilities required to play an active part and gain the competences needed to take part in today's globalised world. These would appear to be the essential ingredients for the stage we are going through, where there is an increasing need to stop and reflect on gaining an overall vision of the world's peoples. For this reason, this year's Statistical Report focuses on personal, social, economic and system abilities, and on the ability to identify those that are unvoiced or unrecognised, even in a global perspective.

1.1 The Veneto in the economy

2016 did not lack happenings in the world economy happenings; major changes in the international economic and political climate have shown their effects on global growth dynamics and 2017 may still see the large inflows that have animated the economy so far.

[1] Amartya Sen, Development as Capability Expansion. In: Fukuda-Parr S, et al. Readings in Human Development. New Delhi and New York, Oxford University Press, 2003.

[2] Recommendation of the European Parliament and Council

3 Ignazio Visco, Investire in conoscenza Crescita economica e competenze per il XXI secolo (Investing in Knowledge .Economic growth and abilities for the 21st century), Il Mulino, Bologna 2014

General Economic Performance

The beginning of 2016 was marked by a deceleration in international growth, reflecting a fall in raw material prices, which obviously influenced the dynamics of the producing countries. Falling commodities prices also accentuated the downward trend in international inflation, favouring the recovery of household purchasing power and setting, in advanced economies, a positive trend in consumption against the relative weakness in exports and investment. In the second half of the year, the increase in raw material prices and the gradual recovery of the economy led to an increase in inflation, shared by most countries.

Global growth and trade slow-down

The International Monetary Fund has estimated a global wealth increase trend of +3.1% for 2016, slightly below that of the previous year (+3.4%), with a deceleration common to all the main areas.

Emerging economies, which provided the largest contribution during the expansion phase of the 2000s, slowed down (+4.1%). Moreover, the significant deceleration among advanced economies is confirmed, affected by the developing countries' deteriorating economic situation, recording a slump in exports. In fact, for the second year in a row, the growth of world trade is below the already modest growth in the world's wealth.

The American economy has failed expectations, recording the weakest figure since 2011: in 2016, growth halted at +1.6%, resulting mainly from the decrease in exports, the drop in oil prices and the strengthening of the dollar.

Difficulty continues for the Euro Area

Over the past few years, the Euro Area has been marked by modest paced growth and in 2016 the economy decelerated further (+1.9%). In 2016, the euro zone increased by 1.8%, but there are still wide divergences among Eurozone economies.

Italian growth is weak but steady

In 2016, the slow growth of the Italian GDP4 placed Italian recovery much lower than recorded in other referenced economies and showed domestic products were still far behind pre-crisis numbers.

The Italian economy grew by +0.9%: domestic demand contributed positively to growth by 1.4%, while as far as foreign flows were concerned, exports of goods and services increased by +2.4% and imports by +2.9%.

Some public finance aggregates improved, with the exception of public debt, accounting for 132.6% of GDP.

Domestic demand in the Veneto is recovering

In 2016, GDP is estimated to have increased by +1.2%, and therefore at a slightly higher pace than the national average. This result is mainly due to the strong performance of Veneto industry, which remains competitive, driven by various sectors such as agriculture (wine and confectionery), optical products and instrumental mechanics industries, which all recorded good performance in sales and exports. Domestic demand continues to recover (+1.6% for household consumption and +3.3% for investments): signs of improvement for Italian family conditions are confirmed, encouraged by a slight recovery in employment, a more propitious public climate and by the good performance of households' available income, supported by a steady purchasing power.

Global and European uptrend predictions

Emerging economies are expected to get back on track over the course of 2017, helped too by the rise in raw material prices and international trade. However, this year could be complicated by the many economic and political risks linked to forthcoming elections in some major EU countries, as well as by EU exit negotiations with the United Kingdom and American foreign policy that could impact the dynamics of world trade and lead to a consequent deceleration in global growth. The global picture outlined by the IMF expects a global GDP growth of +3.5% in 2017 and +3.6% in 2018. The increase in US GDP (+2.3% in 2017 and 2.5% in 2018) will be driven by advanced economies' growth, expected to be +2.0% in both 2017 and 2018.

The Euro Area will increase by +1.6%, while in the European Union, the European Commission's estimates foresee a growth of +1.8% in both 2017 and 2018; a European economy, which despite enormous difficulties – from the terrorist attacks to Brexit – continues to regain strength, albeit slowly. The large economies of the EMU will continue to grow at differentiated rates. Inflation in the Euro Area should also continue to rise, going from 0.2%

4 The estimate, sourced from CISET, is relative to 2015 and takes into account direct, indirect and related multiplier effects

in 2016 to 1.7% in 2017 and 1.5% in 2018.

New levers for growth predicted in Italy

Growth drivers should change in 2017: there will probably be increased contributions from foreign demand and investments, thanks to encouraging legislative measures, in view of a slight rise in household consumption, which is expected to increase by +0.9% in 2017 and +1.1% in 2018.
Investment expectations for 2017 are showing signs of acceleration, and production indexes and business confidence data show a positive trend, which should continue into the first part of the year.

In 2017, acceleration in exports will support growth in the Veneto

For 2017, the Veneto's GDP forward growth is estimated at +1.2%, driven by a significant acceleration in exports, above the national growth forecast of +0.9%. 2017 forecasts for the Veneto economy suggests a slow and steady recovery of the main economic variables; the Veneto's performance, although positive compared to the national and European context, does not show the same momentum as Europe's strongest economies, due to a less stable growth of wealth over the past decade.

Work in the Veneto: a recovering trend

In this context, in 2016, the Italian labour markets recorded positive signals. For the third consecutive year, employment in Italy rose and unemployment continued to decline: there were 22,757,838 employed people and 3,012,037 job seekers, or 1.3% more and 0.7% less respectively than last year. As a result, in the course of one year, the Italian employment rate among those aged 16 to 64 has risen from 56.3% to 57.2%, while unemployment has fallen to 11.7% as compared to 11.9%.

In 2016, employment increased and unemployment decreased in the Veneto

Good economic performance in the Veneto: employment is finally on the rise and unemployment continues to decline, especially for females. In 2016, 2,081,205 people were employed in the Veneto, which was 1.4% more than the previous year, at a rate of 64.7% employment as compared to 63.6% in 2015. Meanwhile, the number of job seekers stood at 151,103, 3.5% less than in 2015, an unemployment rate equal to 6.8% against 7.1% in the previous year.
The crisis seems to have loosened its grip even for young people: the Veneto unemployment rate for those aged 15 to 24 (18.7%) lost six percentage points and the rate for inactive young people also declined. The Veneto is, once again, therefore among the leading regions in Italy: with the sixth highest employment rate and the second lowest overall youth unemployment rate.

Verona: fourth lowest unemployment rate among Italian regions

At the provincial level, three Veneto regions were placed in the top ten lowest unemployment rates: specifically, Verona was down by nearly one percentage point from the previous year and equal to 5.3% in 2016, recording the fourth lowest rate among all the Italian regions; Verona also recorded an employment rate increase of one percentage point, thus recording a rate of 65.4% in 2016.

...and at Belluno: the third highest employment rate

Vicenza and Belluno follow in the seventh and eight positions with an unemployment rate of 6.2%. Belluno, apart from anything else, has always recorded a good performance in labour market participation. This year, it comes third in the ranking of Italian regions with the highest employment rates (68.8%, an increase of half a percentage point compared to 2015). In more detail, after Vicenza's excellent performance in the previous year, the situation slowed down and unemployment seemed to be rising. Rovigo is recovering its employment rate but unemployment rose slightly, while in Padua, Treviso and Venice, unemployment declined and employment increased.

In this picture, the Veneto is now portrayed as recognising its abilities and uniqueness, without losing sight of the areas which still require improvement, which could form the basis of an intelligent, sustainable and inclusive growth.

1.2 The ability to rethink and redirect

For Veneto, knowing how to restructure and redirect is a special skill, particularly with regard to trade and tourism flows and products.
Knowing how to choose the markets
2016 was a year of stagnation for world trade, continuing the weakness from the previous years. There are both structural and economic elements of chan-

World trade expansion stopped in 2016

ge behind the slump in world trade.

The scenario for the next few years of a gradual consolidation of emerging economies and price stabilisation of some raw materials seemed to anticipate a strengthening of world trade, with demand recovering in many emerging economies, but the results of the US elections have made the dynamics of global demand more uncertain.

Veneto exports reach a new high in 2016

Despite the slowdown in world trade, the Veneto's exports reached their highest ever figure in 2016. The encouraging trends in the Veneto's product sales to foreign markets, as well as helping to slow down GDP decline during the recession and support its recovery in recent years, can be summarised as belonging to two different entrepreneurial abilities: restructuring processes qualitatively improving the products and the ability to redirect trade flows to the most favourable countries and those with the greatest future potential.

The Veneto is the second highest Italian exporting region with 58.2 billion euros of foreign turnover, up by 1.3% per annum, in line with the national trend.

Sales abroad of mechanical production increased by +2.4% reaching a figure equal to 20% of regional exports in 2016.

Agro-food production, driven by the performance of wine sales, recorded the highest growth in percentage terms (+7.0%) and exceeded the six billion euros threshold for the first time.

In 2016, the optical products sector also showed strong exports, with a growth of almost 5%, closely followed by sales in furniture, chemicals and pharmaceuticals, with an increase of around 4%.

The Veneto's worldwide fashion exports, including clothing, accessories and footwear, are worth around ten thousand million euros and reflect the previous year's figures.

The European Union is the main destination of Veneto exports, amounting to 59% of foreign sales, with a positive trend equal to +2.7% per annum. This offset the loss in the non-EU market share, which fell by -0.8%, mainly due to the constant drop in exports to Switzerland and to the loss of the market share in Brazil, Mexico and Japan.

As always, Germany is the first outlet market for Veneto goods (13.2% of the regional total) and increased by 1.3% as compared to the value recorded in 2015.

The main market outside EU borders, the United States, also continues to grow, albeit less than in previous years (+ 3.7%).

Incentives and competitiveness of the Veneto production system

The changes generated by globalisation, by contributing to significant differences in competitiveness and the dynamics of the production sectors, have led to profound restructuring of production system processes towards the creation of a global goods production network, combining an open-mindedness to international trade and the dissemination of new information technologies. Businesses' organisational structures and strategies are therefore being transformed, with implications for investment direction and market choice, thus giving a fundamental value to entrepreneurial abilities in order to remain competitive even beyond national borders.

Between 2011 and 2014, the Veneto production chain downsized, in line with what was happening

Production base restructuring is still in place

at the national level: production units and industry and services registered negative variations, particularly in the construction sector. Gross investments in Veneto-based industrial goods and services companies also showed a sudden weakening in aggregate, which had amounted to over 40% between 2008 and 2013.

First signs of recovery

The impact of the crisis was severe, but as early as 2014, many Veneto companies resumed growth: signs of recovery for the Veneto economy were apparent in both the manufacturing industry and service sectors closely linked to industrial demand. The overall level of business wealth has returned to pre-crisis levels, but the companies who benefitted have been above all those able to react through innovation and foreign presence. Within the manufacturing sector, the most significant activities in the Veneto are metallurgy and mechanics, followed by the fashion and food industries. These areas of Veneto production are all growing in respect to the previous year, albeit at different rates.

Labour productivity amounted to 44,752 euros in 2014 for Veneto manufacturing and service compa-

nies, an increase of 3.8% as compared to the previous year. This was mainly driven by reductions in employment, coupled with a significant increase in value added.

Manufacturing is the most productive sector

In 2014, the total turnover of the Veneto companies surveyed resumed growth, albeit only slightly (+ 0.6%), driven, strictly speaking, by soaring industry revenues. Signs of recovery were also seen for investments (+4.9% more than the previous year).

Traditionally speaking, manufacturing companies are defined as those with higher productivity (more than 58 thousand euros in Veneto).

Through the fourth industrial revolution, the future of manufacturing output is changing and represents the key to greater productivity and entrepreneurial competitiveness.

The Veneto manufacturing sectors with the highest average productivity levels are the pharmaceutical industry (over 78,000 euros), followed by mechanical engineering and chemical industries. These sectors, along with the production of vehicles, electronics and jewellery, were the most successful in 2013, with annual growth of average productivity levels exceeding 2,000 euros.

Business productivity levels are largely related to the size of the company: it is clear that large companies, amounting to just 1% of businesses in Veneto, reached high productivity levels (average value exceeding 82 thousand euros). At the same time, there are many small and micro companies, which prove to be less productive.

Competitiveness in the most dynamic sectors with good propensity for exports

It can be seen that exporting companies have almost double the average productivity level of non-exporting companies. Companies accounting for 60% or more of their total revenue from exports have greater productivity, by 30 thousand euros, than non-exporting companies.

The manufacturing sectors where the productivity gap between exporting and non-exporting companies is most marked are the pharmaceuticals, food and electronics industries.

We therefore know, at a time like the present, that the competitiveness of the Veneto's entire manufacturing sector depends on these most productive segments.

Productivity absorbs the benefits of belonging to groups and business networks

Considering the particular structure of Veneto businesses, characterised by a large number of small and medium-sized companies, one answer to improve competitiveness and create new opportunities for the company is forming aggregations. Veneto small manufacturing companies belonging to an aggregate have a total average productivity level comparable to those of medium to large enterprises. A company incorporated into an aggregate benefits from the higher aggregate size, which facilitates entering the international market and, through pooling resources and strategies, manages to be even more competitive and efficient. We can see from the data that, in terms of average productivity levels, belonging to an aggregate and operating in the domestic market is the equivalent, for small businesses, of being an exporting company.

In addition to company mergers, since 2010 the legal concept of business networks has been incorporated into Italian legislation: the network agreement represents an opportunity for the regional productive reality that needs to overcome its size by developing a culture of sharing and common projects. In the Veneto, the number of businesses entering into network contracts amounted to 1,704, about double that of the previous two years.

The global production network shapes itself through the natural evolution of the collaborative model within modern production systems, and the ability to make a system allows businesses, especially small and medium sized ones, to face the challenges imposed by an increasingly dynamic market with greater tools.

Veneto tourism: the attraction of the Veneto produces a record-breaking 2016

The Veneto is a region that has always been appreciated for the variety offered to tourists and its characteristic culture of hospitality and it has always been able to cope with a constantly changing demand. The Veneto represents a multifaceted offer synonymous with tourism, culture, food and wine, identity, landscape and land, able to satisfy each and every desire.

2016 breaks all previous records

In 2016, the Veneto set a new record, both for the number of tourists and the total overnight stays. In fact, 2016 concluded with an unprecedented 17.9 million arrivals (+3.5% as compared to 2015) and 65.4 million overnight stays (+3.4%). The

excellent results reflect a great year for international tourism (+2.8% for arrivals, +4.1% for overnight stays and +5.6% for spending) and Italian tourism (arrivals +4.7% and overnight stays +1.8%). Positive variations are recorded for both the hotel sector (+2.3% for arrivals and +4.0% for overnight stays) and the complementary sector (+6.2% and +2.8%). All these results relate to those who, for various reasons, spent at least one night in tourist accommodation.
Conversely, ISTAT estimates around 13,800,000 day trips in 2015 to the Veneto by Italians. Travel outside the usual area of residence is included within this figure, excluding routine travel such as commuting rather than tourism.

11.3 billion euro turnover

Placing this outcome within the context of an on-going period of strong economic uncertainty, it must be reiterated that tourism is the most important sector for the economy, both for directly generated wealth and for the up or downstream of tourist activity: the 11.3 billion euros produced by this long-running sector represents 8.3% of the regional GDP .

The Veneto: 4th European region for total number of tourists

In 2015, Veneto was in 4th place for tourist arrivals among the European regions, after Île de France, Catalonia and Andalusia. If we compare European regions according to the number of overnight stays, Veneto takes 6th place, preceded mainly by Spanish and Croatian seaside regions with longer average stays.

Who contributed to the growth?

In comparison to 2015, among the different types of holiday, the only negative sign relates to seaside destinations, which in any case show a positive stability as compared to 2015 (-0.7% in arrivals and -0.6% in overnight stays). The trend in the number of tourists attracted by our seaside resorts is very erratic over the years, although in comparison with the pre-crisis period, there is a 5% increase in arrivals, thanks to a growing interest shown by foreigners and in particular by tourists from beyond the Alps. Germany, where about a quarter of the tourists come from, has contributed most to the growth of the sector in recent years.
In all other Veneto tourist districts, the number of tourists has grown at a fast pace: the interest shown by both national and international tourists exceeded the records already recorded in 2015.
There was an all-time record for cities of art, where many positive results have been achieved thanks to Italians, who are the top cultural destination enthusiasts (about a third of the overnight stay tourists) and form the most important contribution to the industry's growth during the crisis period. Internationally, the most relevant contributions to growth for the 2007-2016 period come from China, Germany, the United Kingdom and South Korea, despite the fact that the US continues to be the main foreign source. Lakeside holidays also broke records for arrivals and overnight stays, mainly thanks to a strong increase in numbers of the traditionally loyal German tourists, who account for about 40% of tourists and since 2007 have increased by more than 50%, providing the greatest boost to industry growth. Italians, second to only the Germans, have shown increasing interest in this type of holiday, contributing extensively to arrival growth (+ 20.6% since 2007), although reducing their length of stay put the brakes on stay growth.
For spa breaks, the record number of arrivals in 2016 was not matched by record stays, despite the increase from the previous year. The same goes for mountain holidays, which for the first time exceeded one million arrivals. Both destinations are characterised by a predominantly Italian flow and show a sharp decline in length of stay, preventing them from reaching past figures. Over the years, spa resort numbers have grown, thanks especially to Italians, who have surpassed foreign customers since 2004 and have the highest contribution to this sector's growth.

1.3 The ability to innovate

Daniel J Boorstin5 said "The courage to imagine the otherwise is our greatest resource, adding colour and suspense to all our life."
Many think that innovation and technology are the main weapons against a crisis; it is not just about the innovation of things, but the innovation of people, not just a technical reality but also a cultural one.

5 Daniel Joseph Boorstin was an American historian, teacher and essayist.

Food of quality, a totally Veneto skill

Among human activities over the course of history, agriculture is among those that have given rise to innovative and technological progress. From its first appearance in 12,000 BCE to the present day, man has been able to take advantage and benefit from the environmental, climatic and social situations that often posed challenges, brilliantly resolved, both through technologies that were already available and used in other fields or through dedicated innovation.

Today's challenges have different names but are within the life cycle of this planet: climate change, environmental sustainability, food security, migration of people, consumption, globalisation, employment, and profitability.

For some time in fact, agricultural production has no longer depended only on the climate: the dense network of interconnections now in place between various human activities has created an interdependence between food production, markets, politics, and society. In 2015, for the first time in history, the world population reached the 7 billion mark, and according to some scenarios, in 2050 it will exceed 10 billion. Providing enough food for everyone will be a major challenge for agriculture and winning or losing this challenge will be the difference between life and death for millions of people around the world, laying the groundwork for new world balances. A decisive influence will emanate from current research, on genetic improvement, mechanisation, bio-technological innovations and harvesting methods, all of which are aimed at increasing production and crop and livestock yields. However, in reality, each producer has the ability to navigate around the obstacles of daily life, thereby becoming the determining factor for the survival of the company. It is no coincidence that the agro-food sector is among one our country's many excellences. Excellence does not just stem from agriculture but also from a food industry that enhances ingredients by optimising costs and productivity through dedicated innovations in technology.

Italy is the country with the most quality trademarks in the world

Italy boasts the highest number of certified food products in the world. Unlike other countries, it has managed to establish a model for regional high-quality agri-food production as a true cultural and economic value. With 291 food products and 523 wine certifications, our country is able to generate an economic value representing a quarter of domestic agricultural production.

The Veneto has three provinces in Italy's top 20, thanks to sales generated by certifications from Treviso (fourth), Verona (fifth) and Vicenza (eleventh). It is undoubtedly the wine sector which stands out in our region, given that it is currently the largest producer of quality wine in Italy: in 2016 alone over 10 million hectolitres were harvested, almost all (91%) with protected designations of origin or geographical indications. In regards to DOP wines, DOP Prosecco is quickly becoming the undisputed champion, with 2.6 million hectolitres of certified product in 2015, 19.3% of the national total, equating to about 3.5 million bottles. To this figure should be added the DOP Prosecco Conegliano-Valdobbiadene, which with 629 thousand hectolitres of certified wine in 2015 enabled the "Prosecco system" to represent almost a quarter of the national DOP-certified volumes. The popularity of high-quality Italian agri-food products abroad is confirmed by the economic value generated, which breaks previous years' records time and time again: even in 2016, this trend still stood, unabated for more than a decade, with the sole exception of 2009 during the world crisis.

The same trend is seen in the Veneto, where indeed each year our region sees growth rates above the national average. In a historic moment where general exports for Italy between 2015 and 2016 amounted to +1.2% and for the Veneto to +1.3%, the growth in agri-food products seems even more significant, rising by 4% and 7% respectively last year. In 2016, Veneto broke the previous record of 6 billion euros and took its place at the head of the Italian regions ranking, won for the first time in 2015.

Nobody beats the Veneto in wine exports

The wine sector is where the Veneto shows its true abilities: for the umpteenth consecutive year we are the leading Italian region in exports, beating the 2 billion euro record in 2016 with a growth of 9% over the preceding year. Of the 5.6 billion euros exported from Italy, 35.6% come from our region, a percentage that grows annually. The best performance is for sparkling wine, which grew by 225% between 2011 and 2016, and by 25.1% between 2015 and 2016, breaking the 700 million euro record. In 2015, the UK was number one in the ranking for export value for the first time: in 2016, it was reconfirmed as the leader, rising by +17.7% as compared to 2015 and +132% since 2011, conclusi-

vely bumping Germany from the top spot.
Food and wine designations of origin and geographical indications can generate linked activities that go beyond the production area and transcend regional and national borders with their historic and cultural cargo, from the most prized products with high economic value, to the lesser known and niche ones, whose task is to preserve production and cultural methods that would otherwise be destined to oblivion and whose high added value is only of an economic nature in the last instance.

Evolution of human capital abilities in agriculture

In addition, in the Veneto agricultural entrepreneurs have shown that they are able to exploit profitably the abilities they possess and also generate innovative activities: continuing participation in training and information skills increases existing abilities and knowledge and their use has positive results for the company. Training, age and acquired competences, thanks also to diversification of activities, are fundamental factors, in agriculture as well, in the definition of human capital and its abilities.

Entrepreneurial enterprise: tradition meets innovation… innovative start-ups and R&D

One of the great trends regarding innovation in the industrial world is undoubtedly industry 4.0, or, in other words, the fourth industrial revolution. A revolution characterised by machines' increasing capacity to produce and collect data, which is analysed by extracting useful information to optimise production processes and facilitate the production of more and more customised good and services for customers.
The Industry 4.0 era is therefore, the era of so-called "smart factories" or companies, a category where only fully innovative start-ups feature, companies whose primary purpose is to develop products and services considered to be innovative and high-tech in all aspects.

Innovative start-ups, technological innovation vehicles

As of 1st February 2017, there were 563 innovative start-ups in Veneto, an increase of +48.2% compared to February 2016 and representing the fourth highest figure behind Lombardy, Emiglia Romagna and Lazio. The main focus is on the service industries, in particular in software production and consulting.

The Veneto companies investing in R&D are mostly SME

The Veneto companies investing in research and development are mainly small and medium-sized (82%), but major financial investments are supported by larger and better structured companies: large companies, although representing just 18% of R&D businesses, contribute over 60% in terms of spending. The main R&D products are those relating to fashion, mechanics, chemicals and pharmaceuticals, metallurgy, manufacturing of electrical appliances, food and electronics.

The Veneto: a more technological and efficient Public Administration

An essential aspect of promoting innovation, progress and economic growth is the digitalisation of Public Administration, an efficient and timesaving tool. Recently, PA performance in Veneto has improved and digital inclusion has been boosted.
In view of the data collected by the ISTAT survey on communication technologies in local government, in 2015 in the Veneto ICT tools appeared to be sufficiently widespread among the local authorities.

Strong growth in PA's use of cost/time-saving technologies and in services offered to citizens

In recent years, significant advances have been made in technologies helping to reduce costs and save time for public administration and in the services offered to citizens. To cite some significant data: compared to a few years ago, the Veneto municipalities using eProcurement, buying goods and services electronically, thus reducing the time and costs of transitions, grew from 28.3% in 2008 to 43.4 % in 2011, to almost 86% in 2015. More than half of the municipalities in the Veneto use eLearning for staff training, data that brings our region to the highest in Italy, and about a third of the municipalities use VoIP[6] technology with significant reduction in costs.
Through focus on a number of indicators of the Thematic Objectives of the 2014-2020[7] Partnership

6 Converts voice signals into digital signals, using the internet to make and receive calls anywhere in the world
7 In reference to the planning of development policies, reference is made to the eleven main thematic areas of possible fund intervention. The indicators in the 2014-2020 Partnership Agreement are divided into Thematic Objectives and Expected Outcomes.

The Veneto: PA performance improves and digital inclusion strengthens

Agreement (Thematic Objective 11 – Strengthening institutional capacity and promoting an efficient public administration – and Thematic Objective 2 – Improving access to Information and Communication Technology, as well as their use and quality) - the Veneto's good performance and improvements in recent years are evident. With regard to the first Objective, by analysing the expected outcome of the "Improvement of Public Administration Performance", taking into account the two indicators "Proportion of Municipalities with Fully Interactive Services" and "Percentage of Employees who have taken ICT Training Courses", it emerges that the Veneto ranks among the top regions for both indicators. In the ranking of regions and autonomous provinces, according to the highest levels, Veneto comes second for the proportion of Fully Interactive Municipalities (56.5%) and third for ICT-trained employees (13.5%).
With regard to Objective 2, in consideration of the expected outcome of the "Improving demand for ICT from the public and enterprises in terms of the use of online services, digital inclusion and network participation", the indicator considered is that of the availability of public Wi-Fi in municipalities. In 2015, in our region, 73% of municipalities provided free local Wi-Fi hot spots i.e. 40% more than in 2012; this placed Veneto in third place in the Italian rankings (52.5%), behind Emilia Romagna (83.6%) and the Marche (77.6%).

1.4 The skill of savoir être and savoir faire

The European Union calls on its Member States to focus on the integration of abilities and the world of work, to ensure fair, inclusive and sustainable growth.

Boost growth by focusing more on talents....

"Rethink education" is the strategy launched by the European Commission in 2016, in light of the socio-economic changes that have overwhelmed Europe, to encourage Member States to take action to ensure young people develop the abilities and abilities required in the labour markets, thus reaching growth and employment targets. Therefore, if Europe's capacity to increase growth and productivity depends on abilities, it is necessary to develop the right abilities for the 21st century.

Young people from the Veneto achieve outstanding school results…

In the Veneto, the fall in the number of young people dropping out of school has reached and gone beyond the European target (10% by 2020): in 2015, 8.1% of the 18-24 age group had not completed their school education as compared to 18.1% in 2005, i.e. the second lowest proportion among all Italian regions (Friuli Venezia Giulia comes first with 6.9%).
Moreover, according to Invalsi[8], Veneto students in secondary education (both middle school and upper school) stand out for gaining top positions in the regional rankings for the highest grades in Italian and maths, and this is the case whichever type of school attended.
Considering the data from surveys conducted in 2015 by ISTAT on the school to work transition of people with school diplomas and university degrees obtained in 2011, Veneto has among the best results of the Italian regions.

...and have more job opportunities]

Our region recorded the second lowest level of secondary school diploma (the maturitá) holders who, after 4 years, are still looking for work, with 12.5% (Trentino Alto Adige being the first), while 84.8% are in work or study, with the remaining percentage having other conditions. In addition, among the Veneto school diploma holders working between 2011-2015, 60.4% of them found their first job within a year of gaining the maturitá; this is the highest figure in the Italian regions (Italy 54.4%). The percentage of university graduates working in the Veneto is also among the highest in Italy: in the Veneto, the number of graduates, whether with bachelor's or master's degrees (specialist or the combined 5-year bachelor's and master's), in work four years after graduating is above 89%, the national figure being 82-83%. Finally, young people with a tertiary educational qualification find work within a year.

Education and skilled jobs vs. unemployment

In general, obtaining a higher educational qualification and carrying out a more skilled profession is advantageous in terms of a lower

8 National Institute for the Educational Evaluation of Instruction and Training

unemployment risk. Fortunately, in the Veneto, the percentage of the 30-34 age group with tertiary education is growing and has already broken the target set by the Italian government for 2020 of 26% (40% in Europe), reaching 26.4% in 2015.
In 2015, the unemployment rate in the Veneto was 7.1%, but this figure ranges from 8.3% of those who have at the most the middle school qualification to 5.6% of graduates.

.... without forgetting to make full use of them

In comparison to other Italian regions, our young people, therefore, find more work and find it quicker. However, it must be noted that many of those who adapt and accept jobs do not use their acquired abilities, occupying roles where basic qualifications would suffice.
Our region's manufacturing past has prompted people to take on more technical and theoretical training and work paths: the educational qualifications and professions of people employed in the Veneto are therefore of an average level. Despite this, Veneto product quality is high, as the craftsmanship and technical work, which require middle-level competencies, actually contains higher levels of ability within.

Unexploited abilities: over-qualification

While the lack of highly-skilled work positions does not, on the one hand, affect levels of employment and the spirit of adaptation, however, it does, on the other hand, lead to many graduates entering professions that do not fully reflect their abilities and work aspirations, thus fuelling the phenomenon of under-employment.
This is how society is wasting energy; it invests resources into human capital education and then has no way of returning the investment, in terms of value-added, to society itself.
In 2015, 11.5% of employed people in the Veneto were overqualified (236,600 people), a figure that is almost in line with the national figure of 11.6%.
The labour market in our region is positive: the Veneto enjoys high levels of employment, with rates far above the average, and contained percentages of overqualified workers. Regional differences become more evident when looking at analysis of university graduates. In this regard, the Veneto is in a delicate situation; the employment rate for graduates in the Veneto is among the best in the country at 79.8% as compared to the national figure of 76.3%. However, our region is characterised by a high percentage of over qualified workers, 40.4% of graduates are in a profession which, according to the new classification of professions (CP2011), does not require a degree. Only Emiglia Romagna has a higher percentage (41.1%). Conditions for holders of school diplomas are certainly better: in our region, over qualified workers represent 8.4% as compared to 8.8% at the national level.

The influence of social status

In addition, it is worth pointing out that young people's abilities and abilities often come up against the opportunities that families offer. Young people's educational choices and professional careers are still influenced by their family of origin, rather than by the person's natural tendencies. Being born in a certain environment still makes a difference and at fourteen years old, a young person's path seems to have already been directed: if the parents are graduates and have highly skilled work, the young will have a good chance of enrolling in university, regardless of the school they attended. However, if the parents are less educated with unskilled jobs, the child will most likely choose to enter the job market.

Women: high competences, but not yet fully used]

Finally, women's talents. Despite greater female empowerment and a reduction in the employment gender gap, gender equality within the labour market still lags behind. Girls leave school with higher grades and refine their abilities by taking university courses more often than their male peers; yet their employment rates remain much lower than men's. Furthermore, the top positions are, for the most part, held by men, who similarly make up the majority of self-employed professionals. In 2015 in the Veneto for every 100 male executives there were only 39 women and for every 100 self-employed male professionals there were only 36 women. Furthermore, women are paid less than men in the same roles. In the Veneto, a male executive earns around 220 euros more than a female executive, a male manager get over 360 euros more than his female colleague and a labourer receives 160 euros more. Discrepancies also appear when you have the same degree of education: a female graduate earns on average 1,400 euros a month, or nearly 290 euros less than a man with the same degree. In reference to this, it is worth noting that the choice

in study programmes vary between the two genders: men tend to study the sciences far more often than women, who prefer humanities and social studies, which result in lower-paid employment types. Better opportunities for women to take up top positions in companies, also considering women's higher level of schooling, less insecurity and an anticipated wage increase, would lead to greater involvement in the labour market. A key element to ensure that we reach European and Italian economic goals.

The ability to facilitate the work-life balance

Another obstacle is the work-life balance, since in these areas, time and need is often confused. In 2014, 70% of people in Italy felt satisfied with their work-life balance. This figure may seem reassuring, but it is the sixth lowest value among all EU countries. The main consequences of this imbalance are felt by individuals in the form of stress, the inability to cope with family needs or deal with household chores after a day's work, especially for those on a low-income.

As families change, care needs change too

This concept of balance is quite recent: it refers to the idea of work and family, whose patterns have changed over time as a result of social, demographic and cultural changes.
Since the 1970s, young women with children have decided to continue working rather than becoming housewives, thus bringing up the question of care and fertility choices within the labour market. In countries where women have been working for longer, there are more services, more tools for balancing and birth rates are higher. It is not the work itself that hinders producing a family but the conditions which surround it. Italy still has much to learn in terms of family policies and balance in comparison to most European countries: in addition to having low levels of female employment (47.2% against 60.4% for the EU), it is also penalised by a very low birth rate, with 1.35 children per woman, the lowest figure after Greece and Spain (1.58 EU data). The situation is better in the Veneto (54% female employment rate, 1.38 birth rate) but is still below European levels. However, pushing for balance policies comes with problems due to changes in family patterns, such as longer life expectancies and decreasing family sizes.
Despite the changes, the burden of domestic work

...but roles still remain fixed

and childcare continues to weigh mainly on female shoulders. The average Gender Equality Index for domestic tasks and care is a far cry from being equal (100), with just 42.8 points for Europe, and even lower for Italy (40.4). A reality also found in the Veneto where, if both partners work, women continue to bear 65% of the household chores.
Having children often clashes with the lack of flexibility in the labour market in terms of hours and availability. For example, only 30% of people are paid maternity/paternity leave and more and more workers, mostly young people of childbearing age, are employed with contracts that do not contemplate the idea.

The labour market is still inflexible

Things get worse for parents when they are forced to work unsociable hours, such as evenings, nights or weekend. Around 45% of employed people in the Veneto have unsociable hours, usually more men (46%) than women (43%), and 49% of employed people at a national level. In 5% of couples, both parents work Saturdays and Sundays, demonstrating remarkable family management abilities.

Do-it-yourself balance

Sometimes, to cope with strict work schedules, people choose to work part-time, an option adopted by more women than men. In fact, in 2015, at a European level, more than 30% of employed women worked part-time, against 9% of men. The total Italian figure reflects these figures, but in the Veneto the situation is even more polarised: 34% of employed women work part-time, the sixth highest rate among the Italian regions, against 6% of men, i.e. the lowest rate in Italy.
The strong female lead in part-time employment raises serious questions and suggests that balancing is still just a problem for women and not the overall family-work system. It also poses questions for tomorrow, both in terms of women's future employment opportunities and their social recognition.

Further inflexibility when a child is born

The birth of a child calls for an extreme reorganisation of the personal, family and working life. In 2012, from an employment point of view, at two years after the birth of a child 65% of mothers

were employed in Veneto (54% in Italy), 8% were looking for work (9% in Italy) and 24% were housewives (34% in Italy). Amongst those who were in work while pregnant, 20.9% gave up their job or were dismissed. At a national level, the risk of leaving the labour market following the birth of a child is 22.7%, still a widespread phenomenon and increasing in recent years.

Family services are still lacking

One contributing factor that could improve the work-life balance would be the availability of family services. Nevertheless, national public expenditure for families has not adapted to the changes in demand. In 2013, it corresponded to 1.4% of GDP, whereas the UK was approaching 4%. However, in recent years, Italy has witnessed a growing awareness from public institutions regarding the topic of early childhood services, which increasingly recognises the important educational value and role they play in promoting employment for mothers.

In the Veneto, public spending on early childhood services increased by around 22 million euros between 2004 and 2013 and to date, public and private services provide for 22.3% of children under 3 years, a reasonable result within Italy (20.5%), although far from the European target of 33%. However, in this region, there is an additional demand for services, which is yet to be met. 51% of mothers who have started working again with children aged around 2 years, have childcare provided by grandparents. 32% of families would prefer their children to attend nurseries but cannot because it is too expensive (60%) or there are no places, either because services in the area do not exist or they are too far away or the timings are bad in relation to their working hours (21%).

The ability to promote equity and inclusion

Putting abilities and abilities into play for greater personal well-being, to move towards a fulfilling life, in which you can be happy is an individual path, but not only: everyone should be given the same opportunities to use fully their talents. In this sense, the issues of reducing inequality, social justice and social cohesion become significant.

A question of justice

Recent years have seen some major issues that need to be mitigated or resolved. The economic crisis, and measures taken that have profoundly restructured the economies of many countries, have created imbalances in the redistribution of wealth and resources, thus losing sight of the cornerstones of equity and social justice as fundamental principles for a truly sustainable development.

Some have too much and others nothing at al

According to Oxfam's latest report, inequalities are increasing, to the extent that 1% of the world's population has more net income than the remaining 99%. In light of this, the UN adopted the 2030 Agenda for Sustainable Development, a world action plan for the people, the planet and the prosperity of countries. According to the Agenda, every country should, 'empower and promote the social, economic and political inclusion of all' and 'adopt policies, especially fiscal, wage, and social protection policies, and progressively achieve greater equality'. Through setting out 17 sustainable development goals, considered indispensable, referring to the well-being of people and the fair distribution of development benefits, the guidelines for the next 15 years are outlined globally in order to meet the needs of today's generations without compromising that of future generations. These are 'a universal agenda for all countries, rich and poor alike, which will put the world on a path towards sustainable development'. Which nation states make social justice and the rights of people their focus? The Social Justice Index tries to answer this question for European countries: Scandinavian countries and Denmark are the most attentive, and results for the Netherlands, Austria and Germany are also good.

There is little social justice in Italy

Italy on the other hand, is close to the bottom of the European rankings (24th out of 28), along with the other countries most affected by the economic crisis. Access to the educational system and prevention of poverty shows unsatisfactory levels of equality, as also found in, even more critically, in labour market participation and intergenerational justice, relegating our country to the penultimate position. This paints a picture of a society that is generally in difficulty and has a generational divide, where social justice is diminished as the intergenerational inequalities increase. Italy is suffering a long and deep recession, and has only shown signs of weak recovery over the past two years, but

this recovery does not seem to show in the weakest sections of the population.
In 2014, the average annual income for Italian families, including imputed rentals, was 35,017 euros, a relatively stable figure in real terms compared to 2013, and which halts the on-going fall since 2009.

Inequality of incomes falling, but still high

At the same time there are slight positive signals of reduction in income distribution inequality, although levels still remain high. In 2014, the Gini index, which varies between 0 and 1, where 0 indicates complete equality and 1 indicates maximum inequality, dropped to a value of 0.295 compared to 0.301 in 2012. The situation in the Veneto is better, where a family earns more on average (38,075 euros annually) and inequality is lower (0.237 on the Gini index). Nonetheless, disparity remains a worrying issue considering that the richest 10% of the population usually earn 5 times more than the poorest 10% (8.5 times in Italy).

Fighting poverty, something has to give

Poverty is the most extreme effect of income inequality. In the Veneto, the risk of poverty or social exclusion was 16.8 % of the 2015 population, less than national and European levels (28.7% and 23.7% respectively) and the fourth lowest in regional rankings. However, this is equal to about 828,000 people in serious turmoil, who cannot live with dignity, or who, in the most serious cases, are unable to provide the basic needs in life. Women, people with a low level of education, people who live alone, especially if elderly, and families with three or more children are most at risk. Poverty is often associated with lack of employment, but it should be noted that in recent years even having a job does not necessarily protect people from exclusion. The risk of poverty of social exclusion among employed people is around 17% in Italy and 8% in the Veneto.

A nation losing its future

Children and young people are finding themselves exposed to risk and are suffering from the heavy repercussions of the crisis more than others. The risk of poverty and social exclusion has risen to 18.1% for minors and 18.4% for the 18-34 age group (33.5% and 35.4% respectively in Italy), a worrying increase in recent years. Between 2009 and 2015, the risk for minors increased by 3.1% and 4.9 for young people, which was more than the general population (2.7).
For the first time in history, young people are poorer than their parents and even younger parents. At a national level, millennial families have a lower income of 15.1% as compared to the average citizen and less than 26.5% compared to their peers twenty-five years ago. Following the crisis, the chances of social success for new generations is restricted and the majority of young people now feel marginalised and excluded from economic and social life. Therefore, it is no coincidence that only 39% of young Italians aged 25-34 feel optimistic about the future, a figure well below the European average (62%) and down in comparison to 2007 (47%). In addition, 41% of them would like to study or work in another European country, against the EU average of 32%. However, it does not seem to be the everyday hardships and difficulties but the lack of prospects for improvement that push young people to seek out new opportunities abroad.
Work is the area about which young Italians feel particularly bitter. Moreover, they are the most penalised by a precarious market and the lack of opportunities, given that the youth unemployment rate has almost doubled in the last ten years (from 21.8% in 2006 to 37.8% in 2016 in Italy). Fortunately, for people in the Veneto, the situation is better: following the previous year's standstill, in 2016, the 15-24 age group unemployment rate has continued to fall and recorded 18.7%, a drop of nearly 6% over the previous year and the second lowest in regional rankings. Although working conditions in our region are better following the major economic difficulties, young people are less and less successful in achieving independence and living alone or having a family (127,000 "young" families in Veneto, 25% less than just 6 years ago). Of these, 76% admit that when it comes to the end of the month they are struggling and 50% would not be able to cope with an unexpected expense of about 800 euros, an increase in numbers in comparison to pre-crisis levels (71% and 39% respectively) and higher than the discomfort suffered by other families (68% and 34%).

1.5 Environmental sustainability capability

As previously mentioned, 2015 saw the introduction of a new universal action plan for the people, pla-

net and prosperity, signed by the 193 UN member states and called the 2030 Agenda. This agenda incorporates 17 Goals for Sustainable Development.
The urban environment represents a real ecosystem composed of many factors interacting with each other; one of these is certainly human activity. Therefore, the question is to determine how much it affects the climate changes to which we contribute and how much man can do at this point to reduce its impact on the planet.

The sustainable city: a game of skill

City development is one of the challenges for the future as half of the world's population live in a city, and by 2030 this is estimated to reach 60%. In this context, all of the already available abilities must be put into place to ensure economic growth and improvement of living conditions in cities, in line with environmental sustainability.

60% of the population will one day live in cities

Goal 11 of the 2030 Agenda focuses on cities and highlights how to make them inclusive, safe, durable and sustainable. One year on after the 2030 Agenda approval, the third UN Conference, called Habitat III, was held in Quito, Ecuador, from 17-20 October 2016. Habitat II hosted representatives of various nations who drafted the New Urban Agenda, a city planning and management document representing an extension of the 2030 Agenda.

In 2015, the 2030 Agenda was introduced

In reference to the environment, water is one of the most crucial aspects. It is an essential natural resource of life and as such should be preserved in both quantity and quality.
Another fundamental element that defines the quality of a place's environment is the air it breathes. In this, the struggle to reduce or, at the very least, contain pollution, is currently underway, albeit with many difficulties.

Greenhouse gas emissions in cities are decreasing

Between 2005 and 2013, data for the Veneto's main cities show a slow improvement in greenhouse gas emissions. However, trends in emissions of particulate matter (PM10 and PM2.5), while varying from one city to the next, are characterised overall by a somewhat static situation, although there are three exceptions: in Venice, Vincenza and Verona, there were gradual reductions in PM10 emissions.

Residential areas have the greatest particulate matter pollution

The most critical areas for particulate matter emissions are linked to non-industrial combustion, characterised almost entirely by the residential heating sector.
As regards the level of pollution, or rather the concentration of harmful substances, from ozone (O3) data recorded at the control units within the main cities, it appears that the population information threshold for ozone, equivalent to a concentration of 180µg/ m3, is still being exceeded. Moving to particulate matter, and especially to the average annual PM10 concentrations, significant fluctuations were seen in the control units in urban centres from 2010 to 2015, inasmuch as there was no true trend because current climatic conditions are the most influential element in determining the static levels of PM10.

Road transport is the second highest polluting sector for particulate matter

Although controlling emissions caused by residential heating is extremely complex, much more can be done, at least in the immediate future, with road traffic, the second most polluting sector for particulate matter. Two macro categories of initiatives can be identified for tackling the problem of traffic-related pollution, one as an overall plan and the other in case of emergencies. In the former, there are permanently restricted traffic zones (RTZ), while the latter is the management of emergency bans in residential centres, based on vehicle type.
In 2008, following the adoption of the EU 2020 Climate and Energy Package, the European Commission launched the Covenant of Mayors, a "grassroots" initiative which succeeded in personally involving many local and regional authorities, encouraging them to develop action plans and invest resources in environmental protection in cities and in the mitigation of climate change.

Mayors Adapt launched in 2014

In view of the consensus achieved through the Covenant of Mayors, the Mayors Adapt initiative was set up in 2014, based on the same management model, to promote policies geared towards the implementation of preventative actions and

prepare cities for the effects of climate change. Many initiatives have been undertaken in reducing energy consumption and promoting the use of renewable energies. To this end, the Veneto municipal administrations have adopted tools ranging from awareness-raising campaigns and information on sensible energy use to incentives ranging from district heating initiatives to the installation of charging points for electric vehicles to encourage more widespread use.

9m2 per inhabitant: minimum threshold of public green spaces in cities

Urban green spaces constitute a very important element in the qualitative assessment of city environments as they represent the preservation of vegetation within settlements. This is a key element for mitigating the adverse effect of pollution caused by human activities. In the Ministerial Decree 1444/1968 a minimum threshold was established of 9m2 per inhabitant of "regulated green space", described as "public spaces for parks, games and sport, which are effectively used … with the exception of green belts along roads".

All the Veneto cities have more than 9m2 of green space per inhabitant

The situation in the Veneto cities is positive as regards current regulation, as in all cases the availability of green spaces far exceeds the minimum threshold of 9m2 per inhabitant. Environmental sustainability in cities sees a multitude of actions implemented by local administrations, going by the name of eco-management. Certainly included within this term are the regeneration of municipal buildings, the purchase of goods and services through following CAM – environmental minimum criteria (Criteri Ambientali Minimi), a set of good practices including fair and ethical trade and products, waste sorting at municipal offices, public lights efficiency and the use of zero or low-emission vehicles by the municipal administrations themselves.

In the Veneto between 2012 and 2015 a lengthy series of works was undertaken in the main cities, aimed at regenerating municipally owned or used buildings. Among these were 35 changes to heat distribution systems, 32 boiler replacements with more efficient units and 29 works to replace fixtures.

From 2012 to 2015, almost 140 regeneration works were carried out on municipal buildings in the Veneto cities

There is a greater observance of environmental minimum criteria (CAM –Criteri Ambientali Minimi) in local authorities' purchases, especially for electrical and/or electronic equipment such as printers, computers, copiers, ink cartridges and toners, stationery and catering equipment, with particular reference to canteens and food supplies.

Low environmental impact municipal vehicles are being used more

In 2015, among the best practices in the Veneto's cities, is the separated collection of paper, plastic, toner and batteries and cartridges from offices, the purchase of organic food for school canteens, and the improvement of energy efficiency in public lighting.

Urban mobility: more than 72 vehicles for every 100 inhabitants in Italian cities

Furthermore, the development of CNG (compressed natural gas) vehicles has shown significant growth in several municipalities, with a peak of 21.7% in Verona, followed by Venice with 13%.

Another theme related to the urban environment is urban mobility. The scale of the "mobility" phenomenon in cities is due to the volume of vehicles on urban roads, represented by the number of vehicles per 100 habitants. The national average (always understood as the average of all Italy's provincial capitals) stood at 72 vehicles per 100 inhabitants in 2015.

…with peaks of more than 80 in Belluno, Rovigo and Verona

With the exception of Venice, where the entire historical centre is pedestrianised, all other Veneto cities exceed the national average. The lowest figure is in Treviso but still with more than 74 vehicles per 100 inhabitants, and the figure peaks in Belluno, Rovigo and Verona with more than 80.

Good distribution of pedestrian areas and growing use of info mobility technology

Fortunately, in 2015, there was wide implementation of pedestrian areas in the main cities. Bike sharing, park and ride, and 30km/h zones are found in five out of the seven cities.

In recent years, moreover, automated systems have been developed to facilitate road and public transport users' access to services: these systems are called "info mobility services" and include, inter

alia, variable message signs with traffic information and access, electronic ticket payment systems, smartphone and tablet apps for access to traffic information and websites containing information about lines, schedules and waiting times.

The Big Data

One last consideration concerns future developments that, thanks to the use of new technology-related abilities, will increasingly allow the use of so-called Big Data, a source of free information generated by the almost constant connection of mobile devices to the network. If used properly, Big Data can play an essential role in supporting urban mobility, implementing energy, environmental and economic sustainability policies to reduce levels of traffic congestion and therefore create smart cities.

Transport and the environment: a viable and fundamental balance

A crucial challenge requiring a particular ability is the need to establish a balance between the ever-increasing mobility need for people and goods, and therefore policies to meet transport demands, and policies for environmental protection, primarily aimed at reducing emissions.
Reducing pollution from transport is the responsibility of political bodies at all levels, from the international organisations making up the UN to the European Community, and in Italy, the Ministry of Infrastructure and Transport, the Regions and the Local Authorities.

It is estimated that by 2050, there will be a 50% growth in passenger transport and 80% in goods

The European Commission's goal as set out in the 2011 White Paper and previous versions, is to reduce, compared to the 1990 levels, total GHG emissions by 80-95% and transport emissions, responsible for about 25% of the total, by 60%: Carbon Dioxide (CO2) makes up 98.9% of the total GHG and road transport is the maximum contributor, with 93.2%.

CO_2 emissions decrease in the Veneto

In Italy, the transport sector's CO2 emissions recorded an interesting decline of just under 20% between 2005 and 2013, followed however by a rise in 2014, reconfirmed by the provisional 2015 figures; in the Veneto, the decrease for the 2005 to 2013 period, the last available data, is 28% for total CO2 emissions and 10% for road transport. Even if the unfavourable economic situation of the past few years, with the drop in heavy goods traffic, has played a not unimportant role, these improvements are mainly due to the implementation of measures under the aforementioned White Paper, aimed at "modernising" the fleet, increasing the use of ecological fuels and developing road infrastructures aimed at streamlining traffic.
The Veneto region is crossed by three international corridors, which make it one of the most infrastructured regions at a Community level, in terms of links to international markets. Given the region's strategic geographical position for regional and national mobility, it is accompanied by a consistent and continuous flow of cross-border traffic. Between 2014 and 2015, the numbers of heavy goods vehicles and light vehicles on the motorways increased by 2.9% and by 3.7% respectively. The physical infrastructure – 100sq km of road surface – is in line with the Italian average for regional and provincial roads and lower than the national. However, it is higher for the network of motorways (3km compared to 2.2), railways (6.5 vs. 5.6) and ports (0.02 vs. 0.01). In addition to this network is the strategic infrastructure currently under construction: the high speed/capacity Milan-Venice railway, the Veneto foothills motorway and the third lane on the A4 between Venice and Trieste.
The accessibility index, equal to an average 40 minutes against the average Italian of 51.8 minutes, makes the Veneto the third best region for travel times to urban and logistic hubs.

1,072,318 vehicles travelled on Veneto's motorways in 2015

Although modal rebalancing has long been one of the European Union's main goals, road transport still remains the most widespread mode of transport, both in terms of people and goods. Italy has one of the highest numbers of vehicles per inhabitant in Europe, with the number of vehicles on the road having increased in the last five years from 606 to 616 per thousand inhabitants. In the Veneto, a widely urbanised area where cars are the preferred means of daily transport, the rate is currently equal to 613. In Italy, goods transport by road is the reigning leader with 85.4% of the total, and above the EU average. Despite the fact that between 2007 and 2014 the heavy goods traffic index dropped significantly, the

Veneto, with 24.4 tonnes per inhabitant, remains above the national average of 15.4, third in regional rankings.
The regional airport system, focused around Venice Intercontinental Airport has expanded to include Verona and Treviso airports. Rated nationally, it has more than 15 million passengers, putting itself at the third handling system on a national level.
The port of Venice lies at the crossroads between the Mediterranean and Baltic-Adriatic Corridors and sea motorways. It suffered from the world economic crisis following 2008, with a decline in heavy goods traffic, but started showing signs of recovery from 2013 for coastal navigation and from 2015 for international transport. Container movement is also growing, with a growth of +33% between 2014 and 2016, for a total of 605,875 TEUs[9] . In 2016, the port of Venice, Mediterranean leader for cruise ship reception, saw the arrival of over 1,652 million cruise passengers, 1.5% more than in 2015.

New timetable for regional trains launched in 2013

Among the different modes of transport, the railway is the most sustainable and efficient. Italy does not hold significant figures, but between 2005 and 2011 it saw an increase of 14.8% for the number of passengers and 2.8% for tonnes of goods, despite a contraction in 2009 caused by the economic crisis. The percentage of commuters using rail transport is rather low. In 2014, only 5.2% of the total in Italy and 3.4% in the Veneto.
In 2013, state and regional policies for the reorganisation and rationalisation of transport led the Veneto Region to launch a comprehensive reform of local rail, bus, tram and boat public transport. In this context, a new regular train timetable was implemented, which has improved the timeliness of trains running on the RFI (Rete Ferroviaria Italiana) network, from 87.6% in 2013 to 91.6% in 2015, as shown by the results of customer satisfaction surveys.

75% satisfaction for regional local public transport (LPT) in central Veneto

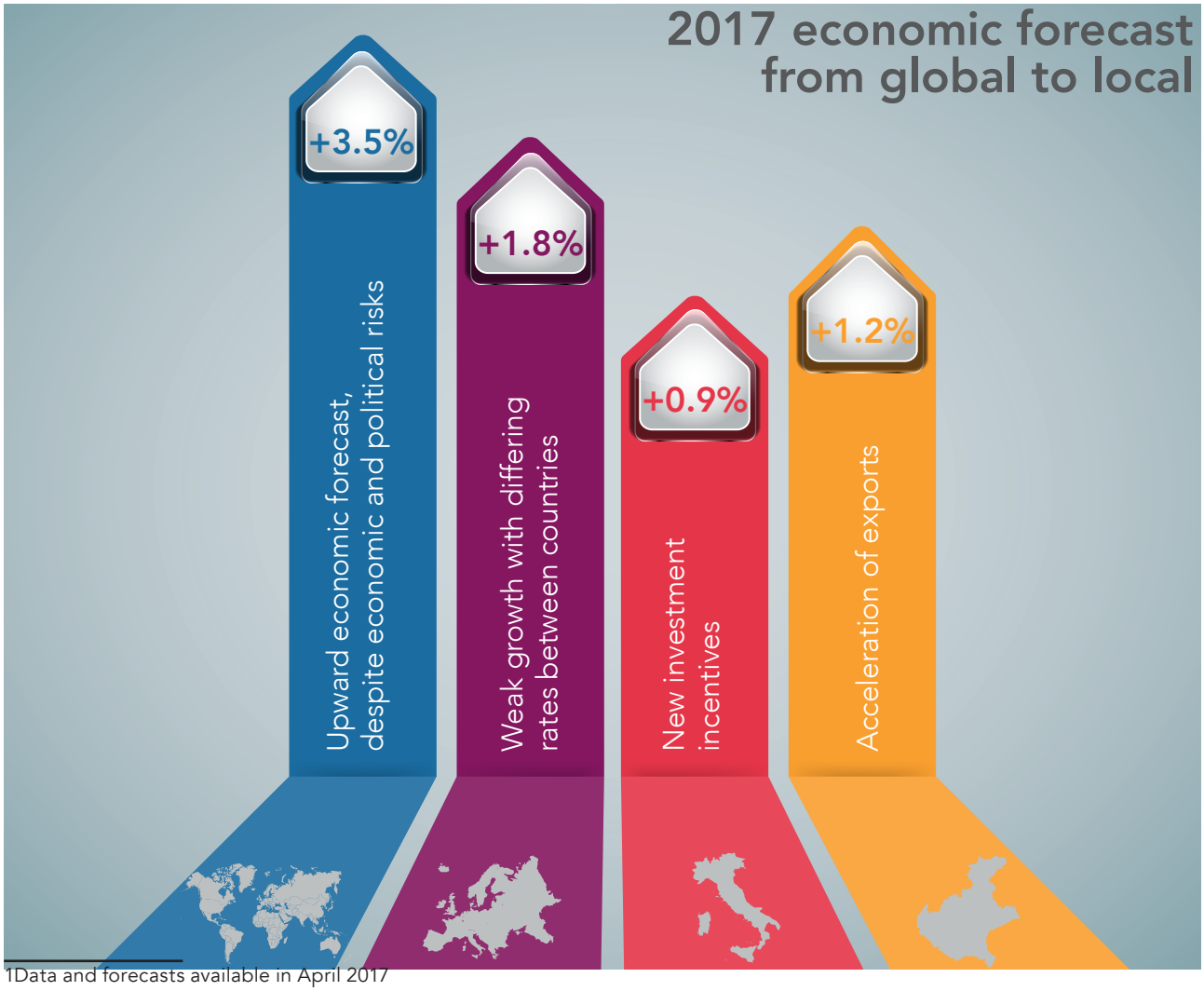
Over the last six years in the Veneto, although with different dynamics in terms of service, the demand for local public transport (LPT) increased by over 23 million passengers, reaching 439.5 million in 2015.
Reducing road accidents and the consequent fatalities has been the subject of European Commission policies for more than 15 years, with the aim of halving them between 2001-2010 and once again by 2020. In Italy, policies put in place have encouraged a significant decrease, but they have not yet achieved the EU goals; in Veneto the decline in accidents in 2015 compared to 2001 is above 36% and the decline in deaths 54.5%.

9 TEU, twenty-foot equivalent unit, is the standard measure of volume for ISO container transport and corresponds to a total of c. 40 cubic metres.

THE ECONOMY

Chap.1 – The economy. Abilities in the Economic System[1]

The International Monetary Fund estimated a growth in global wealth for 2016 of +3.1%, slightly below the previous year (3.4%); both emerging economies, affected by the drop in commodity prices, and advanced economies, registering a sharp drop in exports, have decelerated. Global GDP is expected to grow by +3.5% in 2017 and +3.6% in 2018.
Over recent years, the EU area has been marked by moderate growth, and in 2016 the economy slowed further (+1.9%). The euro area grew by 1.6% in 2016 but there are still great differences between the Eurozone economies. In 2016, the slow growth of Italian GDP led to Italy's recovery having much lower figures than those recorded in economies of reference. The Italian economy grew by +0.9%: domestic demand contributed positively to growth, and exports of goods and services increased by + 2.4%. In 2017, foreign demand and investment are expected to play a larger part, thanks to legislative measures, in spite of slightly lower household consumption. The economy is expected to grow by +0.9 in 2017 and +1.1% in 2018.
It is estimated that the Veneto GDP grew by +1.2% in 2016, and therefore at a slightly higher rate than the national average: domestic demand continues to recover (+1.6% for household consumption and +3.3% for investment). For 2017, estimated growth in the Veneto GDP is +1.2%, driven by a significant acceleration in exports.



1Data and forecasts available in April 2017

2016 was eventful on the world economic level. The year opened with world stock markets falling due to fears of an excessive slow-down in the Chinese economy. The price of oil, which has been in trouble for some years, underwent a devastating crisis. The price of "black gold" fell below $30 a barrel, only to recover in the last few months of the year thanks to re-securing a capacity for cooperation between crude oil producing countries and their willingness to adopt control policies at supply levels.
In the spring, the ECB boosted its monetary stimuli, known as 'quantative easing', raising it from 60 to 80 billion euros a month and extending it to the whole of 2017 at the end of the year, albeit reducing its monthly total to 60 billion from April 2017.
In June 2016, British citizens decided to leave the European Union. The British Government's plan for Brexit, revealed by Prime Minister Theresa May at Lancaster House, was to exclude any partial association with Europe and to trigger article 50 of the Treaty of Lisbon from as early as the following March. On the economic front, there are two main points that are surrounded by ambiguity with Britain's exit from the EU: access to the single market and the free movement of people, including students and qualified workers.
In November, Donald Trump, against all odds, became the 45th US president. His arrival at the White House will cause a turn-around in the political choices made by the US administration. A much feared aspect of Trump's electoral promises has been his ostentatious protectionism in business relations with other counties.
If the Washington Government really turns its back on globalisation, the repercussions for world trade will be inevitable and subsequently, could lead to the deceleration of global growth, starting with that of the US economy. The rise in duties, and increasing prices, would reduce the purchasing power of American households, despite the promise of an expansionary fiscal policy, comprising substantial cuts to income taxes, largely in deficit, and an increase in public spending on infrastructure. After a year of surprises, economic analysts predicting what to expect in coming years, inspired by a quote by Winston Churchill on political ability[2], will have to be just as able to explain why they never came to pass.

2 "Politics is the ability to foretell what is going to happen tomorrow, next week, next month and next year. And to have the ability afterwards to explain why it didn't happen."

1.1 The global scenario

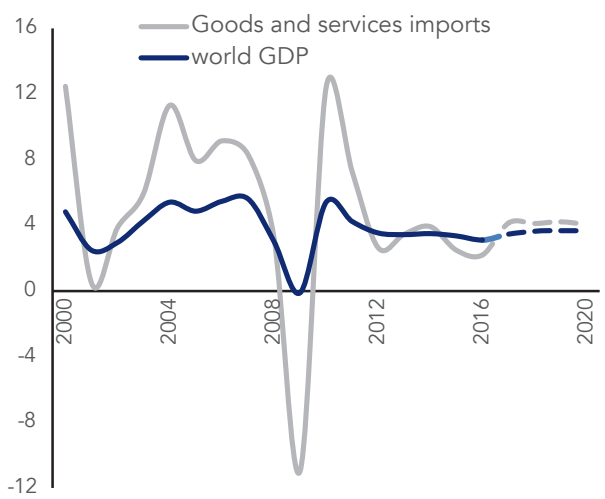
The global economy is growing at an unexceptional rate. International Monetary Fund (IMF) economists reduced almost all world growth estimates for 2016, beginning with Britain, which was initially +2.2%, then being reduced to +1.8% due to the instability that Brexit created, also confirmed by Eurostat.
The International Monetary Fund forecast a global wealth trend of + 3.1%, just below that of the previous year (+ 3.4%), with a deceleration in line with all major areas. Emerging economies slowed down (+ 4.1%), having produced the geatest contribution during the expansion phase of the 2000s, and now see their growth almost halved compared to that period.

Emerging economies' growth decelerates

The Chinese economy is also decelerating, but only slightly: in 2016, Beijing's GDP grew by +6.7%, in line with the Chinese Government's expectations. The services sector figure has steadily increased, the economy consumption contribution rate touched 64.6%, and the added value of emerging industries increased by +10.5%.

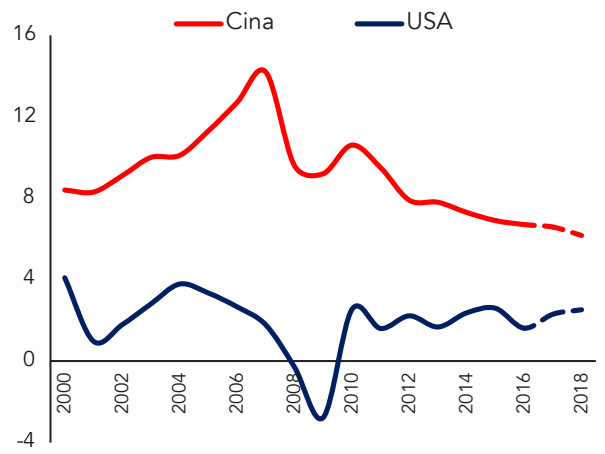
...including the Chinese economy

Fig. 1.1.1 - Percentage variations of goods and services imports and world GDP. Year 2000:2020



Source: Veneto Region Statistical Office processing of IMF data

Fig. 1.1.2 **Annual percentage variations of GDP in China and USA (constant prices) - Years 2000:2018**



Source: Veneto Region Statistical Office processing of IMF data]

Despite the Chinese economy slowing down, that of BRICS in general (the association of major emerging economies: Brazil, Russia, India, China, South Africa), could gain traction once again. The area's GDP has returned to growth rates of above four percentage points. As far as individual countries are concerned, Brazil's and Russia's GDP decreased by -3.6% and -0.2% respectively, while South Africa's wealth resumed growth (+0.3%). The highest performance in the BRICS area was for India: +6.8% compared to the figure recorded in 2015.

On the other hand, there has been a significant slowdown in the advanced economies. The most industrialised countries' economies, which initially appeared to be little affected by the worsening economic situation in emerging countries, have seen a sharp drop in exports. The slowdown in production was then accompanied by a sharp setback in international trade. For the second year in a row, growth in the world market was below the already modest growth of world wealth.

Over the last few years, the EU area has been marked by moderate growth rates, on average below two percentage points. In 2016, the economy decelerated further, with an estimated growth of 1.9 percentage points, reflecting the slowdown in world trade, which had an effect on export performance.

Difficulties continue for the EU area

In 2016, the EMU grew by 1.8% and the area's economic indicators showed signs of stabilisation over the last months of the year. Growth still varies between Eurozone economies: the most positive results are from the Spanish economy; Germany, which recorded a 1.9% increase in GDP, continues to grow more than France and Italy. Europe's driving force continued in 2016 with public administration expenditure growing by about four percentage points, and private consumption climbing by almost two percentage points. Household consumption was driven above all by growth in employment, which reached 43.5 million units, the highest level since 1991. In 2016, the Spanish economy grew by +3.2%, slightly above the projections of the Madrid government.

Spain is among the major European economies where confidence in the economy's prospects has grown significantly and in the last three years, has recovered, in real terms, 80% of the GDP lost during the economic crisis. In France, the GDP is slightly worsening (1.2% compared to +1.3% in 2015), youth unemployment continues to rise and industrial production is slowing down. However, some glimmers of light stem from consumer confidence, which is at its highest since 2007.

There is no common explanation for the weak European recovery, also because the performance of different countries varies. Variations in growth dynamics causes some observers to blame the structural weaknesses affecting individual countries, while for others the differences reflect the loss of a relative price rebalancing instrument, such as the exchange rate, which would make overcoming negative economic phases more difficult.

British economy performing well despite Brexit]

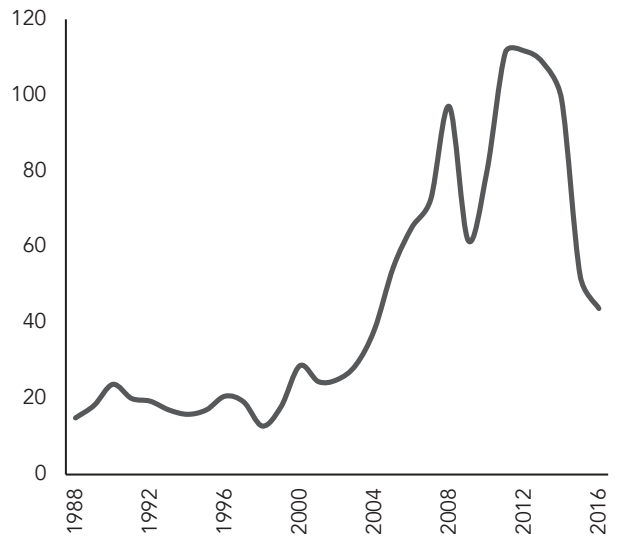
The British economy has not fallen into recession and, despite the outcome of the Brexit referendum, ended the year with a growth of nearly two percentage points. The economy in the United Kingdom, even after the referendum, continued to be driven by consumer spending, fuelled by the growing use of credit.

The number of households in debt continues to exceed nominal income growth, not so much for help with mortgages, which account for more than 80% of total credit, as for personal loans (credit cards, car loan finance, wage advances, overdrafts), which have been growing steadily over the past year.

The US economy closed 2016 with a deceleration in growth by 1.9% in the fourth quarter, reflecting

weak exports. The United States GDP did not meet expectations, and growth in 2016 stalled at +1.6%, down from +2.6% in 2015, therefore recording its weakest figures since 2011.
It is easy to identify the main deceleration in growth. While imports see a substantial increase, exports are decreasing, by about four points less than 2015, due to the negative effect of lower oil prices and therefore a strong dollar, factors that have undermined corporate profits.
A positive note for the American GDP stems from household consumption: in 2016, expenditure, accounting for about two-thirds of economic growth, increased by about four percentage points, driven by car purchases.
Thanks to a labour market with high employment rates, which boost wages and consumption, the outlook for the US economy still looks fairly positive. Another important contribution to growth came from corporate investment, which was positive for the last three quarters of the year, thanks to gambles on software and R&D.

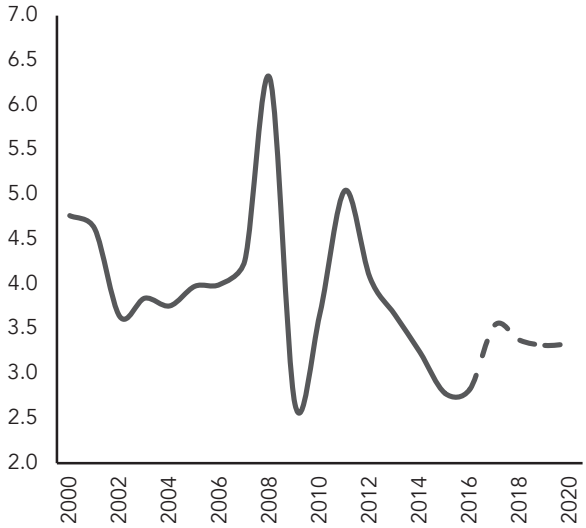
Fig. 1.1.3 - Brent oil prices ($/barrel). Years 1988:2006



Source: Veneto Region Statistical Office processing of EIA - U.S Energy Information Administration data

In first few months of 2016, another aspect that strongly marked trends was the decline in raw material prices. The collapse in prices partially reflected the slowdown in international growth. Significant reduction in energy product prices clearly influenced producer country dynamics. In addition,

Fig. 1.1.4 - World inflation- Years 200:2020



Source: Veneto Region Statistical Office processing of IMF data

the drop in commodity prices during the first few months of 2016 accentuated the downwards trend in international inflation, favouring the recovery of household purchasing power.
This is why there has been an upwards trend in consumption for advanced economies in comparison to the relative weak export and investment figures.
In the second half of the year, signs of improvement for the international economy influenced growth in raw material prices, which recovered from the lows at the start of the year.
The rise in commodity prices and the gradual recovery of the economy also led to an increase in inflation, felt by most countries. The recovery in oil prices, with Brent oil returning to over $50 a barrel, is not just the result of greater demand. In addition, prices have been supported by a change in supply, thanks to the OPEC agreement of member countries on the containment of crude oil extraction.
The rise in imported raw material prices has been reflected in product prices, thus affecting the purchasing power of households. Over the last two years the drop in commodity prices has decisively contributed to downsizing inflation rates in most countries. However, the rise in commodity prices during the last few months of 2016 has begun to change this scenario.
The stabilisation of the stock markets, which marked the last few months of 2016, brought the end to a complicated year for financial markets. From the summer of 2015, with the collapse of the Chinese stock exchange, several indicators had signalled an

increase in risk premium and a growing preference for bonds, to the point where German and Japanese long-term bond yields fell into negative figures. The fall in interest rates then, in their turn, had a negative effect on stock exchanges, also affecting loan yields and bank profitability. This was followed by the widespread losses among oil companies and, finally, the uncertainty in the weeks following the Brexit referendum. However, investors remained optimistic for three reasons: global economic growth, which will bring more profit to companies, the ease of share-dealing compared to bonds and a favourable financial cycle. At the beginning of 2017, the Wall Street Stock Exchange was reaching all-time highs, along with other stock exchanges around the world, albeit with less startling figures: since March 2009, the MSCI World Index has increased by about 150 percentage points and even in Europe, share prices are close to the all-time highs of recent years. However, there are still risks, which are linked to European politics and the White House. Indeed, if the US Congress does not fully approve Trump's promised state investments, the markets will be disappointed and many companies operating in sectors involved (construction and logistics) will acknowledge that the blow has been felt.

Forecasts

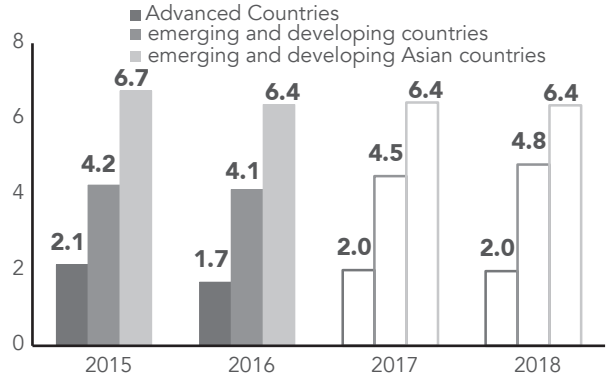
2017 could become a complicated year for emerging economies and others. The strong currents that have animated the global economy are changing and moving in an increasingly less favourable direction for international trade.

The winds of globalisation, having given such help to the growth of many developing economies which found an outlet for their exports in global demand, may have stopped blowing. In recent years, globalisation has increased inequalities in the distribution of wealth, resulting in changes to the global political climate, with nationalistic and protectionist responses.

The uncertainties surrounding the Trump administration, and over the consequences of Brexit, risk compromising global economy recovery. The US tax plan, marked by a massive cut in taxes for people and businesses, and Trump's promised robust programme of public investment in the infrastructure could boost growth in the United States.

But the effects of these policies could be marred by an overly aggressive trade policy, with the risk of reprisals that would end up weakening the US economy, with global repercussions. For Nobel Prize winner Joseph Stiglitz, "protectionism could offset

Fig.1.1.5 - Percentage variations of Gross Domestic Product. Advanced countries, emerging and developing countries and emerging and developing Asian countries - 2015–2018



Source: Veneto Region Statistical Office processing of IMF data

GDP by 1.5 points over the next 15 years."

Thanks to improvements in manufacturing and international trade, the world picture envisaged by the IMF expects GDP growth this year of +3.5% and of +3.6% in 2018 (after 3.1% in 2016), with a slight upward adjustment for emerging economies as a whole.

The strengthening of the international economy is primarily due to the improvement of market confidence and the rise in commodity prices, which has pulled producer countries back from the brink. Moreover, GDP estimates could improve due to a number of other factors, starting with the fiscal stimulus announced by US President, Donald Trump, and new infrastructure investments in the United States. IMF economists estimate that fiscal stimulus could lead US growth to +2.3% in 2017 and +2.5% in 2108. Domestic demand will give the US economy momentum, which will grow at a sustained pace over the next two years, thanks to household consumption and a gradual recovery in energy production.

The increase in US GDP will drive the growth of advanced economies, up by +2.0% both this year and in 2018. In 2016, the speed of growth in the United Kingdom was lower than previous years and in 2017 it could decelerate further: the rise in inflation will affect the incomes and consumption of British citizens and business investment will be affected by the uncertainty of future business relations with European counterparts.

Emerging economies should gradually resume their march forwards by 2017. Growing at higher rates than advanced economies even during the crisis, emerging economies have however recorded a

slowdown in recent times due to the reduction in world trade.
China's contribution to the world economy is very important, and hence the effects of a possible slowdown in the Asia's economic strength will be felt globally. The Chinese economy is set to grow by 6.6% in 2017, in line with the statement by Prime Minister Li Keqiang in the annual report at the annual opening of the Chinese Parliament.
In recent years, China's expansion has also been supported by the real estate sector's boom and by large loans. The Chinese government's new policy aims to cool housing prices and curb the credit industry, focusing instead on domestic consumption and private investment. In 2017, Russia's gross domestic product should return to positive figures, albeit just shy of one percentage point and inflation should also return to a more sustainable level after the 2014 and 2015 flare-ups, reaching the 4% target. The Russian economy remains structurally fragile and tied to crude oil fluctuations; however, it is resurfacing due to oil prices. In India, on the other hand, growth will accelerate to +7.2% in 2017, and to +7.7% in 2018. Finally, after the heavy recession in 2016, Brazil will end the year close to zero and +1.7% by 2018.
The euro area will grow by +1.6%, according to estimates by Brussels. As for the Union as a whole, the Commission's predictions, unless there are any last minute surprises, are for a growth of +1.8%, both in 2017 and 2018; a European economy, despite enormous difficulties – from terrorist attacks to Brexit – continues to regain strength, albeit slowly. However, 2017 is rife with economic and political risks. The focus will be on the next elections in some major EU countries; as well as on negotiations with the United Kingdom for the country's departure from the Union, and American foreign policy, which is far more isolationist than in the past.
The principal EMU economies are expected to grow at varied rates: Germany +1.6%, France +1.4% and Spain +2.3%. The IMF states that monetary policy must continue to be accommodating, but raising demand will not suffice alone; it serves as a fiscal stimulus in countries with budgetary space, such as Germany, and with structural reforms.
Inflation in the euro area has picked up again, since the previously recorded drop in energy prices has recently increased. Having been low over the past two years, inflation is likely to reach higher levels this and next year, not yet reaching the ECB target of "low levels, but close to 2% in the medium term" which corresponds to the definition of price stability.
Core inflation, which does not take the volatility of energy and food prices into consideration, is likely to increase only gradually. Overall, inflation in the euro area will probably grow from 0.2% in 2016 to 1.7% in 2017 and to 1.5% in 2018. In the EU, inflation could rise from 0.3% in 2016 to 1.8% in 2017 and 1.7% in 2018.
Private consumption will probably remain the principal driving force behind growth, sustained by a lasting improvement in employment and an increase in nominal wage growth. However, with growing inflation, which limits the rise in household purchasing power, a slowdown in the private consumption trend is expected this year and next year.
Investments will continue to rise, but only moderately, supported by a number of factors such as very

Tab.1.1.1 – Economic indicators in major industrialised countries: 2015 – 2018

	GDP (Var. %)				Domestic demand (Var. %)				Inflation				Unemployment rate			
	2015	2016	2017	2018	2015	2016	2017	2018	2015	2016	2017	2018	2015	2016	2017	2018
United States	2.6	1.6	2.3	2.5	3.2	1.7	2.4	2.7	0.1	1.3	2.7	2.4	5.3	4.9	4.7	4.6
Japan	1.2	1.0	1.2	0.6	0.7	0.7	1.0	0.5	0.8	-0.1	1.0	0.6	3.4	3.1	3.1	3.1
Euro area	2.0	1.8	1.6	1.8	1.8	1.9	1.7	2.0	0.0	0.2	1.7	1.5	10.9	10.0	9.6	9.1
United Kingdom	2.2	1.8	1.5	1.2	1.9	2.1	1.6	0.6	0.0	0.7	2.5	2.6	5.3	4.8	5.2	5.6
UE28	2.2	1.9	1.8	1.8	2.0	2.1	1.9	1.8	0.0	0.3	1.8	1.7	9.4	8.5	8.1	7.8

Source: Veneto Region Statistical Office processing of Eurostat, IMF and European Commission data forecasts, in red

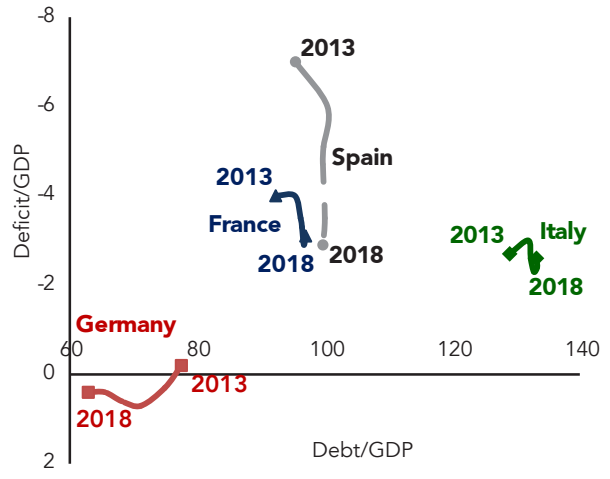
Tab.1.1.2 – Economic indicators in the main Eurozone countries: 2015 – 2018

	GDP (Var. %)				Domestic demand (Var. %)				Inflation				Unemployment rate			
	2015	2016	2017	2018	2015	2016	2017	2018	2015	2016	2017	2018	2015	2016	2017	2018
Germany	1.7	1.9	1.6	1.8	1.6	2.2	2.0	2.1	0.1	0.4	1.9	1.5	4.6	4.1	4.1	4.1
France	1.3	1.2	1.4	1.7	1.5	2.0	1.4	2.0	0.1	0.3	1.5	1.3	10.4	10.1	9.9	9.6
Spain	3.2	3.2	2.3	2.1	3.4	2.9	2.1	2.0	-0.6	-0.3	1.9	1.7	22.1	19.6	17.7	16.0
Italy	0.8	0.9	0.9	1.1	1.1	1.0	1.1	1.4	0.1	-0.1	1.4	1.3	11.9	11.7	11.6	11.4

Source: Veneto Region Statistical Office processing of Eurostat, IMF and European Commission data forecasts, in red

low financing costs and a strengthening of global activities.
Overall, euro area investment is expected to grow by +2.9% this year and +3.4% in 2018 (+2.9% and +3.1% in the EU).
However, the rate of investments in GDP is below the value recorded at the beginning of the century (20% in 2016 compared to 22% in 2000-2005). The persistent weakness of investments keeps the brakes on the potential growth of the European economy.

Fig. 1.1.6 – Deficit and public debt in major Eurozone countries - Years 2013:2018



Source: Veneto Region Statistical Office processing of Eurostat and European Commission data

The euro area's aggregate public deficit and public debt ratio is expected to decrease further in 2017 and 2018.
Public debt in the euro area is estimated to fall from last year's GDP of 1.7% to 1.4% in 2017 and 2018, reflecting lower expenditure due to exceptionally low interest rates but also from other improvements in the labour market: the number of people paying taxes and contributions is increasing and those receiving social benefit payments is decreasing.
A gradual reduction in the debt/GDP ratio is expected, from 91.5% in 2016 to 90.4% in 2017 and reaching 89.2% in 2018.
Outside the Eurozone, the UK's economy is expected to slow down. The IMF estimates growth will be around half a percentage point over the next twelve months.
The estimate of many analysts could be slightly revised due to the anticipated negative effects of Brexit.
Negotiations for exiting the EU, which started in March, should last for at least two years with many uncertainties.

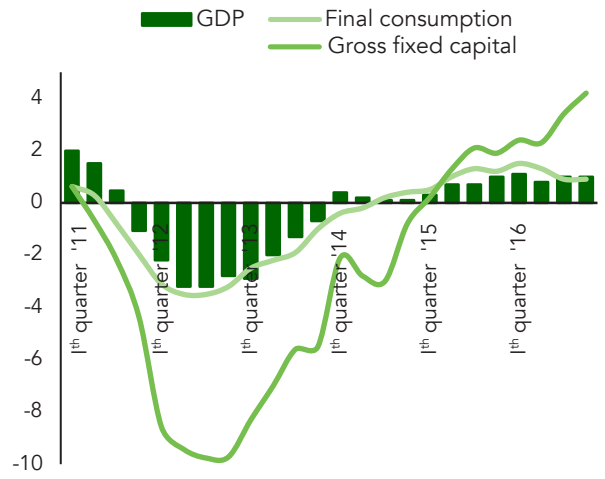
1.2 Italy

The Italian economy's growth is weak but steady

In 2016, the slow growth of Italian GDP put Italy's recovery on far lower values than those recorded in the other economies of reference.
A third consecutive year of growth has consolidated the economic outlook bringing the internal product, measured in volume, to similar levels of those in 2000 but still a long way off the pre-crisis

numbers of 2007 (by about 132 billion linked prices, 2010 base year).
The Italian economy grew by +0.9%, the primary surplus (net debt excluding interest costs) measured in relation to GDP, was 1.5% (1.4% in 2015), the net debt of public administration (PA), measured in relation to GDP was -2.4% in 2015 (down by about 3.5 billion euros from the previous year) and the tax burden fell under the 43% threshold (to 42.9% compared to 43.3% in 2015).
The only deteriorating aggregate of public finance continues to be national debt, which reached a record 132.6% of GDP, an increase of six decimal points compared to last year, but just shy of European expectations.

Fig.1.2.1 – Percentage variations in GDP, final consumption and investment in the corresponding quarter of the previous year. Italy - Ist quarter 2011– IVth quarter 2016

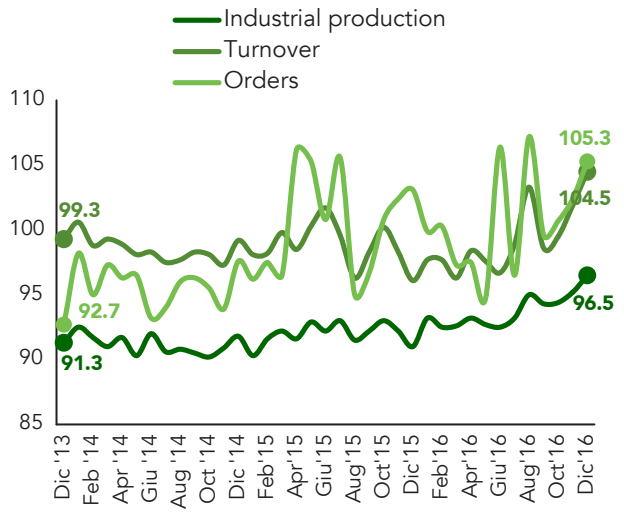


Source: Veneto Region Statistical Office processing of ISTAT data

This weak but steady expansion of the national economy benefitted from a 1.2% increase in final national consumption while gross fixed capital more than doubled (+2.9%). There was an increase in transport investments (+ 27.3%), machinery and equipment (+ 3.9%) and construction (+ 1.1%), while intellectual property products saw a decrease (-1.3%). In 2016, it would seem that this transition, which was meant to strengthen the year, had happened, with the larger spending on private investments offsetting weakening consumption.
As regards foreign flows, exports of goods and services increased by +2.4% and imports by +2.9%. Domestic demand contributed positively to growth, with 1.4 percentage points (0.9 before account is made of changes in stocks) while net foreign demand was negative (-0.1 points). Consumer spending increased by +1.8%, and services by +1.0%. In terms of consumer spending, the most significant increases are transport expenditure (+ 5.3%), hotels and restaurants (+ 2.9%), housing (+ 1.3%) and recreation and culture (+ 1.2%); miscellaneous goods and services (-0.9%) saw the largest decrease. In terms of resources, the most important increases in value added were in industry, narrowly defined, (+ 1.3%) and services (+ 0.6%), while agriculture and construction sectors declined (-0.7% and -0.1% respectively). The slight strengthening of the labour market was also reported in these initial annual estimates. Workforce growth affected all sectors of the economy, with the exception of construction, which saw a decline of -2.9%; employment grew by +0.9% in agriculture and fisheries and by 1.7% in both industry, narrowly defined, and services. Furthermore, employee income and gross wages have improved, up +2.4% and +2.8% respectively.
The end of 2016 and the first few months of 2017 were marked by a substantial stability in the Italian economy cycle. Growth rates remain relatively low, and lower than those of other Eurozone countries, but overall the recent economic outlook is better than feared in mid-2016. The recovery in international demand is certainly a key element in defining Italian industry prospects, especially in light of uncertainties dependant on the development of our domestic demand.
This year a growth rate of +1% seems within reach, indicating a real prospect of a recovery that, despite modest rates, will continue to grow for the fourth consecutive year. In 2017, the drivers behind growth are expected to change: there could be increased contributions from foreign demand and investments, thanks to the stimulus of legislative measures, compared to a slight drop in household consumption. Growth of one percentage point would represent the highest variation from 1.7%, scored six years ago. The Italian economy's growth estimate is supported by the European Commission's economic forecasts, produced in February. The Commission predicts a growth of 0.9% in 2017 and 1.1% in 2018. In its analysis of the economic situation, Brussels welcomed the government's commitment to correct the trajectory of public accounts by April; however, in the meantime, it has revised

its public debt estimates upwards. "Political uncertainty and the slow recovery of the banking sector pose a risk to economic growth" but "we cannot rule out a stronger-than-expected push from foreign demand". As regards Italian public debt, Brussels predicts a debt of 133.3% of GDP in 2107 and 133.2% of GDP in 2018.
Investment forecasts for 2017 are in the wake of an acceleration thanks to the improvement of macroeconomic conditions and encouraging legislative measures. An incentive for private investments will come from the government plan "Industry 4.0, the Italian path to manufacturing competitiveness". The plan aims to raise private investment amounting to 10 billion, private spending of 11.3 billion on research, development and innovation, focusing on Industry 4.0 technologies, and a further 2.6 billion euros through early stage private investment. The measure proposes a mix of tax incentives, support for venture capital, spread of ultra-broadband, and school to university training with the ultimate aim of encouraging and incentivising companies to adapt and fully adhere to the fourth industrial revolution. The extension of super-depreciation and the introduction of a further ultra-depreciation for companies investing in new technologies for their own production systems will allow for the replacement of machine tools, which are perhaps among

Fig. 1.2.2 – Seasonally adjusted indices of industrial production, turnover and orders (base year 2010=100). Italy - Dec. 2013:Dec.2016



Source: Veneto Region Statistical Office processing of ISTAT data

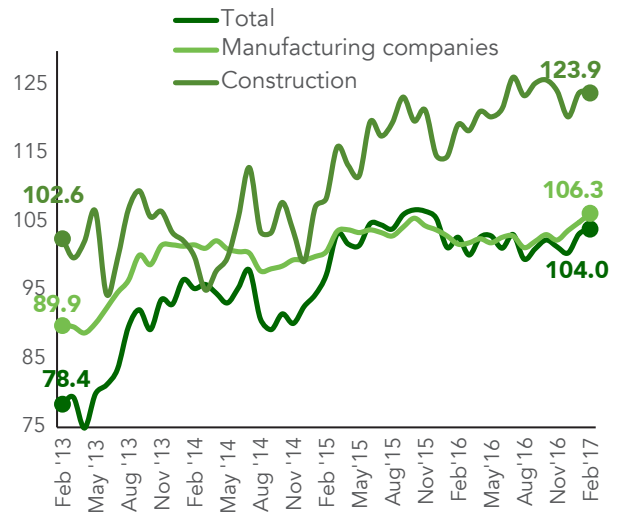
the oldest in Europe. Furthermore, this could represent the drive wheel of recovery for industrial production and, in the medium to long term, another thrust for growth.
2017 seems to have started off on the right foot for the global cycle. Industry indicators have been showing strengthening signs for several months. Production indexes and business confidence data show a positive trend, which is expected to continue into the first part of the year. The most positive aspect of the trends of recent months is that most economies have witnessed signs of revival in the industrial cycle.

Industrial production grows

2016 saw a noticeable increase in industrial production and the results from the last few months of the year exceeded expectations: in December 2106, the seasonally adjusted index of industrial production increased by +1.4% in comparison to November and, on average for the fourth quarter, production increased by +1.3% as compared to the previous quarter. On average, production increased by +1.6% in 2016 compared to the same period of the previous year: to find a better figure, Italy's industrial output index continued to grow, reaching 96.5 despite the slow upwards trend; it needed to return to the 2010 progression of more than six percentage points, but almost naturally bounced back after a drop of nearly 20% in the previous year.
December's good result is the fifth consecutive month and affects all macro-sectors. On a year-over-year basis, calendar-adjusted indices show a marked increase in the energy sector (+11.9%), intermediate goods (+7.8%) and capital goods (+7.3%), while the increase is more limited in consumer products (+2.3%).
The biggest difficulties are for textiles/clothing, wood/paper and electrical equipment, still 20-25 points away from the 2010 levels.
Meanwhile, making headway are pharmaceuticals (113.7), machinery (104.4) and above all means of transport, reaching 113.4.
In regards to industry turnover and orders, in December 2016 there was a cyclical increase for both: +2.6% of turnover and +2.8% for orders. Indicators for both represent the third consecutive monthly increase, which leads the fourth quarter's economic growth to +1.7% for both variables. In December, the increase in turnover was much higher in the foreign market (+5.4%) than in the domestic market (+1.1%), whereas, orders show an increase in the domestic market (+ 6.8%) and a fall in the foreign

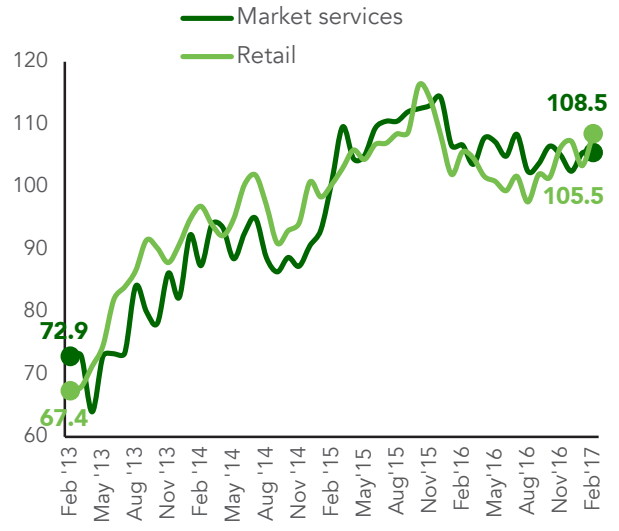
market (-2.6%). On average for 2016, the turnover, calendar adjusted, recorded a slight increase in value (+0.2%), more noticeable in terms of volume for the manufacturing sector alone (+1.2%).

Fig 1.2.3 - Monthly balance of confidence index in total companies, manufacturing and construction companies (seasonally adjusted data 2010 = 100). Italy - Feb. 2013: Feb 2017



Source: Veneto Region Statistical Office processing of ISTAT data

Fig 1.2.4 - Monthly balance of confidence index in market services and retail companies (seasonally adjusted data 2010 = 100). Italy - Feb. 2013: Feb 2017



Source: Veneto Region Statistical Office processing of ISTAT data

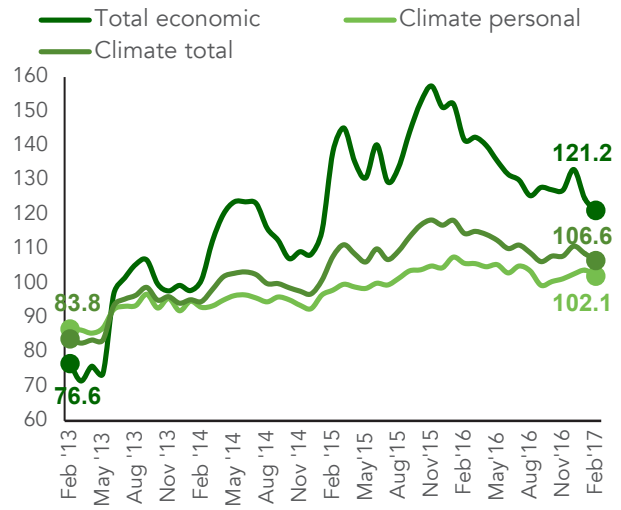
groupsThe seasonally adjusted turnover indices show economic growth for all major industry groups, particularly for energy (+7.5%).

Confidence index improves in all business

The first months of 2017 were marked by a return of confidence in Italian manufacturing companies, seeing the highest levels since the beginning of 2011.

Improvement affected all major industry groups, but is particularly accentuated for intermediate goods producers and capital goods producers. Consumer goods producers are relatively less optimistic, especially as a result of the less lively domestic demand. In February, the composite condidence index in Italian companies[3], which summarises the balance sheets (seasonally adjusted and standardised) including the climate of confidence in manufacturing, construction, services and retail trade companies, increased from 103.3 to 104.0 (February). The confidence index of manufacturing companies is positive, rising from 105.0 to 106.3. Order ratings are improving but production expectations are worsening slightly; stocks are accumulating mar

- Monthly balance of consumer confidence index (seasonally adjusted data 2010 = 100). Italy - Feb. 2013–Feb 2017



Source: Veneto Region Statistical Office processing of ISTAT data

[3] Iesi, Istat economic sentiment indicator 2010=100 basis.

ginally. The confidence index rose from 103.0 to 104.0 for consumer goods, from 109.7 to 111.6 for capital goods and decreased from 103.1 to 102.8 for intermediate goods. Order ratings are improving in all three major industry groups; however, production expectations are worsening in the same groups. Stocks are stable for consumer and capital goods, while intermediate ones are thought to be accumulating.

.. consumer confidence index is down

The consumer[4] confidence index is down for the third consecutive month, dropping from 108.6 to 106.6. All index components are declining. Consumer ratings and expectations about the country's economic situation are worsening for the second consecutive month, and expectations of unemployment for the next 12 months are slightly decreasing.

2017 Government goals[5]

On 11 April 2017, the Council of Ministers passed the Economic and Financial Document (EFD), which represents the programming framework on which the Executive's action is structured.

The primary objective is to promote stable growth and employment, while maintaining the sustainability of public finances, by use of instruments that can be summarised as follows: decentralised collective bargaining, the competition law, the fight against poverty, privatisation, and civil and administrative justice reform.

The document outlines the main areas of reform where the government intends to act in order to boost the economy's recovery. In labour terms, policies are expected to be strengthened to stimulate competences, as well as measures for family welfare support. Furthermore, the Executive intends to focus on second-tier collective bargaining, with interventions focusing more on corporate welfare, and finalisation of the Jobs Act.

To overcome inequalities, there are three areas of interventions: the introduction of Inclusion Income (the universal measure of economic support for underprivileged households); the reorganisation of anti-poverty relief services and the strengthening and coordination of social service measures, to ensure greater uniformity between regions for the provision of services. Together with the aim of promoting social inclusion and the idea that the quality of the environment, the reduction of economic inequalities, the quality of work and the level of education are aspects that contribute to the well-being of a society, the Economic and Financial Document for the current year introduces and illustrates the trend of some Equitable and Sustainable Wellbeing (ESW) indicators: the average available income, income inequality, unemployment and CO2 emissions and other atmospheric gases.

Improving Italy's "confidence index" in institutions is crucial to supporting both public and private investment. Therefore, the implementation of justice reform measures, especially in reference to criminal procedures, civil procedure efficiency and the statute of limitations, are a priority.

Furthermore, public investment recovery goes hand in hand with infrastructure strengthening: for this purpose, the EFD supports measures aimed primarily at strengthening regional and large city rail networks and improving local public transport.

All this is accompanied by entrepreneurial support measures, such as: enhancing incentives for small and medium-sized companies (equity crowdfunding) and the extension of incentives for innovative start-ups.

The measures outlined in the Public Finance Document are based, above all, on the introduction of a new spending review phase, which will be more selective and consistent with the principles established by the budget reform, which envisages a stricter use of tools to rationalise the purchases of goods and services by the Government. It was confirmed in 2017 that safeguard clauses will be replaced with new spending and revenue measures in 2018 and 2109, including reinforcing the fight against evasion. The split-payment, an anti-avoidance mechanism that allows the buyer to extract the VAT payable by its suppliers directly to the tax authorities, will be extended to all listed and public companies. Resources will also be recovered thanks to an expected increase in excise duties on cigarettes and tobacco, as well as the so-called "fortune tax" the tax on games and lottery winnings.

Through implementing these measures, the Government estimates a 1.1% growth in the economy by 2017; a slight slowdown is expected for 2018 and 2019, years when the GDP will grow by +1.0% but then return to this year's levels by 2020. Net debt will continue to decline, to -2.1% in 2017, -1.2% in 2018, -0.2% in 2019 until reaching zero in 2020. In 2017, the debt/GDP ratio should reach 132.5%, while the national unemployment rate should fall to

[4] Economic and Finance Document (EFD) for 2017 - Ministry of Economy and Finance

[5] The confidence index is a summary of economic and personal climates or, alternatively, of current and future climates, on a 2010 = 100 basis.

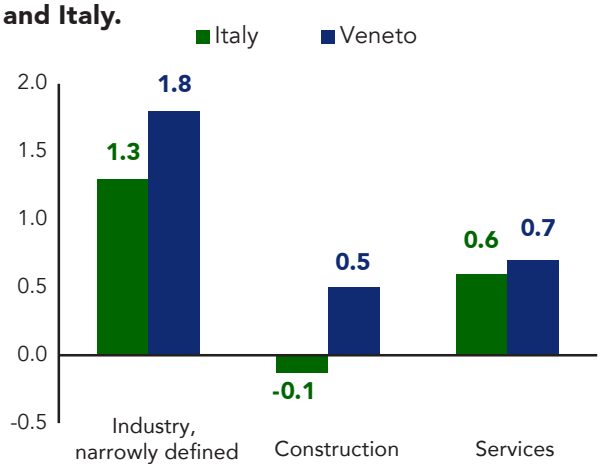
11.5%. The structural budgetary balance is planned for 2019-2020.

1.3 Veneto's economy[6]

The official regional accounts data extends to 2015, therefore, for 2016 and subsequent years reference is made to the estimates and forecasts made by the research institute Prometeia. Veneto GDP is estimated to grow by +1.2%, thus at a slightly faster speed than the national average.
Domestic demand, as it was in 2015, continues to recover after a stand-still; in 2016, household consumption stands at + 1.6% per annum, while investments increased by +3.3 as compared to the previous year.
The 2016 result is mainly due to the good performance of industry in Veneto, which remains competitive and recorded a value added increase of 1.8%. Veneto industry was mainly driven by certain sectors of the agri-food (wine and confectionary), optical products and mechanical goods industries, which recorded good sales and export performance.
Results for other sections showed a more moderate increase for the same year: the tertiary sector grew by +0.7% per annum, construction by +0.5% and finally, the primary sector rounded off 2016 with -0.6% per annum. The 2017 forecasts predict a positive trend for the main economic variables, thus allowing a slow and steady healing of the scars left by the stand-still, especially in terms of GDP, investment and consumption.
For 2017, growth in Veneto GDP was +1.2% higher than the national forecast of 0.9%. In Veneto, the growth trend for 2017 will be marked by the consolidation of good investments (+ 2.9%) and a slight deceleration of final consumption (+ 0.6%) but will be strongly supported by a significant acceleration in exports (+ 3.9%).

6 All figures in tables, charts and text are expressed in real terms at 2010 prices, unless otherwise stated.

Fig. 1.3.1 - 2016/15 % variation of value added according to economic activity sector. Veneto and Italy.



Source: Veneto Region Statistical Office processing of ISTAT data and Prometeia forecasts.

Tab. 1.3.1 - Macroeconomic framework (percentage changes on linked values, with reference year 2010). Veneto and Italy Years 2014:2017

	2014		2015		2016		2017		
	Italia	Veneto	Italia	Veneto	Italia	Veneto	Italia	EFD predic. Italy	Veneto
Gross domestic product	0.1	0.6	0.8	0.6	0.9	1.2	0.9	1.1	1.2
Household final consumption expenditure (a)	0.3	0.3	1.5	1.9	1.3	1.6	0.6	1.0	0.7
Final consumption expenditure AA. PP. and Isp	-0.7	0.1	-0.6	-0.8	0.7	0.6	0.1	0.3	0.1
Gross fixed capital	-2.3	-1.9	1.6	2.3	2.9	3.3	2.5	3.7	2.9
Importations (b)	-1.1	1.9	3.8	6.9	-1.3	-1.2	4.0	-	4.0
Exsportation (b)	2.2	3.6	3.4	5.3	1.2	1.3	3.6	-	3.9

a) This aggregate also includes ISPs in the 2017 Country Forecast for 2017 of the Economic and Financial Document 2017
b) Current figures
Source: Veneto Region Statistical Office processing of Prometeia and Ministry of Economy and Finance - 2017 Economic and Financial Document data and forecasts, in red.

Regional and temporal comparison of Veneto

The comparison of European regions in the regional GDP per capita rankings in 2015 shows a strong inconsistency: four regions had figures that were double the EU average, while 19 had less than half of the EU average. Among the leading economies in the 2015 ranking, there were regions from the UK, Germany, the Netherlands, Austria, Belgium, the Czech Republic, Denmark, France, Slovakia and Sweden, as well as the Grand Duchy of Luxembourg. Eurostat[7] highlighted that the per capita GDP of some regions may have been significantly affected by large commuting flows, which would push up production to a level that could not be viably be achieved by the resident active population alone.

Good performance in Veneto in comparison to European and Italian competitors

In the same year, Veneto had a per capita GDP 10% higher than the EU average, surpassing some competing Italian regions such as Tuscany and Piedmont, and several international competitors such as Catalonia and Rhône-Alpes in particular, but also Sydsverige in Sweden and Greater Manchester in England. However, Lombardy and Emilia Romagna in Italy and two German competitors, Bayern and Baden-Württemberg, still remain at competitive levels, both exceeding the European average by more than 40%..

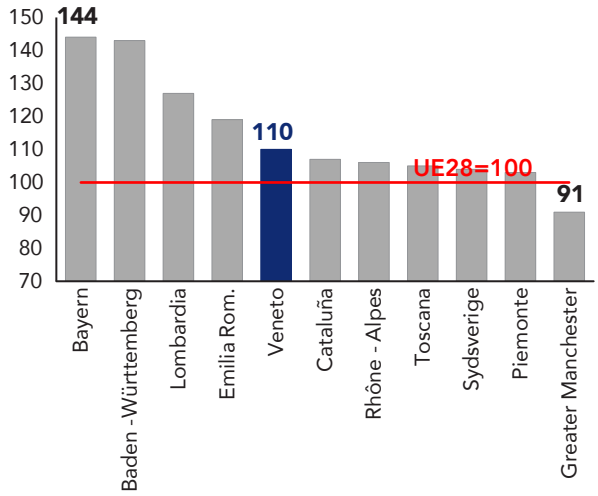
Veneto is the third highest region for producing wealth

Veneto's performance is certainly positive in regards to a national and European context, however, it doesn't have the same momentum to make it one of the strongest economies, purely due to the less stable growth in wealth shown by our region over the last decade.
Veneto remains the third region in Italy for producing wealth following Lombardy and Lazio: 9.2% of the Gross Domestic Product is produced in Veneto. In 2015, the GDP per Veneto inhabitant was 30,843 euros at current values, i.e. 14% higher than the national average.
From a composition point of view, Veneto remains a highly industrial-orientated region, a sector forming a backbone in terms of workforce and wealth production, which has been boosted by important international freight trade: the amount of wealth produced by the industry exceeds 30%. It is true that in recent decades, Veneto's production structure has gradually been shifting towards outsourcing, favouring the business services sector whilst reducing the weight of other economic sectors.

Even though Veneto still has a strong industrial vocation, Veneto's production structure is being increasingly outsourced.

7 Eurostat Newsrelease n.52/2017.

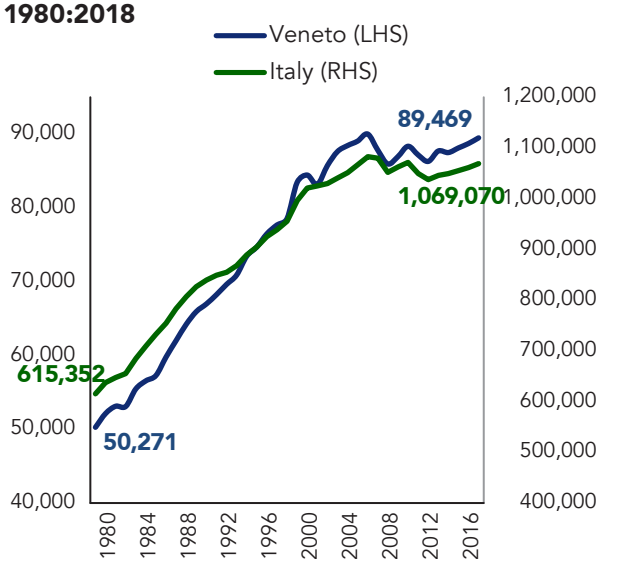
Fig. 1.3.2 - Gross domestic product per capita (in PPS, EU28=100): Veneto and some Italian and European competitors - Year 2015



Source: Veneto Region Statistical Office processing of Eurostat data.

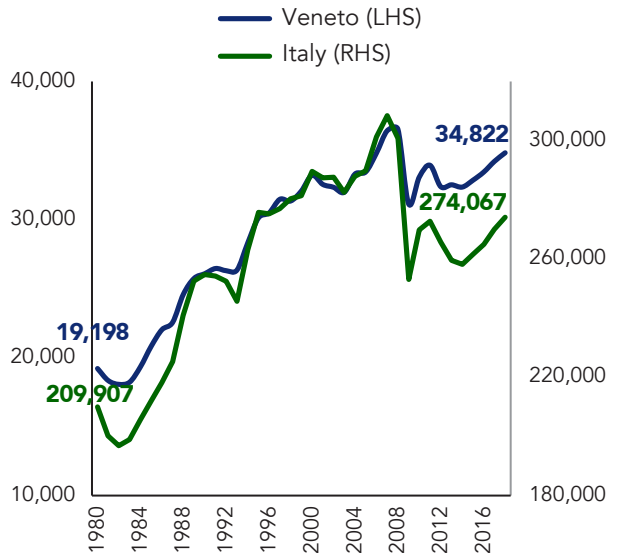
The phenomenon of outsourcing is determined by such factors as the evolution of the domestic demand structure, the delocalisation of production systems and the emergence of the information economy, leading the services sector to make up for over two-thirds of regional wealth production.
In 2016, the added value created by services was 88.1 billion euros, in real terms, and its former progressive growth halted in 2008; in the following years it recorded a fluctuating trend, however, since 2015 it has stabilised showing a slight but steady growth and it is estimated that the tertiary sector will return to pre-crisis levels within a few years.
In 2016, industry, narrowly defined, produced an added value of 33.4 billion euros, which was in line with 2004-2005 levels. These levels were the be

Fig 1.3.3 - Added value from services (millions of euros in 2010). Veneto and Italy - Years 1980:2018



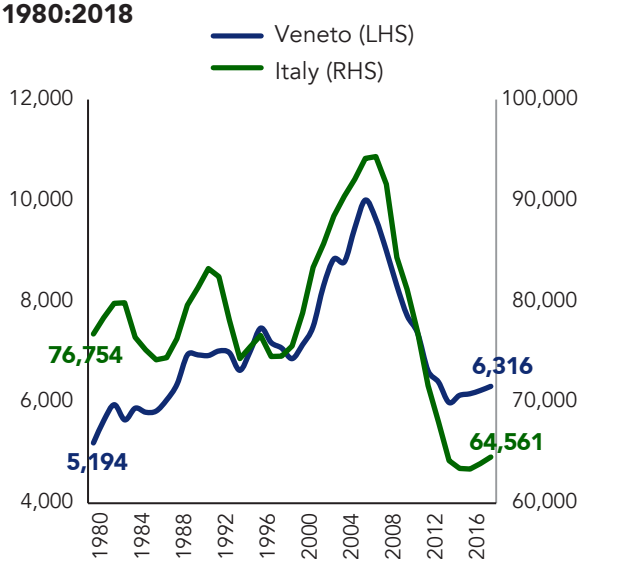
Source: Veneto Region Statistical Office processing of ISTAT data and Prometeia forecasts.

Fig 1.3.4 - Added value from industry, narrowly defined (millions of euros in 2010). Veneto and Italy - Years 1980:2018



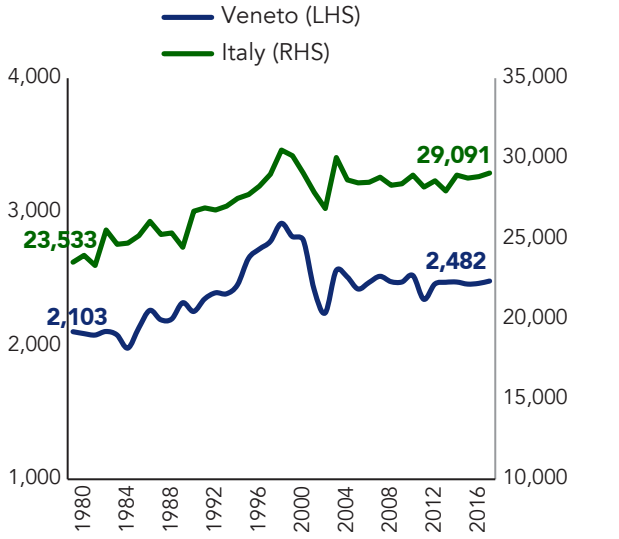
Source: Veneto Region Statistical Office processing of ISTAT data and Prometeia forecasts.

Fig 1.3.5 - Added value from construction (millions of euros in 2010). Veneto and Italy - Years 1980:2018



Source: Veneto Region Statistical Office processing of ISTAT data and Prometeia forecasts.

Fig 1.3.6 - Added value from agriculture (millions of euros in 2010). Veneto and Italy - Years 1980:2018

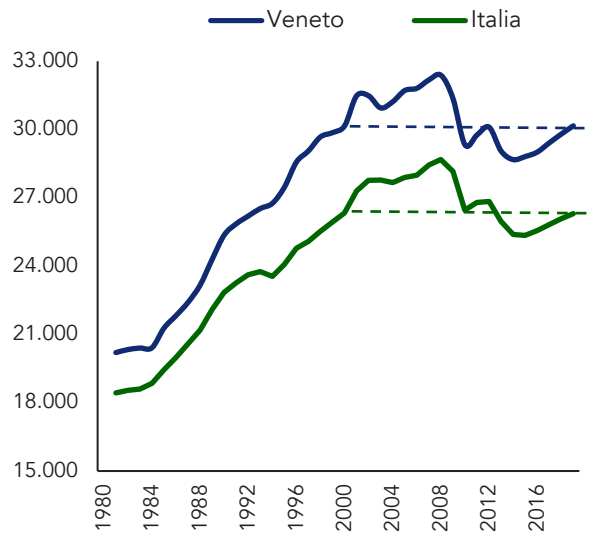


Source: Veneto Region Statistical Office processing of ISTAT data and Prometeia forecasts.

ginning of a recovery that lasted a few years before the halt and sharp decline in 2009. About 5% of the total regional added value comes from the construction sector, amounting to more than 6 billion euros.
The sector suffered a harsh setback due to the 2007 crisis, which hit small businesses even harder, especially craft companies. Since 2015, this trend has been interrupted making room for a hesitant recovery that continued into 2016 and appears in forecasts for years to come.
Growth in the sector should also be stimulated by fiscal incentives, reinforced by the 2017 Stability law, which also includes the so-called "Sisma Bonus".
The added value created by agriculture reached 2.5 billion euros, i.e. 2% of the region added value. The added value generated by the primary sector has shown a peculiar trend. It showed an upwards trend until 2000, when it reversed noticeably, leading to a slump that lasted a few years, then followed by a fairly stable decade thus leaving primary production on lower levels than in the late 1990s.
The estimate for 2016 was -0.6% and 2017-2018 forecasts predict stability.
Since 2008, GDP per capita[8] , commonly used to measure the degree of well-being of an area based on the amount of wealth produced by its economic system, has dropped both in Veneto and at the national level. In 2016 it increased slightly, remaining above the Italian average of over 3,000 euros, and is expected to continue its sluggish recovery over the next few years, bringing it back to figures reflecting those of the second half of the 1990s.
Disposable income [9] is a synthetic measure of economic well-being enjoyed by residents of an area, considered in their function as consumers and savers. In 2016, the per capita disposable income of households in Veneto was about 19,000 euros, a figure higher than the national average and showing a moderate growth in comparison to the previous year. In the 2017and 2018 forecasts, this figure is expected to continue its slow but steady climb.
Household per capita consumption, apparently related to income levels, continued to increase the annual value in 2016, with a differential similar to that of 2015; even for this economic figure forecasts are positive.

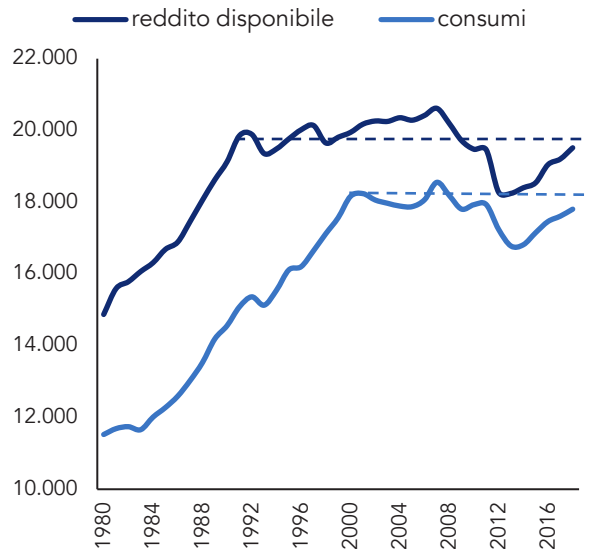
[8] Calculated here in 2010 euros, to evaluate the historical trend without any inflationary effect
9 Represents workers' amount of current resources for final use (consumption and savings). It includes all streams, inbound and outbound, attributable to residents, even if made outside the region, but excludes resources obtained in the region by persons who reside elsewhere

Fig 1.3.7 - Gross domestic product per capita (euro 2010). Veneto and Italy - Years 1980: 2018



Source: Veneto Region Statistical Office processing of ISTAT data and Prometeia forecasts.

Fig 1.3.8 - Final consumption expenditure and household disposable income (euro 2010 per capita). Veneto - Years 1980: 2018



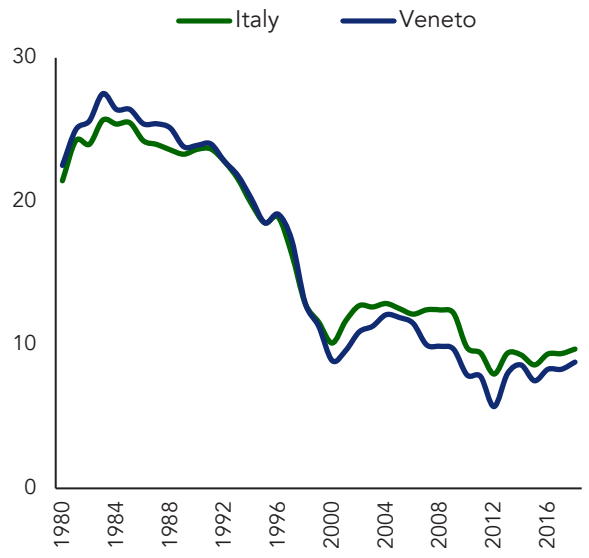
Source: Veneto Region Statistical Office processing of ISTAT data and Prometeia forecasts.

Consumption figures for 2016 confirmed signs of improvement for Veneto household conditions, favoured by a slight recovering in employment, a stronger climate of confidence and good disposable

Conditions for families in Veneto are improving

income trend, supported by a stable purchasing power.
Equally, 2016 saw an increase in the propensity towards saving, which returned to grow after having reached its lowest in 2012 and a second, less significant, low in 2015. The Veneto attitude shows that the increase in disposable income, albeit moderate, is distributed partly in consumption and partly in savings.

Fig 1.3.9 - Household propensity towards saving (*) Veneto and Italy - Years 1980: 2018



(*) Share of savings from households' disposable Income
Source: Veneto Region Statistical Office processing of Prometeia data and forecasts.

Among the other components that contribute to GDP, gross fixed investments are analysed, representing the value of durable goods acquired by resident production units, to be used in the production process, as well as the value of the services incorporated into the investment assets acquired.
After years of sharp decline lasting until 2014, investments per work unit [10] grew slightly in 2016, as was the case in 2015. Furthermore, it is expected to increase over the next two years, even if it will not exceed mid-1990s figures.
After the collapse in 2009 and the continuing

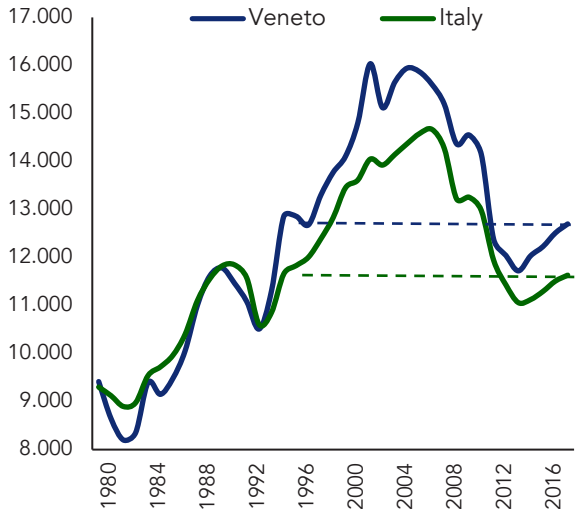
Productivity continues to grow..

oscillation until 2012[11], productivity showed signs of recovery, albeit marginally, in the following years and will continue to increase according to the 2017-2018 forecasts, which will see us return to the highest pre-crisis level.

...Mainly thanks to the contribution of district companies.

A significant part of this recovery in productivity seems to be attributable to businesses in industrial districts. One of the main results emerging from the Intesa San Paolo Annual Report on the economic and financial development of district enterprises was the greater dynamism of Italian district companies. The analysis has shown that district companies are not only more dynamic in terms of exports, productivity and employment, but also more innovation-oriented in comparison to non-district companies.
According to the Report, Veneto districts have benefitted from their productivity and profitability performance once again, placing them eighth among the top 15 ranking that evaluates the competitiveness of the 149 Italian districts[12] .

- Gross fixed capital formation per work unit (euro 2010). Veneto and Italy - Years 1980: 2018

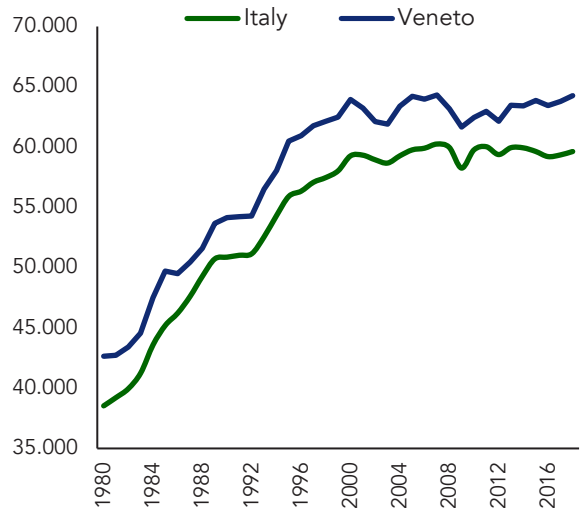


Source: Veneto Region Statistical Office processing of Prometeia data and forecasts.

[10] Work units have been used to standardise investments. The work unit represents the amount of work carried out during the year by a full time employee, or the equivalent amount of work performed by part-time workers or by those with two jobs.

[11] Added Value / Work Unit.
12 Analysis is based on a sample of nearly 15,000 companies belonging to 149 industrial districts and 45,000 non-district businesses active in the same areas of specialisation.

Fig. 1.3.11 - Value Added per work unit (Euro 2010). Veneto and Italy - Years 1980: 2018



Source: Veneto Region Statistical Office processing of Prometeia data and forecasts.

Prices in Italy and Veneto

In Italy, consumer prices recorded a negative change in 2016, with an annual average of -0.1%, below the +0.1% of 2015. The last recorded negative trend was in 1959 (-0.4%).

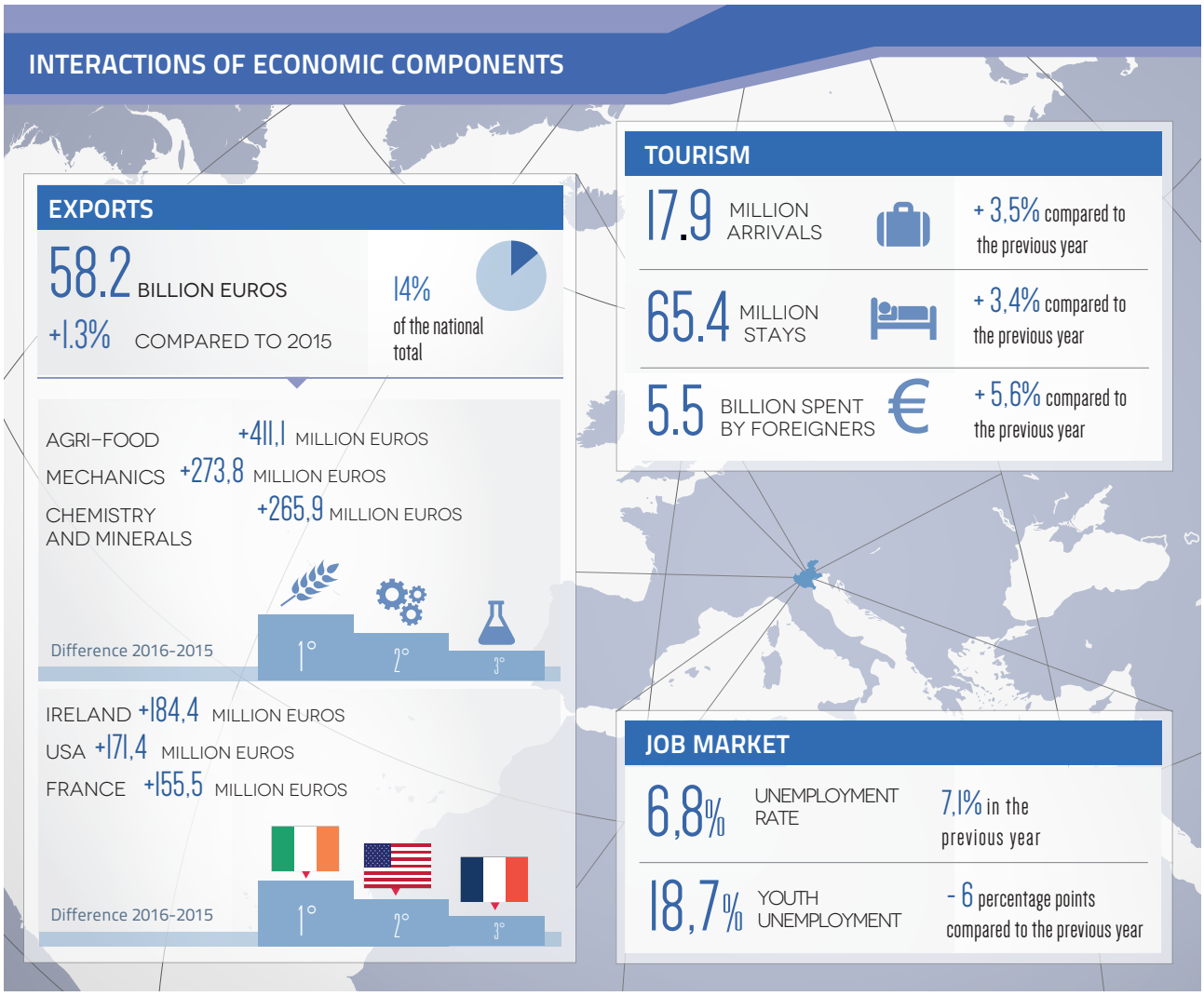
In 2016, consumer price dynamics were affected by the continual decline in household commodities and consumption costs that are still recovering slowly.

Negative contributions to the average annual inflation rate stem from transport, housing, water, electricity and fuel and, to a lesser extent, communications. Those with positive contributions are mainly expenditure divisions relating to accommodation, catering, alcoholic beverages and tobacco, recreational and cultural services.

In 2016, there was no change in inflation in Veneto, therefore, the price dynamics remained stable compared to 2015. The most negative average annual variation rates are attributable to those products with a negative contribution at national level: housing, water, electricity and fuel (-2.3%), transport (-1.3%), communications (-0.3 %). Meanwhile, prices are rising for health services and health expenditures (+ 1.6%), accommodation and restaurants (+ 1.4%) and alcoholic beverages and tobacco (+ 1.3%).

Chap.2 – The Economic Components and the Social Environment

Despite the slowdown in world trade, Veneto exports reached their highest ever level in 2016. The good performance of Veneto product sales on foreign markets helped to decelerate the fall in GDP during the recession and to support recovery in recent years. Veneto is the second highest Italian exporting region, with 58.2 billion euros of foreign turnover, up by 1.3% per annum and in line with the national trend.
In 2016, the economic difficulties for Veneto businesses continued and recorded -0.4% net in the agricultural sector. Promising signs come from the amount of business failures, which is down by 14% compared to last year.
The total figure for Veneto's gross agricultural production is estimated at 5.5 billion euros, relatively stable compared to the previous year (-0.3%).
In 2016 Veneto tourism set a new record: 17.9 million arrivals (+ 3.5% compared to 2015) and 65.4 million stays (+ 3.4%), figures that have never been reached before.
The labour market showed positive signs: employment grew and unemployment fell, especially for women, and inactive people declined. Once again, Veneto is among the leading regions in Italy: it has the sixth highest employment rate and the second lowest unemployment rate, both in total and for young people.



2.1 Veneto trade

2016 was a year of stagnation for world trade, in line with the weakness of earlier years. There are elements of change behind the downturn in world trade, both in structural and economic terms.

World trade growth halts in 2016...

At a structural level, the halt in world trade growth is due to the transformation of some emerging economies' growth model. The development model of these economies, led by China, was characterised by an export-led growth until the mid-2000s. Now, they are developing through an import substitution path, replacing imported consumer goods with internally produced consumer goods. The increase in the level of income per capita favoured by this transformation has led to more economic growth based on domestic demand, with an increased consumption of services. This demand component clearly has a significantly lower import content than the supply of goods.

In addition, it should be noted that in recent years several countries have begun to implement protective measures, above all to contain the penetration of imports on internal markets. For instance, trade defence measures between the EU and China are significant in the steel sector. Economic factors mainly concern the fall in commodity prices and the decline in machinery investments. Emerging commodity-producing countries were particularly affected by their price drop, given that the loss of terms-of-trade overlapped an already unfavourable framework. The recession was particularly intense in Russia, a country hit by sanctions that reduced trade with EU countries and Brazil.

The gradual consolidation of emerging economies and price stabilisation set for the coming years, seems to predict the strengthening of world trade, with a recovery in many emerging economies' demand; however, the US elections have made the global demand dynamics trend more uncertain. Benefits stemming from a recovery in US demand, generated by the expectations of a highly expansionary fiscal policy, will not necessarily be felt equally by all countries. Much will depend on the extent of depreciation in emerging countries, which could, at least in the short term, reap the most benefits from a recovery in US demand, if only until US import barriers are defined. Trump's neo-mercantilism could indeed trigger similar and opposing retaliation from former trading partners by fragmenting global production chains and destroying jobs in economies all over the world. A situation similar to that of the 1930s, when the US raised duties to recover from the great crash of 1929 and attempted to unload its weight on the rest of the world, which only worsened the crisis and resulted in political repercussions that shocked the world.

Italy

The national export race slows down

The difficulties for emerging markets and the halt on world trade has led to a deceleration in the national export race. In 2016, foreign sales for Italian companies only grew by +1.2% and reached 417 billion euros. For Italian companies, with a struggling internal economy, this is a breath of fresh air, and in absolute value, it translates into an additional revenue of almost five billion euros.

In the last two years, however, a slight recovery in Italian exports has been recorded, growing faster than the global average and, in 2016, to a greater extent than Germany and France, especially in volume. The amount of national exports compared to world-wide exports has risen by a few decimal places and is close to 3%.

Exports to EU countries are positive...

The positive result from exports is exclusively down to EU countries (+ 3%). In the year just ended, the most dynamic EU export markets for domestic exports were the Czech Republic (+ 6.5%), Hungary (+ 6.2%), Spain (+ 6.1%), And Germany (+ 3.8%). In 2016, the sale of Italian good in Germany set a new record, reaching 52.7 billion euros and confirming that the driving force from Germany is bringing benefits to the Italian trade balance. Italian exports to France, who is Italy's second most important trading partner, grew by three percentage points, while exports to the United kingdom remained rather stable (+ 0.5% per annum).

...exports to non-EU markets weakened

Figures relating to Italian exports to markets outside the Union have weakened, absorbing about 42% of total Italian exports and thus falling by more than one percentage point.

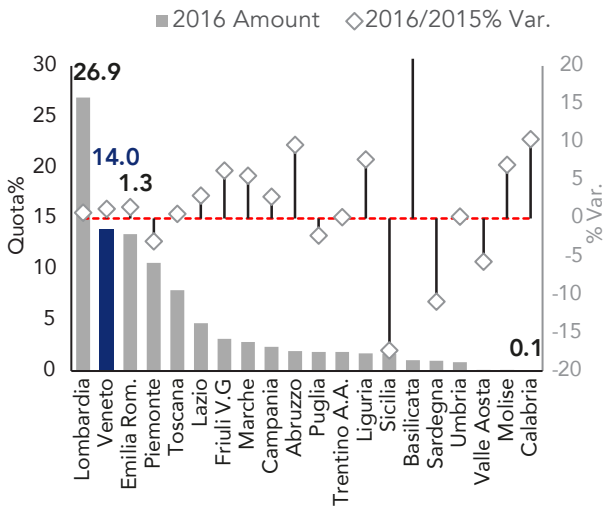
North America absorbs about 10% of all Italian

exports and has an annual growth of +2.5%, of which 8.6% (+2.4%) goes to East Asian markets, while 7.5% (-2.4% per annum) is sold in the remaining markets of the Old Continent. Foreign sales to Middle Eastern markets (-6.7%) are also declining.
In regards to individual markets, positive results come from Japan (+ 9.6%), China (+ 6.4%), Mexico (+ 6.4%) and United States (+ 2.6%), which remains the main non-EU market for 'Made in Italy'. However, they failed to offset the significant reductions in exports recorded in the main Middle Eastern markets (-12.4% to the United Arab Emirates and -18% to Saudi Arabia), Russia (-5.3%), South Korea (-10.5%) and Brazil (-17.1%).
The positive performance in exports has developed in different ways at a sectorial level: foreign trade in vehicles favoured by a robust US demand (+6.2% per annum), pharmaceuticals products and goods from the agri-food sector, registered an increase of over four percentage points, while exports of chemical and machinery products reflected the figures recorded last year.
The fashion sector is still the third national sector for exports, with a figure just shy of twelve percentage points and an annual growth that is in line with the national average. The electronics sector is the only macro sector that saw a slight decrease in export value: -0.5% compared to 2015.
The reduction in energy bills, due to the sharp decline in commodity prices, raised the national trade surplus to 51.6 billion (+ 78 billion euros net of energy) in 2016.

Imports decrease

On the other hand, imports recorded a decline (-1.3%) in value. Purchases were largely carried out on markets in Germany (+ 3.2%), the main national supply partner (59.5 billion in 2016), Spain (+ 5.1%), Belgium (+ 4.0%), Czech Republic (+15.0), Turkey (+ 12.4%) and Algeria (+ 41.4%).
Imports have declined, however, from Russia (-26.3%), China (-3.4%) and other major energy-producing countries such as Azerbaijan (-32.6%), Libya (-46.9%) and Saudi Arabia (-23.6%). In terms of market shares, areas of Eastern Europe (from 5.5% in 2015 to 4.5% in 2016), Africa, Latin America and the Middle East were adversely affected in favour of the EU, which recovered two percentage points reaching 60.5%, and East Asia.
In regards to economic sectors, the positive contribution of transport supplies (+ 14.4%), machinery (+ 7.1%) and wood products (+ 3.2%) failed to offset the reduction, in value, of raw material and metal processing imports. Foreign purchases in the agri-food and fashion sectors remain relatively stable.

Fig. 2.1.1 - Amount and annual percentage variation in exports by region - Year 2016



Source: Veneto Region Statistical Office processing of ISTAT data.

In 2016, the increase in national exports reflected the increase recorded in southern (+ 8.5%), central (+ 2.1%) and north-east (+ 1.8%) regions and the sharp decline in the island areas (Sardinia and Sicily) (-15.0%), while the trend in the north-western area was stable.
Among the regions providing the largest positive contribution to the growth of domestic exports are: Basilicata (+ 53.5%), Lombardy (+ 0.8%), Emilia-Romagna (+ 1.5%), Friuli-Venezia Giulia (+ 6.3%), Veneto (+ 1.3%), Abruzzo (+ 9.7%), Marche (+ 5.6%), Lazio (+ 3.0%) and Liguria ,(+ 7.7%). Those providing a negative contribution were: Sicily (-17.3%), Piedmont (-3.0%) and Sardinia (-10.9%).

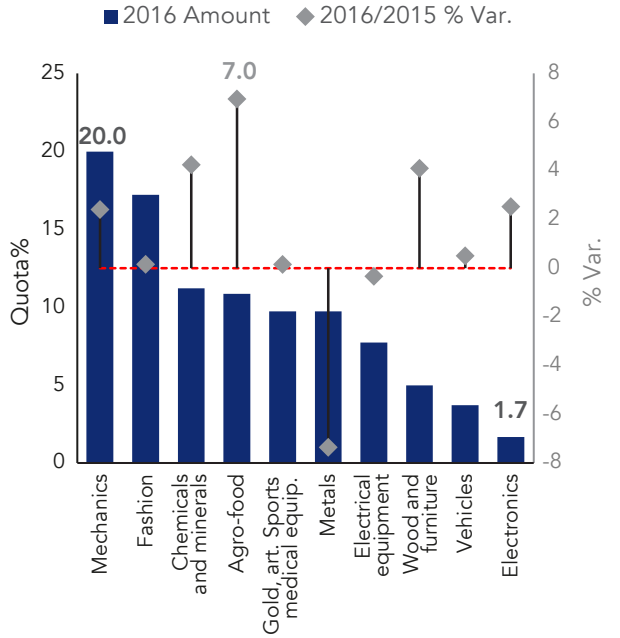
Veneto

2016 saw Veneto's highest ever level of exports

Despite the deceleration in world trade, Veneto's exports reached their highest ever figures in 2016.Lately, good trends for Veneto product sales on foreign markets helped to cushion the

fall of GDP during the recession and to sustain recovery in more recent years.
Veneto is the second highest exporting region and in absolute value, Veneto exports are equal to 14% of domestic exports.
In 2016, Veneto's exports amounted to 58.2 billion euros and recorded a growth rate (+1.3%), which was in line with the average national figure.
The positive dynamics of Veneto companies on the foreign market is the result of restructuring processes that have improved the quality of many 'made in Veneto' products. The main sectors that have benefitted from the growth of international transactions are mechanics, agro-food products, chemical sectors, wood industry and optical products.

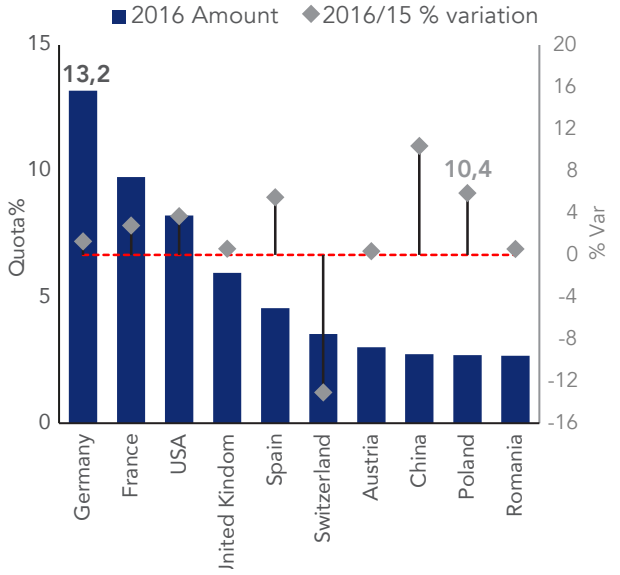
Fig 2.1.2 - Amount and annual percentage change in Veneto exports by economic sector. Year 2016



Source: Veneto Region Statistical Office processing of ISTAT data.

Foreign production of mechanical products grew by + 2.4% and, in 2016, it reached a total of 11.6 billion euros, representing 20% of regional exports. The main countries targeted for machine sales are China (+89 million euros compared to 2015), Iran (+88 million euros) and Germany (+66 million euros), which is the leading reference market for Veneto mechanics, with a foreign turnover of 1.2 billion euros.
Agro-food production, driven by wine sales, recorded the highest growth in percentage terms (+ 7.0%) and exceeded six billion euros for the first time ever. The most significant increases in the sector's exports came from three main markets: Germany (52 million euros compared to 2015), the USA and the United Kingdom (65 million).
The optical sector achieved strong exports in 2016 as well: after two years of record-breaking exports, with double-digit trend changes, 2016 will end positively for Veneto optical products, with a growth of almost five percentage points, which brings the export value to 3.6 billion euros. The US (38 million euros), is the leading market for Veneto optical products, China (28 million euros), Switzerland and France are the market with the most dynamic demand.
Foreign Veneto furniture sales continue to grow. In 2016, exports reached a turnover of nearly three billion euros, proving to be a saving grace for an otherwise failing domestic market. After 2015's good result, annual growth was up by four percentage points, with good progress in France, the leading outlet market for Veneto companies in the sector, where Venetian furniture cashed 34 million euros more than the 2015 figure, in the US (+30 million euros), Spain, Switzerland and the United Arab Emirates.
Foreign sales in the chemical and pharmaceutical sector recorded an annual growth of just over four percentage points. Rubber products and plastics and glass processing saw the largest growth in exports re-confirming the trend recorded in 2015.
Ireland, the US, Spain, Germany and Indonesia were the markets where the most sustained growth was recorded.
Through clothing, accessories and footwear, fashion exports from Veneto to the world are worth tens of billions and reflect the previous year's figure (+ 0.2%). In 2016, the sector's exports to some European markets picked up pace, driven from Spain (+ 2.8%), the United Kingdom (+ 2.6%) and Germany (+ 1.5%). However, growth in these markets did not make up for the significant reductions recorded in other EU markets, which led to a slight decline in the value of trade in the EU (-0.4%). Meanwhile, exports to non-EU markets (+1.1%) remain positive. Clothing, accessories and footwear sales grew in Japan (+ 10.2%), Hong Kong (+ 4.2%) and China (+ 3.0%), while exports to US (-4.9%) and United Arab Emirates (-26.1%) experienced a red light. Fashion exports to Russia (+21.2%) have returned to being positive after a few years.

Fig 2.1.3 - Amount and annual percentage variation of Veneto exports to major markets – Year 2016



Source: Veneto Region Statistical Office processing of ISTAT data.

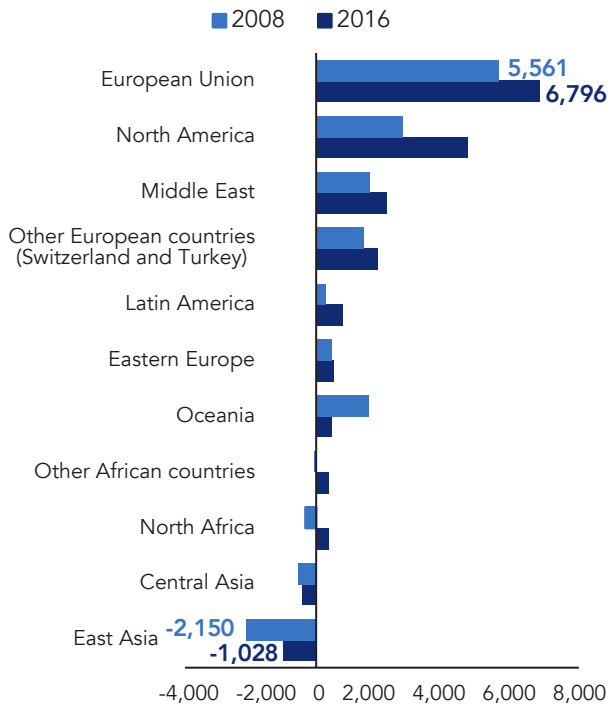
The European Union is still Veneto's main export destination

As far as outlet markets are concerned, the European Union basin remains the main destination of Veneto's exports, making up 59% of its sales abroad. Overall, regional exports to countries in the euro area showed a positive trend of +2.7%. This offset the amount lost in non-EU markets, which fell by -0.8%, mainly due to the substantial drop in exports to Switzerland, one of the biggest commercial partners (-13.1% variation compared to 2015), and the loss of exports to Brazil (-20.4%), Mexico (-5.2%) and Japan (-4.1%).
As always, Germany is the leading outlet market for Veneto goods. Exports to Germany account for 13.2% of the regional total and have grown by + 1.3% in comparison to the figure recorded in 2015. The most heavily exported products to Germany are still from the agro-food sector: in 2016, sales of these goods increased by four percentage points amounting to 1.3 billion euros.
Another favourable trend was for mechanical products (+ 6.1%) and fashion products (+ 1.5%), while metal processing (-2.9%) decreased. Exports to France grew (+ 2.8% compared to 2015), driven by machinery sales (+60 million euros compared to 2015), agro-food goods (38 million euros) and furniture (+34 million euros). Exports to the UK were stable but partially affected by the depreciation of the sterling.
With the exception of Belgium, all other EU markets only showed positive signs, from Spain (+ 5.5%), which recorded double-digit growth in machinery, chemical, furniture and vehicle sales, Poland (+ 5.9%) and the Czech Republic (+ 3.9%). The positive figure for exports to Russia (+ 3.4%) marks the return of the market after three years of freefalling exports (-35.6% from 2013 to 2016), which is fundamental for manufacturing companies in Veneto.
Outside Europe, with the exception of North America and some Central Asian markets, there is a chain of negative figures: -6.6% in Latin America, -8.6% in North Africa and -0.8% in Middle East.
The East Asian market holds fast, where there was a negative variation of just one decimal point and where Veneto exports exceed 8% of regional foreign turnover. Above all, this is due to a significant rise in outbound shipping to China (+10.4% compared to 2015) in 2016; an important achievement thanks to substantial machinery and optical product sales.

...while the United States is the largest outlet market outside of the EU.

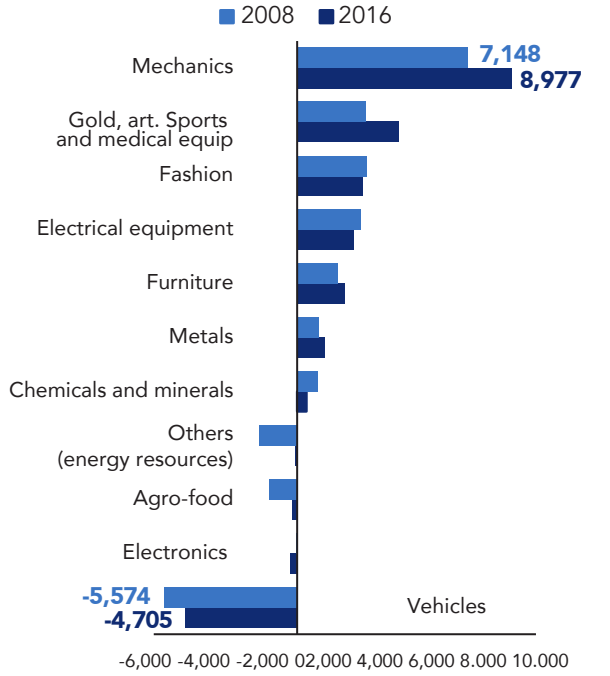
The quality of our products remains our best calling card even in the US. The main non-EU market continues to grow, albeit with lower rates compared to the last few years. Veneto's exports to the US have grown by +3.7%, reaching 4.8 billion euros in 2016. Mechanical and optical products are the leading sectors for 'made in Veneto' in the USA, representing more than 35% of Veneto's exported goods to this market. However, the Oscar for best performance in 2016 goes to agro-food products: 65 billion euros more than 2015 and a total revenue that reached 534 billion euros in 2016.
The only negative notes was performance in the fashion (-4.9% compared to 2015) and electrical equipment sectors.
Finally, we should keep our eye on Iran, considering that its trading sanctions will reach an end in a year's time. It is clearly too soon to establish whether it will be a potential outlet market for Veneto's industries, but there are promising signs: 269 million euros of Veneto's exports in 2016, compared to the 160 million in 2015.

Fig. 2.1.4 - Trade balance by geographical area. Figures expressed in million euros. Veneto – Years 2016 and 2008



Source: Veneto Region Statistical Office processing of ISTAT data.

Fig 2.1.5 – Trade balance by economic sector. Figures expressed in million euros. Veneto – Years 2016 and 2008



Source: Veneto Region Statistical Office processing of ISTAT data.

Veneto trade balance, i.e. the difference between exports and imports, keeps growing and amounted to 16.5 billion euros in 2016 (1.5 billion more than 2015). In the same year, the trade surplus with EU countries was equal to 6.8 billion, in line with the previous year's figure, while that with non-EU countries reached a record value of 9.7 billion euros.
Trade surplus with the Middle East (+864 billion euros compared to 2015) and North America markets is growing, while the deficit with Eastern Asia remains steady, estimated at around one billion euros (approximately one billion less than the record-breaking value of 2008).
At a sectorial level, the total trade surplus is sustained by the large surplus registered in the trade of mechanical products (+9 billion), other manufacturing activities – sports equipment, optical and the gold sector (+4.2 billion), and electrical equipment and the fashion industry.
Trade surplus rates for vehicles (-4.7 billion) and the agro-food sector (-214 billion of euros) remain negative.

Veneto imports are declining reflecting national levels

The dynamic of regional imports (-1.2%) are tied to extremely heterogeneous sectorial trends: some sectors are showing a net growth, while others are seeing signs of difficulty and being affected by the stagnation in domestic consumption. Among the most important economic sectors, supply is declining for metallurgy (-13.6%), energy products, fashion (-1.6%) and chemical-rubber-plastic products (-1 , 1%). On the other hand, imports have increased for vehicles (+ 17.3%), other manufacturing activities (sports goods, optical and gold), mechanical (+ 3.6%) and electrical equipment (+3.4 %) and food products (+ 2.1%).
In 2016, Germany was the most important partner in terms of regional supplies: over the last year, German imports from that market exceeded nine billion euros (+ 8.5% compared to 2015), equal to 21.7% of regional imports. Although China saw a four percentage point drop in imports compared to 2015, it remains the largest non-EU supplier to

Veneto businesses, with an import value of 3.8 billion euros.
Last year, imports from some of the leading European partners increased, with significant growth for acquisitions from Spain (+ 4.4%), Romania (+ 4.1%), Poland (+ 10.2%), and the Czech Republic (+ 12.7%). Whereas, supply decreased from France (-4.6%), still the third largest regional import market, Austria (-4.3%) and Switzerland (-11.7%), the latter being linked to precious metal prices. There has been a substantial decline in imports, in value, to non-EU markets from Qatar (about 890 million less than in 2015) and Republic of South Africa.

Exports from provinces in Veneto

In 2016, the majority of Veneto provinces, except for Rovigo and Vicenza, have actively contributed to the increase in regional exports.

The main provinces contributing to Veneto's export growth are: Padua, Verona and Treviso

The provinces that have contributed the most to the growth of regional foreign turnover, and largely responsible for overall growth, are Padua (with an annual variation in provincial exports of +4.2%, or +367 million euros more than 2015), Verona (+2.9%, or +295 million euros) and Treviso (+2.3%, or +271 million euros). Venice (+4.3%) and Belluno (+2.6%) also show favourable dynamics, albeit with a lower impact, in terms of values, on the rise of regional exports.
In 2016, the total amount of exports from Vicenza decreased by 5 percentage points compared to 2015. Its negative balance is mainly due to difficulties experienced by some industries involved in the processing and marketing of precious metals, which led to a fall in exports for the goldsector (-134 million euros compared to 2015) and precious metal production (-345 million euros). Despite this negative dynamic, Vicenza retains its leading position in Veneto, in terms of exporting capacity, with a share of nearly 29% of the total foreign turnover, amounting to 16.7 billion euros.
Exports from Treviso showed positive trends throughout 2016. Thanks to this growth, provincial exports exceeded the 12 million euro mark for the first time.
At an international level, the European Union is driving the recovery of provincial exports, reaching an amount equal to 65.6% of foreign turnover for Treviso's companies. There were positive trends towards North America (+4.3%), Latin America (+8.5%) and the Middle East (+2.4%). Conversely, there are negative trends in some areas, that blameit on economic or political issues, such as Africa and non-EU European countries, the latter dragged down by Russia's negative performance (-7,3%).At a sectorial level, Treviso's export contribution is mainly driven by fashion, representing 19.3% of provincial exports, machinery, with the highest increase in value (+100 million euros compared to 2015), and the furniture sector.
In 2016, the value of Verona exports exceeded 10 billion euros. Among the main sectors of the provincial economy, the highest growth rates were reached by agro-food products (+7.7%, equal to more than 200 million euros), thanks to the excellent performance of wine, and those connected to the metallurgical sector. The figures for exports from Verona-based companies to EU markets was 3.8% more than in 2015, or +1.4% on a global scale. Foreign trade grew in North America and Central Asia markets, while decreased significantly in Latin America, North Africa and in the Middle East. The German market ranks number one in exports for Verona products: a market that, in 2016, imported a total of 1.7 billion euros of products 'made in Verona'. Exports to France (+42 million euros) and the UK (+43 millions) are on the rise., as well as to the US, the leading non-EU market: Verona-based

Tab 2.1.1 – Foreign commercial trade by province, values expressed in millions of euros and% of annual variation. Veneto – Years 2015:2016

	Exports			Imports		
	2016 mil. euros	% Amo.	2016/15 % Var.	2016 mil. euros	% Amo.	2016/15 % Var.
Belluno	3,866	6.6	2.6	897	2.1	4.3
Padova	9,116	15.7	4.2	5,765	13.8	-4.2
Rovigo	1,356	2.3	-5.3	1,489	3.6	-41.6
Treviso	12,187	20.9	2.3	6,687	16.0	1.6
Venezia	4,578	7.9	4.3	5,026	12.0	2.1
Verona	10,435	17.9	2.9	13,361	32.0	7.3
Vicenza	16,709	28.7	-2.4	8,563	20.5	-4.0
Veneto	**58,246**	**100.0**	**1.3**	**41,789**	**100.0**	**-1.2**

Source: Veneto Region Statistical Office processing of ISTAT data.

companies' foreign turnover to the US increased by +9.3%. However, exports to the Russian market still decreasing (-6.0%).
In terms of exports, 2016 was also a favourable year for Padua, which achieved one of its best results in recent years. The positive performance in Padua exports is mainly due to a significant growth in foreign turnover for the mechanical sector (+5,3%), the leader for provincial exports, rubber and plastic products (+6.5%) and the agro-food sector (+12.2%).
In regards to trading guidelines, there is a much stronger growth for non-European movements (+8.0%). While manufacturing sales on the EU market grew by almost two percentage points, some emerging markets saw double-digit growth rates for exports: 15.7% to East Asia, +39.8% to Central Asia markets and an excellent performance to North America as well (+13.8%).
In 2016, Veneto companies interacting with international markets sold 4.6 billion euros worth of goods abroad, 181 million more than the previous year.
Mechanical goods are one of the main provincial exports with an increase of +12.5%, exceeding 650 million euros. The agro-food sector also showed a good performance with a foreign sales growth of +14.7%. Negative figures come from vehicles (-6.4%) and metallurgical production (-3.7%). As far as outlet markets are concerned, the Veneto export trend to EU markets was up by more than nine percentage points, while exports to non-EU countries were down (-2.0%). Germany is still the leading commercial partner for Veneto companies (597 million euros in 2016), however, France is not far behind. Among the non-EU markets, sales to Switzerland and Russia are increasing, but with significant reductions to Mexico, China and Japan. The USA is still the main non-EU market with a turnover close to 379 million euros.
Companies in the province of Belluno exported a little less than 3.9 billion euros worth of goods. The optical sector, which accounts for more than two-thirds of provincial exports, recorded an increase of + 1.7% in sales, thanks to its good growth in sales to EU markets (+ 4.1%) but a somewhat stagnant trend to non-EU countries (+ 0.3%).
The mechanical sector is the second provincial sector for foreign sales (406 million euros), thanks to a fairly moderate + 3.3%.
Good results were also seen for the chemical sector (+ 15.1%), agro-food production (+ 27.8%) and fashion (+ 13.5%).

In regards to single outlet markets, there was a noticeable increase in sales to the Netherlands (+11.0%),China (+ 12.0%), Spain (+ 7.5%), Mexico (+ 14.2%) and Poland (+ 20.0%). After a few stagnant years, the Russian market resumed growth (+ 9.4%), but it is still a long way off the figures shown prior to international sanctions.
In 2016, the export value for the province of Rovigo amounted to 1.356 million euros. Rovigo's main export sector is chemical production and represented 25.7% of provincial exports, followed by mechanical products, which experienced its best annual performance in terms of value (+27 million euros) and agro-food, which lost a place compared to the previous year. At a market level, sales to Portugal and the United States increased sharply, while exports to Germany, the leading reference market for Rovigo exporters, fell by almost 15 percentage points.

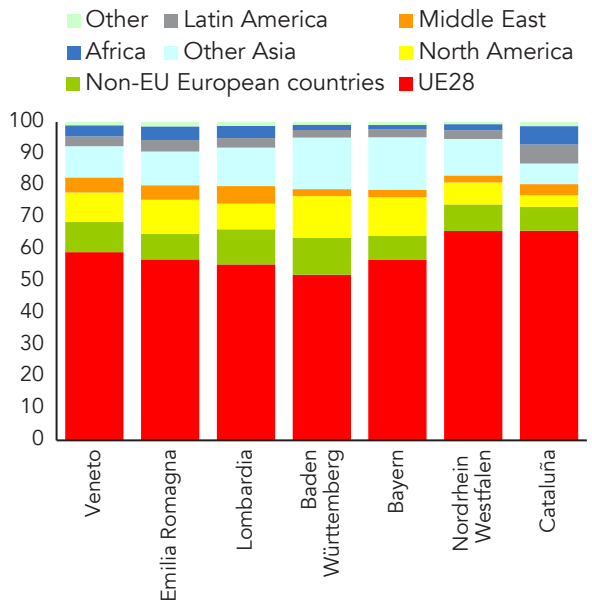
Veneto in an international comparison

In recent years, the positive trend of exports has helped to limit the fall in GDP due to the recession and to support the regional economy's recovery. Veneto exporting companies' abilities to expand foreign sales is therefore a decisive factor for regional economic growth.
In recent years, Germany has been the country, within the Union, that appears to react quicker to crisis and therefore represents a good comparison for Veneto, factoring in that these regions are united by the preservation of a large manufacturing base.

Veneto's main competing regions are: Baden-Württemberg, Bayern, Nordrhein-Westfalen, Emilia Romagna, Lombardy and Catalonia.

Comparisons on a regional basis and in terms of internationalisation are declining, Veneto export structure and trends are being analysed against those of some of the most industrialised regions in Germany (Baden-Württemberg, Bavaria and Baden-Württemberg) and in Italy (Lombardy and Emilia Romagna).
One of the richest and most industrialised regions in Southern Europe has been added to the comparisons: Catalonia.
In terms of performance, for the analysed period (2016-2012), Veneto and Emilia Romagna showed a higher than average growth in exports compared to other competing regions.

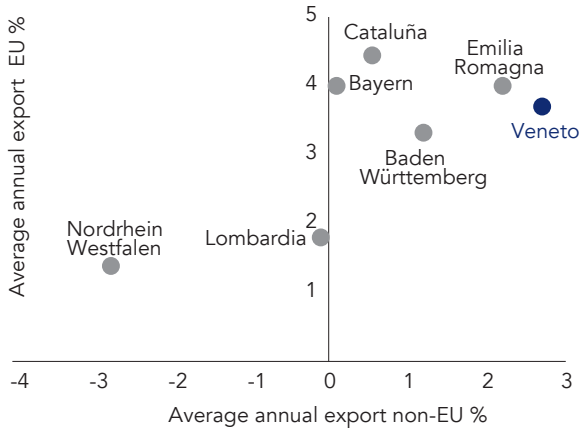
Fig. 2.1.6 - Percentage composition of exports per destination market. Year 2016



Source: Veneto Region Statistical Office processing of ISTAT data.

The average annual variation of these two regions is slightly above three percentage points, a particularly lively variation for Bayern (+ 2.7% annual average) and Catalonia (+ 2.6%).
Vento companies' positive dynamics on the foreign market is the result of two different entrepreneurial skills: the restructuring processes that have improved product quality and the significant increase in the number of outlet markets, i.e., the ability to re-orient trade flows both towards the currently most attractive countries and those with the greatest future potential.
A first clue as to how the export picture has changed is the percentage of trade flow destination areas. In recent years, the European Union has experienced a much slower growth rate than the rest of the world and its weight as an importer has gradually decreased, in favour of emerging markets with more dynamic growth.
This phenomenon has affected all industrialised countries by creating a new world export map in which emerging countries are much more centralised. In light of this new framework, it is useful to understand how exporting companies have been able to adapt to the changes by intercepting new markets demand.
Through analysing the geographic diversification of exports over the last five years and comparing Veneto's performance with that of other competitive regions, the results show how Veneto companies have responded better to the need to re-orient trade flows by intercepting the growing demand from emerging economies.
In recent years, regarding the deceleration of world trade, amongst the analysed regions, Veneto companies' export to non-EU markets shows the highest growth (+ 2.7% average annual variation), thanks to its performance in North America, the Middle East and East Asia markets.
In regards to EU markets dynamics, Veneto is at the forefront, with a slightly lower average annual variation in exports than those for Bavarian, Catalan and Emilian companies.

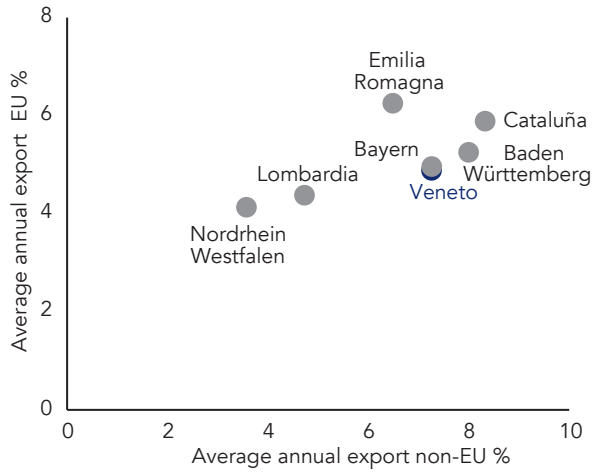
Fig. 2.1.7 - Average annual variations in exports of certain European regions destination market. Years 2016:2012



Source: Veneto Region Statistical Office processing of ISTAT data.

Over the last five years, export growth to European markets has been higher than non-EU markets for all competing regions and it seems to contradict the importance of new markets in the international trade context. Although exports to non-EU markets are growing, they were affected by the collapse in demand of two major markets due to a strong recession, Russia and Brazil, and this had a a significant impact on the overall outflow to non-EU markets. Indeed, by widening the timeframe (2016-2009), the growth in exports to non-EU markets, in all the analysed regions (except for Nordrhein Westfalen) was higher than in EU countries, with more pronounced differences in Baden Württemberg, Catalonia, Veneto and Bayern.

Fig. 2.1.8 - Average annual variations in exports of certain European regions destination market. Years 2016: 2009



Source: Veneto Region Statistical Office processing of ISTAT data.

Tab. 2.1.2 - Number of exporting companies in the main areas of trade and their foreign turnover value - Years 2016 and 2015

	2016		2015	
	mln. euro	Number of companies	mln. euro	Number of companies
Rest of the World	647,6	3,207	635,2	3,184
North Africa	1,247,4	3,687	1,364,2	3,889
Other Africa	757,9	3,890	780,5	4,069
North America	5,401,9	7,056	5,190,1	6,956
America Latin	1,813,6	4,473	1,942,8	4,525
Middle East	2,740,3	6,500	2,763,0	6,432
Central Asia	915,0	2,901	836,7	3,214
East Asia	4,775,2	7,477	4,780,4	7,348
Other Europe	3,342,1	9,515	3,654,7	9,669
Est Europe	2,860,0	10,168	2,734,7	9,740
UE	33,745,2	12,182	32,834,7	12,173

Source: Veneto Region Statistical Office processing of ISTAT data.

This geographic repositioning of Veneto's exports is somewhat singular when considering that the majority of our region's businesses are small to medium-sized that, on paper, should encounter greater obstacles in internationalisation activities management e.g. difficulties overcoming customs barriers or accessing export credit. In a context such as the present, marked by a growing market instability, the ability to rapidly diversify outlet markets is very important for business development as it reduces the risks associated with geopolitical tensions.

Veneto operators abroad

In 2016, there were 28,917 operators in Veneto selling goods abroad, in line with the figure recorded in 2015. In contrast with previous years, last year there was an increase in the number of small and medium-sized exporters: the amount of regional foreign turnover attributable to very large exporters, the top 50 in terms of foreign turnover, declined and went from 22.6% in 2015 to 22.1% in 2016. The same occurred thus widening the most important exporters' audience: the amount of foreign sales for the top 500 Veneto operators, in terms of exported value, dropped by half a percentage point (from 58.2% to 57.7%).
The largest number of exporters was reported in sales to the EU, with more than 12 thousand companies in 2016, followed by those to eastern European region exceeding the 10,000 mark. The rest of Europe (Switzerland, Norway and Turkey) is the third geographical area for the number of regional traders (over 9,500), followed by East Asia and Latin America, with figures close to seven thousand and a growth of about 100 units compared to the previous year. Conversely, the weight of major exporters to Central Asian countries is still modest: in 2016, regional foreign turnover to those markets (mainly India) exceeded 900 million euros, and grew in comparison to the previous year, while Veneto's operators in those markets recorded a decline of about 300 units.

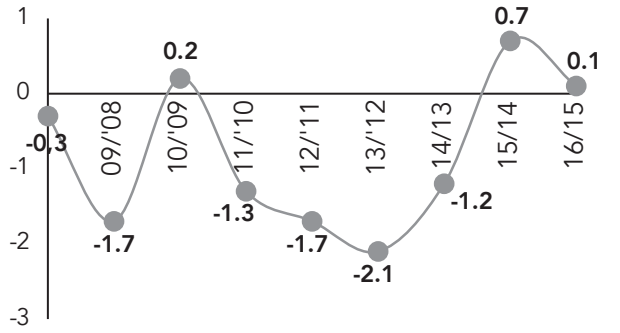
2.2 The domestic trade trend

In Italy

In 2016, the Retail Sales Index remained virtually unchanged (+ 0.1% per annum), due to the stability of non-food sales, and a 0.1% increase in food sales. Through analysing the distribution structure, small retailers contracted, -0.4% compared to 2015, against an increase for Large-Scale Retailers of +0.5% per annum.
Retail business confidence was high: all expecta-

tions for the volume of orders, sales and employment stayed positive throughout 2016.

Fig. 2.2.1 - Annual percentage change in retail sales in Italy. Years 2008:2016

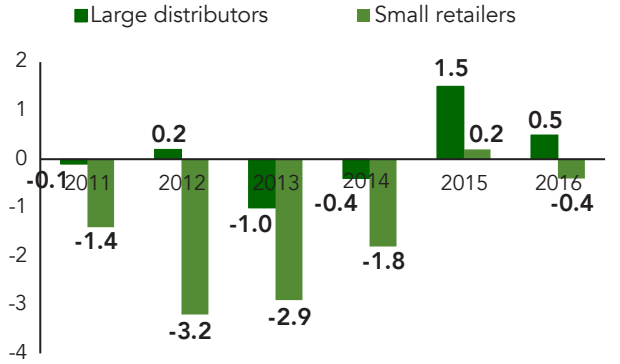


Source: Veneto Region Statistical Office processing of ISTAT data.

Business-to-customer e-commerce continues to grow

Among sales channels, business-to-consumer e-commerce (B2c) continues to grow: +18% compared to 2015. Computer and consumer electronics (+ 28%), and apparel (+ 27%) are the sectors that have shown the highest increases compared to 2015. Tourism, which amounts to 44% of online trade, remains the leading sector for Italian e-commerce, increasing 10% per annum. Through analysing payment methods, 65% of online purchases were made using a credit card, 31% through PayPal, and the remaining 4% was subdivided between cash on delivery and bank transfers.

- Annual percentage change in the value of sales for Large distributors and Small retailers. Italy Years 2011:2016



Source: Veneto Region Statistical Office processing of ISTAT data.

In Veneto

In 2016, the number of active fixed place business outlets, in Veneto, amounted to 49,904, down 0.8% compared to 2015, in line with the Italian figure (-0.6%). They were affected by the strong reduction in company headquarters, -1.8%, and by an increase in local non-core business units, + 1.2%. The fixed place business in Veneto still represent 6.7% of the national total, taking it to sixth place behind Campania, Lombardy, Lazio, Sicily and Puglia.

In Veneto, the only fixed place businesses to record an increase were those specialising in the sale of computer equipment and automotive fuels

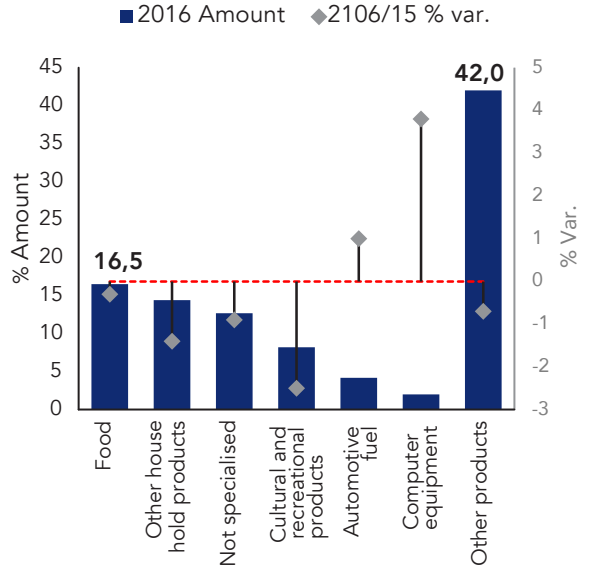
Businesses specialising in the sale of IT equipment and telecommunications and in the sale of automotive fuel were the onlytrading areas to record an increase in 2016, +3.8% and +1.0% respectively in comparison to 2015. Businesses specialising in food, drinks and tobacco, down 0.3%, remained fairly stable while non-specialised businesses underwent a more significant decline of +0.9%. More significant contractions were seen for businesses specialising the sale of cultural and recreational goods, -2.5%, and those specialising in the sale of household goods, -1.4% compared to 2015.

Verona was the only province in Veneto that saw an increase in retail trade, +0.4%; the provinces of Rovigo and Vicenza were the most affected by the sector's difficulties, -2.2% and -1.8% respectively compared to 2015. The number of fixed place businesses in the province of Venice remained relatively unchanged.

In line with the fixed place retail trade trend, 2016 trade decelerated slightly: -0.5% per annum; conversely, the performance of non-store retail trade, banks and markets was positive, up by nearly 5 percentage points over last year. For this latter sales channel in particular, trade grew by means of automatic selling, +7.2% per annum; and mail order commerce by 3.6%, however, it is still e-commerce that takes the lead with +13.1% compared to 2015. In Veneto, there are 1,283 companies that exclusively sell their products online, most of which are located in the provinces of Padua, (293), Verona (248) and Vicenza (243).

In regards to Large-Scale Retailers, data is always one year behind, therefore, the following analysis refers to 2015.

Fig. 2.2.3 - Amount and annual percentage variation of fixed place business premises according to commercial specialisation. Veneto - Year 2016



Source: Veneto Region Statistical Office processing of Ministry of Economic Development data.

Even in 2015, the trend for Large-Scale Retailers is moving in the opposite direction compared to fixed place business: both increased in terms of staff and commercial space, + 0.2% and + 0.9% respectively in comparison to 2014; whereas the number of businesses decreased by -1.6% per annum. In detail, performance for department stores, supermarkets and hypermarkets was good, despite a slight decline in the number of businesses (-0.5%), with an increase both in the number of employees, + 1.1% per annum and in commercial space, + 1.3%. Also in 2105, the growth of Large-scale specialist retailers slowed slightly: staff levels dropped by almost 3 percentage points while the number of businesses stayed the same compared to 2014. The negative trend for minimarkets continued, down by more than 6 percentage points both for number of businesses and in commercial space.

2.3 Economic situation for agriculture[1]

In 2016, the total value of gross agricultural production in Veneto was estimated at 5.5 billion euros, substantially stable compared to the previous year (-0.3%). The crop year saw an increase of 4.1% in the total amount of production, and went from 3.3 to 6.3% for all main sectors. However, the markets' overall negative trend affected the final value of production, especially in regards to farming and, partially, for herbaceous crops. Whereas, timber cultivations' value, slightly increased, largely due to the good results of Veneto's wine sector.
The number of active agricultural businesses registered with Veneto's Chambers of Commerce is still decreasing, falling to 64,108 units in 2016, down by

[1] According to Veneto Agricoltura - - Veneto Organisation working towards innovation in the Primary Sector

Tab, 2,2,1 – Local units, sales area and number of employees for Large-Scale Retailers by province Veneto – Year 2015

	Department stores, supermarkets and hypermarkets			Minimercati			Superfici Specializzate		
		Mini-markets	Specialised businesses	Businesses (No,))	Employees (No,)	Sales area (sq,m)	Employees (No,)	Employees (no,)	Sales area (sq,m)
Belluno	68	1,304	74,640	21	96	6,133	4	65	9,640
Padova	263	5,482	324,823	69	368	20,956	37	1,163	106,908
Rovigo	78	1,568	96,729	18	77	5,383	8	144	24,626
Treviso	233	4,811	309,438	80	409	24,072	55	1,144	154,577
Venezia	243	5,558	318,539	50	432	15,272	44	1,558	170,272
Verona	244	5,334	344,900	66	356	19,000	52	1,170	162,999
Vicenza	284	5,149	346,545	56	289	16,341	29	825	95,911
Veneto	**1,413**	**29,206**	**1,815,614**	**360**	**2,027**	**107,157**	**229**	**6,069**	**724,933**

Source: Veneto Region Statistical Office processing of Ministry of Economic Development data

Tab.2.3.1 – Percentage changes in Veneto's agricultural production in 2016 compared to 2015.

	current prices	constant pricesi
Loud Production	-0.3	4.1
Herbaceous crops	3.4	6.3
Woody cultivations	4.7	4
Breeding products	-5.3	3.3

Source: Veneto Agricoltura processing of Istat data.

1.3% compared to the same period in 2015. The number of food industries slightly decreased as well, falling to 3,600 active units (-1.2%). Conversely, there was a significant increase in the number of employees within the agricultural sector, estimated around 72,600 according to Istat, with a growth of 16%, from the +11,5% growth in the number of self-employed people and, in particular, the 22.4% growth in the number of employed people .

Foreign trade shows promising signs: data shows that in 2016 the deficit in the Veneto trade balance for agricultural products more than halved compared to 2015 (-56.3%), falling to to 215 million euros due to an increase in imports (6.5 billion euros, +2%), which was significantly below that of exports (6.3 billion euros, +7%).

Heavy rainfall in spring and a not excessively hot and dry summer aided summer extensive crops, in particular corn and soy, which saw a yield increase compared to the previous year. However, the amount of arable land declined, leading to a drop in corn, down to 1.7 million tonnes (-1.6%), and rice yield (-5%), while the stability of 134,000 hectares of soya-producing land experienced a yield of 3% more than 2015. Conversely, autumn/winter cereals were negatively affected by heavy rainfalls in May and June, with a consequent fall in production; however, increasing investments towards these crops – more and more used as an alternative to corn – led to a significant growth in the production of: common wheat +8.5%, durum wheat + 73% and barley +35%.The production of sugar beet (-7%), and tobacco (-4%) fell due to the decline in the amount of arable land.

Bio-energetic crop yield shot up: the production of sunflowers tripled, while that of rapeseed almost doubled. The figures for vegetable crops varied according to different seasons. There has been an increase in the production of potatoes (120,000 t, +10%), radicchio (122,000 t, +9%) and lettuce (+54%), while strawberry production decreased (-11%). The total amount of arable land for potatoes and vegetable was 6.7% more than in 2015, reaching about 27,600 hectares: in particular, there was an increase in tuber (+15%) and greenhouse (+21%) crops.

However, such increases may have been affected by the change in estimation and assessment methods, minimising the significance of the comparison with previous year's data.

Inconsistent results for fruit crops as well: although there was a rise in the production of apples (306,000t, +8%), following a proportional yield growth, and kiwifruit (74,800 t, +9%), there was a decline in pear (-11%), peach (-4%) and cherry crops (-2%). In economic terms, the price of peaches saw a strong recovery (+37%), after two years of bad performance; good figures were also seen for pears and cherries (+7% and 10%, respectively), while apple (-9%) and kiwifruit (-30%) prices dropped. This year also saw a positive performance for wine, which initially suffered from heavy rainfalls in the spring, but then benefited from a favourable climate in the summer, leading to the development of the crop and a good grape harvest, both from a quantitative and qualitative point of view. Grape production increased by 4% compared to the previous year, setting a new record of 13 million quintals, which, according to estimates, provides approximately 10.1 million hectolitres of wine.

Such a result was possible thanks to the 8% per annum increase in vineyard surface area , following the acquisition of planting rights outside the region by Veneto's winemakers. Grape prices also showed an increase (+5.5% on average), driven by the positive grape harvest and an upward trend in exports, which recorded 2 billion euros in 2016 (+9%).

In regards to the livestock sector, the amount of milk produced in Veneto rose to 1.15 million tonnes (+1.5%), i.e. 10% of the national total; however, the stagnation of domestic and international markets has contributed to a drop in "at the barn" prices of 7.5% on average. Although beef consumption has continued to fall in Italy and Veneto (-3% and -3.5% on a volume basis), this sector benefited from a greater consumer focus on national products, which led to an increase of %5.6% in cattle slaughter and 3.9% in deadweight, also as many dairy farms closed down. In Veneto, beef production is estimated at around 185,000 tonnes of live weight. However, heavy markets have caused an average fall in prices of 1-2%.

The pork sector seems to have found a new impetus

at a global level thanks to the Chinese market opening, which eased the pressure on European markets. At a national level, cattle slaughter grew by 4.8% in number and by 3.5% in weight; production increased in Veneto as well by 2%, with a figure of around 140,000 tonnes of live weight, driven by rising market prices on average by 7.5%.

Both fresh and processed poultry meat consumptions remained stable, favoured by availability (approximately +5%) and affordable prices due to a decline in average market prices of 11%, which, however, reduced farming profitability. In Veneto, poultry production is estimated at around 550,000 tonnes and 2 billion eggs.
In the last two years, the steady contraction of Veneto's maritime fishing fleet has halted and the current number of active units is stable at around 659. Fishing companies registered at the Chamber of Commerce increased by 1.5%, reaching 3,752 units.

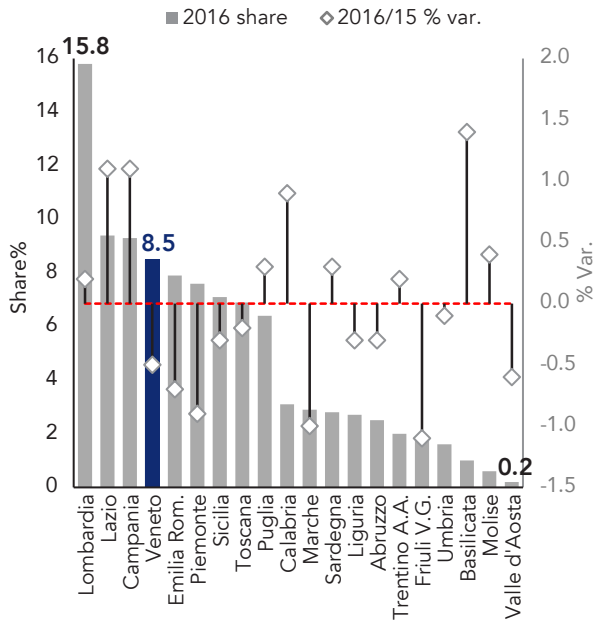
In 2016, Veneto's fishing fleet catch was estimated at 20,160 tonnes, falling by 15.5% compared to the previous year, but the turnover generated by Veneto's six fishing markets, through the sale of local products, grew by 5.2%, with a total revenue of 54.6 million euros. Therefore, the average regional price increased by 24.5%.

2.4 Businesses: tradition vs. innovation

In Italy

Italian businesses continued to show the signs of recovery, albeit moderate, similar to those of 2015. In 2016, the number of active business in Italy was 5,145,995, stable compared to 2015 and an increase of 0.1%, excluding the agricultural sector.
The nine Italian regions which recorded an increase in the number of businesses on their territory were: Basilicata, Campania, Lazio and Calabria, which closed 2016 with a business growth of between 0.9 and 1.4 percentage points, Molise, Sardinia, Puglia, Trentino-Alto Adige and Lombardy, with rates slightly above zero.
Conversely, Friuli-Venezia Giulia, Marche and Piedmont experienced economic difficulties: 1.1%, -1.0% and 0.9% respectively compared to 2015.
The best performance was achieved by the tertiary sector (+0.6% than 2015), especially by hotels, the catering sector and social and personal services, increasing by almost 2 percentage points compared to the previous year. Negative trends were recorded by the construction and manufacturing sectors, 1.3% and -1.1% respectively per annum.
Overall, figures for business closures decreased, recording 6.8 closed business out of 100, while opening rates remained stable (7.1%), as did the corporate balance: +0.3% compared to 2015.

Fig.2.4.1 - Share and percentage variation per annum of active businesses by region – Year 2016



Source: Veneto Region Statistical Office processing of InfoCamere data.

In Veneto

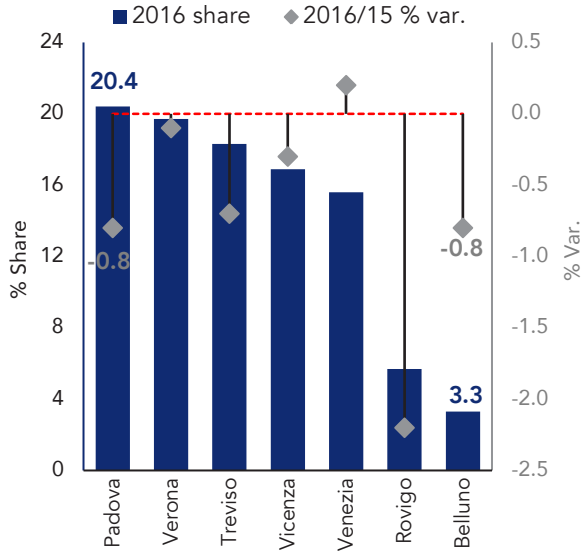
Businesses continued to face difficulties in 2016. There were 434,994 active businesses in 2016, down by -0.4%, excluding the agricultural sector, and -0.5% including it. Nonetheless, they continued to represent 8.5% of national businesses, in fourth place following Lombardy, Lazio and Campania.
2016 recorded a slight fall in business opening rates; set at 6.2 newly opened businesses for every 100, while figures for business closures remained stable. Corporate balance slightly decreased: -0.3% compared to the 2015 figures.

Among Veneto's provinces, Venice was the only one that recorded an increase in the number of active businesses

Among Veneto's provinces, Ve-

nice was the only one that recorded an increase in the number of active businesses: +0.2% compared to 2015. Padua, Belluno and Treviso, which together represented 42% of active Veneto businesses, saw a drop in the number of production activities equivalent to slightly less than one percentage point. Rovigo was the most affected by economic difficulties and recorded a decrease in the number of production activities by almost one percentage point. The provinces of Verona and Vicenza closed 2016 fairly balanced with the figures of the previous year.

Fig. 2.4.2 - Share and percentage variation per annum of active businesses by province – year 2016



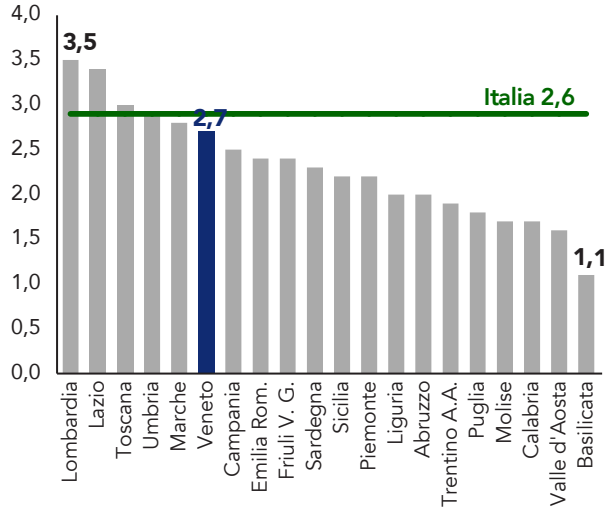
Source: Veneto Region Statistical Office processing of InfoCamere data.

In analysing the legal form, partnerships and sole proprietorships are those particularly affected by economic difficulties: the number of partnerships decreased by -1.7% at the end of the year, and sole proprietorships by -1.1%. The positive trend for limited companies continued, +2.4% compared to 2015.

Business failures decreased.

Figures for business failures showed encouraging signs: in 2016 business failures fell by 14% in a single year, despite a national rate of -8.5%. Overall, the amount of failed companies in Veneto in 2016 was 1,172, or 2.7 closed companies for every 1,000.

Fig 2.4.3 – Number of failed companies per 1,000 active businesses by region – Year 2016



Source: Veneto Region Statistical Office processing of Cerved data – Observatory on failures, procedures and business closures.

The sectors

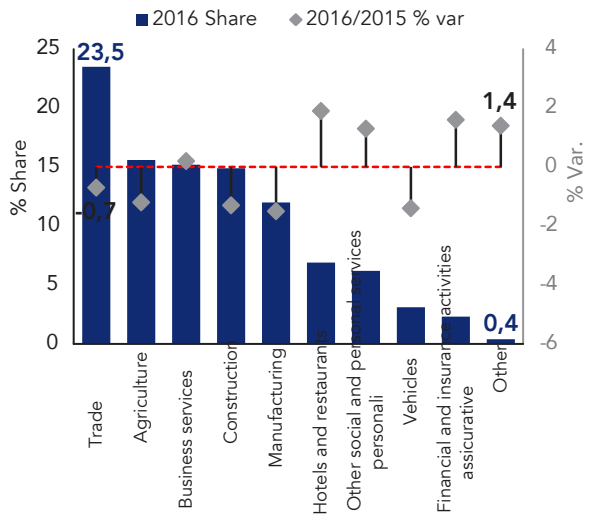
In the year just ended, once again the tertiary sector has been the driving force for regional economy, representing about 60% of active companies in Veneto. Accommodation and catering services and banking and financial services grew significantly, +1.9 and +1.6% respectively per annum, followed by social and personal services with +1.3%. The increase for the business services sector was less noteworthy, +0.2% compared to 2015. Regarding trade, the sector in which a quarter of Veneto's companies operate, fell by -0.7%. The number of active companies within the transportation sector also declined significantly: -1.4% per annum.

Contraction of the industrial sector continued in 2016: construction companies decreased by -1.3% and manufacturing companies by -1.5%. Regarding the latter, economic difficulties affected all of Veneto's manufacturing sectors, including the food (-1.2%) and jewellery, sport equipment and eyewear (-0.2%) industries, which, in the last few years, had been the only sectors able to record an increase in the number of active businesses.

The worst performance was for the electronics sector, with a negative variation of 3.0% per annum, followed by industries such as timber, furniture, paper and printing and fashion, with negative variations of more than two percentage points.

Metal and chemical sectors, which represented almost 30% of Veneto's manufacturing industry, also

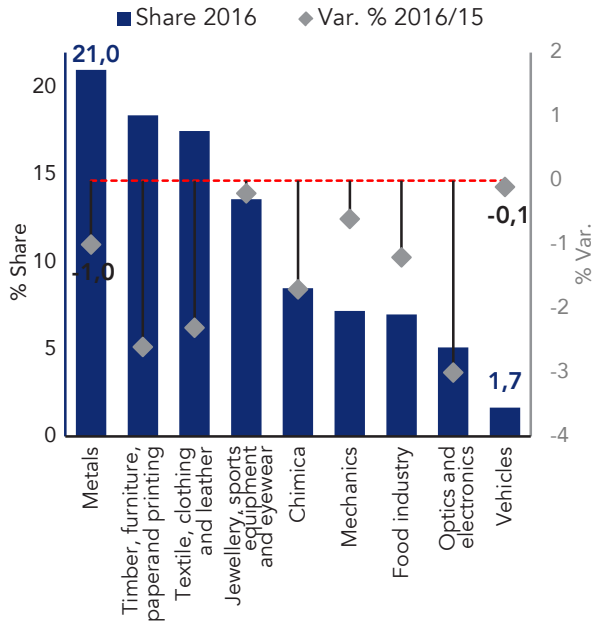
Fig 2.4.4 – Share and percentage variation per annum of active businesses in Veneto by economic category – Year 2016



Source: Veneto Region Statistical Office processing of InfoCamere data.

closed 2016 with negative figures, -1.0% and -1.7% respectively per annum. The mechanical sector, however, managed to contain the fall suffered in 2015.

Fig. 2.4.5 – Share and percentage variation per annum of active manufacturing businesses in Veneto by economic category – Year 2016



Source: Veneto Region Statistical Office processing of InfoCamere data.

Knowledge-intensive sectors

One of the greatest innovations for industry is the fourth industrial revolution, characterised by the so-called "smart factory"...

One of the key trends in terms of innovating the industrial world is undoubtedly Industry 4.0, the fourth industrial revolution. This refers to the increasing ability of machines to produce and collect data, from which useful information can be analysed and extracted in order to optimise production processes and facilitate the creation of customer-oriented goods and services.

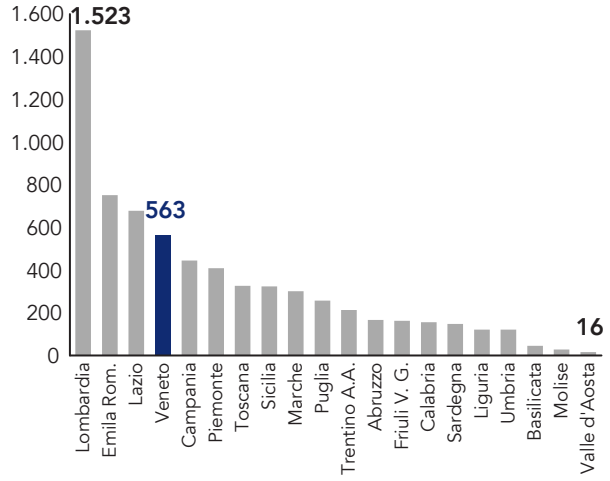
...smart factories are innovative start-ups, increasingly growing in Veneto

The era of Industry 4.0 is that of so-called smart factories or businesses, made up of innovative start-ups, companies whose primary objective is developing products and services that are in all respects innovative and technologically advanced. The plan 'Italia 4.0', launched in September 2016 by the Government, recognised the importance of these companies by guaranteeing solid innovation throughout the country, thus mobilising 10 billion in industrial investments and 11.3 billion euros for research and development. In addition, it provided a series of incentives and tax deductions, including tax credits.

At 1 February 2017, innovative start-ups in Veneto amounted to 563, an increase of +48.2% compared to February 2016 and represented the fourth highest figure after Lombardy, Emilia Romagna and Lazio. These companies are largely in services sector (64.5%), and in particular, the production of software and consulting services; 29.3% of them are present in the industry and handicraft sectors; just under 5.0% in trade and the rest in the agriculture and tourism sectors (0.7%). The Veneto province with the largest number of active start-ups is Padua (167), followed by Treviso (112) and Verona (90).

In addition to start-ups, another driving force behind technological innovation are SMEs, i.e. small and medium-sized enterprises operating in the field of innovation, irrespective of their date of incorporation, the corporate object and the maturity level. Although this type of business is steadily increasing, it is still uncommon: at 1 February 2017 there were 419 in Italy, 28 of which were in Veneto, representing 6.7% of the national total.

Fig 2.4.6 – The number of innovative start-ups per region – Year 2017 (*)



(*) data refers to 1 February 2017
Source: Veneto Region Statistical Office processing of the Italian Companies Register data

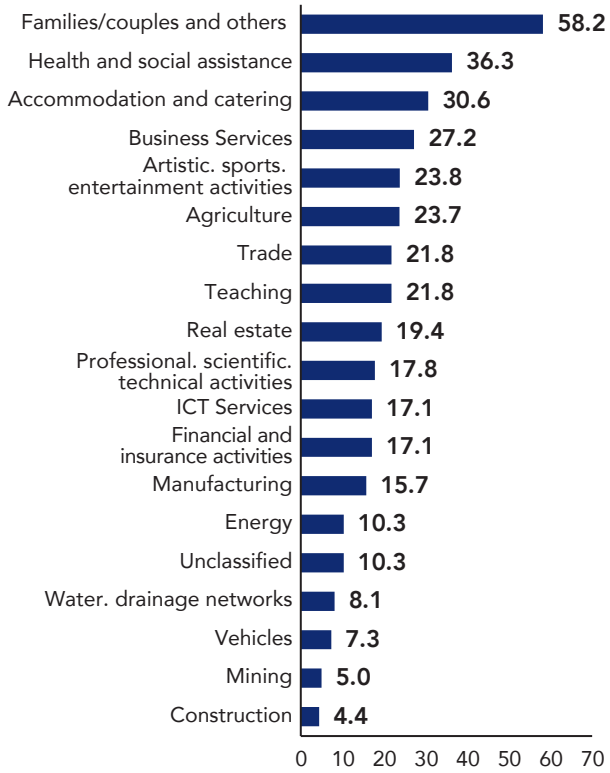
In recent years, businesses in knowledge-intensive sectors[2] , which require high skills and competencies, have become increasingly important for Veneto's economy.
Veneto has 75,172 knowledge-intensive companies, i.e. 9.3% of the national total, which is up by nearly one percentage point over 2015 and mainly concentrated in the provinces of Padua (22.1%), Treviso (19.1%) and Verona (18 , 5%).
Overall, their opening rate reduced last year, reaching 4.7out of every 100 companies; whereas, closures increased, reaching 6.1 out of every 100. The corporate balance worsened and returned to 2014 levels: -1.4%.

Businesses run by women and young people

It is interesting to analyse how last year's economic trend influenced the dynamics of two particular types of business: companies run by women[3] and young people, whose development has been subject of numerous regulatory initiatives, both at a national and regional level.
Veneto placed sixth for the amount of female-run businesses: in 2016, out of the 434,994 active companies, 87,699 were "pink" companies, up by + 0.4% compared to the previous year.
The female rate[4] in Veneto, of 20%, was below the national average of 22.5%. The impact of female-run companies was higher in the South, notably in Molise (29.6%), Basilicata (28.0%) and Abruzzo (26.8%). The lowest values were recorded in Trentino Alto Adige (17.9%) and Lombardy (19.1%).
Last year, the opening rate of "pink" companies in Veneto decreased, reaching 8.3 businesses opening for every 100, closures remained unchanged. The corporate balance worsened but was still in the positives: + 0.3%.
From a sectorial point of view, almost 70% of female-run businesses were in the tertiary sector, particularly in the trade and housing sectors, 35.8%, up by 0.7% compared to 2015. The education and professional activity trends remain positive, up by + 4.3% and + 3.8%, respectively.
The number of companies in the construction sector rose slightly by 0.5% yoy, while the manufacturing sector remained poor, with the 9.3% of operating female-run businesses down by -0.2% compared to last year.
The prevailing legal form is sole proprietorship (68.5%); followed by limited companies (16.2%) and partnerships (14.0%).
Despite having been severely affected by last year's economic difficulties, businesses run by you people continued to play an important role in the regional economy[5]. In 2016, businesses run by young people amounted to 35,635, i.e. 8.2% of the national total and down by more than three percentage points as compared to 2015. These companies were mainly in trade (25.6%), construction (17, 0%) and accommodation and catering services (11.0%).
The impact of companies run by young people in industry, in the narrow sense, was less (8.2% of total

[2] According to the Eurostat- OECD definition of economic activities for technological intensity and content of knowledge are the following: high-level knowledge technology services (code H53, J68, J60, J61, J62 and J63 of the 2007 ATECO classification), highly accredited market services (codes H50, H51, L68, M69, M70, M71, M73, M74, N77, N78, N81 and N82 of the 2007 ATECO Classification) and high-level knowledge financial services (K64, K65 and K66 of the 2007 ATECO Classification).
[3] According to the Osservatorio dell'Imprenditoria femminile (Observatory on feminine entrepreneurship) definition, the following are considered as female-run: independent businesses whose owner is a woman; partnerships or cooperatives where the majority of members are women or the majority of shares are held by women; limited companies in which the majority of board members are women or the majority of shares are held by women; consortiums comprised of 51% or more of female businesses as identified above.
[4] The female-run business rate is equal to the percentage of registered female-run businesses
5 Companies considered to be run by young people are sole proprietorships where the owner is under 35 years, partnerships where the majority of members are under 35 and limited companies where the average age of members and administrators are under the age of 35 year old.

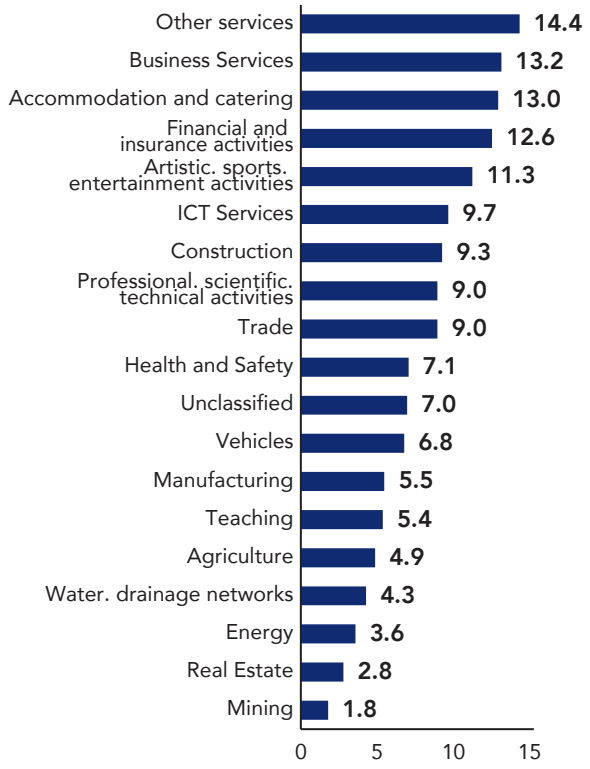
Fig 2.4.7 – percentage of female-run businesses according to economic activity sector. Veneto – Year 2016(*)



(*)Weight of female-run companies compared to total Veneto companies
Source: Source: Veneto Region Statistical Office processing of the Osservatorio dell'Imprenditoria femminile, Unioncamere – InforCamere data.

companies run by young people), compared with "over 35" companies (12.7%).
Through analysing sectorial dynamics in 2016, the best performance was in the business services sector, + 1.5% per annum; businesses belonging to the sports and entertainment sectors and housing and catering services were also positive, + 0.4% and + 0.3% respectively, as compared to 2015.
The number of "under 35" companies active in construction (-11.3% per annum) and trade (-4.2%) declined sharply; the latter, however, remained the dominant sector for this business category, with more than a quarter of businesses. Overall, closures in this business category have reduced, reaching 9.5 out of every 100, meanwhile the opening rate has also reduced, affecting 20.2 opening businesses out of 100.
The corporate balance, however, remains firmly positive at +10.7%. In comparison to other regions, the amount of companies run by young people was higher in the South: Calabria (14.8%), Campania (14.0%) and Sicily (13.2%), resulting from a new vocation for entrepreneurship in these regions.

Fig. 2.4.8 - Percentage of companies run by young people according to economic activity sector Veneto – Year 2016 (*)



(*)Weight of companies run by young people compared to total Veneto companies
Source: Veneto Region Statistical Office processing of the Osservatorio dell'Imprenditoria giovanile, Unioncamere – InforCamere data.

Handicraft businesses

Veneto places second for the amount of active handicraft businesses

Veneto's economic and productive system is historically characterised by a strong artisan vocation, which, in 2016, led the region to place second in Italy for the amount of active handicraft businesses, just behind Lombardy.
In 2016, there were 129,832 active handicraft companies in Veneto, which was 9.8% of the national total, down by -1.3% compared to 2015, but still in

line with the national trend. They were largely found in the construction industry (38.3%) and the manufacturing sector (26.2%), although both experienced a contraction of -2.1% per annum. The tertiary sector's performance, with 34.1% of active handicraft companies, is growing more than in 2016, especially for business services and accommodation and catering, +3, 1% and + 1.1% per annum respectively. The amount of handicraft companies active in the transport sector continues to decline, -3.1% compared to 2015.
The province of Padua has the highest number of handicraft businesses in Veneto (20.1%), followed by Verona (19.6%) and Vicenza (18.8%).
In 2016 there were 5.9 new businesses out of 100 active and 7.2 closed companies out of 100. The corporate balance of handicraft companies was therefore negative at -1.3%.

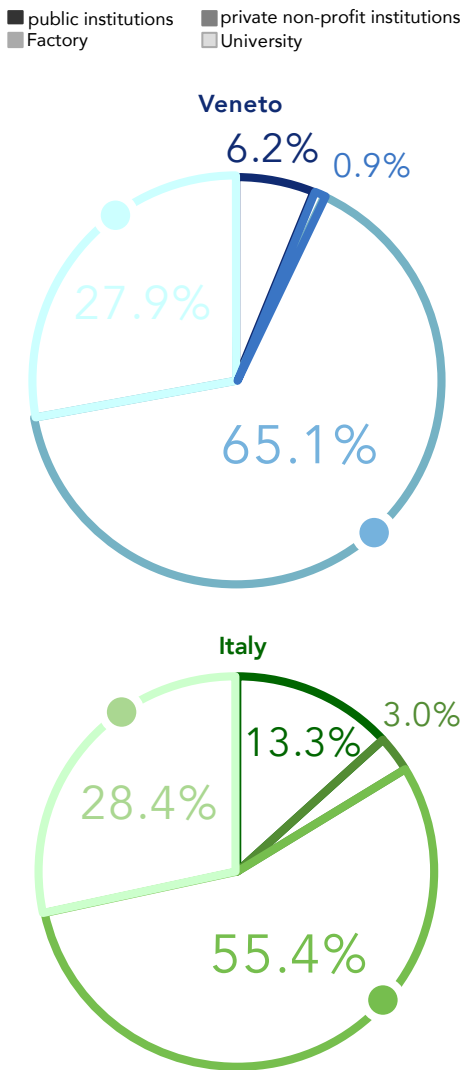
Tab 2.4.1 - Handicraft businesses: number, percentage and annual percentage variation by economic category. Veneto – Year 2016

	Number	Percentage	% var, 2016/15
Construction	49,699	38,3	-2,1
Manufacturing Ind,	34,016	26,2	-2,1
Other social and personal services	16,981	13,1	0,5
Transportation	8,777	6,8	-3,1
Business Services	7,517	5,8	3,1
Business	6,781	5,2	-0,5
Accommodation and catering	4,164	3,2	1,1
Agriculture	1,404	1,1	-0,4
Other	493	0,4	-2,8
Total	**129,832**	**100,0**	**-1,3**

Source: Veneto Region Statistical Office processing of InfoCamere data.

Research and development in Veneto
In 2014, the intramural expenditures on Research and Development (R & D[6]) by businesses, public institutions, private non-profit institutions and universities in Veneto amounted to 1.6 billion euros, fairly balanced compared to 2013.
The private sector contribution, including private non-profit businesses and institutions (66.0%) was in line with the aim of private funding two-thirds of R & D spending; universities bore 27.9% of spending in Veneto and the public sector had the remaining 6.2%.
The distribution of expenditure in Veneto was considerably different to the national average, with 58.3% spent in the private sector, while public administration contributed 13.3%, including a large amount from the central government, and 28.4% for universities.

Fig 2.4.9 - Percentage distribution of intramural R&D expenditure according to institutional sector Veneto and Italy – Year 2014



Source: Veneto Region Statistical Office processing of Istat data.

[6] Research means "creative work undertaken on a systematic basis in order to increase the stock of knowledge, including knowledge of man, culture and society, and the use of this stock of knowledge to devise new applications"

In 2014, the percentage of R&D expenditure on GDP in Veneto was equal to 1.11%. In the same year, Italy spent 1.38% of Gross Domestic Product, a slow but steady approach to the national target of 1.5%, set by the 2020 Europe Strategy[7] .
The amount of R&D staff in Veneto was approaching 23,000 for all sectors, where the business sector prevails, with a similar share to that of expenditure.
In 2014, the use of human resources in R&D activities averaged 4.6 employees per thousand inhabitants in Veneto, with a national average of 4.1 employees per thousand inhabitants.

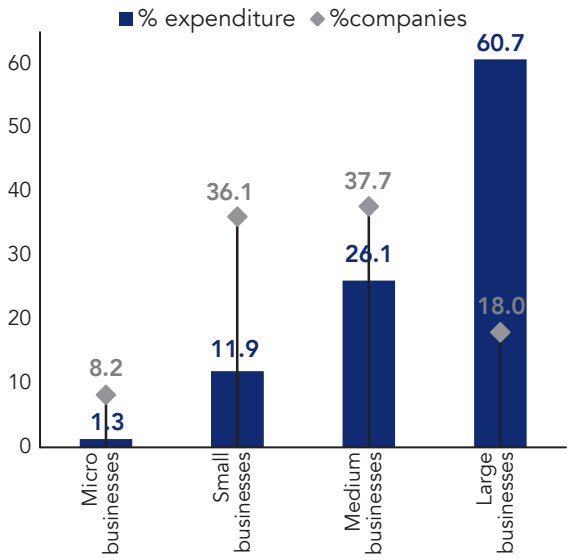
Veneto company research

Veneto companies investing in R & D are mainly SMEs

Veneto companies investing in R&D were mainly small and medium-sized enterprises (82%). However, we know that major investments were backed by larger structured businesses: large companies only represented 18% of the R&D companies, contributing more than 60% in terms of spending. In comparison to the previous year, medium-sized company contributions increased, to which 26.1% of the 2014 spending can be recouped.
The R & D expenditure of Veneto companies was primarily attributable to the manufacturing sector, which accounted for about 79% of the total. The largest contribution came from professional, scientific and technical activities, including the R & D area and amounting to 9.2% of the expenditure.
Within the manufacturing sector, more than a quarter of expenditure came from mechanical engineering (28.9%), followed by electric and electronic equipment manufacturers (19.8%), fashion (13.8%), chemistry (7.4%) and metals (7.2%).
The main products and / or production techniques that were the subject of research and development were products from the fashion sector, including textiles, packaging and leather goods (16.3%), mechanical products (14.9%) and pharmaceuticals (9.7%).
Next in the list were metallurgical products (7.4%), electrical equipment manufacturing (7.2%), chemistry (6%), food and electronics (both for 5.5% of spending).

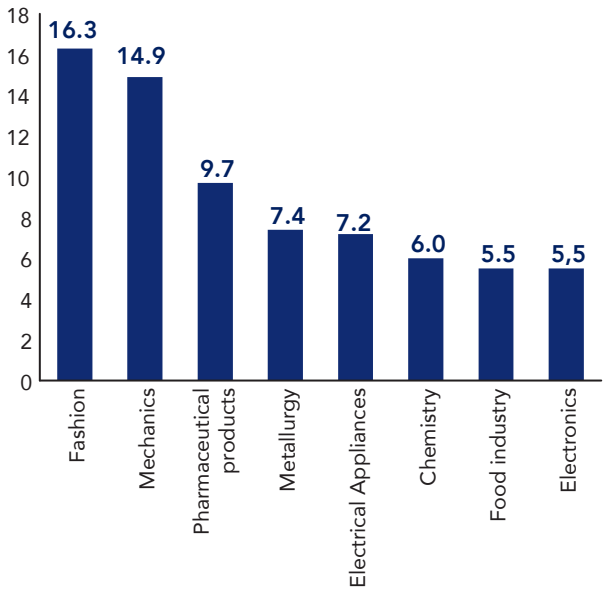
[7] The number of employees is expressed as full-time equivalent employees (FTE). An FTP equals a person who works full time (8 hours a day) for a working year, which is averaged over 220 days of work. For example, a person with a part time job of 6 hours per day is equivalent to 0.75 FTE (6 to 8 hours), while one working for four hours will equal 0.5 FTE.

Fig 2.4.10 – Distribution of intramural R&D expenditure by SMEs and large companies in Veneto – year 2014.



Source: Veneto Region Statistical Office processing of Istat data.

Fig. 2.4.11 - Intramural R & D expenditure of Veneto companies: the main products and / or production techniques (% share) - Year 2014



Source: Veneto Region Statistical Office processing of Istat data.

2.5 Veneto Tourism: a record-breaking 2016

In 2016, Veneto's tourist offer - unique, varied, high quality and enhanced by innovative proposals – set

a new record, both for the number of tourists and the total overnight stays. In fact, 2016 concluded with an unprecedented 17.9 million arrivals (+3.5% as compared to 2015) and 65.4 million overnight stays (+3.4%).

A turnover of 11.3 million euros

Veneto provides an eclectic offer, combining tourism, culture, wine and food, identity, landscape and territory, which is able to accommodate every request in the best possible way. By putting this result into context, within an ongoing period of strong economic uncertainties, can be reiterated that tourism represents the most important sector in Veneto's economy, both for the wealth produced directly and the upstream-downstream economy of tourism: the 11.3 million euros produced by the industry represent the 8.3% of the regional GDP[8] .

Strong foreign tourist interest and return of italian

The comparison between tourism's contribution and that of other focal sectors in Veneto is significant: tourism turnover is four times higher than the agricultural sector and 4.2 times higher than the food sector. It is also three times greater than the wealth generated by the textile and fashion industry, accounting for 57% of the trade turnover. In addition, there are 380,000 equivalent work units corresponding to about 516,000 employees in Veneto, including seasonal and part-time activities.

Veneto tourism is achieving increasing recognition from foreign visitors and is also benefitting from the return of Italian tourists, experiencing a trend reversal since 2015 that, however, has not yet returned to levels seen at the start of the century. In this sense, our region is also deemed more attractive based on its favourable position in terms of the current geopolitical situation in the Mediterranean, which rewards destinations perceived as being safer.

The great results therefore reflected a good year for tourism, both internationally (+2.8% of arrivals, +4.1% of overnight stays and 5.6% of expenditure) and nationally (arrivals +4.7% and overnight stays +1.8%). Furthermore, positive variations were recorded for hotels (+2.3% of arrivals and +4.0% of overnight stays) and the complementary sector (+6.2% and +2.8%)

8 The data, provided by CISET (International Centre for Tourism Economy Studies), refers to 2015 and includes direct, indirect and induced multiplier effects.

Tab. 2.5.1 – Tourist movement by origin and type of accommodation. Veneto – Year 2016

Valori assoluti

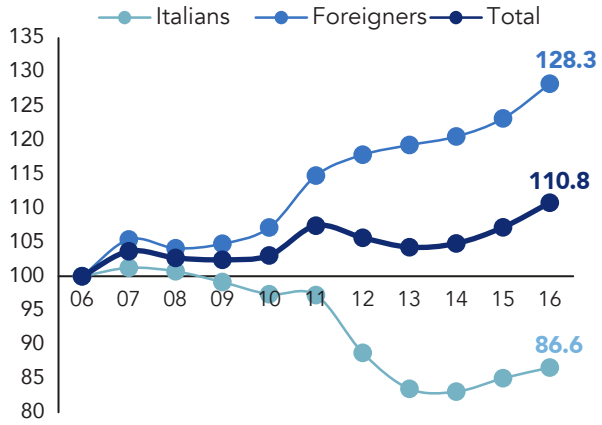
	Hotels		Non-hotels		Total (hotels + non-hotels)	
	Arrivals	Overnight stays	Arrivals	Overnight stays	Arrivals	Overnight stays
Italians	4.454.460	11.059.919	1.876.191	10.370.785	6.330.651	21.430.704
Foreig.	7.748.652	21.152.999	3.777.264	22.808.625	11.525.916	43.961.624
Total	**12.203.112**	**32.212.918**	**5.653.455**	**33.179.410**	**17.856.567**	**65.392.328**

2016/15 % Variation

	Hotels		Non-hotels		Total (hotels + non-hotels)	
	Arrivals	Overnight stays	Arrivals	Overnight stays	Arrivals	Overnight stays
Italians	5,4	5,3	3,2	-1,6	4,7	1,8
Foreigners	0,5	3,4	7,8	4,9	2,8	4,1
Total	**2,3**	**4,0**	**6,2**	**2,8**	**3,5**	**3,4**

Source: Veneto Region Statistical Office processing of Veneto Region provisional Istat data.

Fig. 2.5.1 – Index number (*) of tourist overnight stays (base year = 2006). Veneto – Years 2006:2016



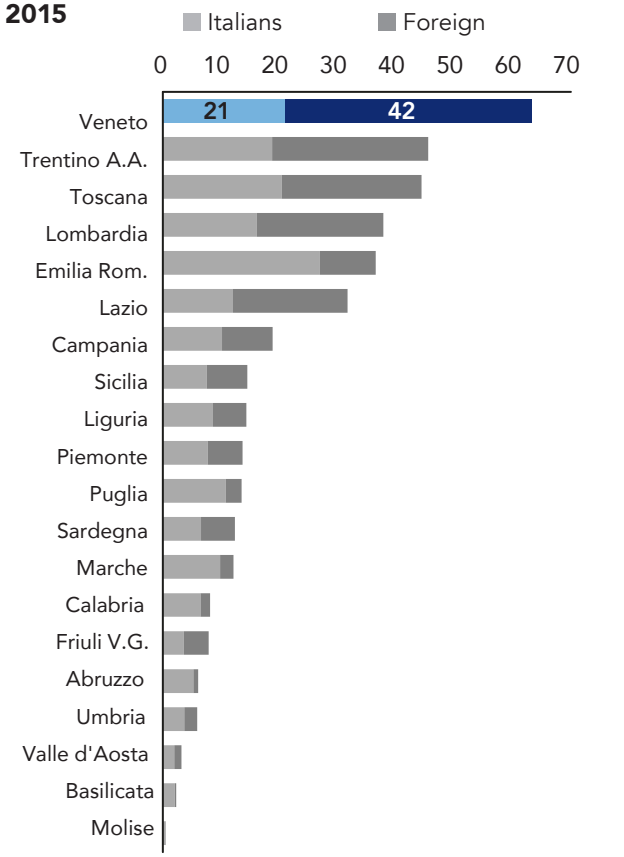
(*) Index number = (overnight stays per annum t/presences per base year) x 100
Source: Veneto Region Statistical Office processing of Veneto Region provisional Istat data.

Growth in all the regions

Positive results were observed at a provincial level: in 2016, there was an increase in both arrivals and overnight stays in all the provinces. In particular, overnight stays increased in the provinces of

Verona (+9.1%), Treviso (+5.2%) and Padua (+4.4%). Through trend analysis of five districts, 2016 figures highlighted excellent performances, especially for the cities of art (+6.1% of presences) and lakes (+7.2%), but also for mountains (+2.7%) and spas (+4.4%), while overnight stays at seaside resorts remained fairly stable (-0.6%). For the latter, foreign interest kept growing, although it did not offset the decrease in Italian overnight stays.
Among Italy's tourist regions, Veneto has now held the record both for the number of arrivals (15.2% of Italy) and in overnight stays (16.1%) for several years, as was confirmed again for 2015, the latest nationwide figures available.
Veneto stands out for its strong foreign presence, as do Lazio, Trentino Alto Adige, Lombardy and Tuscany, and in particular for the large amount of tourists that choose non-hotel facilities for their stays.

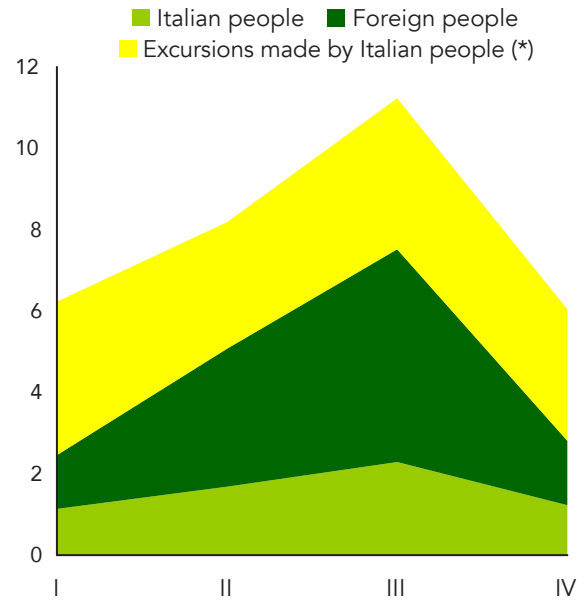
Fig. 2.5.2 – Tourist overnight stays in Italy according to region visited and origin (millions) – Year 2015



Source: Veneto Region Statistical Office processing of Istat data.

These figures paint an accurate picture of those with at least one overnight stay in accommodation facilities for leisure, , business, health and welfare, sport, religion, etc. The information provided, however, does not include figures for short-stay tourism, which is significant for our region.
Istat estimated that the number of excursions made by Italian people in 2015 to Veneto reached about 13,800,000, including trips outside the place of residence, but excluding those for routine activities, linked to commuting rather than the tourism phenomenon. Considering that the round trip takes place in a single day, tourists mainly come from neighbouring regions or Veneto itself and the preferred means of transport is by car, followed by train. See the following graph for a better understanding of the number of people gravitating towards Veneto for leisure trips or excursions, business or any other reason, excluding short-distance travelling associated with mobility. The figures refer to different times of the year, with a peak recorded in the summer quarter July-September, which exceeded 11 million and an annual total of 31 million.

Fig. 2.5.3 – Overnight visitors and tourists according to quarter and origin (millions). Veneto. Year 2016



(*) One-day trips for business or leisure, excluding those for routine activities. Year 2015
Source: Veneto Region Statistical Office processing of Istat provisional data.

Veneto in Europe

Over the past six decades, tourism has recorded such high rates of growth that it has become one of the most important industries in the world. As the United Nations World Tourism Organisation (UNWTO) points out, over the years, more and more destinations and countries have opened their doors to tourism and invested in its development, making modern tourism a key factor of economic progress. In 2012, a record of over one billion international tourist arrivals were recorded globally, with estimates of 1,134,000 in 2014 and 1,186,000 in 2015. Europe remains the number one continent in the world for international arrivals (51.2% of the entire planet), relying mainly on three strengths: cultural heritage, variety of landscape and quality of offer. Up until now, data has been sourced from UNWTO, the only organisation enabling a comparison of countries around the world according to international tourist arrivals.

The figures only account for people visiting and staying overnight in a foreign country, excluding visits made by local people. This is crucial for the economy, since foreign tourism brings wealth to the economic system in the form of additional expenditure.

In terms of Eurostat data, which includes domestic tourism, the fundamental role played by the most popular tourist destination countries emerges; Spain, France, Italy, Germany and the United Kingdom represent 70% of overnight stays made by tourists in the whole EU-28. There is marked rapid growth in tourist flows towards Spain, a destination that topped the European top 5 in 2015. Italy came third, behind another historic competitor, France.

However, Italy is the second country in the world for international tourism, thanks to the surprising figures both for arrivals (55 million) and overnight stays (more than 192 million).

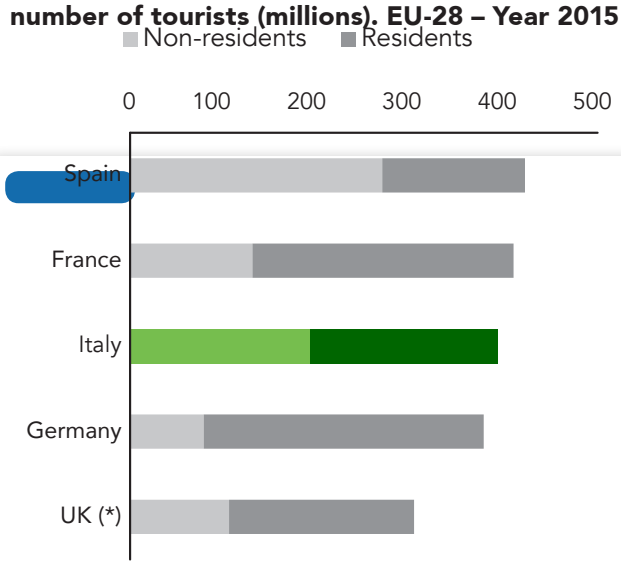
Veneto is the fourth European region for total number of tourists

Let us examine how our region fits into the European scene. It achieves its best rankings in terms of arrivals: in 2015, Veneto was in 4th place among European regions, after Île de France, Catalonia and Andalusia. Veneto even surpassed the French Provence-Alps-Côte d'Azur region, thanks to a superior increase in number of arrivals (+ 6.1% for Veneto against + 3.4% for its competitor).

Taking a closer look at international arrivals, in 2015 Veneto lost third position to Croatia, sliding to fourth position due to a sudden rise in the competing seaside resorts (+9.2% in Croatia versus +5.8% in Veneto). However, the difference between the two regions is very slight (about 60,000 arrivals) making future comparisons an interesting prospect.

A comparison between European regions on the amount of overnight stays brings Veneto to 6th position, mainly preceded by Spanish and Croatian seaside areas that are characterised by longer stays on average. In Veneto, stays are shorter due to the multiplicity of destinations on offer: thanks to the region's diverse morphology, expertly valued, besides seaside holidays, our region offers stays in the

Fig. 2.5.4. – The top five countries according to number of tourists (millions). EU-28 – Year 2015



(*)For the UK, the most recent available data relates to 2012; a year, among other things, non-comparable to previous years due to a break in the time series

Source: Veneto Region Statistical Office processing of Veneto Region Eurostat data.

Tab. 2.5.2 – Ranking for arrivals and departures. Italy and Veneto – Year 2015

	Foreign tourists		Total number of tourists	
	Arrivals	Depart.	Arrivals	Depart.
Italy amongst European countries	2°	2°	4°	3°
Veneto amongst European countries	4°	6°	4°	6°
Veneto amongst Italian regions	1°	1°	1°	1°

Source: Veneto Region Statistical Office processing of Veneto Region Eurostat data.

Dolomites, having gained World Heritage status, stays at the renowned and beneficial thermal baths, at Lake Garda, art cities that are famous all over the world, etc. In 2016, 53.4% of tourists arriving in Veneto chose a city of art as their destination, where the average stay was only 2.2 nights, while longer stays spent at beach areas (6.3 nights), were chosen by 21.7% of tourists.

Tab. 2.5.3 - Ranking of European regions according to tourist stays Year 2015

	Stays (milions)	Arrivals (milions)	Average stay (nights)	2015/14 % var.	
				Stays	Arrivals
Canarie	94.0	12.2	7.7	-0.3	0.9
Île de France	76.8	35.6	2.2	-1.2	0.8
Catalogna	75.5	22.2	3.4	3.8	5.7
Croazia	68.1	12.4	5.5	7.6	9.4
Baleari	65.2	10.4	6.3	3.6	2.8
Veneto	63.3	17.3	3.7	2.3	6.1

Source: Veneto Region Statistical Office processing of Veneto Region Eurostat data.

2.6 Work in Veneto: a recovering trend

According to the updated data from the Labour Force Survey conducted by Istat in 2016, the labour market recorded positive signals. For the third consecutive year, employment in Italy rose and unemployment continued to decline: there were 22,757,838 people employed and 3,012,037 job seekers, respectively, 1.3% more and 0.7% less than the year before. As a result, the Italian employment rate for 15-64 year olds grew from 56.3% to 57.2% in the first year and unemployment fell to11.7% from 11.9%.

In 2016, Veneto employment grew and unemployment declined ...

Good performance in Veneto: employment finally resumed significant growth and unemployment continued to decline. In 2016, 2,081,205 were employed in Veneto, or 1.4% more than the previous year at a rate of 64.7% versus 63.6% in 2015, while job seekers totalled 151,103, i.e. 3.5% less than 2015, with an unemployment rate of 6.8% versus 7.1% a year earlier.

... especially for women

In 2016, employment in Veneto grew more for women than men, compared to the previous year, +1.8% against 1.2% for men, and was in line with the national figure. However the rate grew at the same intensity (around +1.1 percentage). Conversely, Italy's average data revealed an increase in female unemployment. Conversely, in Veneto the amount of women looking for work reduced by almost 5% compared to 2% of men and also recorded a decline in the most favourable rate (women -0.5 points, men -0.2).

The amount of employed people increase, especially those with fixed-term contracts

The amount of employed people increase, especially those with fixed-term contracts

The growth in employment only affected salaried employee, in Veneto there were +41,745 salary employed people, or 2.7% more than in 2015, and they were mainly fixed-term employees. Contrary to the national average trend, which showed a slightly higher increase among permanent employees, in our region the amount of fixed-term workers increased by 10.5% over the previous year (more than 21,000), which is mainly driven by women (+ 14.7%), while fixed-term employees increased by 1.5% (still about 20,600 more than in 2015).

For the second year, the amount self-employed people in Veneto decreased, primarily among men.

The amount of inactive people decreased

The decline in the amount of unemployed people is particularly significant as it is associated with a strong decrease, for both sexes, in the number inactive people between the ages of 15-64, i.e. those who are neither employed nor unemployed.

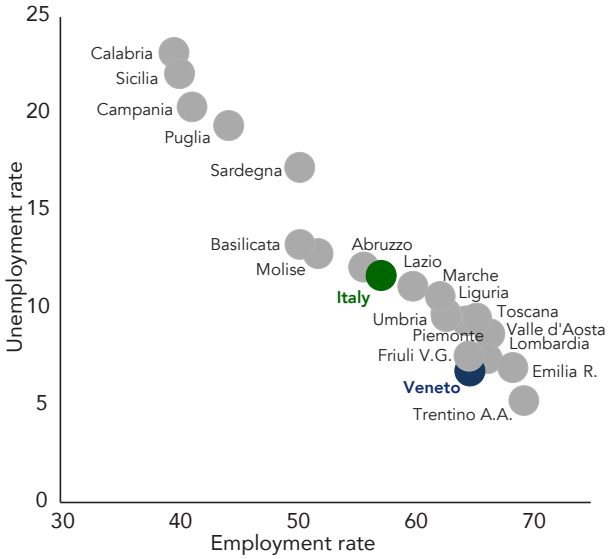
In 2016, Veneto had 3.5% less inactive people as compared to the previous year (-2.9% in Italy), the most significant decrease being for men at -5.2% and an equally as interesting female figure at -2.7%. The decline in inactivity involved all age groups (except the elderly), especially in Valle d'Aosta Lombardy, between the ages of 25 and 44: in our region there was a decrease of 9.3% for people aged 25 to 34 and 10.1% for 35-44 year olds.

Tab . 2.6.1 Indicators by gender. Veneto and Italy 2016/2015 percentage variation

	Veneto			Italy		
	Male	Female	Total	Male	Female	Total
Employed	1.2	1.8	1.4	1.1	1.5	1.3
Unemployed	-1.9	-4.9	-3.5	-3.1	2.3	-0.7
Salaried	2.9	2.4	2.7	2.0	1.8	1.9
Self employed	-3.0	-1.2	-2.5	-0.9	0.2	-0.5
Fixed term employees	6.6	14.7	10.5	1.0	2.6	1.8
Permanently employed	2.4	0.5	1.5	2.1	1.7	1.9
inactive 15-64 year olds	-5.2	-2.7	-3.5	-3.1	-2.8	-2.9

Source: Veneto Region Statistical Office processing of Veneto Region Istat data.

Fig. 2.6.1 - 15-64 year old employment and unemployment rates (*) Year 2016



(*) employment rate = (employed 15-64 year olds/reference population) x 100
Unemployment rate = (job seekers/workforce) x 100
Source: Veneto Region Statistical Office processing of Veneto Region Istat data.

Veneto is among the leading regions

Once again, Veneto is among the leading regions in Italy: placing sixth for the highest 15-64 year olds employment rate among Italian regions and second for the lowest unemployment rate both in total and for young people (only behind Trentino Alto Adige).
Conditions for young Veneto people are better: less unemployed and NEET people
In detail, in 2016, youth unemployment continued to fall after the previous year's standstill: last year in Italy it was 37.8% compared to 40.3% in 2015, nearly all of the regions and Veneto recorded a rate of 18.7%, down by almost six percentage points compared to the previous year. Our region, albeit starting from a lower level of youth unemployment than elsewhere, had one of the highest gap improvements over the past year (the Italian average had a gap of -2.5 percentage points). The situation even improved in the Southern regions, notably in Basilicata, where the rate for young people seeking jobs fell to 34.2%, 13.5 percentage points less than 2015. However, there are still serious working conditions in this part of Italy for all age groups, even for young people, who in many regions are unemployed in half of the cases. The most severe case was found in Calabria where 58.7% of young people looking for jobs have been unsuccessful, followed by Sicily and Sardinia, with rates of 57.2% and 56.3% respectively.
Even in the case of NEETs, i.e. young people who are not in education, employment, or training. Veneto has an advantageous position over other Italian regions: in 2016, there were 109,680 15 to 29 year olds, or 8% less than the previous year, representing 15.6% of young Veneto people in this age group and the second lowest in Italy (the first being Trentino Alto Adige with 12.6% of NEETs, the Italian average was 24.3%).

Verona and Belluno's good performance

At a provincial level, it should be noted that three provinces in Veneto place within the top ten for the lowest unemployment rates: in particular, Verona, down by almost one percentage point compared to the year before or 5.3 % in 2016, registering the fourth lowest index among all Italian provinces; Simultaneously, Verona recorded an increase in its employment rate of one percentage point, thus recording an index of 65.4% in the last year.

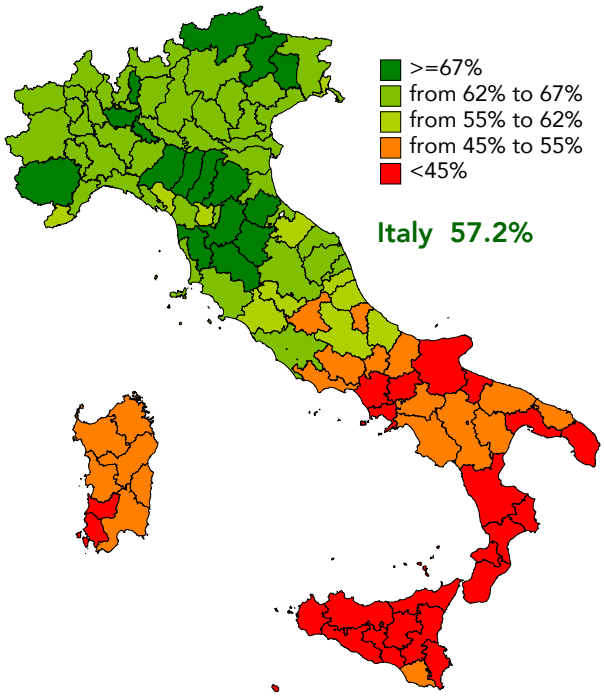
Verona: the lowest unemployment rate among Italian provinces…

Vincenza and Belluno

…and Belluno has the third highest employment rate

follow with an unemployment rate of 6.2%, taking sixth and eighth place. Belluno, among other things, has always been good at participating in the job market, this year it ranks third among Italian provinces for the highest employment rate (68.8%, rising by half a percentage point compared to 2015). In detail, after last year's good performance, Vincenza's situation slowed down and unemployment rose once again, Rovigo's employment rate recovered but unemployment rose slightly (from 8.5% to 8.7%, the highest value among the Veneto provinces), while in Padua, Treviso and Venice, besides decreasing unemployment, employment increased

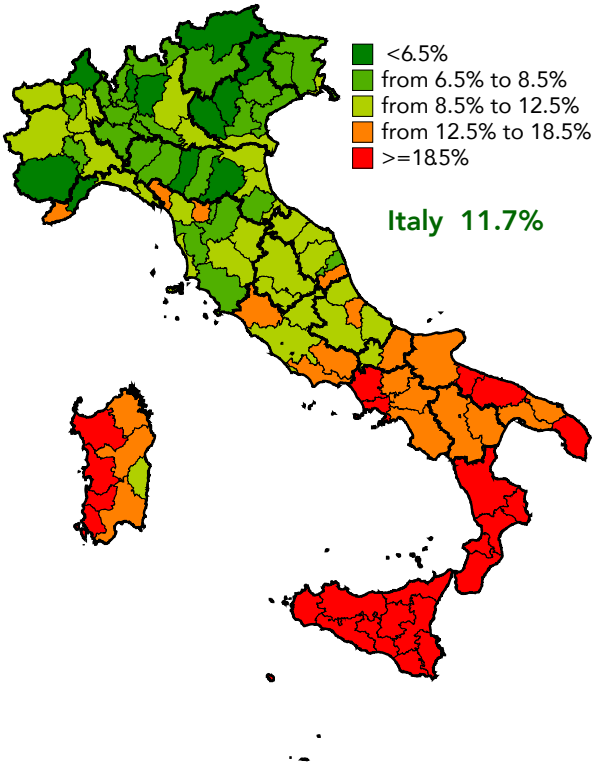
Fig. 2.6.2 - 15-64 years employment rate (*) by province - Year 2016.



(*) Unemployment Rate = (Jobseekers/ Workforce) x100
Source: Veneto Region Statistical Office processing of Veneto Region Istat data.

In general, observing the provincial employment map, the colour difference is clear between North, Centre and South, plus Islands. Trentino Alto Adige maintained its primacy, at a rate of 69.3%; Bolzano recorded 72.7%, the highest value among all the Italian provinces (followed by Bologna with 71.8%). Conversely, in Calabria and Sicily, with the excep

Fig. 2.6.3 - 15-64 years employment rate (*) by province - Year 2016.



(*) Unemployment Rate = (Jobseekers/ Workforce) x100
Source: Veneto Region Statistical Office processing of Veneto Region Istat data.

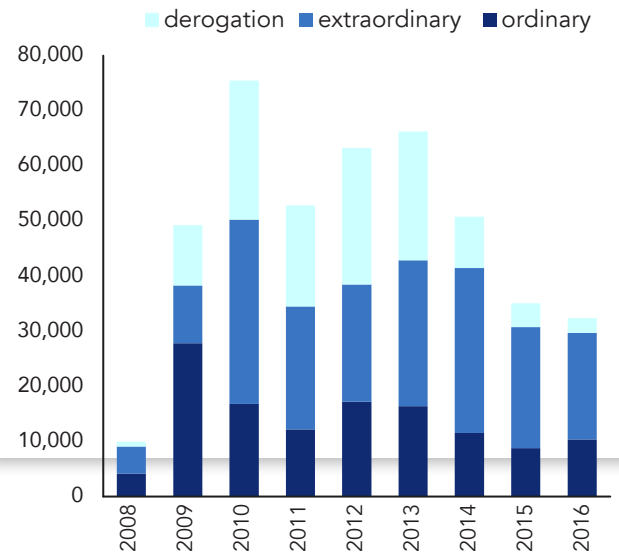
tion of Ragusa, the amount of 15-64 year olds was less than 45% for all provinces.
Unemployment is, however, more varied. Once more, the most favourable figures were recorded in Trentino Alto Adige (5.2%) and the worst conditions in Calabria (23.2%) and Sicily (22.1%); Bolzano had the lowest index (3.7%), while Crotone had the highest (28.3%).

The Veneto situation in respect of CIG...

In 2016, the use of the Extraordinary Redundancy Fund (CIG) remained at 2015 levels: a few more than 53.4 million hours were authorised in Veneto, compared to 57.9 million in the previous year. In summary, there were an estimated 32,000 redundancy-paid workers in Veneto in 2016, a hypothetical amount of redundancy-paid workers who have not worked for an entire year, compared to 35,000 in 2015 and 51,000 in 2014.
However, it should be highlighted that with Legislative Decree 148/2015 coming into force, the fifth

of the decrees implementing the Jobs Act, significant new developments have been introduced on the Extraordinary Redundancy Fund; following the transposition of this decree, IPNS (National Institute for Social Security) has set up the CIG approval block "aimed at aligning the procedures with the regulatory provisions introduced" (INPS press release dated 18 December 2015). The trend in authorised hours, over the last few months of 2015 and the early months of 2016, was heavily influenced by this block and the gradual recovery seen from February 2016.
In regards to the type of intervention, there was an increase in the ordinary management of cash flow (+18%) in Veneto, also due to the extension of this tool to all industrial and construction companies regardless of the number of employees and a decrease in extraordinary management (-12%).
The downwards trend of the Extraordinary Redundancy Fund in derogation continued, gradually decreasing since 2016 following the upgrading of two types of buffers: in 2016, it declined by 37% compared to 2015.

Fig. 2.6.4: Equivalent workers (*) in Extraordinary Redundancy Fund by type of management. Veneto – Years 2008:2016



(*) the number of equivalent workers is obtained by dividing the number of authorised redundancy paid hours by the amount of hours work by a person of 1,650 hours. A hypothetical amount of casual workers is obtained in the non-working year.
Source: Veneto Region Statistical Office processing of Veneto Region IPNS data.

...and redundancies

According to data, updated in December 2016, on the employment impact of corporate crises published by Veneto Lavoro, in 2016, collective redundancies and job vacancies stood at 6,135, the lowest recorded in recent years: in fact, since 2009 the amount of redundant workers hit more than 9,000 a year, with peaks over 18,000 in 2014. Notably, from 1 January 2017, the Law of reform 92/2012 revoked this institution: as a result, all workers made redundant from 31 December 2016 onwards will no longer receive redundancy but benefit from NASPI, the new ordinary unemployment benefit, revised by the Jobs Act.
In the case of individual redundancies, in January to September 2016, 14,127 companies commenced redundancy procedures, compared with 13,036 in the same period of the previous year. These procedures involved at total of 25,611 workers (+ 13.5% compared to 2015), of which 70% were made redundant for objective justifiable reasons, 11.5% due to business closures, and the remaining 18.5% for other causes (objective justifiable reasons, just cause, just cause resignation).

2.7 A more technological and efficient PA in Veneto

Strengthening administrative capacity is fundamental for every intervention targeting growth and cohesion, as highlighted by the Europe 2020 strategy, which states the EU growth goals up to 2020 . The Digital agenda for Europe is one of the pillars of the Europe 2020 strategy, which plans to leverage ICT (Information and Communication Technology) potential to promote innovation, progress and economic growth, aiming at the development of the Digital Single Market in particular.
Technological innovation plays a key role in the development of Public Administration (P.A.) and the growth of the country. Often, however, technological innovation is thought of as the innovation of things, overlooking the fact that it is also the innovation of people; the introduction of new technologies is a cultural as well as technical matter.
The digitisation of P.A. is an efficient and timesaving tool. The relationship and approach that citizens and businesses' have with Public Administrations has changed: to submit or sign documents and to obtain clarification or information online become a right for citizen and business and an obligation for PAs.

In view of the 2015 ISTAT survey data on local Public Administration information and communication technologies, the ICT tools seem sufficiently widespread among the local public bodies in Veneto. Despite the fact that there are only a few municipalities with an internal IT office, in 2014 around a third of them organised courses to bring their employees up-to-date with information technology, which were attended by 13.5% of workers, two percentage points more than in 2011.

Strong growth in the use of technologies helping ot save PA time and costs…

In our region, public operators have good ICT tools at their disposal: 90% have access to the Internet and for every 100 employees there are 103 PC desktops, 10 laptops and a further 10 portable devices such as tablets, smartphones and notebooks Public operators in our region have access to a good IT base: 90% of them have internet access and, for every 100 employees, there are 103 desktop computers, 10 laptops and a further 10 mobile devices such as tablets, smartphones and notebooks. (the adoption of sophisticated technologies is increasing compared to the previous study).

In recent years, there have been significant advances made in technologies that can help reduce the costs and time for Public Administrations.

…and citizen-oriented services: 56.5% of municipalities allowing the user to carry out entire procedures online

Compared to a few years ago, the number of Ve-

Tab. 2.7.1 - Indicators for ICT tools and services in Veneto municipalities (percentage values). Years 2012 and 2015

	2015	2012
	percentage values	
ICT WITHIN THE ORGANISATION		
Municipalities with internal independent IT offices	21.2	17.2
Municipalities that have organised an ICT training course over the past year	30.4	33.1
Employees who have attended a ICT training course over the past year	13.5	11.5
ADOPTION OF CORE TECHNOLOGIES		
Employees with Internet access	89.8	88.2
PC desktops per 100 employees	103.3	101.6
Laptops per 100 employees	10.1	9.1
Other portable devices per100 employees (tablets, smartphones…)	10.0	3.5
Cost and timesaving ICT		
Municipalities with intranet	63.0	39.0
Municipalities with internet that use VOIP	32.2	29.0
Municipalities that have used e-Procurement (a)	85.8	43.4
Municipalities that use open source solutions	76.4	75.3
Municipalities that use e-learning for training (b)	52.1	12.3
Municipalities with internet that use cloud computing services	40.2	23.2
ONLINE SERVICES AVAILABLE		
Municipality according to availability of online services		
Information display and/or acquisition	97.4	97.5
Acquisition (downloading) of forms	95.1	92.0
Online submission of forms	82.1	51.2
Initiating and completing the whole procedure for a requested service online	56.5	30.0
Municipalities that use mobile technology (SMS) to connect with users (*)	27.9	22.2
Municipalities using social media (b)	35.5	16.4
Municipalities that provide free local Wi-Fi "hot spots"	73.0	32.7

a) The 2012 survey data refers to 2011 procurement
b) The 2012 figure relates to data from the North-East
Source: Veneto Region Statistical Office processing of Istat data.

neto municipalities using e-Procurement , thus reducing the time and cost of transactions, rose from 28.3% in 2008 to 43.4% in 2011 and almost 86% in 2015., More than half of the municipalities in Veneto use e-learning for staff training, whereas in it was used by just 12.3% of north-eastern municipalities. More than 76% used Open Source solutions and about one third used VOIP technology, which converts voice signals into digital signals, using the internet to make and receive calls anywhere in the world, which allows for a significant reduction in costs, providing that there is an adequate broadband internet connection.

Veneto's use of cloud computing services are also growing steadily, from 23.2% in 2012 to 40.2% in 2015, making it the third region in Italy for the percentage of municipalities using the service (in first place Valle d'Aosta with 52.2%, followed by Emilia Romagna with 40.6%). This tool represents a major innovation in Information Technology, insofar as it allows the transfer of processing and archiving practices, as well as most of the software from user computers to online servers, allowing public administrations to access the data and programs hosted on remote servers, i.e. irrespective of their location, while also reducing energy consumption by making hardware resources more efficient.

In regards to services for citizens, there was a substantial increase in the number of Veneto municipalities offering fully interactive services, allowing the user to carry out entire public service procedures online: the percentage of municipalities offering this option hit 56.5% in 2015, almost double that of 2012.

Other than the website, the most common is mobile technology (text messages): about 28% in Veneto as compared to the Italian average of 22.4%.

Finally, more than one third use social media as a form of communication .

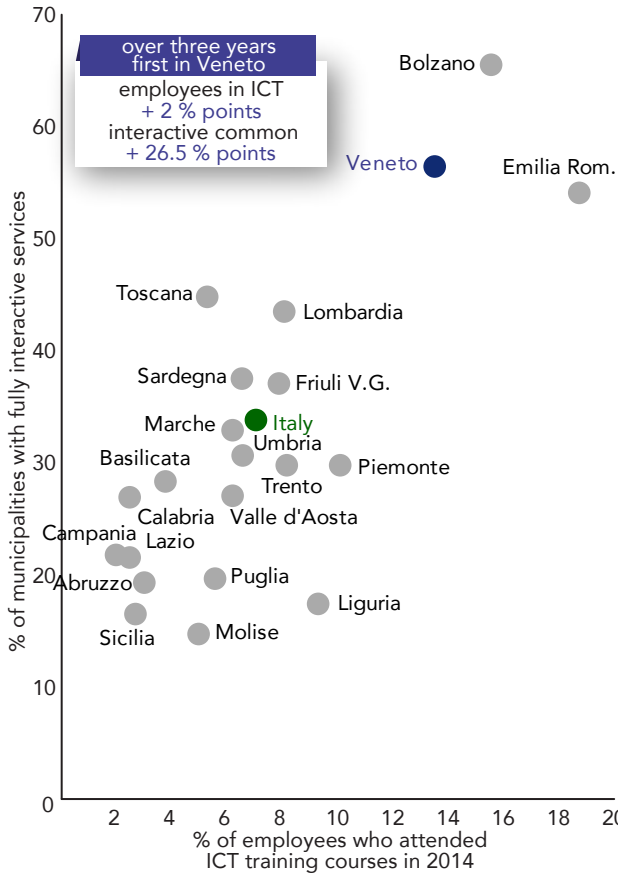
Comparison between the 2012 and 2015 performances shows that Public Administration is focusing on new information technologies to increase their institutional capacity and improve the efficiency of processes. Concentrating on certain indicators of the Thematic Objectives of the 2014-2020 Partnership Agreement and, more specifically, on Thematic Objective 11 - Strengthening institutional capacity and promoting an efficient public administration- and Thematic Objective 2 - Improving access to Information and Communication Technology, as well as their use and quality- Veneto's good performance and improvements in recent years are evident.

Improvement of Veneto PAs performances…

With regards to the first Objective, the analysis of the expected result related to the "improvement of Public Administration's efficiency" took two indicators into account: the "Number of municipalities with fully interactive services" and the "Percentage of employees who attended ICT training courses":

With regard to the first Objective, by analysing the expected outcome of the "Improvement of Public Administration Performance", taking into account

Fig. 2.7.1 – Percentage of employees who attended ICT training courses and municipalities with fully interactive services (*) by region – Year 2015



(*)Percentage of municipalities allowing users to carry out entire procedures for required services online. The indicator is calculated with the number of municipalities providing at least one fully interactive service as the numerator and the number of municipalities with a website as the denominator.

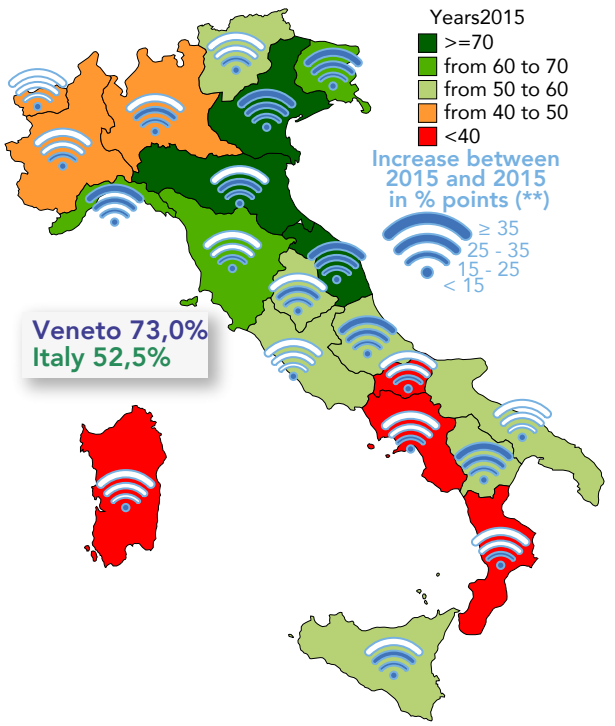
Source: Veneto Region Statistical Office processing of Istat data.

the two indicators "Proportion of Municipalities with Fully Interactive Services" and "Percentage of Employees who have taken ICT Training Courses", it emerges that Veneto ranks among the top regions for both indicators. In the ranking of regions and autonomous provinces, according to the highest levels, Veneto comes second for the proportion of Fully Interactive Municipalities and third for ICT-trained employees.

..and strengthening e-inclusion

With regard to Objective 2, in consideration of the expected outcome of the "Improving demand for ICT from the public and enterprises in terms of the use of online services, digital inclusion and network participation", the indicator considered is that on the availability of public Wi-Fi

Fig. 2.7.2 – Percentage of municipalities providing local free Wi-Fi hot spots, according to region(*) – Years 2012 and 2015



(*) For example: if the wireless internet symbol has full bars, the region recorded a growth of more than 35 % points, between 2012 and 2015, in the proportion of municipalities providing free Wi-Fi hot spots. If, however, there is only one bar, growth was lower than 15 % points.
Source: Veneto Region Statistical Office processing of Istat data.

ICT usage: improvements made and obstacles to overcome

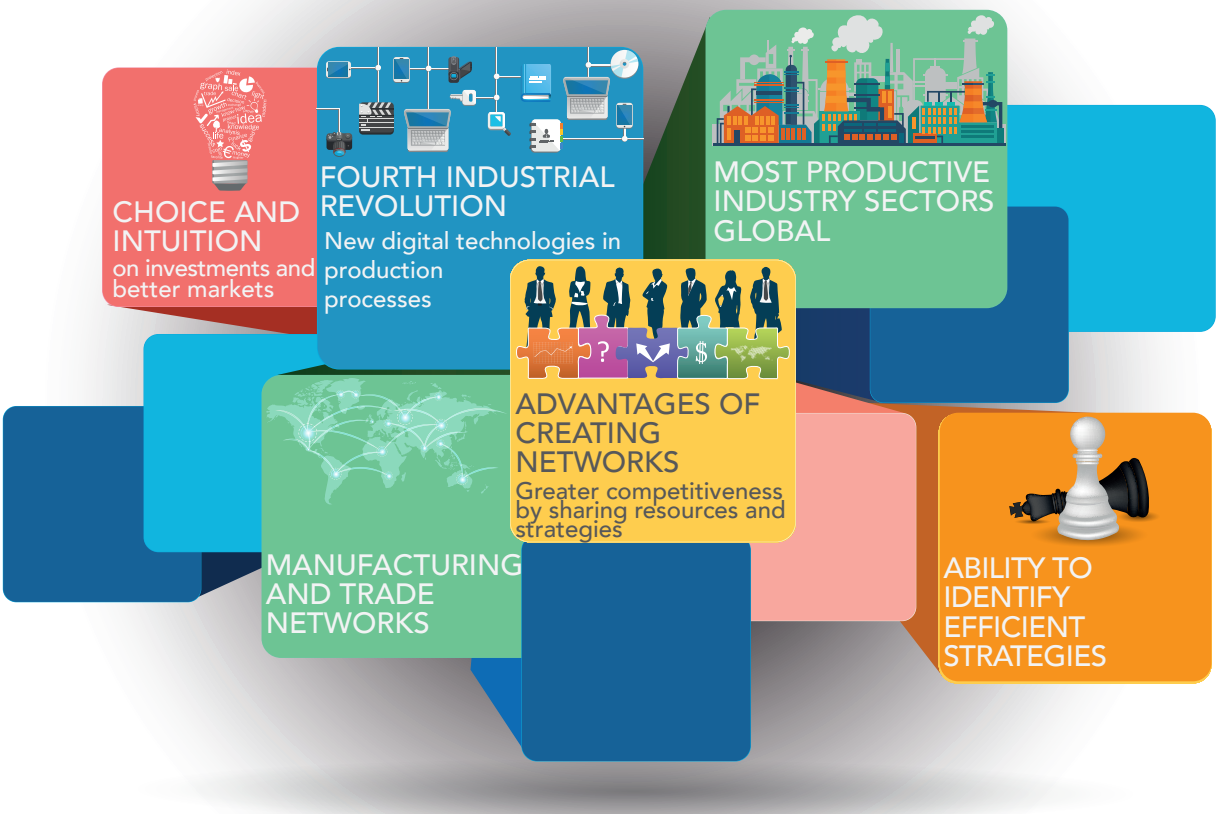
in municipalities. In 2015, in our region, 73% of municipalities provided free local Wi-Fi hot spots i.e. 40 percentage points more than in 2012; this placed Veneto in third place in the Italian rankings (52.5%), behind Emilia Romagna (83.6%) and Marche (77.6%).
Overall, the impact on Public Administration of the adoption and improvement of ICT has been positive. Among the benefits, the most appreciated is the wider range of information available to offices, followed by improvements in the areas of financial management and procedures. It should, however, be noted that there are still some difficulties and obstacles. According to municipalities, the most difficult obstacles to overcome in ICT diffusion are, above all, financial resources and the lack of ICT-trained staff: in Veneto in 2015, this was declared by 62.3% and 59.9% of municipalities respectively, as compared to corresponding national data of 67.3% and 61.5%. The need to develop innovative processes is often slowed due to a lack of financial resources; therefore, there is an even greater need to make use of resources that are already available in public administration, starting with human resources.

THE THEME: ABILITIES

Cap.3 – Incentives and competitiveness of the Veneto production system

The changes triggered by globalisation have resulted in profound production system restructuring processes, towards the creation of a global network of goods production; organisational structure and business strategies are therefore transforming, with implications on investment orientation and market choice, thus giving fundamental value to entrepreneurial skills in order to be competitive nationally and beyond.
Between 2011 and 2014, the Veneto production system was downsized, in line with what was happening at a national level: manufacturing units , industry and service providers reported negative variations, particularly in the construction sector. Furthermore, gross investments in industrial goods and services companies in Veneto showed an increasingly weak aggregate trend, which contracted by over 40% between 2008 and 2013. The impact of the crisis was severe, however, in 2014 many Veneto companies showed improvement: recovery signals for Veneto's economy were seen in both the manufacturing industry and services sectors linked to industrial demand: companies that improved were mainly those able to react, boosting innovation and a foreign presence. Thanks to the fourth industrial revolution, the future of manufacturing production is changing and is the key to greater productivity and entrepreneurial competitiveness.
Considering the unique structure of entrepreneurship in Veneto, characterised by a large number of small and medium-sized companies, aggregation is one answer for improving the degree of competitiveness and creating new business opportunities, thus facilitating its entry onto international markets and ensuring a degree of efficiency and competitiveness through sharing resources and strategies.

Competitive companies keeping up with the times



The changes generated by globalisation have had a significant impact on the economic performance of businesses, resulting in significant differences in competitiveness and the dynamics of production sectors, in which vast restructuring processes are underway. The current globalisation phase appears to be an increasing combination of trade exposure and dissemination of new information technologies. This combination has generated several unprecedented phenomena, the most important being the creation of a worldwide goods production network. The growing competitive pressures from emerging countries pose new challenges forcing small and medium-sized companies to seek new international development options.
Companies' organisational structures and strategies are therefore changing, with implications on flexibility of production, investment orientation and dynamic market choice. Entrepreneurial skills become crucial for business development and for companies to get back on their feet after years of crisis, thus remaining competitive on an ever wider and articulated market.
Internationalisation is a complex process, in which a series of dimensions, related to experience, learning and personal and professional characteristics present in the company come into play. However, foreign growth processes also involve difficulties that are separate from entrepreneurial skills: the size of the business and the lack of financial resources still represent an obstacle for business activity expansion across national borders.
In order to provide a more complete reading of the relationship between the regional production system's structure and economic performance, the main economic indicators and structural characteristics of Veneto companies have been analysed, comparing their position with some of the more industrialised regions and the national average.

3.1 Structural changes and economic performance

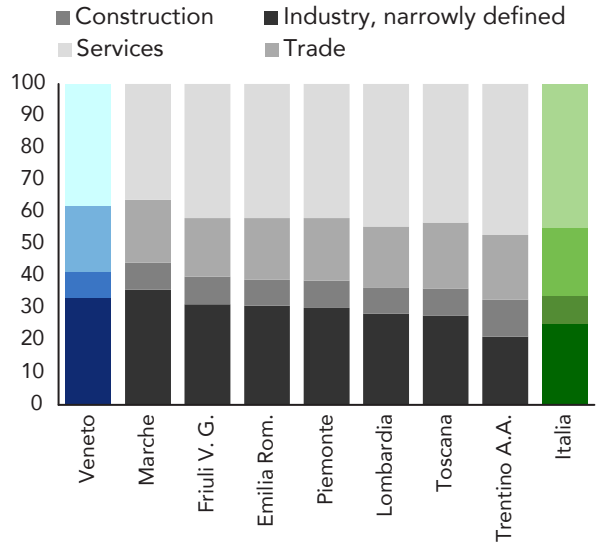
In 2014, the Veneto business system was still in a phase of restructuring its production base. Veneto manufacturing units and market services (excluding sectors of financial and insurance, public administration, defence and social security and membership organisations) accounted for 386,000 units and had about 1.6 million employees, of whom over 70% were salaried.

In comparison to 2013, there was a slight decrease in the number of production units (-0.3%); growth in the services sector failed to offset reductions in the production units of other sectors, with the construction sector recording the most substantial fall.
Restructuring of the production base is still underway
Veneto's reduction in its amount of employees was reflected in Italy (-1.2% and -1.5% respectively in 2013): this workforce contraction was particularly pronounced in the construction sector (-6.2% per annum both at a regional and national level).
This trend was even more apparent when expanding the timescale, resulting from the economic crisis that has repeatedly tested the strength of our production system. Between 2011 and 2014, the Veneto production system was down-sized, in line with what happened at a national level: production units and workers reported negative variations, particularly in the construction sector where reductions were over 10%.

Restructuring of the production base is still in place

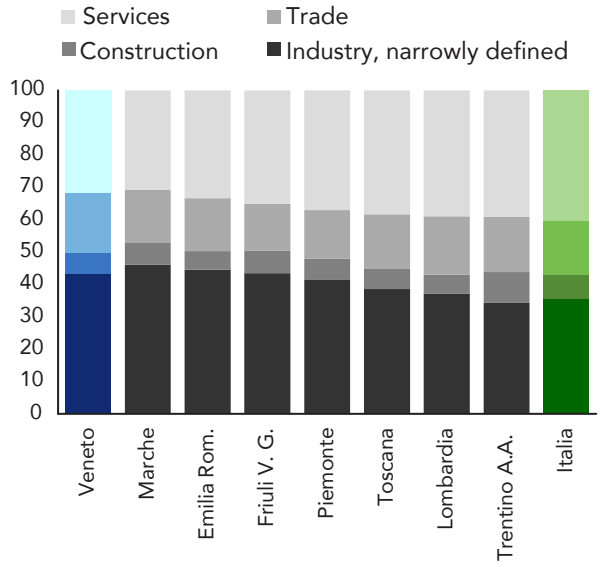
In 2014, the average production unit in Veneto had 4.1 employees, and remained slightly above the national average of 3.7 employees; industry, narrowly defined, deviates the most from the national average, with 11.3 employees per business in Veneto, compared to 9.5 in Italy.
Structurally, the composition, by sector, of Veneto companies is slightly different to the national one, demonstrating the strong manufacturing history of Veneto business: people employed in industry in the Veneto region reached one third of the total. While the average value in Italy accounts for 25%.
The impact of the crisis was severe, however, in 2014 many Veneto companies resumed growth thanks to the push for foreign demand.
Signs of recovery for Veneto's economy affected both the manufacturing industry and the services sectors, which were closely linked to industrial demand. The overall level of wealth created by businesses returned to pre-crisis levels, those who benefitted the most were companies that were capable of reacting, boosting innovation and a foreign presence.
In 2014, industry and services companies in Veneto had an added value equal to 71 billion euros, 2.6% more than in the previous year (at current values), higher than the Italian growth over the same period

Fig. 3.1.1 - Percentage composition of production workers in some of the most industrialised regions of Italy by economic sector Year 2014



Source: Veneto Region Statistical Office processing of Istat data.

Fig. 3.1.2 - Percentage composition of added value of productive activities in some of the most industrialised regions of Italy by economic sector Year 2014



Source: Veneto Region Statistical Office processing of Istat data.

(+1.5). Services accounted for over half of the total added value of industry and services, with 18.8% from trading activities and 31.6% from other service activities. As mentioned above, Veneto production's strong manufacturing inclination was confirmed by the added value produced by industry, narrowly defined. Veneto had over 43% of the total (35.7% in Italy) and reached its peak in the Marche region, where over 46% of the generated wealth from businesses was attributable to the industrial sector.

First signs of recovery

Construction companies felt the crisis the most: between 2008 and 2014, construction experienced a remarkable contraction in production, with around 83,000 workers leaving the sector. Furthermore, in terms of wealth produced, the construction sector showed a progressive and sharp drop from 2008 and of the five economic sectors analysed it is the only one, in percentage terms, to show a higher contraction in the wealth produced than the amount of active employees.

... especially for leading sectors of Veneto manufacturing

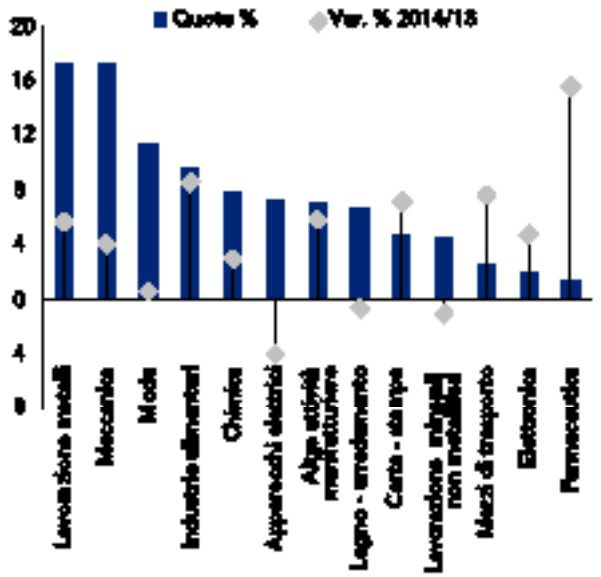
Through analysing the manufacturing sector, metallurgy and mechanics have the most added value in Veneto, each with over 17% of the total manufacturing added value; next in line with the highest added value are fashion and the food industry, which accounted for 11.5% and 9.6% respectively of the total. These first sectors of Veneto production grew compared to the previous year, albeit at different rates.

In 2014, labour productivity, an indicator of entrepreneurial production capacity and measured as an added value product per employee, amounted to a total of 44,752 euros for Veneto industrial and utility companies, slightly above the national value of 44,073 euros, representing an increase of 3.8% compared to the previous year.

Productivity trend explained by the decline in the amount of employees

The 2014 increase was mainly driven by the reduction in employment, together with a significant increase in added value. This trend was even more pronounced when considering industry, narrowly defined: the economic crisis and globalisation had a profound impact on both Italian and regional production, leading to significant changes in the pro

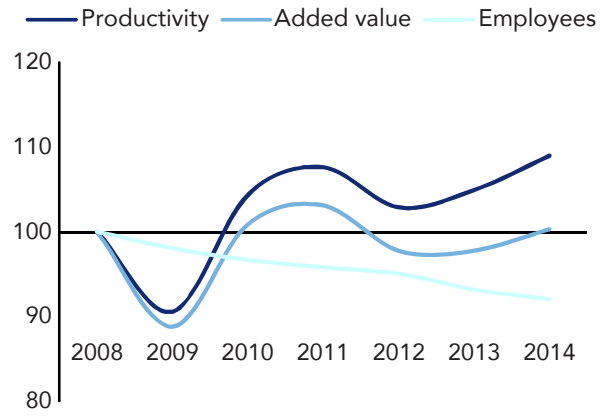
Fig. 3.1.3 - distribution % of manufacturing added value and 2014/13 % var according to sector. Veneto - Year 2014



Source: Veneto Region Statistical Office processing of Istat data.

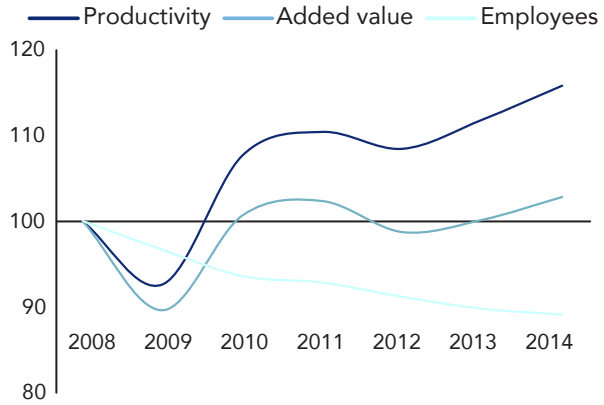
duction structure and establishing a selection of the best businesses.

Fig. 3.1.4 - Index number(*) of productivity (**),added value and number of employees (base year = 2008) Veneto Years 2008:2014



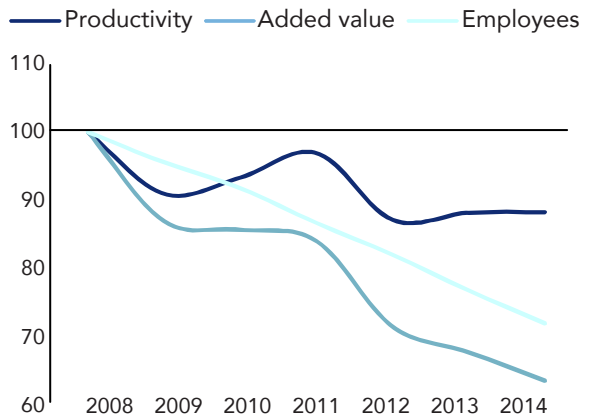
(*) Index number = (year t productivity / base year productivity) x 100
(**) Measured as added value per employee
Source: Veneto Region Statistical Office processing of Istat data.

Fig. 3.1.5 - Index number(*) of productivity (**), added value and number of jobs in the industry, narrowly defined (base year = 2008). Veneto Years 2008:2014



(*) Index number = (year t productivity / base year productivity) x 100
(**) Measured as added value per employee
Source: Veneto Region Statistical Office processing of Istat data.

Fig. 3.1.6 - Index number(*) of productivity (**), added value and number of employed people in construction (base year = 2008). Veneto Years 2008:2014



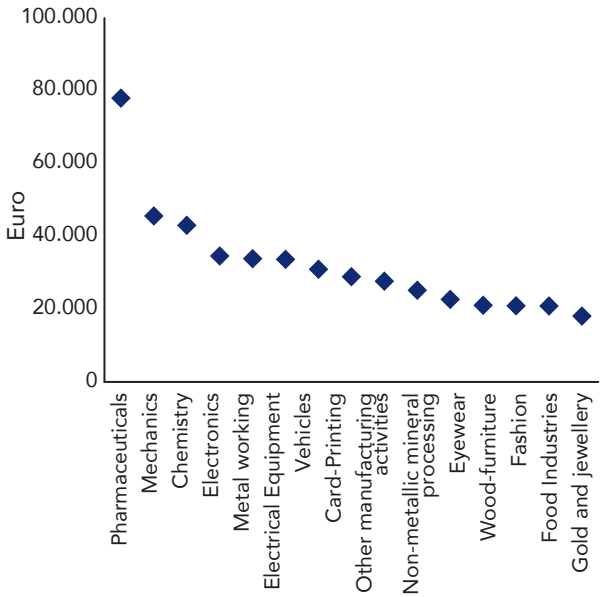
(*) Index number = (year t productivity / base year productivity) x 100
(**) Measured as added value per employee
Source: Veneto Region Statistical Office processing of Istat data.

Industry is the most productive sector

Companies within the

industry sector, narrowly defined, are the most productive, with an added value per employee of over 58 thousand euros in Veneto and over 62 thousand euros at a national level.
By means of the Fourth Industrial Revolution, the introduction of new digital technologies in manufacturing processes is changing the future of manufacturing production and this is the key to higher productivity and entrepreneurial competitiveness.
The line is followed by Industry 4.0, an incentive scheme for innovation, with the aim of making manufacturing processes "smart", activating key capitalisation skills and techniques and identifying new key applications in production.
Given the topicality and relevance of these strategies in regards to industry at a national and international level, we now take a closer look at manufacturing sectors by analysing some productivity indexes.

Fig. 3.1.7 - Median levels of added value per employee according to manufacturing sector. Veneto. Year 2014



Source: Veneto Region Statistical Office processing of Istat data.

The manufacturing sectors in Veneto with the highest productivity levels are pharmaceuticals, with an added value of over 78,000 euros, mechanics (over 45,000 and 600 euros) and chemistry (about 43 thousand euros).
Productivity dynamics in 2013 identified the above three sectors as the best performing, according to the annual difference between sector's average productivity values, for which annual productivity growth averaged more than 2,000 euros, but also sectors with lower levels of productivity, with the same growth, such as vehicle production, electronics and jewellery. Analysis over a longer time span could provide valuable data on fundamental trend changes, but it should be borne in mind that any changes in productivity dynamics could be related to shifts in the sectoral composition of workforce, particularly evident when the effects of the ongoing economic crisis are absorbed.

Pharmaceuticals, Mechanics and Chemicals are the best performing manufacturing sectors

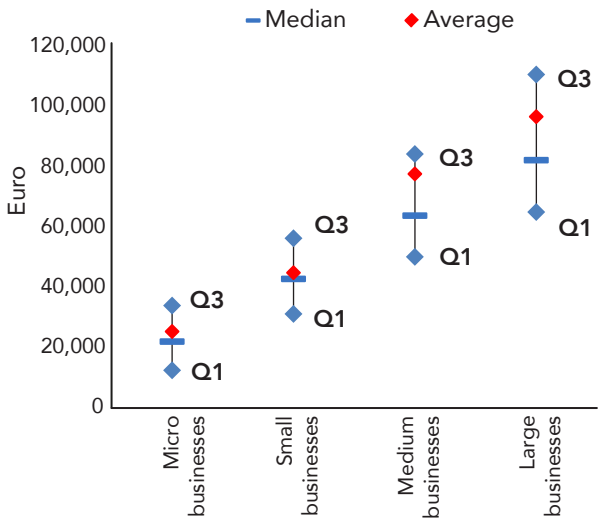
Company size also contributes to economic performance

In addition to the manufacturing sector, business productivity levels are strongly linked to the business size class: looking at manufacturing on the whole, it is clear that large companies, making up just 1% of Veneto companies, achieve high levels of productivity, with an average added value per employee of over 82,000 euros. At the same time, there are a lot of small and micro businesses that prove to be less productive: micro and small business productivity in Veneto is lower by 73% and 48%, respectively, than that of large enterprises. It should be noted that micro-companies make up more than three-quarters of Veneto's businesses and data shows that micro-businesses in Veneto ended 2014 with an added value of less than 22,100 euros.

Labour costs incurred in Veneto

There are also some key determinants for the competitiveness of businesses, such as labour costs that are influenced by the aforementioned dynamics. The cost of labour not only includes wages paid to workers but non-wage costs, notably social contributions paid by employers. The labour cost per employee in Veneto amounted to 35,482 euros in 2014, slightly up on the previous year (+ 1.5%) and marginally above the national average value of 35,337 euros. This aggregate only fell in 2009 and 2012, while it resumed fast growth in the interme

Fig. 3.1.8 - Distribution of added value per employee according to business size class(*) (euro). Average values and some position indices (**). Veneto Year 2014



(*) Micro businesses employ fewer than nine employees and have a turnover of less than two million euros; small businesses employ up to 50 employees and have a turnover of less than 10 million euros, excluding companies classified as micro businesses; medium-sized companies employ up to 250 employees and have a turnover of less than 50 million, excluding companies classified as micro or small businesses; large companies employ more than 250 employees or have a turnover higher than 50 million euros.
(**) The average values and position indices (median, first quartile (Q1) and third quartile (Q3)) are shown in the figure. In this graph there is a graphical view of the phenomenon variability (the difference between the first and the third quartile represents the interquartile gap).
Source: Veneto Region Statistical Office processing of Istat data.

diate years, showing increases of above 8 percentage points between 2009 and 2011 for Veneto and representing a more intense dynamic than the national average. Gross employee compensation reflected the aforementioned trend and exceeded 25,400 euros in Veneto in 2014, which was in line with the national average value.
The prolonged period of recession also hit investment expenditure, including many specific activities to assist SMEs, contained in the 2017 Budget Law, as per Industry Plan 4.0, which outlines measures to encourage private investment in technology and new high-tech material goods and tools, which are conducive to the production system's transition to digital manufacturing. Gross investment in Veneto's industrial and services companies' material goods, shows a trend with a significant aggregate

Tab . 3.1.1 - Main performance indicators for businesses. Veneto and Italy Year 2014 and 2014/13 % var.

	2014		2014/13 % Var.	
	Italy	Veneto	Italy	Veneto
Added value per employed person	44,073	44,752	3.0	3.8
Labour cost per employee	35,337	35,482	1.2	1.5
Gross remuneration per employee	25,352	25,410	0.9	1.2

Source: Veneto Region Statistical Office processing of Istat data.

weakening, which accounts for over 40% between 2008 and 2013. The sector with the most significant fall in investment was construction (-85% in 5 years), while for services (-25% over the same period) the impact of years of contraction was lower than the total economy.

Signs of recovery for investments in 2014...

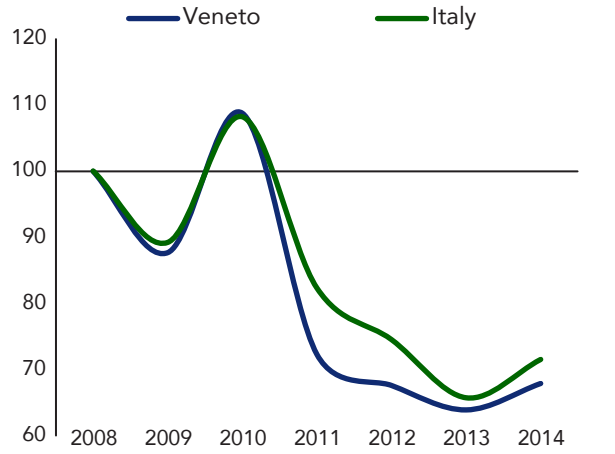
2014 showed the first signs of recovery: investments resume growth reaching an expenditure of around 7.5 billion euros, up 4.9% over the previous year.

...Even in construction

In industry, narrowly defined, investment expenditure amounted to 3.7 billion euros in the same year, up by over 630 million euros compared to 2013. Construction dynamics even returned to be positive (+25 million euros), while the services sector was the only one to continue to contract, -315 million euros compared to 2013. A similar trend was seen in investment data for expenditure per employee, which resumed growth in 2014, reaching an average of around 4,700 euros in Veneto but still below the national average value of about 5,500 euros
Revenue dynamics also showed a slight recovery from the harsh crisis period: the total turnover of the analysed Veneto companies resumed growth in 2014, albeit slightly (+ 0.6%), while the Italian figure remained negative (-0.2%). Between 2008 and 2013, the total turnover of industrial and service companies in Veneto contracted heavily (-9.6%), with more severe figures in some sectors, namely

construction (-25.5 %). Industry, narrowly defined, drove the 2014 increase in revenues, which were up by + 2.3% compared to 2013 and was, among other things, the only sector that started to recover from the previous year (+ 3.6%). Meanwhile construction continued to contract in terms of revenue (-7.5% compared to 2013).

Fig. 3.1.9 - Index number (*) for investments per employee (base year 2008 = 100). Veneto and Italy Years 2008: 2014



(*) Index number = (investments per employee year t / investment per employee base year) x 100
Source: Veneto Region Statistical Office processing of Istat data.

Since the mid-1990s, productivity growth has been rather stagnant in Italy and the unit cost of labour has increased; greater investments in smart manufacturing, as planned by the fourth industrial revolution, could help to increase labour productivity to achieve greater efficiency and lower the unit cost of labour, which nowadays, is higher for Italy than its European competitors and at unsustainable levels for our production system.
According to the OCSE , in Italy " productivity growth remains weak and despite the deceleration in Unit Labour Cost growth since the crisis, overall Unit Labour Cost growth remains amongst the highest in the Euro area.".

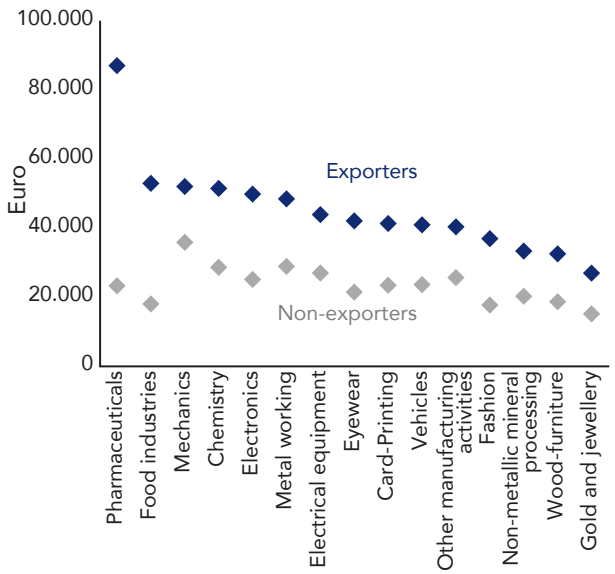
3.2 Production guidelines and productivity determinants

Do the economic results of Veneto manufacturing companies relate to their structure and entrepreneurial production guidelines? To investigate the differences in the Veneto production system's economic performance, we examine some entrepreneurial profiles depending on their propensity towards international openness and corporate group membership.
Firstly, the available data can help us to understand the differences in productivity, between exporting manufacturing companies and those that only operate on the domestic market.

Best performance for Veneto manufacturing exporters

Exporters in Veneto's manufacturing sector employ 370 thousand workers, making up almost three-quarters of the total, and produce an added value of about 24 billion euros, equivalent to 85% of the total added value of Veneto manufacturing. Data shows us that exporting companies have nearly double the productivity levels of non-exporting businesses: one exporting company out of two has a productivity of over 43,000 euros, whereas one out of two non-exporting companies has just 22,000 euros of added value per employee.

Fig. 3.2.1 - Medium added value of exporting and non-exporting companies according to manufacturing sector. Veneto. Year 2014



Source: Veneto Region Statistical Office processing of Istat data.

The manufacturing sectors in which the gap in productivity is greater, between Veneto exporting and non-exporting companies, are: pharmaceuticals,

with a gap of over 60,000 euros between the median productivity levels, food and beverage industries and electronics, with a difference of 35,000 euros and 25,000 euros respectively between those who export and those who operate exclusively within the domestic market.

The competitiveness of Veneto industry is linked to the most dynamic sectors

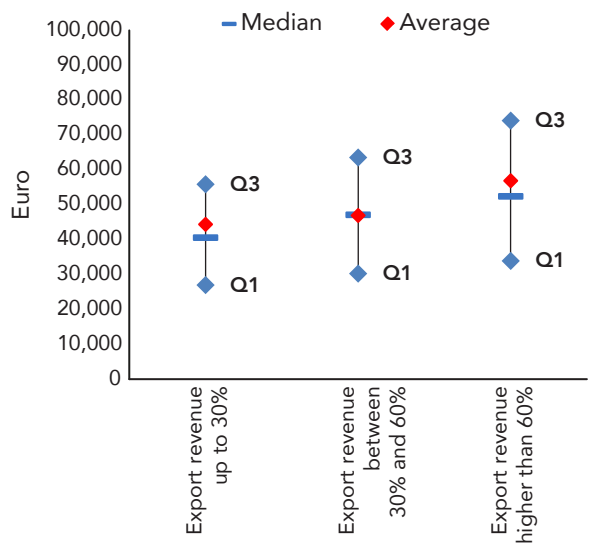
At a time like the present, we understand from the best performing productive sectors that competitiveness depends on all of Veneto manufacturing. Moreover, recent studies describe the haphazard recovery of Italian industry over the last year and in years to come, whose recent trends reveal large gaps between sectors, which are at different rates of investment recovery and business turnover. The analysis indicates that the increase in produced volumes is, and will be, concentrated in some of the most dynamic sectors, such as automotive, pharmaceuticals and electromechanical production. Particular thanks go to the electronics sector, which should be the first to benefit from a recovery in investments, given the technology innovation and digitisation incentives provided by Industry Plan 4.0, thus being considered one of the major drivers for industrial recovery. For these sectors, exporting is a strategic growth option, despite the uncertainty for companies operating in foreign markets due to global economic and political uncertainties.

Greater productivity for those who have good propensity towards exporting

The difficulties experienced within the domestic market in recent years have influenced Veneto manufacturing companies' strategies, which have been so restricted that they have been forced to look for opportunities offered by foreign markets, despite not always being favourable. This strong impetus towards company exporting activities has therefore been more significant for those with a good propensity to export, as well as the impact of foreign turnover on the sale of goods and the total company turnover. Furthermore, we can see how the growth in export revenue share corresponds to higher levels of productivity: if companies with an export revenue of less than 30% have a median added value of around 40,000 euros, when the export revenue reaches between 30% and 60% the average productivity is higher and over 47,000 euros.

Finally, companies with 60% or more of their total turnover from exports increase the productivity gap even more and have a median added value per employee of around 52,000 and even exceeds

Fig. 3.2.2 - Value-added mediums for exporters and non-exporters by manufacturing sector. Veneto. Year 2014



(*) The average values and position indices (median, first quartile (Q1) and third quartile (Q3) are shown in the figure). In this graph there is a graphical view of the phenomenon variability (the difference between the first and the third quartile represents the interquartile gap).
Source: Veneto Region Statistical Office processing of Istat data.

The increase in the propensity to export, simultaneously increases the heterogeneity of the individual productivity levels within the business segment: the measured interquartile amplitudes leave us with a higher concentration on median levels for the companies with a lower propensity to export and, conversely, with a greater dispersion in regards to highly export-oriented businesses.

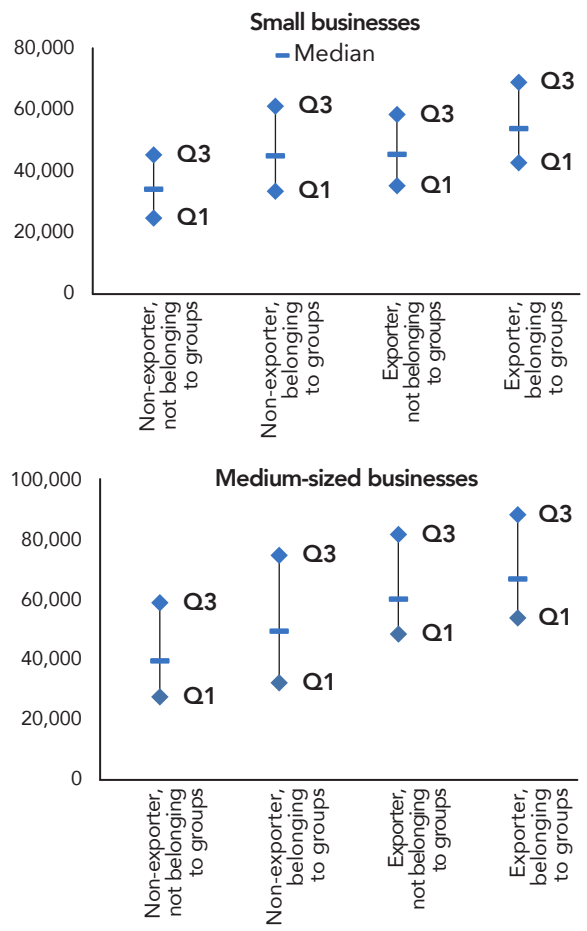
It should be noted, however, that the aforementioned differences, described in terms of heterogeneity of individual productivity values, actually hide the various unit compositions, in terms of company size, within the three levels of propensity to export. Indeed, companies with an export revenue share of less than 30% are predominantly micro and small companies, which, as previously mentioned, typi-

cally show productivity levels that are lower than larger and structured businesses.
As the class of propensity to export grows, the company structure changes, becoming widely distributed among the company size classes.
In fact, companies with more than 60% of export revenue include similar micro and medium-sized companies, thus grouping very different units, both in terms of different margins of integration on foreign markets and very heterogeneous levels of business productivity.

Productivity benefits from belonging to groups

Another rewarding aspect, in terms of productivity, is belonging to corporate groups: a company incorporated into a group benefits from a higher aggregative size thus facilitating access to the international market and, through sharing resources and strategies, succeeds at being more competitive and efficient.
In view of these realities, it would not be wrong to think about analysing the size of the group instead of the individual business size. Veneto manufacturing companies belonging to groups have overall productivity levels similar to those of medium to large companies.
In this regard, we wanted to analyse the differences between some business profiles in relation to group membership and international access.
In doing so, we have limited the analysis to small and medium-sized companies, excluding large companies as the number of non-exporting companies is more than negligible, both for micro-enterprises, due to the difficulties they may encounter in accessing international markets thus leading to a reduced presence among foreign operators, which mostly makes up a clear residual share of the total regional exports.
We can see from the data that, in terms of average productivity, small businesses active on the domestic market and belonging to a group, are the equivalent of being an exporting company: the median productivity levels for exporting companies not belonging to groups and for companies whose turnover comes exclusively from the domestic market but driven by being part of a group are similar, and amount to around 45,000 euros of added value per employee. When a small business belongs to a group and is an exporter (in 15% of cases), its productivity hits 54,000 euros, whereas the total

Fig. 3.2.3 - Added value for small and medium-sized companies (*) of the manufacturing sector according to business profile (**).Veneto Year 2014



(*)Small businesses employ up to 50 employees and have a turnover of less than 10 million euros, excluding companies classified as micro businesses; medium-sized companies employ up to 250 employees and have a turnover of less than 50 million, excluding companies classified as micro or small businesses.
(**) The average values and position indices (median, first quartile (Q1) and third quartile (Q3)) are shown in the figure. In this graph there is a graphical view of the phenomenon variability (the difference between the first and the third quartile represents the interquartile gap).
Source: Veneto Region Statistical Office processing of Istat data.

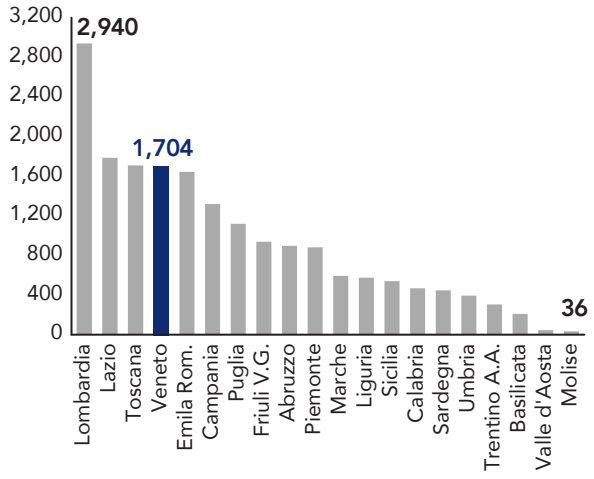
productivity for small businesses does not exceed 43,000 euros.
For medium-sized companies, the situation is different: productivity is essentially driven by exporting companies belonging to groups, making up nearly 60% of medium-sized manufacturing companies

in Veneto, with a productivity of over 67 thousand euro (total productivity of medium-sized companies is less than 64 thousand euros).
Analysis confirmed that restructuring the productive fabric, following the recession, has rewarded companies open to international trade, given that the export trend has been expansive, even in the most difficult years and in the face of an undeniable collapse in domestic demand. New forms of productive collaboration also create business opportunities in terms of competitiveness and innovation. Considering the particular structure of Veneto entrepreneurship, characterised by a large number of small and medium companies whose business size is too small for entering foreign markets, one of the responses to improving the degree of competitiveness by through the aggregation of businesses.

Corporate networks as a strategic element for greater competitiveness

In addition to company mergers, since 2010, the legal status of Corporate networks has been introduced into our legislation: the network contract is a regulatory instrument that allows multiple companies to share one of more economic activities, allowing individual companies to retain legal autonomy, enhancing the possibility of creating a common goal yet not involving a the restrictions of a merger. The network contract is predominantly among small and medium-sized manufacturing and service companies, operating in the same supply chain and joining because they have a common problem and decide to solve it together. Since this tool has been introduced, the growth of national network contracts has been exponential: from 19 networks in 2010 to 1,227 in 2013 to more than 3,697 network contracts in 2017 and involving nearly 19,000 businesses
The network contract thus represents an opportunity to seize and expand for the regional production reality that needs to overcome its size by developing a shared culture and common design. To fund the networks' activities and support its creation, development and consolidation, the Region of Veneto has decided to intervene with new legislation, the Regional Law 13/2014, to identify new aggregation methods with action flexibility and simplicity, but above all with the obligation to work on system projects.
There are 1,704 companies in Veneto that have entered into a network contract, about double that of

Fig. 3.2.4 - Number of companies in networks according to region Year 2011: May 2017

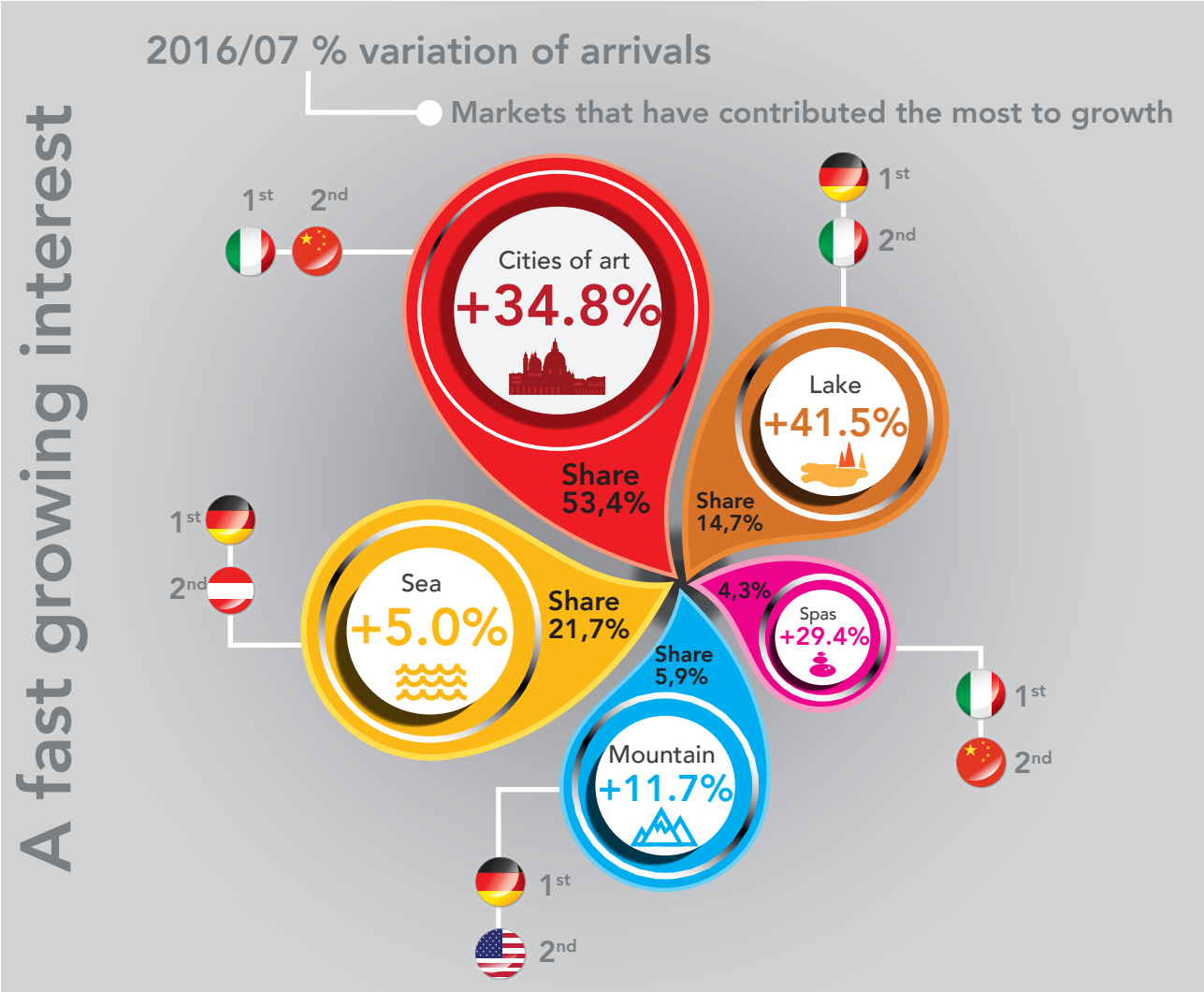


Source: Veneto Region Statistical Office processing of Istat data.

the previous two years, representing a 9.2% share of the national total.
Aggregation and business collaboration is undoubtedly a challenging road, but in many cases it is suggested and stimulated by modern market dynamics. The global production network is shaped by the natural evolution of the contemporary production system's collaboration model and the possibility of making a system that allows companies, especially small and medium-sized, to have the best tools to face the challenges imposed by an increasingly dynamic market .

Chap. 4 – Tourism: attraction vs. sustainability

In 2016, Veneto set a new record for the number of arrivals, but also for the number of overnight tourist stays, figures that had contracted in the first years of economic crisis and which subsequently underwent a period of stability.
Veneto is a region that has always been appreciated for its varied tourism and its characteristic culture of hospitality and it has always been able to cope with a constantly changing demand. Furthermore, with the approval of the new Strategic Tourism Plan "PST 2017-2022 - Italia Paese per Viaggiatori (Italy: Country for Travellers)" which aims to "innovate, specialise and integrate national tourism options; increase the competitiveness of the tourist system; develop effective and innovative marketing; realise an efficient and participatory governance in the process of elaboration and definition of the Plan and tourism policies. The Strategic Tourism Plan also seeks to support and reinforce emerging destinations - in particular, cities of art, villages, parks, mountains, protected areas and rural areas - where tourism products can be created or supported based on responsible use, strengthening tourism sustainability and innovation. In these areas, a highly integrated tourism development is promoted through the promotion of other territorial resources, such as agriculture and the material culture of the places.



Veneto attracts more and more tourists, even in a period of crisis such as this. Which markets play a major role in the increased flows for each destination type? The first subchapter contains a detailed analysis of the pre-crisis and the previous year's situation.
Such encouraging results are coupled with the high quality offer that, in order to remain competitive, has to keep up with the times, technological innovations, with a focus on hospitality, and therefore the needs of people with mobility problems such as disabled people and the elderly. It therefore, focuses on the special services offered by museums.
The third sub-chapter is devoted to the new Strategic Tourism Plan, which, among the many and significant concepts and objectives, underlines how high-potential, but still unrecognised, regional destinations can benefit from a greater distribution of visitor flows, in connection with the most successful destinations.
This process leads towards sustainable tourism and at the same time exacerbates the satisfaction of the guests, thanks to the expanding offer and a wider and more intense tourist experience.
Lastly, given that the UN declared 2017 as the Sustainable Tourism Year, an excursus on the evolution of the main European and international initiatives related to this issue will be carried out, notably, in terms of measuring and monitoring the degree of environmental, social and economic sustainability in destinations: it is a starting point to work on from now in an interdisciplinary way.

4.1 The ability to attract

Veneto is a region that has always been appreciated for its varied tourism and its characteristic culture of hospitality and it has always been able to cope with a constantly changing demand. As well as traditional tourism, Veneto is rich in nature and scenery, historic towns, walled cities and Venetian villas; but Veneto also offers the opportunity to practice sports such as golf, horse riding, bike trips, in addition to wellness facilities, motorbike tourism, conference tourism, religious holidays, fishing holidays, all enriched by the flavours of our local food and wine.
The excellent results achieved by Veneto tourism in 2016 reflect the growing interest of Italian visitors as well as those from the foreign market. Lately, Italians are increasingly opting for national holiday destinations, particularly in Veneto, which are closer, safer and are of timeless appeal for those who appreciate art, breath-taking landscapes of mountains, lakes, lagoons, etc. The number of Italian tourists has increased, as compared to the previous year, by 4.7% for arrivals and by 1.8% for overnight stays. The number of foreign tourists increased by 2.8% in terms of arrivals and by 4.1% for overnight stays.

Tab . 4.1.1 - Ranking of overnight stays according to tourist origin Veneto Year 2016

	Overnight stays	% of total in Veneto	2016/15 % Var.	2016/07 % Var.
Italy	21.430.704	32.8	1.8	-14.5
Germany	15.292.756	23.4	4.9	30.0
Austria	3.651.501	5.6	3.5	11.8
Netherlands	2.634.347	4.0	6.2	10.3
UK	2.597.228	4.0	11.3	4.4
Switzerland-Liecht.	1.867.362	2.9	3.2	41.5
France	1.867.342	2.9	3.3	2.3
USA	1.807.737	2.8	0.2	-3.4
Denmark	1.293.359	2.0	11.0	7.7
Poland	1.032.372	1.6	11.7	70.4
Czech republic	933.374	1.4	-6.7	23.7
China	807.027	1.2	-22.5	148.8
Belgium	728.161	1.1	3.6	19.0
Spain	717.714	1.1	15.4	-28.1
Russia	684.053	1.0	-0.6	61.2
Hungary	578.998	0.9	2.8	-15.0
Ireland	421.636	0.6	16.6	16.2
Romania	419.904	0.6	10.9	14.4
Australia	410.732	0.6	-4.3	24.6
Israel	378.027	0.6	8.5	122.2
Sweden	348.318	0.5	9.1	6.7
South Korea	335.616	0.5	7.8	127.7
…				
Total	**65.392.328**	**100.0**	**3.4**	**6.9**

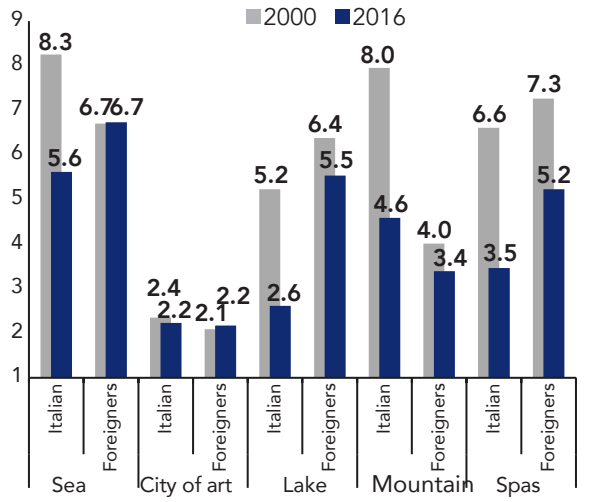
Source: Veneto Region Statistical Office processing of provisional Istat data - Veneto Region.

After a peak in 2015, which is most likely due to the Milan Expo effect, the number of Chinese tourists

The search for comfort

has returned to the 2014 figure (over 600,000 arrivals and 800,000 overnight stays).
A comparison between the 2000 and 2016 rankings for foreign tourists' country of origin highlights some emerging markets: Romania (rising from 31st to 17th place), (from 34th to 21st), Ireland (from 28th to 16th), Russia (from 23rd to 14th) and India (34th in 2005 and now at 28th).
The growth in 2016 concerned both the hotel industry (+2.3% of arrivals and +4% of overnight stays) and the non-hotel sector (+6.2% and +2.8% respectively). Whereas, over the years, there is an evidently progressive and inexorable attraction exerted by the quality on offer thanks to the luxury tourist industry untouched by crisis, it must be noted that in 2016, tourist flows increased for all hotel categories. Excellent results were also achieved by outdoor accommodation facilities (+2.5% of overnight stays), agritourism (+9.4%) and all other types on offer (+2.7%).

Fig. 4.1.1 - Average stay according to origin and tourist destination (*). Veneto Year 200 and 2016



(*) Average stay = Overnight stays / Arrivals
Source: Veneto Region Statistical Office processing of provisional Istat data - Veneto Region.

Increasingly short stays, especially for Italian guests

A trend that is confirmed year after year is the progressive and continuous fall in stays at holiday resorts. The once long summer holidays have been replaced with one or more short holidays throughout the year, including in low season. This change in habits is more marked among Italian tourist who, since 2000 to today, have reduced their holidays at the seaside, lakes and spas by 2-3 nights, and have almost halved the number of nights spent in the mountains. The duration of foreign tourist holidays, however, appears unchanged at the sea (6-7 nights on average) and in the art cities (about 2 nights) and fairly stable both for lake and mountain destinations.

Tourism options

The attraction of Veneto tourist destinations has not seem to be affected by the unfavourable period of economic crisis. Let us examine the tourist flow trend in the five destinations that make up the Veneto offer and compare the 2016 result with the previous year and 2007, the year before the period of economic uncertainty began.
In comparison to 2015, there was only one negative symbol, that related to the seaside resorts, a variation that, in any case, was relatively stable compared to 2015 (0.7% arrivals and 0.6% overnight stays). 2016 had a weak early season due to adverse weather but compensated by the prolonged good weather that encouraged seaside trips and stays well into September.
Over the years the number of tourists attracted to our seaside resorts has been very low, a comparison with the pre-crisis period shows a 5% increase in arrivals, thanks to a growing interest from foreigners and notably from those beyond the Alps, on which the seaside offer can always count.
About a quarter of tourists at Veneto seaside resorts come from Germany for a long stay (8.3 nights). This is not only the most relevant foreign source, but also the one that has contributed to industry growth in recent years. Positive contributions also come from Austria, the second foreign nation in terms of importance, and also from Switzerland and the Czech Republic. Since 2007 Italian interest has dropped slightly (-1.6%) but the fall in the length of stay was much stronger: in 2016 Italian overnight stays were overtaken by German ones.
Less French tourists chose Italy shunting France from 3rd to 5th place in foreign countries for the number of arrivals.
In all other Veneto tourist districts, the number of tourists has grown at a fast pace: the interest shown

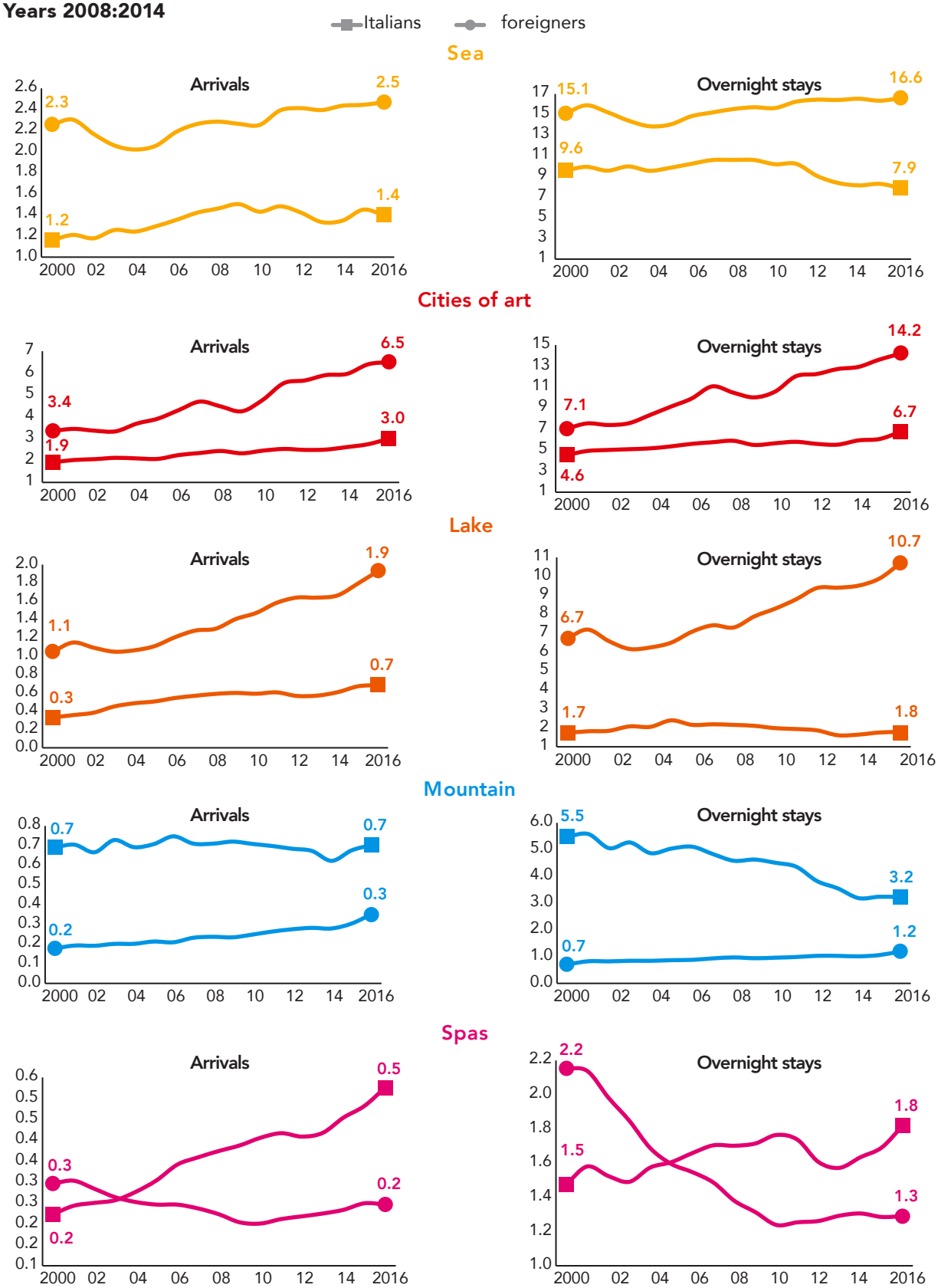
by both national and international tourists exceeded the records already recorded in 2015. There was an all-time record for cities of art, whose tourist accommodation welcomed nearly 10 million guests for more than 20 million overnight stays with astronomical increases, respectively, + 3.9% and + 6.1% over the previous year and + 34.8% and + 24% compared to 2007.
The Italians encouraged very positive results, putting them in first place for their enthusiasm towards cultural destinations, (about a third of the overnight tourists), and recorded 9.1% of arrivals and + 10.9% of overnight stays in last year alone and representing the most significant contribution to growth for the industry during the crisis period.
Americans continue to show interest for direct travel to cities in Veneto and regained the status of top foreign source after yielding to the Chinese during the year of the Milan Expo.
In terms of foreign sources, the most significant growth contributions, for the 2007-2016 period, come from China, Germany, the United Kingdom and South Korea.
Tourism: attraction vs. sustainability
Lakeside holidays also broke records for arrivals (2.6 million, + 6.2%) and overnight stays (12.5 million, one million more than 2015), mainly thanks to a strong increase in numbers of traditionally loyal tourists, the Germans, who account for about 40% of customers and have increased by 7.8% in the last year and by more than 50% since 2007, both in terms of arrivals and attendance, providing the greatest boost to growth in the sector.
The Italians, second only to Germany, have shown an increasing interest in this destination, giving a strong contribution to growth on arrivals (+ 20.6% since 2007), but by reducing the length of stay in turn representing the greatest constraint on overnight stay growth, but overall very satisfactory.
Significant increases in both arrivals and overnight stays, compared to the pre-crisis situation, have been recorded at Lake Garda from other origins, such as the Netherlands, whose inhabitants choose this destination for long stays exceeding 9 nights and also Austria, Switzerland, Denmark and Belgium.
For spa breaks, the record number of arrivals of nearly 800,000 was not reflected in a record number of overnight stays last year, despite the + 4.4% increase. The same goes for mountain holidays, which for the first time exceeded one million arrivals.
Both destinations are characterised by a largely Italian flow, for mountain destinations, 66.7% of arrivals (half of which are generated by Veneto), 68% for spas and are associated with a sharp reduction in the length of stay preventing them from reaching past figures: mountain and spa holidays which lasted an average of 7 nights in 1990s, now last 4.2 and 4 nights respectively.
The reduction in the length of stay in mountain resorts regards Italian tourists, while the German length of stay is increasing, contributions to growth also come from Polish, Czech and Swiss tourists.
Over the years, interest in spa resorts has grown, especially from Italians. Since 2004 they have surpassed foreign customers and have had the highest contribution to growth in the sector.
This destination type attracts Veneto tourists as well, a number which has doubled between 2007 and the present.
German and Austrian interest has considerably reduced, but are still the two most important forei-

Tab. 4.1.2 - Tourist movement by area. Veneto Year 2014

	2016		2016/15 % Var.		2016/07 % Var.	
	Arrivals	Overnight stays	Arrivals	Overnight stays	Arrivals	Overnight stays
Sea	3.869.652	24.490.317	-0.7	-0.6	5.0	-5.0
Cities of art	9.538.477	20.872.503	3.9	6.1	34.8	24.0
Lake	2.625.171	12.516.685	6.2	7.2	41.5	30.3
Mountains	1.051.185	4.403.147	7.5	2.7	11.7	-23.6
Spa	772.082	3.109.676	5.6	4.4	29.4	-2.6
Total	**17.856.567**	**65.392.328**	**3.5**	**3.4**	**26.2**	**6.9**

Source: Veneto Region Statistical Office processing of provisional Istat data - Veneto Region

Fig. 4.1.2 - Tourist arrivals and overnight stays according to destination and origin (millions). Veneto Years 2008:2014



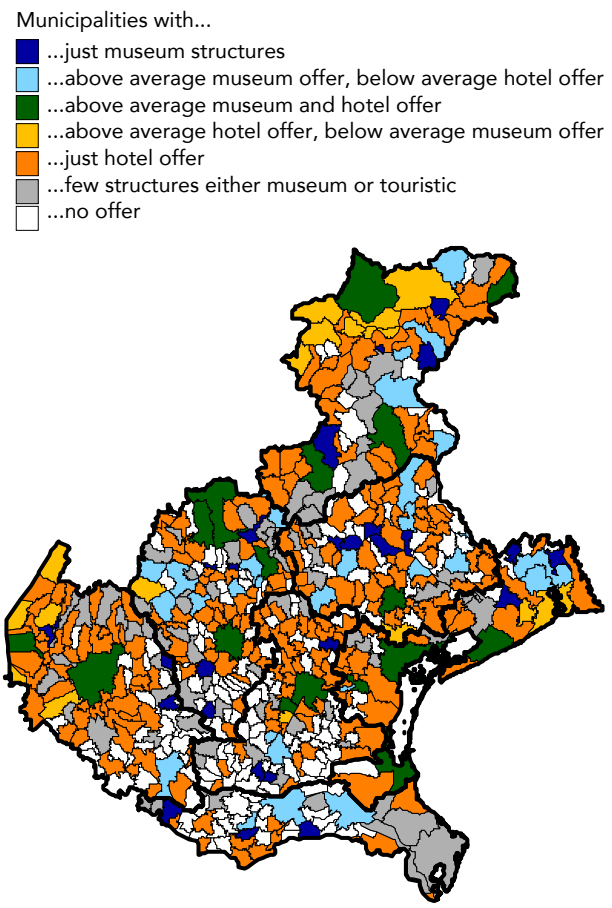
Source: Veneto Region Statistical Office processing of provisional Istat data - Veneto Region.

gn countries; Switzerland's interest remains stable, the third nation for importance, while China rapidly climbed to fourth place for the number of arrivals (in 2009 it was 12th) and Russia has been occupying 5th or 6th position for many years.

4.2 The proficiency of the offer

Our region offers the tourist a wide choice in the type and number of holiday destinations so as to involve almost the whole territory: 93% of the municipalities have at least one tourist facility, 64% at least one hotel, 28% at least one museum.
The Veneto offers more than 53,000 tourist facilities, including approximately 3 thousand hotels, and 315 museums.
The map below (Fig. 4.2.1) illustrates and compares distribution of the cultural heritage and tourist facilities over the territory. Colours are used to highlight locally the prevalence of hotels (yellow), or the greater density of museums (blue), and the coexistence of important numbers of both types of offer (green).
In introducing an analysis on cultural provision, it is important to emphasize the importance of the digital revolution, which has led to a change in all our habits, and is also heavily influencing the way of choosing travel destinations. The number of people using the web is increasingly important – 55% of tourists in the EU28 book accommodation – and highlights how essential it is for tourist accommodation and museums to put their offer over to potential customers in the best possible way.
In the case of the Veneto, 68.4% of museums have a website, the percentage rising to 85.1% in key towns. With regard to accommodation, about 90% of hotels have one, with a percentage that varies considerably according to the hotel's category .
Once tourists arrive at their destination, the communication system is of the utmost importance in the accommodation system, as it can provide and receive directions, suggestions and ideas. Foreign tourists, who come to a reality not just different from their own but also unique in the world — the Venetian lagoon — have many spontaneous questions, but does the language in which information is available reflect the needs of the public?
A first figure comes from the museum census. The ability of staff to interact with foreign visitors is very similar to the reality found in Italy: in approximately 60% of cases, information can be obtained in English, about 25% in French, 8% in Spanish and only in German is the Veneto considerably more specialized than the national average (about 20% versus 14%).
At this point, it is interesting to investigate how the knowledge of languages, not only among museum staff, but also in providing services in the Veneto hotels, is in line with the needs of users who visit the various locations. Figure 4.2.2[1] highlights the most widespread languages among foreign tourists[2] for each of the five Veneto tourist destination areas. By this means we can identify the adequacy of infor-

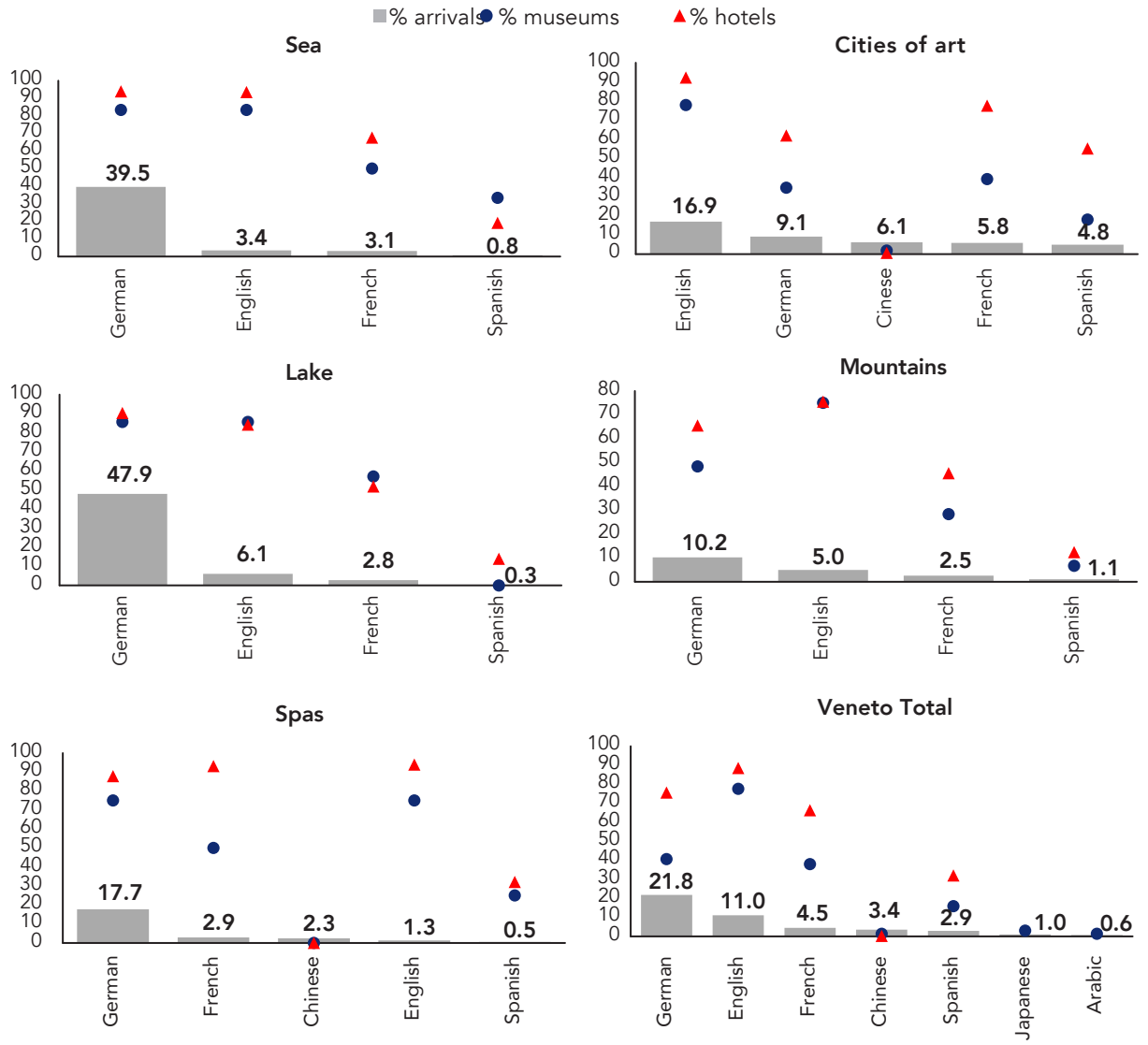
Fig. 4.2.1 – Municipalities highlighted according to museum offer and the hotel offer (*). Veneto. 2015



(*) Comparison of the average number of municipalities with a museum offer (1.9 museums) with the average number of municipalities with a hotel offer (8.2 hotels)
Source: Processing by Veneto Region - Regional Statistical System Section on Istat – Veneto Region data)

1 Partial and provisional data
2 The attribution was made based on the language predominantly spoken in each country of origin

Fig. 4.2.2 – The language spoken by tourists: % of total arrivals and % of museums and hotel facilities in the visited area that provide information in a foreign language (*). Veneto – 2016



(*) The arrival of foreign tourists has been classified according to the most widespread language in the country of origin. The museums are acceptable if visitors can receive information in the foreign language from staff and/or literature and/or captions and/or audio guides (2015, 3.8% in missing replies). The hotels are acceptable if the staff speak the language indicated (2016, partial and provisional data).

Source: Processing by Veneto Region - Regional Statistical System Section on Istat – Veneto Region data

mation provided by museums and hotel structures in the visited areas. The museums are considered adequate if visitors can receive information in a foreign language from at least one of the following sources: staff, literature, captions, audio guides. The hotels are adequate if the staff speak the language indicated[3] . English, widely taught in schools for many years, is the most common everywhere. Next to this, German is also much used, especially at the seaside, lakes and spas, where it is also the most spoken language by foreign guests. In art heritage cities, where information is exchanged mainly in English, German information is only available in about one-third of the museums and half of the hotels. In our historic town centres, where the number of Chinese tourists starts to be significant, there is a wide margin for improvement in the abili-

3 The language spoken in hotels was noted thanks to ongoing reclassification. Published data is partial and provisional.

ty to speak Chinese.
Let us analyse the services offered by museum facilities in more detail.

Museums

Italy has an undeniably huge cultural heritage, also comprising a large and diverse number of museums. Museums and cultural heritage in general constitute a material and non-material resource fundamental to local development and identity. A resource that is hereditary but must be preserved and promoted through appropriate policies directed at museums, tourism and infrastructure sectors.
In this context the Veneto plays a significant role, as it has a large share of this wealth. A census was conducted on museum heritage in 2016 thanks to the collaboration between the Regions, Istat and the Ministry of Cultural Heritage and Tourism. The survey covered all museums and other public and private museum exhibitions (hereinafter referred to as institutes) that acquire, preserve and display property or collections of cultural interest to the public.

A widespread heritage

The diffusion of museum institutions is remarkable, in fact, in our region, as throughout Italy: nearly one in three municipalities hosts at least one such institution. The Veneto's offer is predominantly in museums in the strict sense of the term, since the 315 institutes listed are for the most part all museums, galleries or collections (290), plus 22 monumental complexes and three archaeological sites.
A comparison of the total number of institutes puts the Veneto in seventh place among the Italian regions, but by number of visitors our region occupies the fifth place, thanks to almost 9 million visitors per year (of which 7 million are paying).
Every Veneto site is visited annually by an average of more than 28,000 people, of whom about 23,000 are paying visitors and 5,000 non-paying. However, the differences between one museum and another are significant and related to the touristic attractiveness of the place where the institute is situated.
Our region has in common with other regions, including Piedmont, Trentino Alto Adige, Tuscany and Umbria, a strong prevalence of paying visitors, 80.2%, while in the national total it is slightly higher than 57.4 %.
These are the results of a world-famous heritage, which from an economic viewpoint contributes towards the creation of added value.
But there are also many local realities that are offered to the public through dedication and are often free of charge. In fact, entrance is free in about 50% of the Veneto institutes, as is also the case on a national level. It should also be noted that, with 3,126 operators contributing to the museums' smooth

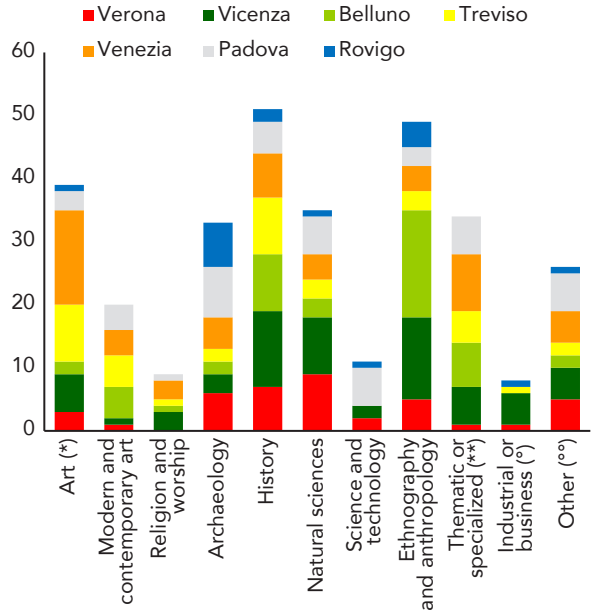
Tab. 4.2.1 - Offer and demand of museums and similar institutes by province. Veneto - Year 2015

	Institutes open to the public		% of municipalities which have at least one	% share of private institutes	Average number of visitors (thousands) (*)	
	Total	of which museums			Paying	Non Paying
Belluno	48	46	43.5	45.8	1.4	2.5
Padova	48	42	17.3	19.1	9.8	4.1
Rovigo	18	17	28.0	33.3	3.1	2.4
Treviso	40	38	23.2	45.0	4.0	2.2
Venezia	56	52	38.6	39.3	77.7	9.7
Verona	40	35	25.5	30.0	44.5	7.5
Vicenza	65	60	31.4	49.2	4.2	3.6
Veneto	**315**	**290**	**28.2**	**38.4**	**23.7**	**5.0**

(*) The value is calculated net of units that did not indicate the number of visitors (about 5% of the institutes)
Source: Processing by Veneto Region - Regional Statistical System Section on Istat – Veneto Region data

operation, about one quarter of the Veneto institutions are supported solely by volunteers.
In the Veneto, as in Italy, most institutes are publicly owned (over 60%) and those attracting most visitors are the municipal institutes, which welcome more than half of the visitors.
The Veneto museum heritage offers visitors a wide choice.

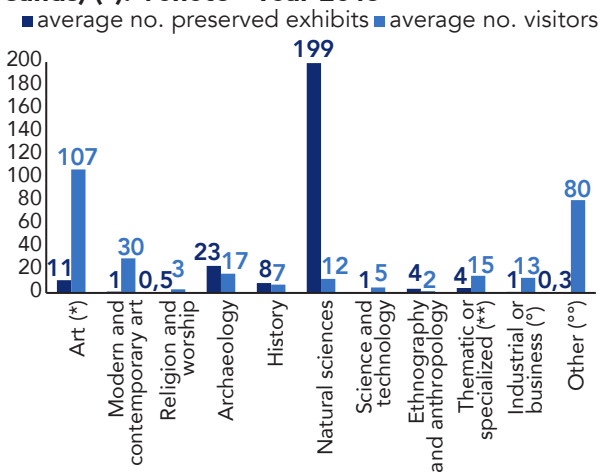
Fig. 4.2.3 - Museum institutes by main typology and province. Veneto - Year 2015



(*) From mediaeval art through to the end of the 1800s
(**) Unusual or curiosity object collections as well as unique monothematic collections.
(°) Museum that preserves and diffuses the heritage of technique and art, as well as the evidence of a company's historical memory and identity.
(°°) Archaeological areas, monuments and monumental complexes
Source: Processing by Veneto Region - Regional Statistical System Section on Istat – Veneto Region data

Among the art museums, which make up about one fifth of the institutes but total more than half the visitors, those dedicated to the period ranging from the Middle Ages to the 1800s stand out, and feature the highest number of visitors (on average 107 thousand a year) and are open, for most of the institutes, for the entire year.
The history, ethnography and anthropology, and natural sciences museums are very widespread throughout the region, as well as nationally.
They are also differentiated from other institutes by the substantial number of preserved treasures, ave

Fig. 4.2.4 - Average number of preserved exhibits and visitors by main type of museum (thousands) (*). Veneto - Year 2015



(*) Values calculated net of units that did not indicate the number of visitors (2%) or the number of preserved exhibits (11%)
(**) From mediaeval art through to the end of the 1800s
(***) Unusual or curiosity object collections as well as unique monothematic collections.
(°) Museum that preserves and diffuses the heritage of technique and art, as well as the evidence of a company's historical memory and identity.
(°°) Archaeological areas, monuments and monumental complexes
Source: Processing by Veneto Region - Regional Statistical System Section on Istat – Veneto Region data

raging 199,000.
The "other" category in figure 4.2.4 includes archaeological sites, monuments and monumental complexes, including the Arena of Verona amphitheatre, Giulietta's House, the Torre dei Lamberti, the Museum of the Military Shrine of Cima Grappa, the National Museum of Villa Pisani of Stra, the Teatro Olimpico in Vicenza, the Palazzo della Ragione di Padua, sites that record the interest of a very large number of visitors.

52% of visitors in 8 museums

By putting the Veneto institutes in order according to the number of admissions, it turns out that the top eight have welcomed more than half of the visitors. In addition to the two "Scaligeri" Verona monuments mentioned above, the other Veneto "Top 8", are the Palazzo Ducale in Venice, the San Marco Museum, the Guggenheim Foundation, the Archaeological Museum, the Correr Museum, the Galleries of the Accademia in Venice and the Civic

Museums of Padua.

Admissions +10,3% in 4 years

Overall, 2015 saw an increase in admissions of 10.3% compared with 2011 (+6.4% on a national level).

The people of the Veneto population are very interested in their museums, so much so that about a third of the residents over six years of age enjoy such opportunities during a year. But the cross-border attraction of our museums is very strong – 60.4% of visitors are foreign.

However, the proportion of young visitors aged 18 to 25 years (12.7%) is low, a fact that may be related to a traditional offer by museums and scarcely linked with ICT. This share doubles only when students visited the museum because they were included in school groups. In the Veneto, as generally happens throughout Italy, additional services are not widespread.

For example, few offer free internet access via WIFI (14.5%), and even fewer have a PC available, smartphone and tablet applications, or the QR Code (Quick Response Code), the bar code that is used to store information intended to be read by a mobile phone. Slightly higher, around 20%, is the proportion of museums that offer visits supported by audio guides or video guides, interactive exhibits, or children's entertainment. Access for the disabled is facilitated in 41.9% of cases through escorts or facilities such as ramps, equipped bathrooms, elevators, etc., and in 24.5% of cases through appropriate information media (tactile paths, catalogues or explanatory panels in braille, etc.).

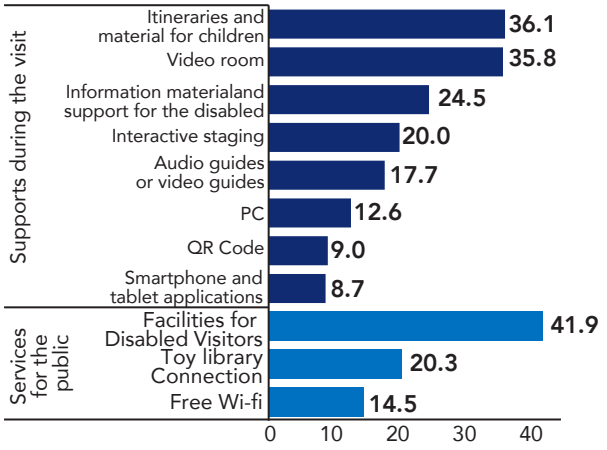
As for museums on the internet, beyond the 68.4% having their own website, 40.6% have social media accounts such as Facebook, Twitter, Instagram, etc., and 33.9% a newsletter service.

Other services available using the web are even less widespread: if for merchandising activities the regional share is around 20%, for catalogues, ticketing, virtual tours and online photo sales, the share falls to around 12%.

On a territorial level there are other differences, naturally linked to the types of museum found.

The museums in major municipalities, for example, located in historic town centres where there are large buildings historically open to not just a local but also and international public, are more advanced.

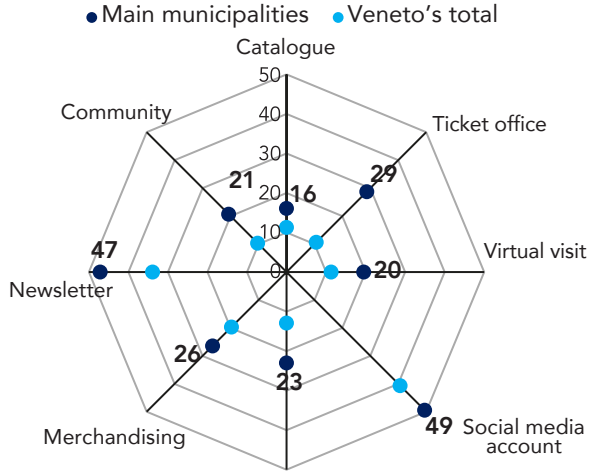
Fig. 4.2.5 - Services available to museums' public (*). Veneto - Year 2015



(*) The values refer to 310 units who completed the questionnaire. In addition, the percentage of museums that did not indicate services ranged from 6% to 12%

Source: Processing by Veneto Region - Regional Statistical System Section on Istat – Veneto Region data

Fig. 4.2.6 - The presence of museums on the web: % of museums offering the service (*). Veneto and main municipalities - Year 2015



(*) The values refer to 310 units who completed the questionnaire. In addition, the percentage of museums that did not indicate services ranged from 3% to '8%

Source: Processing by Veneto Region - Regional Statistical System Section on Istat – Veneto Region data

4.3 The new Strategic Tourism Plan - new needs and new competences [4]

The Strategic Tourism Plan, "PST 2017-2022 - Italy – A Country for Travellers[5]" aims to provide Italian

4 Edited by Tourism Direction
5 Approved by the Permanent Tourism Promotion Committee on September 14, 2016, it received the approval of the State-

tourism and culture with a unified vision, placing the tourism sector at the heart of the country's development policies.

A participatory and continually evolving process

The new Plan follows that of 2013 and already shows in its method a strongly innovative approach to tourism planning in our country, as launched in the conference of the States-General of Sustainable Tourism. The main value of the Tourism Development Plan is that it has been devised thanks to an important mobilization of what in a nutshell has already emerged as an "organized system": The Permanent Committee on Tourism, Central Administration's Technical Discussions, comparison with Regions, Local Authorities, Business Associations, workers, stakeholders, and – through a digital platform – each citizen, were all able to interact with the Plan's proposals and make their own. And if someone expressed a concern that the STP might be too theoretical, the 10th Productive Activities Committee of the House of Representatives pointed out that "useful guidance was also provided for identifying and developing the actions needed to be put into effect and, in particular, for the development of Implementation Plans consistent with the contents of the Plan itself".

The Plan's logical structure

The STP's vision proposes to revitalize Italy's leadership in the tourism market and to increase the contribution of tourism to the economic, social and sustainable well-being of its territories, expanding its offer with vast potential through the creative proposal of new promotional models and initiatives. In pursuit of this vision, the STP recognizes that policies aimed at these ends have a profoundly transversal and intersectoral nature.

In the overall picture of an international tourism market, dynamic and full of opportunities but undergoing deep transformation, Italy – while confirming itself as a destination of excellence – still has to succeed in bridging certain deficits in competitiveness.

Against a constantly evolving background, the Plan proposes some specific guidelines and identifies

Regions Conference on the following day and was presented to the Council of Ministers on December 16th then to begin its Parliamentary process. It was drafted by the Permanent Committee of Tourism Promotion, with the coordination of the MiBACT (Ministry of Cultural Heritage and Activities and Tourism), the Tourism Directorate-General and the support of a mixed Technical Group.

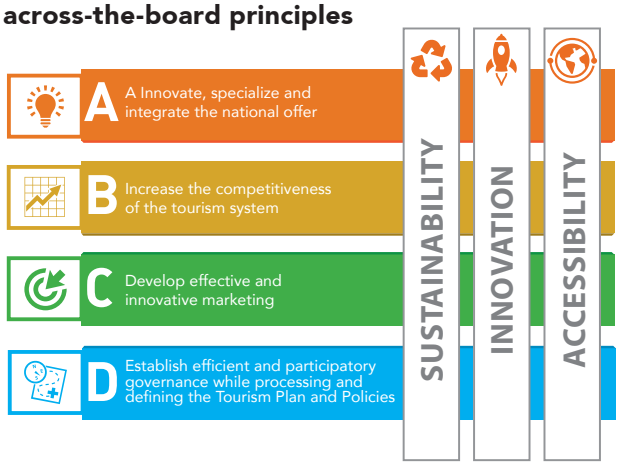
Fig. 4.3.1 - The SPT's vision

Source: Directorate General of Tourism – Mibact

strategic lines of action to help Italy gain a new leadership based on sustainability, innovation and competitiveness, integrating responsible promotion of territorial, environmental and cultural heritage into the tourism policies.

To this end, the Plan follows a logical structure whose strategic lines pursue four major general objectives, as outlined below.

Fig. 4.3.2 - The STP's general objectives and across-the-board principles



Source: Directorate General of Tourism – Mibact

These objectives are then broken down into 14 more specific aims and 52 courses of action.

In the analysis of the scenario underlying the Plan, among the elements of tourism competitiveness that really need improving, the need for a more effective and coordinated organization of our country's destinations and tourist offer came to light. The Veneto Region actively took part in the work on the Strategic Plan, both in the initial contribution phases and in final drafting. One of the courses

of action to which it has actually contributed is the need to prepare a real "catalogue" of destinations and tourist products.

The "catalogue" of destinations and tourist products: awareness for selection

The new Strategic Tourism Plan intends to favour a greater integration of the predominant destinations with lesser known areas through a network of alternative routes (e.g. minor roads and paths) and better links and connections between the coast – characterized by highly concentrated tourist flows – and the hinterland. In the Plan's vision, cities of culture and art are areas not just for the enjoyment of heritage but also as producers of culture, where an active role by visitors is encouraged. The tourist attraction of the most known destinations thus becomes an opportunity for tourist diffusion starting from the known attractions and ending with the lesser known areas, in which the construction of a competitive tourist offer plays a vital role.

As we have seen, one of the STP's objectives is innovation – of product and process, including integration between supply chain protagonists and public and private management, information and organization management – and the diversification of the tourist offer, integrating it with those of emerging or new territories and products. The mature destinations, such as the strategic and strong attractions of the great art cities and the areas featuring a seaside and spa offer, are in fact the first major attraction for tourism flows since, regardless of their size, they are characterized by the density of stratified cultural heritage and many other attraction factors. Therefore, for the purpose of broadening the offer, these destinations can be a reference for broader cultural and territorial contexts. The great urban tourist centres are called upon to combine the policies of territorial management with the themes of culture, organization, availability of infrastructures, innovation and business, locally to strengthen identity, cohesion, hospitality and safety and, globally, its recognizability in the network of "world cities". Sustainability, the Plan's main feature, mitigates both the concentration of flows in fewer destinations and-under exploitation of the potential attraction of some areas.

The tourist offer of the prevailing destinations must therefore be complemented by (and connected with) the offer of emerging territories and products, in particular by promoting the identity of the places and characteristics of Italian landscapes. Emerging destinations are: small art cities, villages, small towns and rural areas, protected areas and parks, etc. In this context, smaller centres (such as small art cities that seek to be recognized as capitals of culture and authentic UNESCO villages) that express Italy's peculiar characteristic of covering all ages, including all artistic styles as expressions of multiple civilizations and cultures, and the mountainous, natural and rural territories, including those inland, offer a significant portion of high-end heritage with a high attraction potential, mostly in landscape, yet not fully known. In this case, the variety and complexity of landscapes requires the strengthening of the type of territorial offers by recognizing authenticity within a national tourism promotion strategy. These singularities should not lead to fragmentation of the offer, which, on the contrary, should complement the different touristic experiences by encouraging more efficient organizational and governance solutions, and by promoting relationships and connections between different sectors (wine and food, agriculture, culture, etc.). In general, the strategic management of "tourism territories" – both those already perceived by demand and those that tend to self-recognize/self-promote – must induce and/or accompany the processes of defining the territorial areas of interest, the most competitive products and brands. In addition to the need for better governance of mass tourism, it is essential to provide lesser known places with the tools and abilities to develop their attractions and hospitality capacity and thus offer the tourist the knowledge and the possibilities to expand the choice of tourist destinations.

To achieve these goals, the availability of a wealth of knowledge instrumental for the construction of a catalogue of destinations and tourist products is indispensable. Such a catalogue becomes a qualifying element for supply and reference for demand. The process of acquiring information has already been tested through a quantitative and qualitative survey, promoted by MiBACT, on the tourist destination areas identified by each Italian Region within their territory, which noted characteristics of the offer and priorities in terms of products, needs and expectations. The classification of mature/emerging/new destinations/products, by initiating a structured dialogue between all institutions and operators, aims at both integrated promotion and the international promotion of destinations/products.

In collaboration with the Regions, the STP promotes a recognition of territorial destinations recognizable as aggregations of attractive resources, infrastructures and services in which distinct tourist products are present. This work will enable the identification of an "Italy Catalogue" of destinations and products, while identifying the most perceived policy needs at a territorial level. The "Catalogue" will be a decision-making tool: individual Regions will be able to extract information about the strategies for enhancing and promoting their destinations through the demand/supply matching grid built in collaboration with ENIT (National Tourism Agency), while at a central level, the wealth of information will facilitate the analysis of a framework that can represent the offer and integration of interregional and national strategies, with full respect for the strategic choices and planning of the individual regions.

In the areas of strong tourist attraction (Strategic centres and UNESCO sites), the STP aims to increase the quality of governance, inter-institutional cooperation and public-private partnerships, in order to make the tourist offer in these destinations more innovative and diversified. The STP also intends to contribute to the re-qualification of territorial destinations which, due to excessive use, require environmental, landscape, cultural heritage and, in general, territorial resource renovation.

Protected areas are a great asset in terms of natural beauty, biodiversity, experimental laboratory for good practices, land management, promotion of local products and their qualities, and are an important link between biodiversity protection and sustainable development of the territories. For this, the STP should promote protected areas as priority areas for the promotion of a sustainable tourism model. Even those sites recognized by UNESCO but less well known: landscapes, national serial sites, intangible heritage sites, geoparks, can all compete with their excellence to increase the integrated offer of the territories.

In order to meet the renewed needs of demand, it is also necessary to extend the supply of Italian tourist destinations with the proposal of new experiences for tourists' enjoyment and of new themes: cyclotourism, open air tourism, food and wine routes, historical paths, routes, cultural, musical and literary itineraries, footpaths, network of abandoned state-owned heritage and re-use of the widespread and underexploited historical and traditional heritage buildings.

Final thoughts

We have seen how the Strategic Plan is the result of a path that has seen institutional protagonists, the business system and the citizens themselves heavily involved. The survey of destinations and tourism products goes in this same direction, and if this approach, as already provided for by the STP itself, turns into a participatory method used permanently to define and update the Plan's strategic objectives, implement its actions, and check the results, a real "revolution" in how to plan, manage and promote Italian tourism will have been achieved.

4.4 International initiatives for sustainable development of tourism[6]

Economic, environmental and socio-cultural sustainability has for some time been at the centre of the debate about the touristic development of destinations at different territorial levels (local, regional, national). As the European Commission has repeatedly stressed, tourism competitiveness is closely linked to its medium to long-term sustainability [7], given that the quality of the tourist offer and thus the tourists' experiences at the destination depends on the state of conservation and promotion of the environmental and cultural context as well as the availability and openness of the local community, whose quality of life can be either favoured or hindered by tourist activity, depending on the degree of development. All major organizations on a European and international level have long promoted initiatives and projects concerning sustainable tourism development; coming to mind are the UNWTO – the United Nations World Tourism Organization, the GSTC – the Global Sustainable Tourism Council, the Council of Europe, the European Commission, other European organizations such as NECSTouR – Network of European Regions for Sustainable and Competitive Tourism (to which the Veneto Region also adheres). The experiences launched by these organizations, while focusing on the same theme of sustainable tourism development, have different ends, but are still correlated, as they: increase the awareness of destinations, businesses and tourists of the importance of adopting sustainable tourism,

6 Published by CISET
7 COM (2007) 621 final

not just under an environmental profile but also in economic and socio-cultural terms; identify shared definitions and approaches; promote the exchange of good practices; define and disseminate effective indicator systems to measure and monitor the sustainability of tourism in destinations over time.
This latter goal is particularly crucial as sustainable tourism development is a continuous process that requires a fair balance between environmental, social and economic needs and constant monitoring of the impacts. Collecting data and information and measuring the impact of tourism on the local economy and occupation, the quality of community life, the environment and cultural heritage can help destinations in building a clear picture of the health and development of their tourism and thus support them in their decision-making process. Consequently, the implementation of a measuring and monitoring instrument by a destination is a strategic requirement so that policy makers and decision-makers can formulate and adopt effective tourism development strategies and plans that will be sustainable as a requirement for the destination's touristic competitiveness. Measuring and monitoring sustainability is also a function of improving the quality of a touristic experience as well as encouraging stakeholders' awareness and increasing knowledge.
Below we list and comment on some of the major initiatives launched on a European and international level by major organizations and institutions in the area of measurement and monitoring systems specifically targeted at destinations. Notwithstanding all the many international experiences that have been launched, the projects commented on here provide a useful insight into some of the initiatives promoted by the world's most important tourism organization, namely UNWTO, and by the European Commission and GSTC.
From the picture emerge two particular aspects that should be emphasised. First of all, most of the initiatives, including those presented here, despite their differences, share a similar approach to measuring sustainability. Most in fact:
- propose similar criteria and indicators corresponding to the main aspects of sustainability (destination management, economic impacts, community and socio-cultural impacts, environmental impacts) and are perceived as crucial to destinations;
- foster the multi-stakeholder approach and therefore the involvement of key destination protagonists in the collection, analysis and sharing of information;
- promote the integration of various sources of information (official statistics, other databases, surveys, etc.), in order to cover all the main indicators of sustainability;
- stimulate the comparison between destinations, which obviously can only be achieved through the adoption of shared approaches and systems that allow comparability of results.
Secondly, as sustainable tourism development concerns all territorial scales, measuring and monitoring the impacts and the sustainability of touristic activity usually starts from the individual local destinations in relation to the singularities of each situation and considering that specific actions and measures to be taken can only be undertaken locally. Therefore, this aspect entails the need to facilitate coordination between destinations and to adopt shared approaches and systems. It also entails the importance of summarizing some indicators of sustainability at a macro-area level, starting from the results achieved by individual local situations, in order to obtain a more complete picture with which to direct regional and national tourism policies and plans.

UNWTO operations

UNWTO has promoted the development and implementation of indicators related to tourism sustainability since the early 1990s through numerous projects and initiatives, including:
• the UNWTO Guidebook on Indicators of Sustainable Development for Tourism Destinations, published in 2004, aims to identify the main factors influencing the sustainability and attractiveness of a destination and the appropriate indicators for measuring them; the document identifies around 40 "issues" related to environmental (management of natural resources, waste, water and energy consumption, soil exploitation, climate change, etc.), socio-cultural (safeguarding the cultural heritage, the satisfaction of tourists and host communities, etc.) and economic sustainability (contribution of tourism to the economy and quality employment), and for each one proposes the most suitable indicators and techniques to detect them;
• The UNWTO International Network of Sustainable Tourism Observatories (INSTO), a network of tourist observers from different destinations and countries around the world aimed at monitoring tourism impacts and sustainability in their respecti-

ve areas of expertise. INSTO, which aims to increase the commitment of destinations to watch over tourism sustainability and to promote the exchange of good practices, currently comprises 16 observers, of which there are 8 in China, 3 in Indonesia, 1 in Mexico, 1 in Brazil, 1 in the USA, 1 in Croatia and 1 in Greece.

• The Working Group of Experts on Measuring Sustainable Tourism (MST), which met for the first time in Madrid last October; the working group brings together experts and statisticians specializing in tourism and sustainable development and aims to develop a statistical framework that integrates traditional statistics and allows destinations to monitor tourism sustainability.

The GSTC

The Global Sustainable Tourism Council (GSTC) was established in 2010 as an organization for the development and management of systems and standards for sustainable tourism. Born under the umbrella of the United Nations (it was actually set up by UNWTO and ENEP), it consists of United Nations agencies, major tourist companies and groups, national tourism institutions, etc.

After consultation with more than 80,000 stakeholders and 27 organizations and analysis of more than 4,500 standards and 60 certifications, the GSTC identified and launched 2 sets of "criteria" – the GSTC Destination Criteria (GSTC-D) and the Hotel & Tour Operator Criteria (GSTC-H&TO) – which contain the minimum requirements that each destination and tourism company should aim to achieve in order to implement more sustainable tourism development. In particular, GSTC-D is divided into four sections (sustainable management, economic benefits, community, visitors and culture benefits, environmental benefits) for a total of 41 criteria which in turn correspond to one or more indicators (105 in all).

ETIS – European Tourism Indicators System

ETIS was launched by the European Commission in 2013 as a common system of indicators to support European destinations seeking to measure and monitor tourism performance in terms of sustainable economic, social and environmental development. ETIS does not provide minimum values and does not issue any certification; it is a system that the destinations apply on a voluntary basis and should be understood as an information and management tool of tourism impacts as well as a means of encouraging the involvement of local stakeholders as it provides for a participatory approach (for multi-stakeholders) for the collection, analysis and sharing of information and their sustainability indicators.

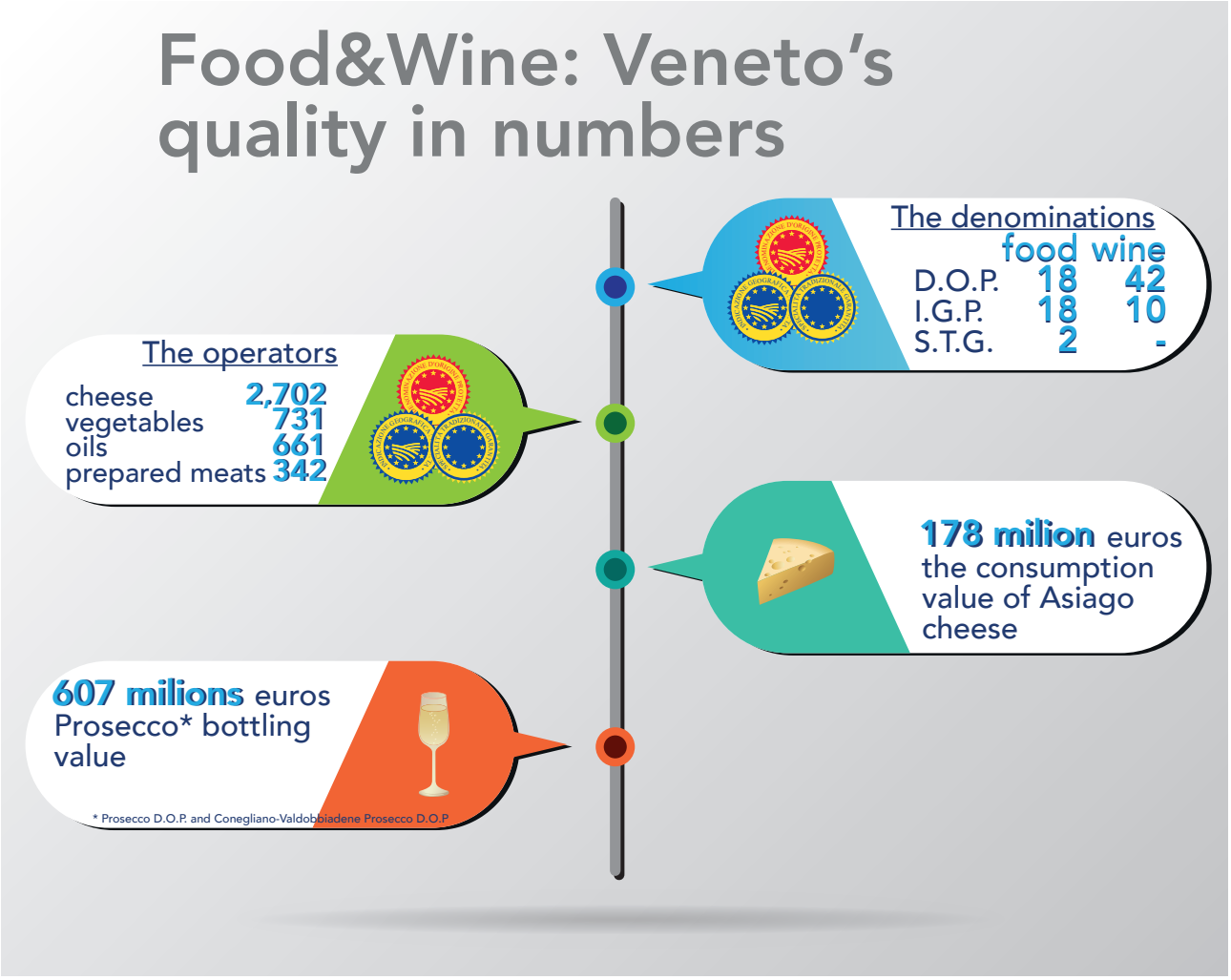
After a first processing and two test stages, during which the system was tested by more than 200 pilot European destinations (including some in the Veneto, among them Venice, Abano and Bibione), ETIS is based, in the current version released in 2016, on a set of 43 core indicators and an additional set of supplementary indicators designed for specific categories of destinations or products. The 43 core indicators cover the main aspects of sustainability and are divided into four categories (destination management, economic impact, socio-cultural impact and environmental impact).

In addition to the set of indicators, ETIS can supply data collection and processing support documents (destination datasheets, destination profiles, questionnaire templates, etc.) for the different destinations and has the advantage of being conceived in such a way as to integrate with other systems already adopted by the destinations (e.g. GSTC-D or UNWTO Guidebooks).

Recently, at the request of the Council of Europe, ETIS was adopted by a working group (in which CISET also participated) in the context of the European Cultural Routes as a tool to support the governance of the routes and the monitoring of their impacts.

Chap.5 – Agriculture: ability in the quality

Quality in agriculture is a concept that can take on infinite nuances and, among those thousands, certainly ability counts highly. Indeed, a special attitude is needed to direct production towards quality by having one's products stand out from the mass of those available on the market, for example with universally recognized certifications such as those guaranteed by the European Union: the DOPs (Denomination of Origin Protected), IGPs (Protected Geographical Indication) and STGs (Guaranteed Traditional Specialties).
Italy holds the world's largest number of these types of certification and does not stop there: it is also among the top 10 countries in the world for organic farming acreage and farmers, ever more numerous year by year with environmental sustainability, biodiversity and consumer health-oriented productions.
This commitment is acknowledged by the ever-increasing appreciation that Italian agri-food products have gained outside their borders, with positive growth rates from one year to another and a turnover of nearly 40 billion euros.
The Veneto is certainly not standing back, as it often excels among the Italian regions, both for the number of quality products, and for the dedicated operators and the economic value created within Italy but above all abroad.



AGRICULTURE: ABILITY IN THE QUALITY

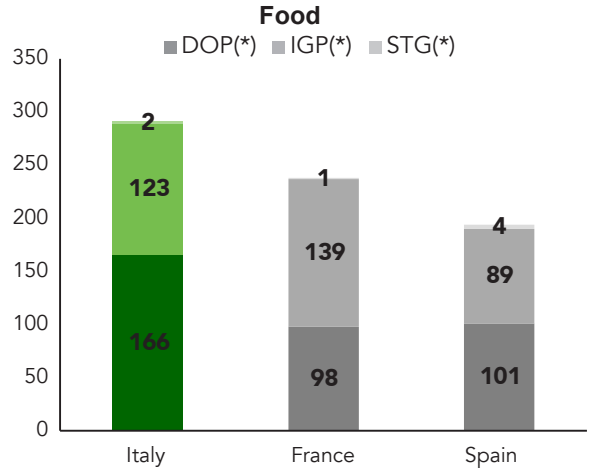
Italy is the country with the most certifications in the world

Among human activities, agriculture is one of those that have led to innovative and technological advances throughout history. From the beginnings of farming around 12,000 BC to the present day, man has been able to turn to his own advantage the environmental, climatic and social situations that have challenged him through brilliant use of technologies already existing or adapted from other fields, and dedicated innovations.
Today's challenges have different names, but fall into the life cycle of this planet: climate change, environmental sustainability, food security, population migrations, consumption, globalization, employment, and profitability.
In fact, agricultural production no longer depends solely on climate: the dense network of interconnections now in place between various human activities makes it interdependent with markets, politics and society.
In the course of 2015, for the first time in history, the world's population reached 7 billion, and according to some scenarios it will exceed 10 by 2050. Providing enough food for everyone will be a major challenge for agriculture and winning it or losing it will make the difference between life and death for millions of people around the world, laying the groundwork for new world equilibria.
A decisive influence will be derived from existing research on genetic improvement, mechanization, bio-technological innovations and harvesting methods, all threads linked to increased production and yield of crops and livestock, but in reality the ability to navigate round the obstacles of daily life resides in each producer, who forms the determining factor for the survival of the enterprise. It is not by chance that our country boasts among its many excellences the agri-food sector.
This excellence is therefore not just in agriculture but also in a food industry that can add value to raw materials, optimizing costs and productivity through dedicated technological innovations.
These standards of excellence are recognized and sought throughout the world: Italy is not just among the top 10 countries in terms of the value of exported food but also the one whose products are most copied and falsified, to the point that a phrase was coined – "Italian sounding" to define a phenomenon that, from a study by the Italian Chambers of Commerce abroad, is estimated to generate an annual turnover almost double that of the value of Italian exports and equal to 54 billion euros.

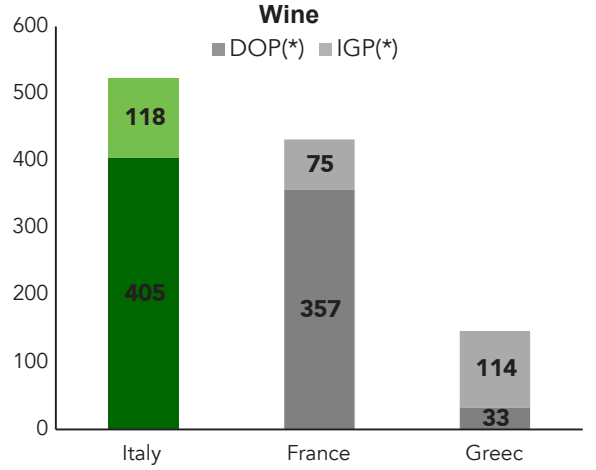
5.1 Quality products

Italy is the country with the highest number of certified food products in the world, because, more so and better than others, it has been able to create a model of high-quality agri-food production that is linked to the territory as a true cultural value as well as economic, in line with ethical and social principles shared worldwide by an increasing number of consumers.
Italy also boasts an immense range of territorial and cultural variations, and this is its strength: here agri-food products that reflect traditions and know how are produced in hundreds of different ways, generating an evocative power, especially in the eyes of the foreign consumer, which brings to mind factors attributable to the "Italian" art of living, now a heritage of humanity.
With 291 food products and 523 wine certifications, in 2016 Italy is again at the top of the world's top-quality products: France comes second, followed by Spain, in the food sector, and Greece, in the wine sector.
Italy also gained the title for the number of new certifications won in 2016: in fact, 13 of the new 69 worldwide I.Gs (Geographical Indication) come from our territory.
The turnover generated by the sector is wholly respectable: 6.35 billion euros in production (half of which crosses national borders) and 13.3 in consumption.
Behind the scenes of this success are more than 80,000 Italian operators, who during 2015 were involved in the production, processing and export of delicious foods that are worthy of these certifications, slightly increased from the previous year.
Of course, the Veneto also plays its part, since it is second only to Emilia Romagna in the number of food sector certifications and third behind Piedmont and Tuscany for wine denominations.

Fig. 5.1.1 - Classification by number of I.G.s in the "food" sector – Year 2016

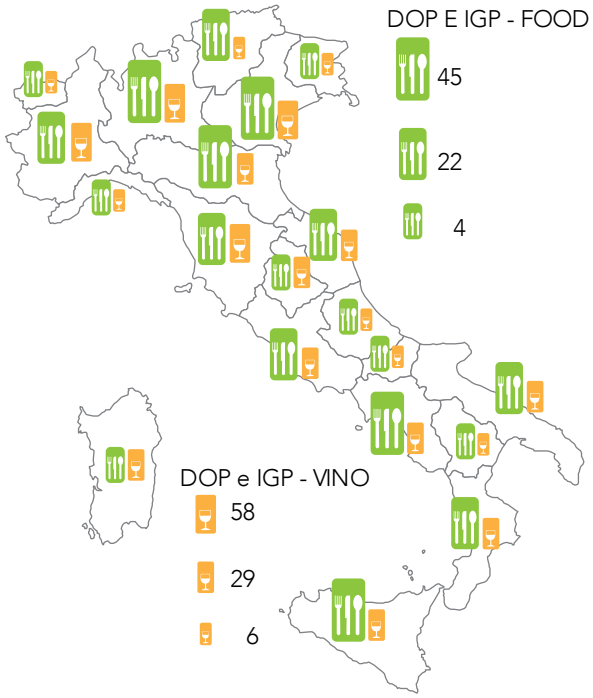


Classification by number of I.G.s in the "wine" sector. Year 2016



Source: Processing by Veneto Region - Regional Statistical System Section on Istat data
(*) DOP: Protected Designation of Origin; IGP: Protected Geographical Indication; STG: Guaranteed Traditional Specialty

Fig. 5.1.2 - DOP and IGP "wine" and "food" products by region - Year 2016



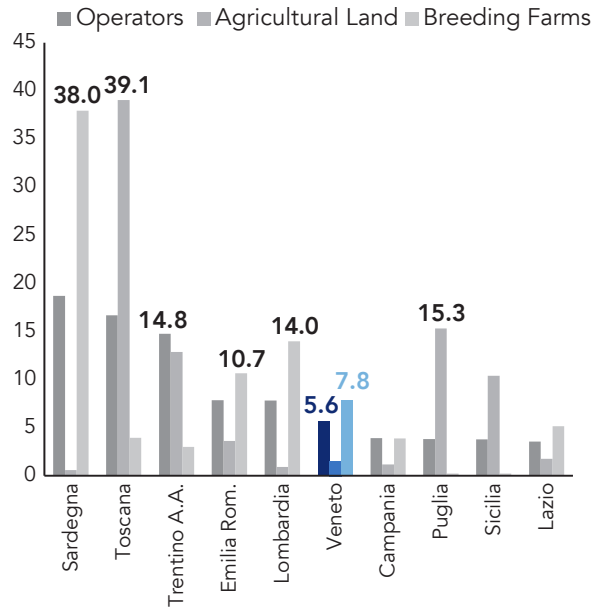
Source: Processing by Veneto Region - Regional Statistical System Section on Ismea (Institute for Services for the Agricultural and Food Market)

The operators

As we have mentioned, there are over 80,000 producers and processors, who are working to keep the flag of Italian quality products flying high: the majority of producers are concentrated in Sardinia (18.7% of the national total), Tuscany (16.7%) and Trentino Alto-Adige (14.8%), while the cultivated Italian area dedicated to the cultivation of DOP and IGP, amounting to 170,000 hectares, is almost 40% in Tuscany, 15.3% in Apulia and 12.8% in Trentino Alto-Adige.

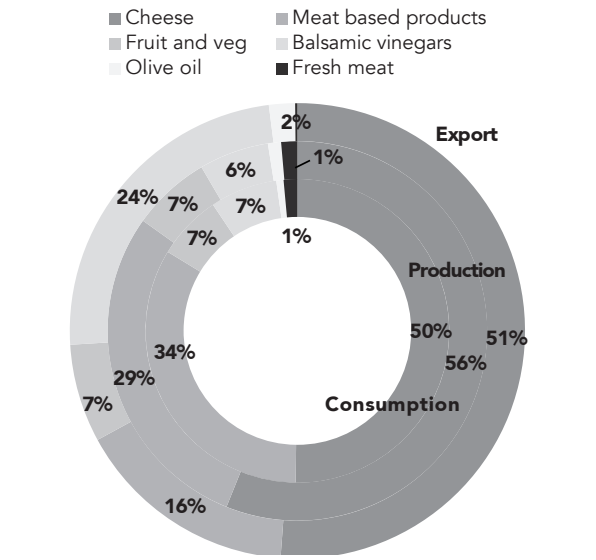
As far as the almost 40,000 Italian livestock units are concerned, again Sardinia has the most concentration (38%), followed by Lombardy (14%) and Emilia Romagna (10.7%).

Fig. 5.1.3 - Distribution % of operators, Agricultural Land, DOP and IGP breeding farms from among the top ten Italian regions - Year 2015



Source: Processing by Veneto Region - Regional Statistical System Section on Ismea (Institute for Services for the Agricultural and Food Market)

Fig. 5.1.4 - Distribution % of production, consumption and export value by I.G. product category - Year 2015



Source: Processing by Veneto Region - Regional Statistical System Section on Ismea (Institute for Services for the Agricultural and Food Market)

While containing only 1.5% of the national agricultural land, the Veneto ranks sixth by number of operators (5.6%) and fourth by number of livestock rearing farms.

The economic value

Almost half the production value, totalling 6.3 billion euros, is concentrated in the cheese category, which is also reflected in consumer value, totalling 13.3 billion euros, and in the export value, totalling 3.1 billion euros.
Meat products represent 29% and 34% of the total production and consumption respectively, while this share has fallen to 16% for exports since the time when balsamic vinegar gained a quarter of the value leaving our borders (24%): the production of balsamic vinegar sold abroad surpasses 80% of its production value.
On the other hand, fruit and vegetables were awarded the highest number of certifications (110) and were the largest quantities produced during 2015, totalling more than 650 thousand tonnes, followed once again by cheese (52 certifications and 513 thousand tonnes).

Cheese, the product with the highest economic value

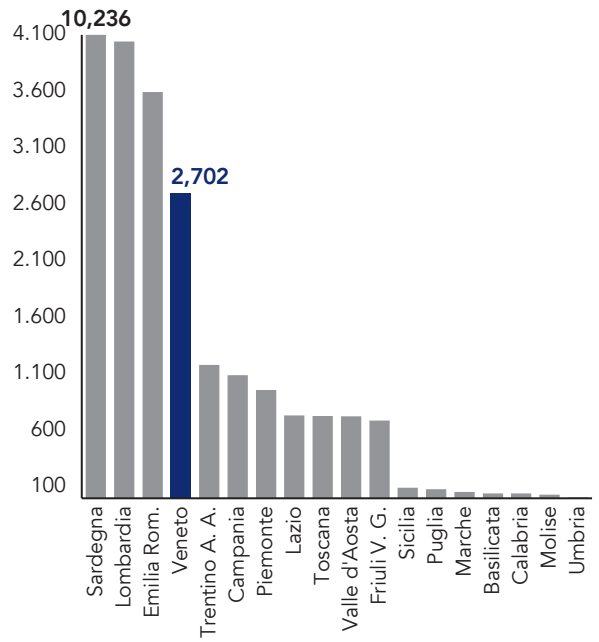
On a regional level, the turnover generated by the certifications tends to be concentrated in a few provinces, given that the three most productive provinces alone, Parma, Modena and Reggio Emilia, account for 18.3%, 10% and 8.8% respectively of the national production value. The Veneto's top province is Treviso, in fourth place with 528.3 million euros, followed in fifth place by Verona with 463.2 million euros. We also find the province of Vicenza, with 245.4 million euros, in the top twenty.

The sectors: cheese

The sector leader in Italy by economic value has 52 certifications and in 2015 amounted to 513 thousand tonnes of dairy products, for a production value of 3.6 billion euros, a consumption value of 6.7 and a percentage of export value that reaches 45% of the value produced.
Grana Padano and Parmigiano Reggiano accounted for 33.2% and 29.7% respectively of the production value, leaving the other denominations with the crumbs if we consider that together with Campana Buffalo Mozzarella and Gorgonzola they cover more than 80% of the total.

The provinces of Parma, Brescia and Reggio Emilia are frontrunners with a total turnover of over one billion euros. The first Veneto province is Vicenza, with 168.7 million euros, coming in eighth place.
The Veneto, with 8 certifications, has its own best-seller in Asiago which, with over 178 million euros of consumer turnover and nearly 22 thousand tons of cheese produced, flies the flag for the province of Vicenza.
A success that, if remaining just within the Veneto denominations and not shared with other neighbouring regions, sees Piave in second place (36.8 million euros) followed by Monte Veronese (11.8 million euros).
Of the 27,042 Italian-certified dairies, Sardinia earns the place of honour, as it has 37.9% of its producers and processors within its territory. Lombardy follows with over 4,000 dairies, while the Veneto gains fourth place thanks to its 2,702 operators.

Fig. 5.1.5 - Operators in the dairy sector by region – Year 2015



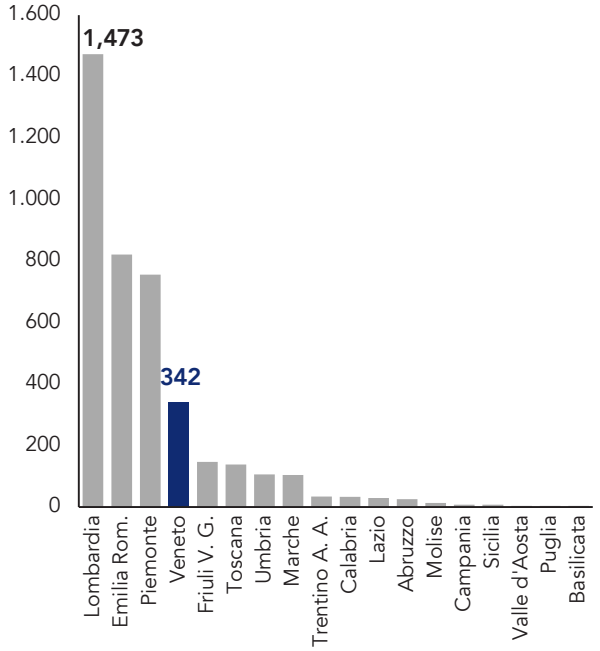
Source: Processing by Veneto Region - Regional Statistical System Section on Istat data

The sectors: meat based products

We find meat products on the second step of the podium with 41 certifications, 202 thousand tonnes of hams and salami, a production value of nearly 2 billion euros, of which 27.3% is sold abroad, and a consumer value of 4.4 billion euros.

Parma Ham, San Daniele Ham and Mortadella Bologna cover three quarters of the sector's produce and account for 80% of the export value.
Once again Parma is the sector's number one province: almost 40% of the production value is concentrated here. Udine gains second place with 289 million euros and Sondrio is ranked third with 215 million thanks to the wealth created by the production of Bresaola della Valtellina.
The Veneto does not have any provinces among the top 20 in Italy, and of its 7 certifications only two (Soppressa Vicentina and Veneto Berico-Euganeo Ham) are exclusively from the Veneto, reaching a final consumption value of almost 17 million euros for these two products. Operators in the sector, which in Italy amounts to just over 4,000 units, are mostly concentrated in Lombardy with almost 36.4% of the total, followed by Emilia Romagna and Piedmont, while our region gets fourth place with 342 producers and processors.

Fig. 5.1.6 - Operators in the meat based products sector by region – Year 2015



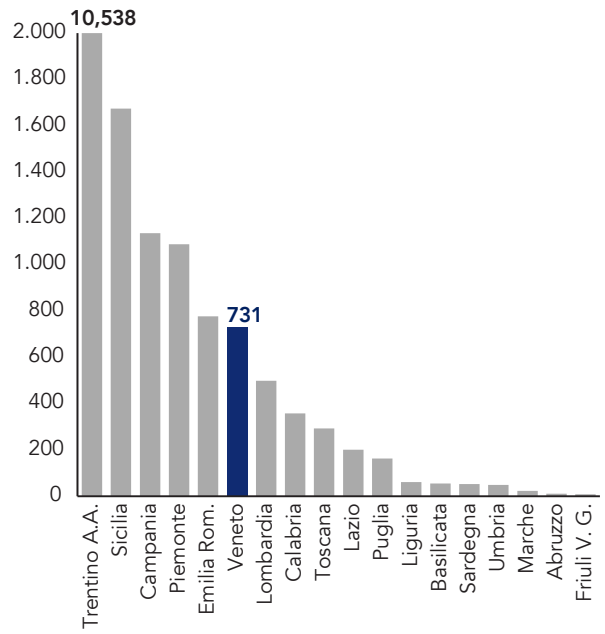
Source: Processing by Veneto Region - Regional Statistical System Section on Istat data

The sectors: fruit and vegetables

With 110 certified products, 658 thousand tonnes produced, a production value close to 500 million euros, more than half of which is destined for abro-

ad and consumer value of just under one billion, the fruit and vegetables sector earns itself the bronze medal among the Italian specialties. South Tyrol's apple and the Val di Non apple are the two products that hold the vast majority of the values and volumes produced; it is not by chance that the provinces of Bolzano and Trento are the first two for fruit and vegetable sales. The first Veneto province, Treviso, gained 16th place, with almost 2 million euros.
Among the 17 certified Veneto products, the one that generates most value is the Radicchio di Treviso which, with nearly 700 tonnes produced and a consumer turnover close to 4 million euros, is almost 40 percentage points higher than in 2014. Consumer turnover of over one million euros also belongs to the Po Delta Rice and Polesano White Garlic.
Of the almost 18,000 Italian operators involved in cultivating or processing fruit and vegetables, the vast majority (59.5%) are active in Trentino Alto-Adige, and the Veneto has 731, placing it sixth behind Emilia Romagna.

Fig. 5.1.7 - Operators in the fruit and veg sector by region – Year 2015

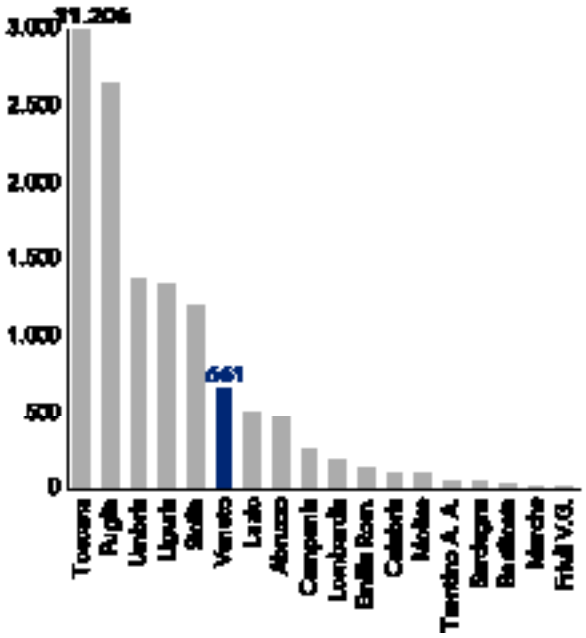


Source: Processing by Veneto Region - Regional Statistical System Section on Istat data

The sectors: oils

The economic effect of the 45 certified products and the more than 10 million litres produced in 2015 amounts to 71 million euros in production value (with an export that is 82% of this value) and 103 million euros in consumption value. Tuscan and Terre di Bari denominations take over half of the consumption and production turnover, rising to over three-quarters in terms of value that crosses the border.
Among the leading Italian provinces is Bari, with more than 19 million euros in production, representing more than 27% of the national production value and creating a gap behind, with the second province, Imperia, close to 4 million euros. The first Veneto province takes fourth place and is Verona: thanks to the valuable Garda and Veneto Valpolicella oils it amounts to a value of 2.6 million euros. The Veneto's 2 certifications have a national consumption value of over 4 million euros and account for 661 operators from among the more than 20 thousand on a national level.
Tuscany is the leading region for its number of olive oil producers and processors. In fact, more than 55% of the national total is concentrated here. Apulia gains second place with over 2,000 operators, followed by Umbria, Liguria, Sicily and the Veneto.

Fig. 5.1.8 - Operators in the oils and fats sector by region – Year 2015

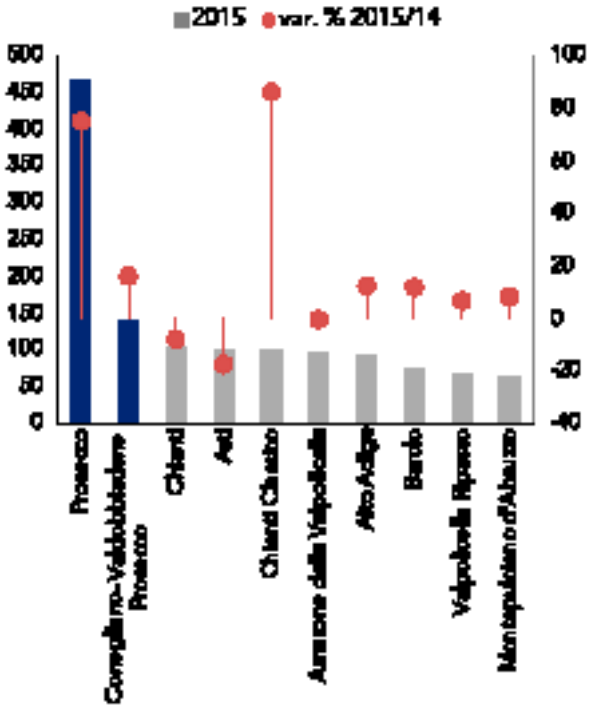


Source: Processing by Veneto Region - Regional Statistical System Section on Istat data

The sectors: wine

There are 1,579 quality wine certifications in Europe and absolute primacy is ours since 571 of them belong to Italy followed by France (432) and then Greece (147) and Spain (131).
And if Piedmont and Tuscany dominate the scene in terms of number of certifications (58 per head), Veneto, with its 52, in addition to gaining third place in this ranking, is the most productive region of Italy for quality wine: just think that the 2016 harvest produced over 10 million hectolitres, almost all (91%) with protected designations of origin or geographical indication.
Wine certifications generate a production turnover of 7.4 billion euros, with almost two-thirds of this going beyond national borders.
Considering the DOP wines, the Prosecco DOP production leadership is increasingly undisputed, with 2.6 million hectolitres of certified product in 2015, 19.3% of the national total, totalling about 3.5 million bottles, to which must be added the Conegliano-Valdobbiadene Prosecco DOP which, with 629 thousand hectolitres certified in 2015, raises the representation of the "Prosecco system" to nearly a quarter of the national DOP certified volumes.
Among the first ten denominations is the Soave which with 423 thousand hectolitres positions itself between Asti and Chianti Classico.
While Prosecco is once again the unquestioned leader through the value of certified unbottled wine: in 2015 it exceeded 460 million euros (20.8% of the national total and +75.1% over the previous year), and this success naturally extends to Conegliano Valdobbiadene – Prosecco, which grew by +16.2%.
Among the top ten DOPs are two more best sellers of the Veneto: Valpolicella Amarone, stable compared to the previous year, and Valpolicella Ripasso, up by +6.8%.
Production in the IGP sector is much more concentrated than the DOPs, both in terms of production regions and certification. In fact, Veneto, Emilia Romagna and Sicily produce 60% of the national hectolitres and 47% of the production belongs to the first 3 certifications: Delle Venezie with 1.65 million hectolitres, Terre Siciliane with 1.26 million and Veneto 1.14. Of the first 3 IGPs, two are produced in our region, although Delle Venezie is also shared with the province of Trento and Friuli Venezia Giulia.
Of course, the economic value of production also reflects the tendency to concentration, with the first three IGPs accounting for more than 55% of the total: Delle Venezie even here is the uncontested

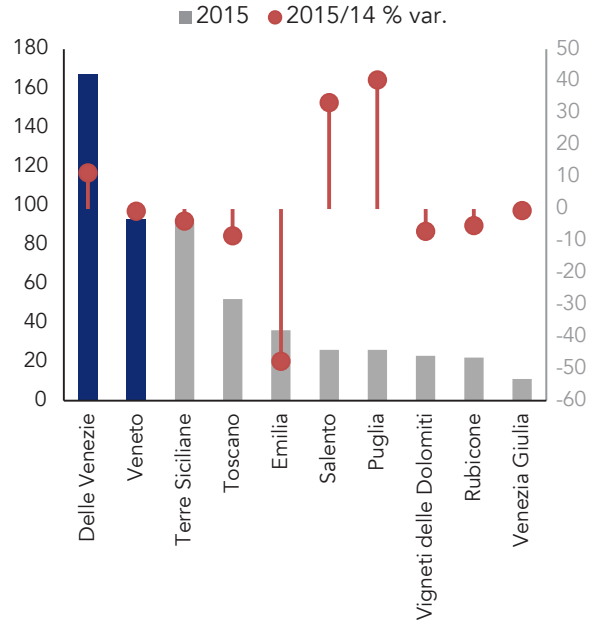
Fig. 5.1.9 - Production value (millions of euros) for the first ten Italian DOPs and variations % compared to the previous year - Year 2015



Source: Processing by Veneto Region - Regional Statistical System Section on Istat data

leader with 167 million euros, up 11.3% on 2014, followed by Veneto with 93 million euros (-0.7%) and Terre Siciliane with 91 million euros (-3.8%).
Thanks to its very famous certifications and the areas where most of these are located, the Veneto has two provinces in first and second place in the national economic impact of the IG wine world ranking.
In fact, Treviso, driven by the success of Prosecco, and Verona, thanks to the big reds of Valpolicella and the whites of the Soave area, totalled 495.2 and 401.2 million euros respectively. The third province, Siena, achieves a virtually halved value (205 million).

Fig. 5.1.10 - Production value (millions of euros) for the first ten Italian IGPs and variations



Source: Processing by Veneto Region - Regional Statistical System Section on Istat data

Organic

Organic farming comes in on an equal footing in quality agriculture, since global and European regulation prohibits the use of synthetic chemical elements and develops an ethical model that does not exploit natural resources but preserves them in favour of sustainability and well-being spread over multiple levels.

There are almost 44 million dedicated hectares in the world, over 2 million operators and an estimated 80 billion dollars a year turnover.

Growth has been impressive over the last 15 years: between 1999 and 2014 organic Agricultural Land has increased by 4 times and consumption by 5.

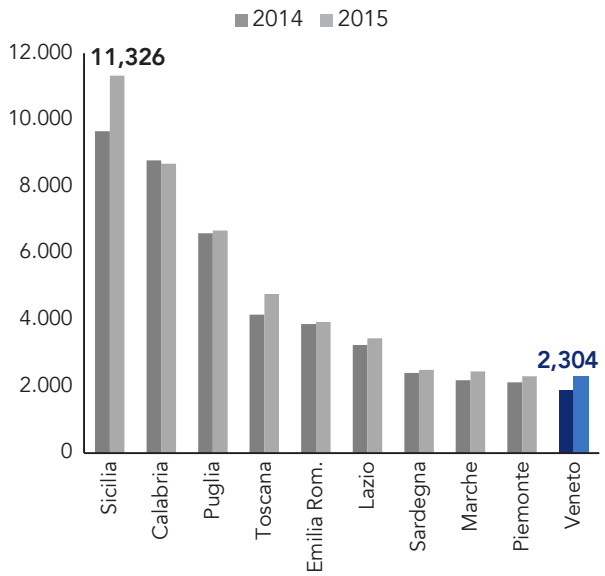
More than 4,000 hectares of organic vineyards in Veneto

Australia is the country with the largest world share of organically cultivated land (17.2 million hectares) but Italy does not stand still since it is the sixth nation in the world and the second in Europe, just behind Spain, with nearly 1.5 million certified hectares up to 2015.

Indonesia is the country with the highest number of operators with 650,000 units, and here too, Italy is one of the top 10 countries in the world and ranked first among the European countries with nearly 60,000 producers, preparers and importers, besides increasing by more than 8 percentage points between 2014 and 2015.

The regions of the south are the undisputed leaders both by the number of operators and the invested acreage: the first three alone, Sicily, Calabria and Apulia, account for almost half of the national operators. The Veneto, among the top ten Italian regions, is the one that is growing most (+22.6%) and totals 2,304 stakeholders.

- Producers, preparers and importers of organically farmed foods in the top ten Italian regions - Years 2014 and 2015



Source: Processing by Veneto Region - Regional Statistical System Section on Istat data

As for the invested acreage, we still find almost the same podium as before, with Apulia and Calabria changing places: even in this case the first three regions cover almost half of the Italian organic acreage, which has grown by 7.5% between 2014 and 2015.

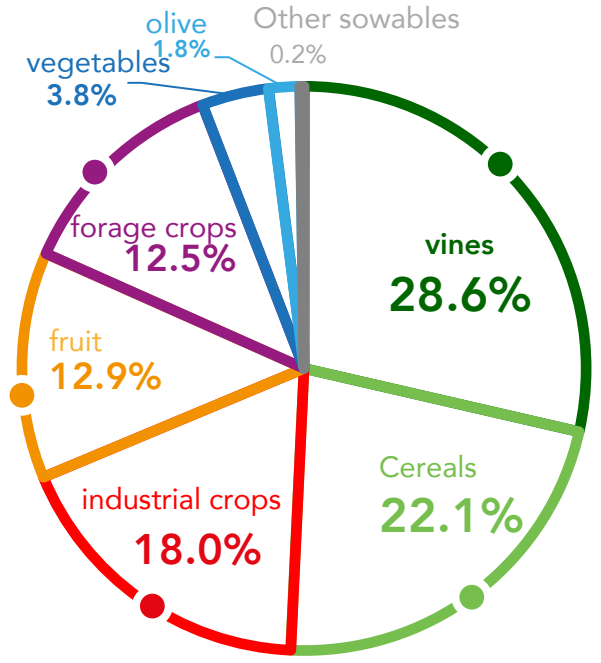
The Veneto with its 17,419 dedicated hectares is ranked fifteenth, growing by more than 10% over the previous year.

Our region sees its most striking growth in the wine sector: since 2013, it has virtually doubled the invested acreage thus earning, thanks to the massive reconversions that are taking place mainly in the Prosecco area, the fifth place among the Italian regions with over 4 thousand dedicated hectares.

Vines are also our region's most represented crop

in the distribution of the organic surface area, a decisive step forward in the debate on the path of sustainability that first involved this cultivation.

– Distribution % of organic surface area by type of crop. Veneto - Year 2015



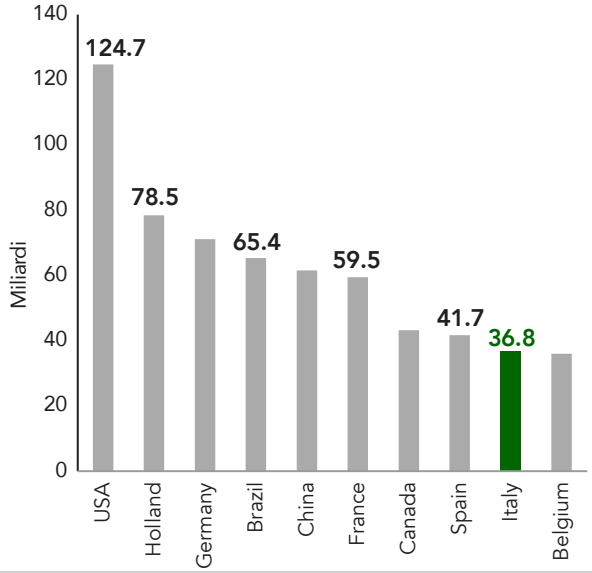
Source: Processing by Veneto Region - Regional Statistical System Section on Istat data

Lastly, with regard to fishery products, Veneto gains the lead in the classification for the number of organic aquaculture companies: of the 42 in existence nationally, 14 are located in our region.

5.2 Exports

During 2015, Italy gained 9th place in the world through the value of exported agri-food products with almost 37 billion euros. The first 3 countries are the United States with almost 125 billion, Holland with 78.5 billion, and Germany with 71.1 billion. Considering the top 5 most exported products (meat, beverages, cereals, fruit and fish), Italy was able to win the third step of the podium for beverages, accounting for nearly 10% of the world's total. The appreciation that Italian agri-food products enjoy abroad is confirmed by the value exceeding the previous year's record every year: this trend is also true for 2016, continuing undisturbed for more than a decade, with the sole exception of the year of the world crisis in 2009. The same trend is also

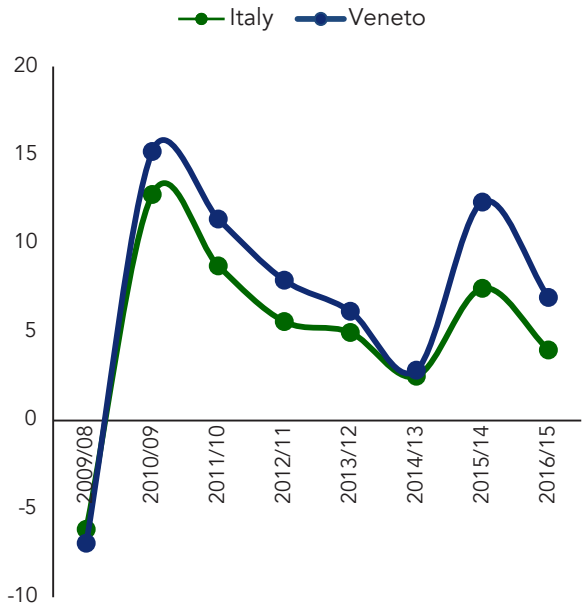
- World Food Export (billions of euros) for the top ten countries – Year 2015



Source: Processing by Veneto Region - Regional Statistical System Section on UN-Comtrade data

confirmed for the Veneto, where our region has growth rates above the national level every year.

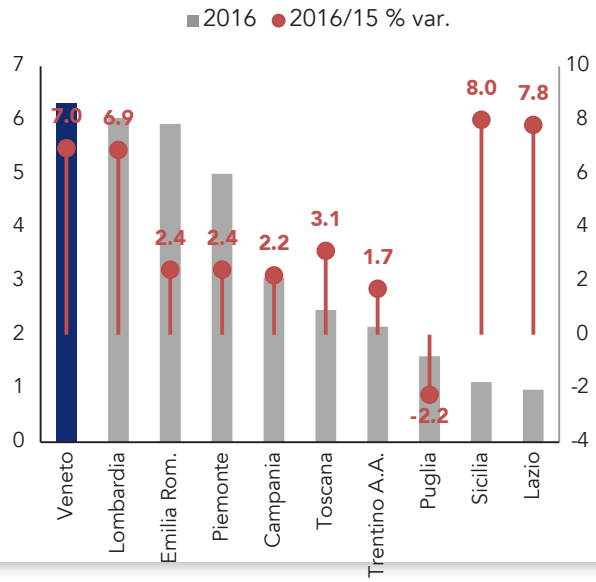
- Exports of agri-food products: % change over the previous year. Veneto and Italy - Years 2009: 2016



Source: Processing by Veneto Region - Regional Statistical System Section on Istat data

At this historic time when general exports for Italy rose by +1.2% and for the Veneto by +1.3% between 2015 and 2016, the growth of agri-food products is even more significant, increasing for Italy and the Veneto by 4% and 7% respectively in the last year.
For 2016, Veneto broke the record of 6 billion euros and is confirmed at the top of the ranking of the Italian regions, which was won for the first time in 2015. Lombardy follows Veneto's performance, also passing the 6 billion threshold with +6.9%, but Emilia Romagna and Piedmont did not keep pace, as they did not grow by more than +2.4%.
Better than the Veneto are Sicily (+8%) and Lazio (+7.8%), while still remaining at a good distance from the leading group.

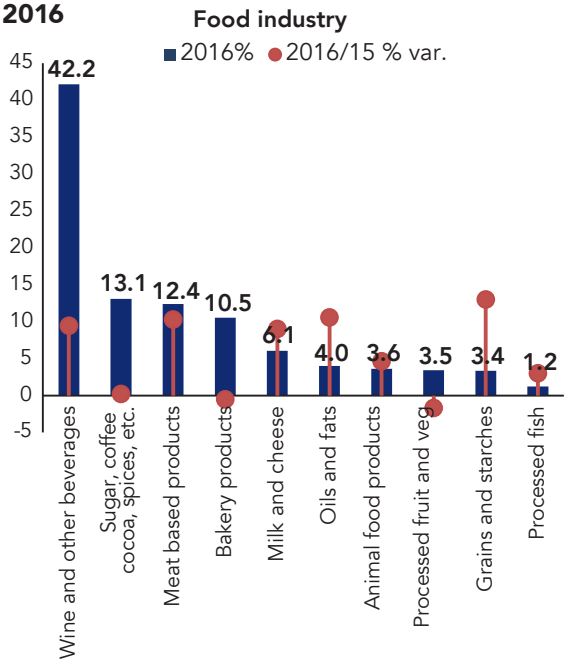
- Exports of agri-food products: classification of the top 10 Italian regions and % change compared to the previous year. Year 2016

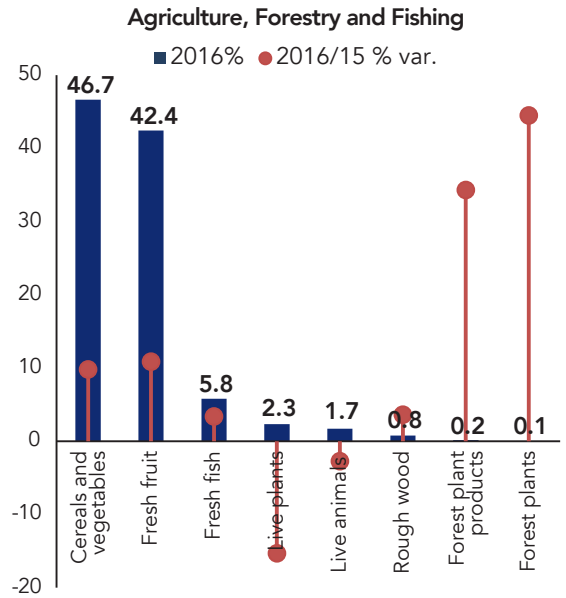


Source: Processing by Veneto Region - Regional Statistical System Section on Istat data

By dividing the composition of the products exported into two categories – "Food Industry" and "Agriculture, Forestry and Fisheries" – we note that for both, product distribution is very concentrated: wine and other beverages account for 42% of the value exported by the industry and cereals, vegetables and fresh fruit cover 89.1% of land products.
On the podium of the industry products we find the category which includes, as well as sugar, tea, coffee, cocoa and spices, and meat products. Apart from preserved fruit and vegetables, down

- Agri-food exports: Distribution % and variation compared to the previous year by category and type of product. Veneto - Year 2016



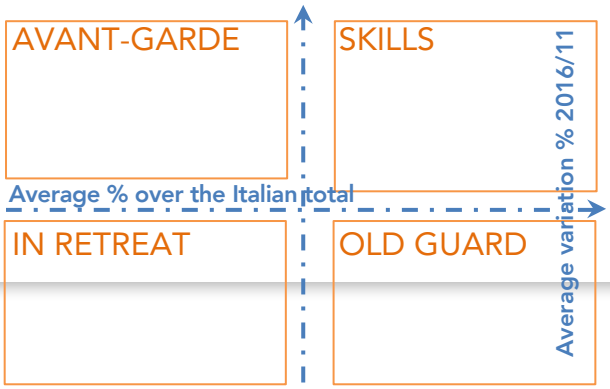


Source: Processing by Veneto Region - Regional Statistical System Section on Istat data

by -1.7%, and bakery products, which essentially remain unchanged from the previous year, all others

report double figure growth, among them starches and grains (+13%), oils and fats (+10.6%) and yet again meat products (+10.3%).
As far as agriculture, forestry and fishing are concerned, we have already seen how fresh fruit and vegetables are in the first two places, but not only – they are also the highest-growth categories for the best-selling products, with +10.9% for fruit and +9.8% for vegetables.
The vast majority of products are growing economically, with many of them in double figures between 2015 and 2016, and even in the last five years reaching triple digit increases.
Considering now the importance that each product has on the national equivalent and its variation in the long run, we can have a more complete idea of the performance of the Veneto's agri-food exports and its singularities within the Italian context. Ideally, the space for representing these two variables can be divided into four quadrants, where for each category division lines represent the average growth value between 2011 and 2016, respectively, and the Veneto's average percentage share on the national total.
We will identify each quadrant with a characterization inherent to its position with respect to the averages of the two variables: the quadrant identified by values above both averages will be named "the abilities". In this quadrant are those products that not only in the five years grew with a rate higher than that of the reference category, but also represent Veneto's larger share over the Italian total. Moving clockwise, in the lower quadrant, which we will call the "old guard", we find the products that have already been exploited in the past and are still able to secure a good percentage of Veneto representation over the Italian total, but with a slower growth rate than the average.
On the left side, we find the quadrant with products that not only grow below average or even fall but are also underrepresented in Italy compared to the category average and which we will call "in retreat".
Lastly, in the fourth quadrant, which we call "avant-garde", the products destined to become the possible future protagonists of Veneto exports are positioned, from the moment they grow above average but are still under-represented on a national level.
For the food industry category, no product has faced a downturn over the last five years and, with the exception of processed fruit and vegetables (+1.9%), all increased their value by at least 10% with an average growth for the whole category of +46.8%.
The record rests with oils and fats, which have more than doubled their value in just 5 years, going from

– Space for representation



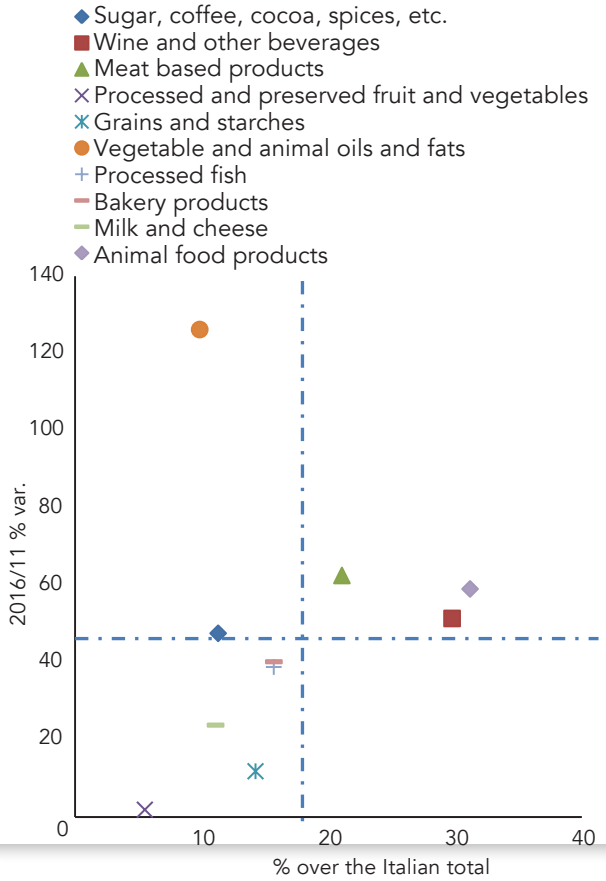
95.4 million euros in 2011 to 215.9 in 2016. Also increased above average are the sugar, tea, coffee, cocoa and spices category (+47.6%), meat products (+62.5%), wine and other beverages (+51.4%) and animal feed (+59.1%).

Oils double their export value over 5 years

The latter three categories are also the most representative of our region on a national level: their value covers 21.1%, 29.8% and 31.2% respectively of what Italy exports to the world.
On average the Veneto represents 17% of the national exports of the national agri-food industry and, as we have seen, it is the Italian region with the highest value.
As shown above, these three categories, which not only grow at a higher rate than the category average, but also represent Italy in the world, are found in the "abilities" quadrant. It is no coincidence that Veneto is among the first regions in Italy for the number of businesses in these sectors, having been able to create real food industry districts within its territory.
In the "avant-garde" quadrant, we find the oils and fats and sugar, tea, coffee, cocoa and spices categories. There are no "old guard" products, while everything else is placed "in retreat".
By conducting a similar analysis of agriculture, forestry and fisheries, the trend of the previous category is confirmed, so no product, apart from live animals (-26.8%), declined over the years in question: with the exception of cereals and vegetables that have

remained substantially stable (+0.4%), we find here rates above +10% and an average category growth of +18.6%. Wood and forest plants have doubled or even quadrupled their value, and are also the same

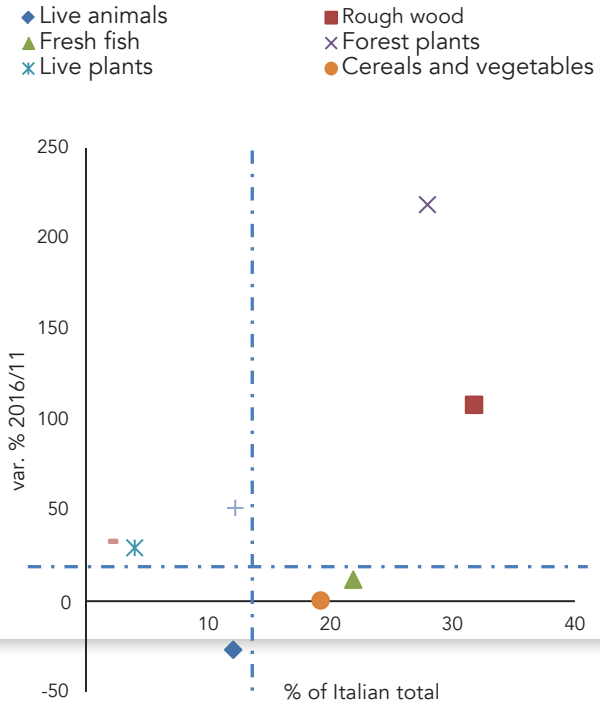
- Food industry exports: variation% 2016/11 and share% of national total per product. Veneto



Source: Processing by Veneto Region - Regional Statistical System Section on Istat data

products that have earned a very respectable place within national exports since they account for 31.8% and 27.9% respectively of the Italian total, with on average the Veneto export in this category amounting to 14.2% of the national total.
Again, these are found in the "abilities" quadrant.
In the "old guard" quadrant we find cereals and vegetables and fresh fish: products that represent the Veneto well abroad but do not have an above average growth rate. In the "avant-garde" quadrant we find fresh fruit, live plants and forest products. If their growth trend is upheld compared to the average, they could earn foreign market shares at the expense of other Italian regions and tend to move towards the abilities quadrant.
Lastly, live animals, which lose much ground compared to all other products, are placed in the "in retreat" quadrant.

- Agriculture, forestry and fishing exports: variation % 2016/11 and share % of national total per product. Veneto

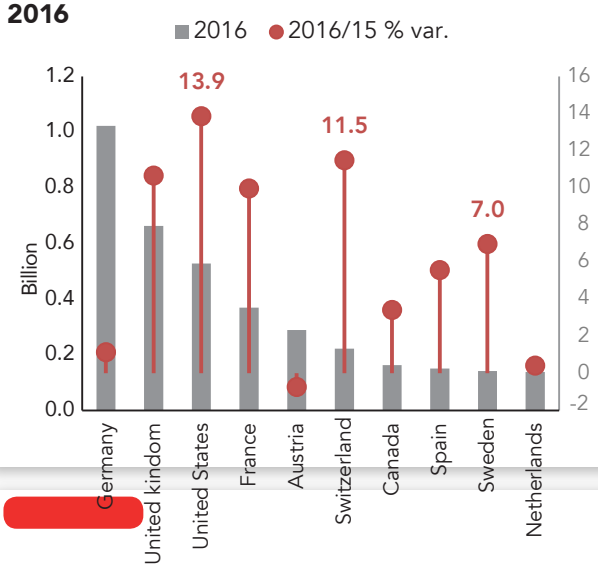


Source: Processing by Veneto Region - Regional Statistical System Section on Istat data

A share of 83.5% and 69.3% of the export value for agriculture, forestry and fishing, and the food industry respectively, remains within the European borders at 28. In both categories Germany spends most: thanks to a growth of +18.5%, during 2016 it covered more than one quarter of Veneto's exports of unprocessed products, while for processed ones , with a value greater than one billion euros, with substantial stability (+1.1%) over 2015, the share accounted for 19.1%.
As we have seen, the overwhelming majority of Italy's agricultural products' export value remains in Europe and in fact the top 10 partners for this branch of our exports are all Europeans and, with the sole exception of Holland, all are growing consistently: Germany, Switzerland, Hungary, the Czech Republic and France reach double digits.

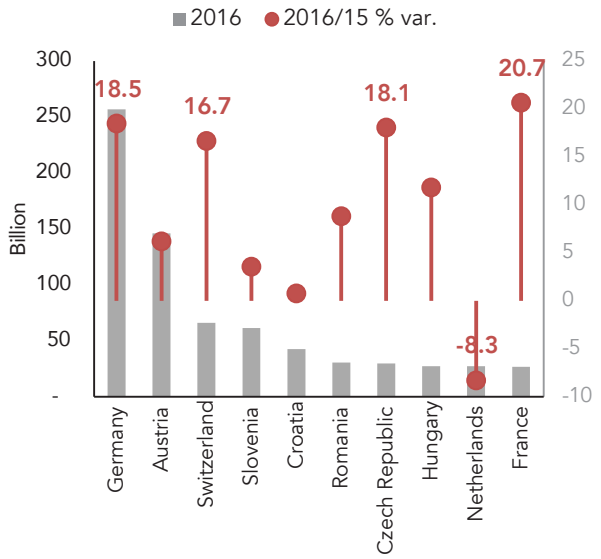
The growth of exports of vegetables and cereals to Germany (+26.5%) and the Czech Republic (+23.6%), fresh fruit to Switzerland (+26.8%) and France (+55.6 %), and fish to Slovenia (+30.6%) and Hungary (+23.7%) are particularly consistent.
As for processed products, the top ten trade par

- Food Industry exports: ranking of the top ten partner countries and variation % compared to the previous year. Veneto - Year 2016



Source: Processing by Veneto Region - Regional Statistical System Section on Istat data

– Agriculture, forestry and fishing exports: ranking of the top ten partner countries and variation % compared to the previous year. Veneto - Year 2016



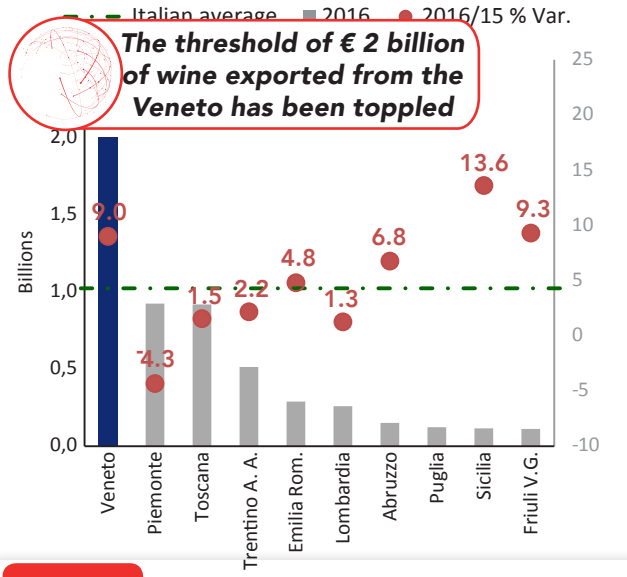
Source: Processing by Veneto Region - Regional Statistical System Section on Istat data

tners include the English-speaking countries, with the United Kingdom and the United States gaining second and third places and Canada seventh place. Excluding Austria, which decreased slightly compared to 2015 (-0.7%), even here all the countries are growing their Italian imports, with the USA, UK, France and Switzerland having the best performances.
We note that the most interesting growth for meat product exports are in the UK (+55.3%) and France (+42.2%), for animal feed products still in the United Kingdom (+56, 8%), cheeses and dairy products (+52.3%) and grains (+51.9%) in the USA, for oils and fats in Switzerland (+45.8%).

Wine

Wine is the sector in which the Veneto shows its ability most of all: for the umpteenth consecutive year, we are confirmed the leading Italian region in export, surpassing for the first time the ceiling of 2 billion euros in 2016, with growth over the previous year of 9%. Of the 5.6 billion euros value of wine exported from Italy, 35.6% belongs to our region, a share that increases annually. And if up to 2015 the other two regions on the podium, Piedmont and Tuscany, managed jointly to beat Veneto's share alone, for 2016 this rule is no longer valid: in fact, Piedmont, down by -4.3%, and Tuscany (+1.5%) added together do not exceed a value of 1.84 billion.

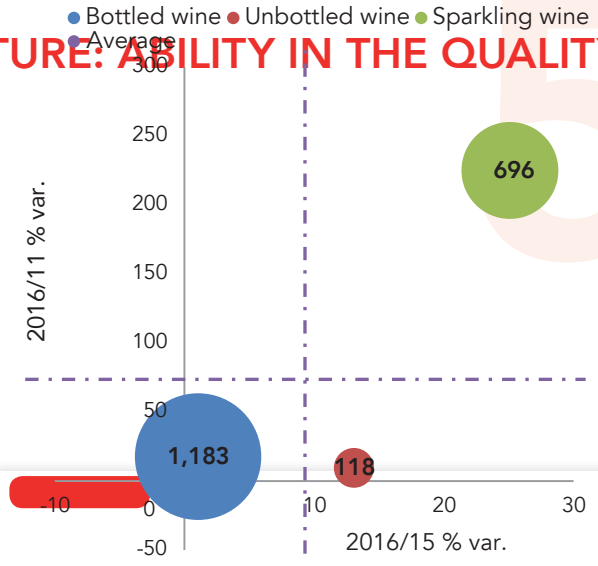
- Exports (billions of Euros) of wine by region and % variation over the previous year - Year 2016



Source: Processing by Veneto Region - Regional Statistical System Section on Istat data

In Apulia and Sicily, which after the Veneto and Emilia-Romagna are the largest Italian wine producers, we are witnessing a real boom, with double digit growth of respectively +20.6% and +13.6%.
Most of the wine exported from our region, namely a share of 59.1% of total value, is bottled, although this share has gradually diminished over time, since it represented 75.5 % of the total in 2011. The value sold is wholly in favour of sparkling wine, which goes from 16.1% in 2011 to 34.8% in 2016.
Bulk wine, representing the residual share, stands at 5.9%.
Therefore, the best performance is from sparkling wine, which grew by 225% between 2011 and 2016 and 25.1% between 2015 and 2016, touching the record of 700 million euros.

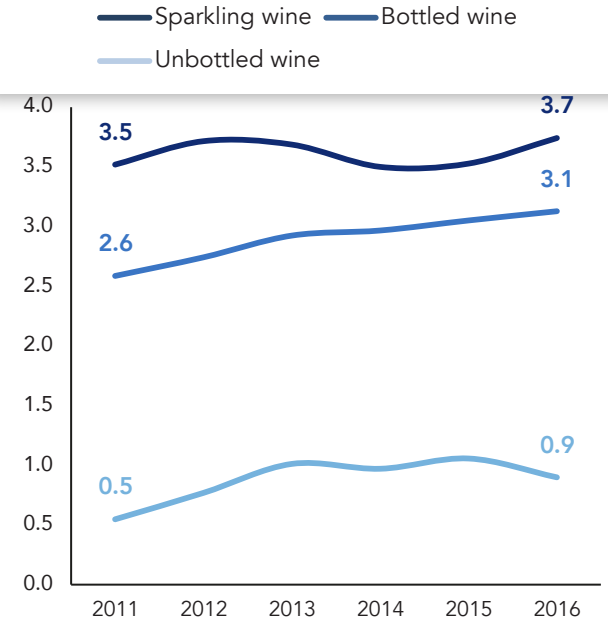
- Performance by type of wine. Value for 2016 (millions of euro), variation % 2016/15 and variation % 2016/11



Source: Processing by Veneto Region - Regional Statistical System Section on Istat data

The export value of bottled non-sparkling wine is also growing, albeit at a significantly lower rate than sparkling wine: last year it gained 1% point and has grown by 17.6% since 2011.
Finally, bulk wine exports are growing, after the downward trend in recent years, achieving +13.1% in 2016 and +9.5% in the long run.
As for prices, over time, we see a rise in bottled wine, which ranges from 2.6 euros per kilogram in 2011, to 3.1 in 2016, and bulk wine, which virtually doubled in value (from 0.5 euros to 0.9).

- Price of exported wine (euro per kg) by type. Veneto - Years 2011: 2016

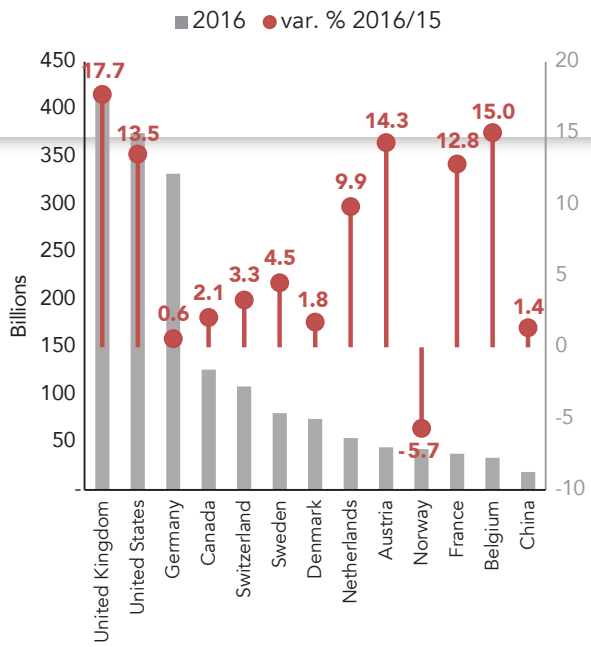


Source: Processing by Veneto Region - Regional Statistical System Section on Istat data

Sparkling wine returns to its last year's highest historic value, already reached in 2012 and 2013, with

3.7 euros per kg.
For the first time in 2015, the UK won the top of the ranking in export value: for this year, it is reconfirmed at the top, rising by +17.7% compared to 2015 and +132.1% since 2011, definitively unseating Germany from first place. With over 411 million euros of total imports, it shows more than any other country a strong propensity for the bubbles from the Veneto: 66.6% of the wine bought from Veneto falls into this category and 3 bottles of sparkling wine in 4 bought from Italy are from the Veneto.
Our second market in value, the United States, shows a preference for bottled non-sparkling wine (59.2%), although the bubbles are not being scorned, as they amount to a good 37.7%.
Again, growth in this case was remarkably high (+13.5%) compared to 2015, a growth that has not stood still in recent years and has increased by almost 70% since 2011.

– Wine exports: ranking of the top 10 partner countries and % change over the previous year. Veneto - Year 2016



Source: Processing by Veneto Region - Regional Statistical System Section on Istat data

Germany, as absolute historic leader, is now in third place: although continuing a slow and steady growth trend over the years, +0.6% in value in the last year and +6.8% since 2011, it fails to perform like the UK and USA.

The top 4 places of our trading partners are held by English speaking countries: Canada has the step off the podium through purchased value, up 2.1% over the last year and 20.2% in the long term. The Canadian preferences point to bottled non-sparkling wine, which accounts for almost all imports from the Veneto (86.2%).
China is undoubtedly the most interesting country, not just through its growth in recent years, but also for future prospects, both for the increased attention of the Chinese middle class towards the nectar of Bacchus and for the large numbers it represents. At present, the Veneto's export share to China accounts for only 1% of the total, but growth rates promise well for the foreseeable future: 2015 and 2016 values rose by only 1.4%, but have almost doubled in the last five years; similarly, prices are rising.
We close with the country of the rising sun, which not only has interesting growth rates and a propensity for sparkling wines (more than a quarter of the value purchased from the Veneto), but also price dynamics that are higher on average than other countries.
The Veneto has a lot to gain in Japan, since it accounts for 17% of wine imported from Italy and it is Italy itself that is their third market in the world, after France and Chile.
In conclusion, the denominations of "food" and "wine" origin and geographical indications account for 24% of national agricultural production and are capable of being satellite industries that do not just stop in the production area but cross regional and national borders with their wealth of history and culture, from the most distinguished products, which hold most of the economic value, to the lesser known and the niche, whose task is to preserve production and cultural methods otherwise destined for extinction, and whose high added value is only economic in the last instance.

5.3 The evolution of human capital abilities in agriculture[1]

According to the OECD, human capital is an aggregate of knowledge, abilities and competencies acquired by individuals who, apart from contributing to the improvement of personal living conditions, facilitate the creation of social and economic well-being.

1 Published by Veneto Agricoltura - Veneto Agency for Primary Sector Innovation

The term "human capital" means overcoming the concept of the human factor as a simple workforce and emphasizes the idea that it qualifies as a combination of individual, tangible and intangible resources, tacit and codified based on knowledge and ability to update. Such resources, or rather, the stock of abilities the human capital has, are capable of generating income streams and making those who have it act/work in innovative and more efficient ways.
Some indicators help to describe the characteristics and abilities of human resources, including education and training, information, knowledge (especially in the field of new information technologies) and their effects on productive activity, for which a purely quantitative approach cannot provide a complete picture.

Education and training of agricultural entrepreneurs

While being heavily influenced by all of the innate individual abilities, human capital does not just concur with them but is producible and accumulative: personal choices count, but also a whole series of institutions, primarily the school, which is capable of affecting the human capital production of individuals.
In a fast-changing social reality and competitive environment, it is a fact that a business management approach based almost exclusively on know-how and the entrepreneur's practical knowledge no longer guarantees the ability to remain successful on the market. If the abilities and know-how matured by experience were sufficient in the Veneto, where according to the latest Agriculture Census the agricultural entrepreneurs aged over 60 years account for 56.3% of the total, agriculture should be a haven in the confusion of an economic system that has given more than one sign of collapsing since the beginning of the economic crisis.
However, this is not the case, and not much time passes between alarm cries on the crisis and demanding situations being faced by this or that agricultural sector due to the fall in prices or the tightening of competition by other productive areas, or through the farms' lack of economic sustainability. Milk, pig breeding, fisheries and radicchio cultivation are just some of the most recent cases.
The scope of basic education and continuous training thus becomes a crucial issue in the agricultural sector as well, and it has a discriminatory effect on the entrepreneurs' abilities.
It is certainly a good thing that, as far as the Veneto farms are concerned, the share of farm managers with a higher education qualification is increasing: in the last Agriculture Census of 2010, the percentage of agricultural entrepreneurs with a school-leaving certificate, whether qualifying (i.e. 2-3 years) or upper secondary (4-5 years of studies for the maturitá), rose to 19.4% (from 13.9% in 2000), while the proportion of graduates increased from 2% to 3.3%.
The merit of this growth must be attributed to the university and higher education offer, accompanied by a consolidated and widespread training proposal throughout the territory thanks to the continued attention of the accredited regional structures in training and updating activities being addressed to both agricultural workers (entrepreneurs and employees), as well as intermediate operators in the agricultural knowledge system (trainers, consultants, representatives of trade associations, etc.).
The Rural Development Plan (RDP) has in recent years been an important source of funding for training and information activities in the agricultural sector[2].
Considering just measure 111, at the end of 2015 public spending amounted to about 18 million euros, of which 93% had already been paid off.
This represents a considerable dedication of resources, confirming the importance attributed by the Veneto Region to training, which has produced positive results and certified an improvement in the situation.
Data from the 6th Agriculture Census, which could be considered as a starting point, showed that 6% of agricultural entrepreneurs in 2010 (7,485 individuals) had attended a training course in the previous 12 months.
The highest attendance rates were recorded for the lower age groups: 21% were young entrepreneurs under 35 years old and 20% under 40 years old, while percentages dropped dramatically among 46-60 year-old entrepreneurs (9%) and those more than 60 years old (3%).
However, from the latest 2015 annual report on the state of implementation of the 2007-2013 RDP, it emerged that the number of participants in collective training amounted to 24,562 individuals, with an

2 In the 2007-2013 planning, activities were carried out with Measure 111 (Vocational Training and Information for Agricultural, Food and Forestry Workers), Actions 1 and 3 and, to a lesser degree with Measure 331 (Diversification towards non-agricultural activities), Action 1.

implementation rate of +351% compared to the initial target set at approximately 7,000 participants. Those who successfully completed a training activity numbered 14,243, of whom 42.4% were young entrepreneurs under 40 years of age. Another interesting piece of information concerns the qualification of those successfully trained: 45% of the cases had secondary school leaving certificates and 8.8% had degrees, far above the numbers recorded for agriculture in the 2010 Census.

Training activities have been undertaken mainly to improve the enterprise's administrative and economic management (63% of the total number of participants), with 15% aiming to acquire greater knowledge to adapt to new commodity standards and adhere to quality systems, and another 13% targeting the environmental sustainability of production processes.

There is less interest in the acquisition of knowledge for innovation in technological processes (7%) and less still (2%) for specific ICT training (Information and Communication Technology) aimed at computerization of production processes.

Acquired knowledge has generally had a positive impact since it has found an immediate application in business practice, especially by participants training in business management efficiency and adherence to quality systems (89%) and those who participated in ICT training events (82%).

90% of young entrepreneurs used the acquired knowledge successfully

Training on environmental sustainability was applied within the enterprise by 75% of the participants (a share rising to 85% among young people under 40 years of age), while the share of those who used the acquired knowledge is reduced to 68% among the participants in safety at work training and further falls to 61% for specific training on innovation.

From surveys conducted on a significant sample of entrepreneurs (around 420) who participated in the training measures in the 2007-2013 RDP, it emerged that 85% of those who successfully completed a training course stated that they had used knowledge gained in the business with positive effects.

The percentages of those who claimed to have had positive effects from the acquired abilities on the introduction of technological innovations (19.7%) or computerized production management methods (18.3%) were much less significant.

Among young entrepreneurs, the percentage of those who claimed to have made improvements from the use of the knowledge gained rose to 90%, with more significant shares in comparison to the total for safety at work (77%), environmental sustainability (64%) and competitiveness (63%).

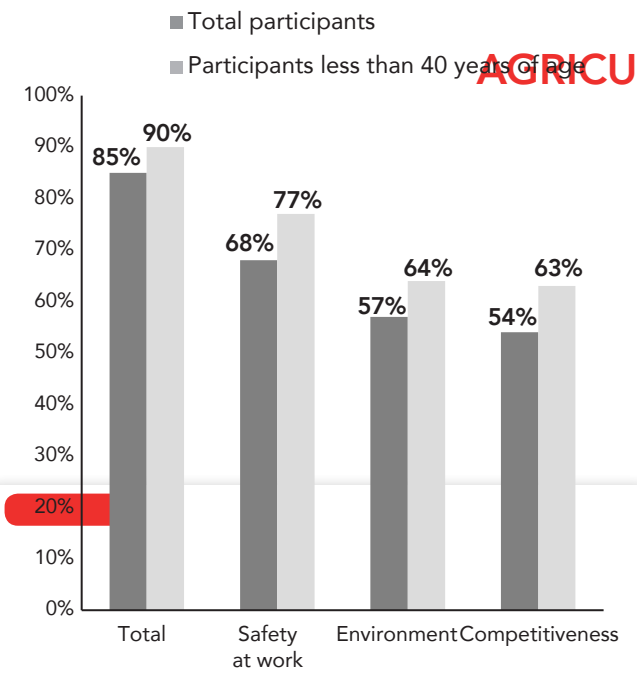
	Totale	of which young people
Collective training courses	3.074	
Participants in individual training	1.716	120
Total training participants	24.562	
Number of successful participants	14.243	6.040
men	10.446	4.527
women	3.597	1.513
Number of information events	2.301	
Number of participants at information events	49.573	
Single number of participants at information events	32.937	

- Measure 111 summary indicators of result and product - RDP Training Actions 2007-2013 (*)

Participants' qualification (measure 111 - action 1 and 3)	46%
Elementary or lower middle school diploma	45%
High school leaving certificate	9%
Degree	

- Successful participants in training who declare improvement of business activities

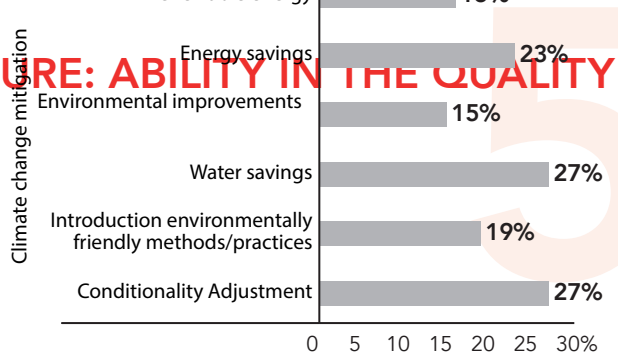
(*) data updated to 31/12/2015
Source: Processing by Veneto Agriculture on Veneto Region data RDP 2007-2013. Annual Implementation Report 2015



Source: Processing by Veneto Agriculture on Veneto Region data RDP 2007-2013. Updated Intermediate Assessment Report 2012 – Annex I Evaluative analysis by measure

Approximately 69% of the surveyed sample said they had improved their working conditions; most (about 54%) attributed this improvement to lesser risk exposure and less adverse environmental conditions, with a greater occurrence among agricultural entrepreneurs over 40 years of age. By way of contrast, those who attribute such improvement to higher remuneration or to an increase in the company's added value have a 23.3% share and are predominantly young entrepreneurs.

- Improvements declared by the participants



Source: Processing by Veneto Agriculture on Veneto Region data RDP 2007-2013. Updated Intermediate Assessment Report 2012 – Annex I Evaluative analysis by measure

Agricultural start-ups

Useful indications can be picked up by taking into consideration the ability of farms to start activities with innovative features. So-called "start-ups" can be taken to be companies that intend to apply new knowledge and abilities to open up new business lines. Law no. 221 of 2012 set out specific rules and requirements for the recognition of innovative start-ups. It concerns a particular type of enterprise for the production, development and commercialization of innovative high technology services or products which can foster young people's employment and entrepreneurship.

As these companies are required to register in a special section of the Companies Register of the Chambers of Commerce, the evolution of the phenomenon can be analysed with objective data indicating how in just a few years the number of Italian start-ups has increased considerably and is currently around 6,800 businesses. 23% of them are in Lombardy and 11% in Emilia Romagna, Veneto is third in the regional ranking with a share of 8.4% of the total, equal to 572 units . There are relatively few start-ups under the heading "agriculture" and "agro-food industries": 35 start-ups in agriculture/fisheries and 51 in the food and beverages sectors are active at a national level. In the Veneto, 3 in agriculture and 6 in the food industries have been recorded, amounting to 1.5% of the total.

These are numbers that add up to sectors that are less dynamic and less receptive to innovation than those of services, industry, scientific research, software production, etc. However, the situation is much more interesting and articulated than the mere statistical data seem to indicate. What is noticeable is the conviction of many start-ups that even agro-food can be a promising business sector for the development of services, technologies, software, etc. aimed at agricultural entrepreneurs' improving the management of knowledge and abilities. These investment opportunities are called "foodtech" and "agritech" which on a global level raise

vast assets ($4.5 billion in 2015 alone) through new financing systems such as business angels, venture capitalists and crowdfunders.
A strong signal in this regard comes from the Paris International Agricultural Machinery Show 2017, with the theme "Be a Farmer in 10 Years", which featured the proposals for start-ups for computerization of agriculture, exchange platforms and management assistance and support for sustainable development. And further confirmation comes from a survey carried out in 2016 by the Smart AgriFood Observatory (set up by the Polytechnic of Milan and the University of Brescia) that has identified more than 180 national innovative solutions proposed by start-ups for the agricultural field. Of these solutions 80% relate to precision agriculture (crop monitoring, soil mapping, irrigation and fertilization, etc.), 8% to livestock (e.g. control of animal health), 7% to product traceability and 5% to the dematerialization of procedures. The predominant across-the-board theme is the reduction of environmental impact, while the most important sectors are viticulture and fruit and vegetables, but also cereals and olive cultivation, with most solutions applicable to multiple sectors.
The data and analyses appear to indicate how the Veneto farming entrepreneurs are able to exploit their abilities profitably, even generating innovative activities. In particular, it emerges how continuous participation in training and information activities enables them to increase their abilities/knowledge and their use has a positive impact on the enterprise. In addition, it has been highlighted how some characteristics such as younger age, a higher school qualification and greater company computerization enable higher economic output to be achieved. This is a further demonstration that training, age and abilities acquired, and diversification of activities, are key factors in defining human capital and its abilities.

Chap.6 – Work in Veneto: between talent and opportunities

This chapter's objective is to describe the characteristics of the Veneto labour market, presenting the abilities at stake, system criticalities and growth opportunities for a steady and continuous development. The historic manufacturing character of our territory has prompted people to undertake more technical and theoretical training and work paths: the qualifications of the Veneto employees and the professions carried out are therefore on an average level. Despite this, the quality of the Veneto production base is high, as craftsmanship and technical work, requiring middle-level abilities, hide higher levels of ability within them.
If on the one hand, the shortage of highly specialized jobs does not slow down employment and the spirit of adaptation, it leads many people, especially graduates, to carry on professions that do not fully reflect their abilities and work aspirations, thus fuelling underdevelopment and underemployment. Therefore, for fair, inclusive and sustainable growth, it is necessary to focus on implicit abilities and talents, especially in young people and women. These categories of workers are, in fact, more educated than average, but on a work level are more penalized because they have a hard time getting onto the labour market and exploiting their potential.

Pushing towards growth: the interplay between ability and work

The European Union calls on the Member States to focus on the integration of abilities and the world of work to ensure fair, inclusive and sustainable growth. However, there are still many critical issues: according to studies, millions of Europeans do not have adequate competence in reading and writing, and an even greater number lack mathematical and digital abilities. There are, then, some misalignments between the world of work and the world of education: many highly qualified young people perform jobs that do not match their talent and aspirations, and at the same time European employers complain that they are unable to find people with the right abilities for growth and innovation. Finally, Europe lacks a widespread entrepreneurial mindset that would enable people to start their own business in order to adapt to the ever-evolving needs of the labour market.
It is therefore important to recognize those critical problems in the territory and to promote across-the-board abilities, also based on dialogue with the working world, so as to ensure a constant and continuous development for individuals and society.
As can be seen in this chapter, the Veneto has some particular characteristics from the point of view of employment: the historic manufacturing character and the quality of companies and services that persist around the region have pushed people towards more technical and theoretical abilities. Even so, the qualifications of our employees remain moderate and the roles they hold are of a medium level (see sub-chapter 6.1).
Our region's high employment also hides some problems. The shortage of highly specialized jobs means the employed, especially graduates, carry out work that is not in line with the study programme they have undertaken and with their ambitions, thus fuelling overqualification and underemployment (see subchapter 6.2).
It is therefore essential to focus on implicit abilities and talents to maintain the high standard of quality that our region has always guaranteed: young people and women are in this sense primary targets.
Young people from the Veneto achieve outstanding results during their education, regardless of the school they attend, and find work more easily than young people in other Italian regions. However, their abilities are not always fully appreciated and, as already mentioned, overqualification is rife. In addition, the influence of the family of origin is still relevant in orienting the choices and opportunities offered to young people (see subchapter 6.3).
On the other hand, women have higher qualifications than men, but they are more penalized at work. They are, in fact, less employed and have less prestigious roles. In addition, even at the same professional level, remuneration for women is always lower than that of their male colleagues, as evidenced by the fact that it is more difficult for a woman to follow the same professional career as men and achieve the same results (see sub-chapter 6.4).

6.1 Working competently

Employment by sector

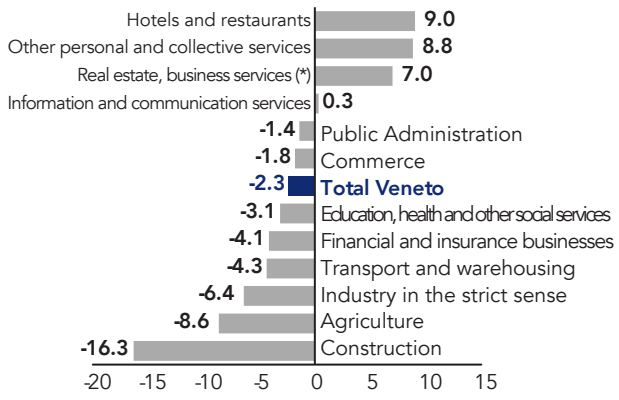
As seen in the chapter dedicated to the economic situation, the Veneto's labour market in 2016 saw good signs of recovery: the employment rate grew by more than 1% and the number of employed by 1.4%, while the rate of unemployment fell below 7%. Even for young people, the economic crisis seemed to have loosened its grip: the unemployment rate among those aged 15–24 dropped by 6% and at the same time youth inactivity decreased[1].

Hotels and restaurants, a growing sector despite the crisis

By analysing the Istat survey's data on the labour force] it emerges that in recent years the labour market trend has not been uniform among the various economic sectors: some have paid the price of the economic crisis more than others in terms of employment. From 2011 to 2015, only a few sectors in the Veneto managed to keep the employment balance positive: hotels and restaurants increased the number of workers by 9%, as well as collective and personal services (for example, services for the person such as hairdresser/beautician fall into this category, and the activities of households and cohabitants as employers of domestic staff). Real estate, business services and other professional and entrepreneurial activities also performed well (+7%).
At the other end, however, we find the construction sector has lost 16% of the employed, about 27,500 individuals. Agriculture's labour force has also suffered significant losses over the last four years, decreasing by almost 9%.

1 See paragraph 2.6 in chapter 2 for further information.

Fig. 6.1.1 - Percentage change of employees by economic business sector 2015/2011. Veneto



(*) Real estate, business services and other professional and entrepreneurial activities
Source: Processing by Veneto Region - Regional Statistical System Section on Istat data

The abilities of the Veneto's workers

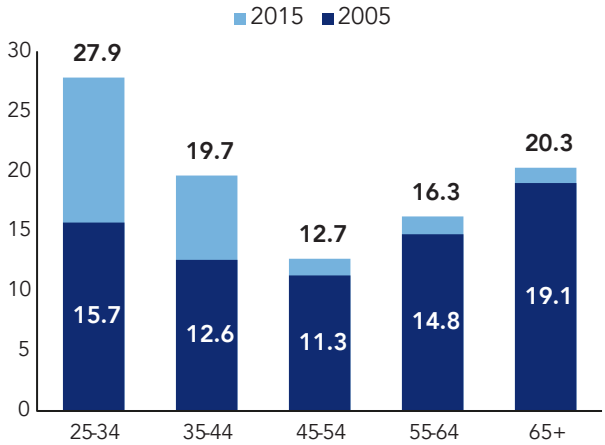
But what are the abilities of the Veneto's employed? As a first proxy for answering this question we can analyse the qualifications. In 2015, 31.4% of the employed in our region had a middle school certificate, while more than half had an upper school diploma (50.7%) and 17.9% a degree or higher qualification. In comparison to other Italian regions, the Veneto is in a special position; although it has a rather small proportion of employed with low qualifications, the percentage of graduates is still weak: only in other two regions is it below 18%, Valle d'Aosta and Apulia. It therefore emerges that Veneto workers have average abilities, in line with the manufacturing character of our region. Probably over the years, immediate job availability after gaining the upper school diploma led many young people to prefer work to further education, thus curbing the increase in higher education that has been seen in other Italian regions.

More graduates among the young and old employed

However, the situation is very variable depending on age. Among the Veneto's employed aged between 25 and 34, the share of graduates is 28%, decreasing to 13% for those aged between 45 and 54. In older age groups, and in particular for those over 65, the number of graduates goes back up: in fact, low-skilled workers with low qualifications retire earlier while professionals (e.g. doctors, University professors, lawyers, etc.) tend to postpone their exit from the labour market.

Despite this gap in the Veneto's formal education levels, the situation has certainly improved over the past ten years: the percentage of graduate workers in the Veneto has gone from 12.7% in 2005 to 17.9% in 2015 (+5%). The increase is even more evident for younger age groups: +12% for those aged 25-34 and +7% for those aged 35-44.

Fig. 6.1.2 - Percentage of employed graduates by age. Veneto - Years 2005 and 2015



Source: Processing by Veneto Region - Regional Statistical System Section on Istat data

A quality production system even though there are few highly specialized professionals in the Veneto

Occupational training levels therefore reflect the manufacturing character of the Veneto. This aspect is also evident through a study of the professions carried out. Compared to other Italian regions, the Veneto is characterized by a more limited range of professions with high levels of competence: in particular, it is the region with the third lowest percentage of legislators, entrepreneurs and senior management and has the lowest percentage of professions with a high level of specialization, such as engineers, architects, university lecturers and professors. At the same time, some professions are more widespread in our region than the national average. This is the case for technical professions, craftsmen and skilled workers, plant managers, fixed and mobile machinery workers and vehicle drivers.

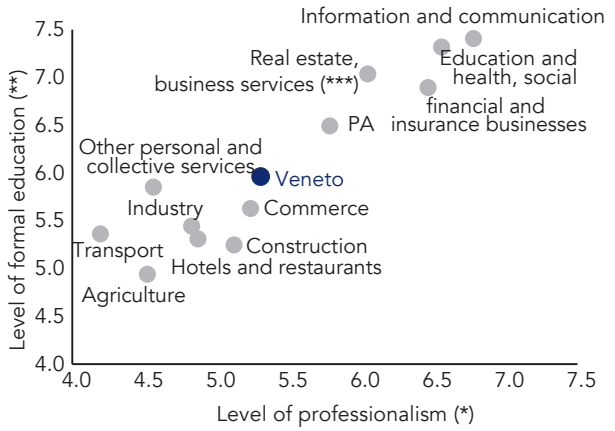
It must be emphasized that craftsmanship and technical work, which require formal middle-level com-

petences, hide higher levels of ability within them: if it is true that in the Veneto the qualifications of those employed are lower than those in other regions on average, it is equally true that the quality of the Veneto's craftsmanship and production base is of a high standard; just think that the Bello, Buono e Ben Fatto (BB&B: [beautiful, good and well made]) products are one of the pillars of the local production system, accounting in 2014 for 30% of the regional manufacturing exports, compared to the national average of 18%.

More graduates and more qualifications in the information and communication services field

By comparing information on the qualifications of the employed, the professions carried out and the economic sectors, a photograph of the Veneto labour market in 2015 and the abilities fielded emerges. Starting from the schooling level, a concise formal education indicator has been calculated, which assumes values from 1 to 10 and increases as the qualifications increase. Similarly, an indicator of professionalism has been calculated, which also varies from 1 to 10, and increases as the abilities needed to carry out a certain profession grow. First of all, a good consistency between qualifications and professionalism[2] can be seen; as the former grow, so does the latter. There are also important differences between the various economic sectors. Agriculture is the sector with lesser abilities: the qualifications are medium-low (52% of the employed only have a middle school certificate) and the professions are little qualified (20% carry on unqualified professions, compared to 10% of the Veneto's total). The transport and storage sector also has the same characteristics, though the professions' low specialization is more obvious (55% are unqualified workers or drivers).
At the other end, there is the information and communication service sector: almost a third of employees have a degree or a higher qualification, and nearly a quarter of them carry on highly specialized professions. Of course, the education and health sector is characterized by elevated levels of education and high professional levels.

Fig. 6.1.3 - Employed by sector, level of professionalism (*) and formal education (**). Veneto - Year 2015



(*) Level of professionalism: 1 corresponds to low-skilled professions and specializations, 10 to highly-skilled professions and specializations
(**) Level of formal education: 1 corresponds to low qualifications, 10 to high qualifications
(***) Real estate, business services and other professional and entrepreneurial activities
Source: Processing by Veneto Region - Regional Statistical System Section on Istat data

Continuous training

Abilities, knowledge and competences are not just acquired through formal education but also through a continuous training process based on work experience and lifelong learning. With regard to this last aspect, in the Veneto in 2015, 7.4% of the employed had taken part in education and training activities in the last month, in line with the national average (7.6%). However, among the Central North regions, the Veneto lags behind and does not shine through high levels of life-long learning.

More training in qualified professions

These differences are partly due to the region's types of profession; it is easy to see that professions with an elevated level of expertise need more upgrades than other, less qualified professions: in the Veneto, among the legislators, entrepreneurs, senior executives and highly specialized professionals the life-long learning rate rises to 17% and 11% among technical professions, while it falls to 3% among craftsmen and unqualified professions. As has already been explained, our region is characterized by medium expertise professions, so it is justifiable to expect fewer percentages of employees attending training activities. However,

2 For further details on the relationship between qualifications and professions, see the next sub-chapter dedicated to overqualification.

the Veneto's gap cannot be explained simply by the greater or lesser number of professional figures, but can also be seen through the same level of work, perhaps as a sign of the region's lesser sensitivity to the training of workers.
Education and skilled jobs against unemployment
Getting higher qualifications and performing more qualified professions is also an advantage in terms of lower unemployment risk. In 2015, the Veneto's unemployment rate was 7.1%, but this figure varied between 8.3% of those with middle school certificates and 5.6% of graduates. It is clear, therefore, that the degree is a protective factor in preventing unemployment, and this is even more evident if we include the age class in the analysis. Among young people under the age of 30, the average unemployment rate is 18.4%, which rises to 23.8% among those with a low qualification and drops to 17.3% among who have a university degree, with a gap of six and a half percentage points.

Tab. 6.1.1 – Unemployment rate (*) by age group and qualification. Veneto – Year 2015

	15-29 years of age	30 years and more	Total
Up to middle school diploma	23.8	7.1	8.3
School leaving certificate	17.4	4.6	6.8
Degree	17.3	3.3	5.6
Total	**18.4**	**5.2**	**7.1**

(*) Unemployment rate = (Job seekers/Work Force)x100
Source: Processing by Veneto Region - Regional Statistical System Section on Istat data

Finally, even if it is not possible to calculate unemployment rates by profession, we can compare the last job done by unemployed people with those employed by profession. It can therefore be estimated that there in the technical professions there are 3 unemployed people for every 100 employed. Likewise, for every 100 office workers, there are 5 unemployed ex-office workers and for every 100 skilled workers in commerce there are 7 unemployed. The proportion reaches its highest level among less qualified workers: in unskilled professions for every 100 people in employment, there are over 13 unemployed. The figures for legislators, entrepreneurs, senior management and highly specialized professionals are not statistically significant, and it is therefore clear from the available data that higher-skilled professions guard against unemployment, just as do higher education qualifications.

6.2 Unexploited abilities

Overqualified/Underemployed workers
The European Parliament and Council Recommendation of 23 April 2008, in its presentation of the European Qualifications Framework (EQF), defines abilities as "the capacity to apply knowledge and to use know-how to accomplish tasks and solve problems". Knowledge, on the other hand, is the "result of assimilating information through learning". In addition to this, there is the concept of competence, that is, the proven ability to use personal, social and/or methodological abilities and knowledge in work or study situations and in professional and personal development. The European Parliament recognizes the development and knowledge, abilities and competences of citizens as pillars "fundamental to the individual development, competitiveness, employment and social cohesion of the Community".
From this premise, it is clear how knowledge is important for the development of abilities and competences to expend on the labour market and in social life; at the same time, however, knowledge cannot be kept to oneself and cannot be sterile: it must be brought to fruition to be transformed into abilities and competences. If this does not happen, society wastes energy as it invests resources in human capital formation, which is then not put in a position to give back to society the value-added investment.
In other words, when a person works below their own capcities and abilities, there is a rift between the training system and the world of work that can no longer move in the same direction.
Therefore, a worker who has a higher qualification than that required to carry out a certain profession, is defined as overqualified. There is no official data for this phenomenon, but an estimate can be provided from the Istat Data on Work Forces and the New Classification of Professions (CP2011). The basic criterion of this classification is that of the level and field of application of the competences required to perform properly tasks associated with a profession. Competence levels are defined by considering the nature of the job that characterizes the profession, the level of formal education, and

the amount of training or experience required to perform adequately the tasks envisaged[3] . In this section, we will compare the worker's qualification with the qualification that the CP2011 classification envisages for the profession, aware that formal education is only one of the elements that define an individual's competences[4] .

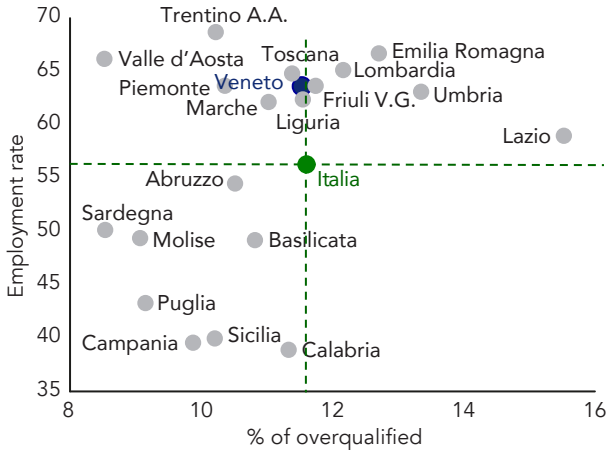
237 thousand overqualified in the Veneto

In 2015 in the Veneto, 11.5% of the employed were overqualified (236,600 individuals), almost in line with the national figure of 11.6%. No significant deviations were noted regarding regional differences: we go from 8.5% in Valle d'Aosta and Sardinia to 15.5% in Lazio.

The employment market in our region is positive: the Veneto, together with other central northern regions such as Valle d'Aosta, Trentino Alto Adige and Piedmont, has high levels of employment, with well above average employment rates, and a low percentage of overqualification. Other regions in the north, such as Lombardy and Emilia Romagna, while having good employment rates, have higher rates of workers that carry on professions not in line with their qualifications. Conversely, almost all regions in southern Italy are characterized by lower than average employment levels and overqualification.

Territorial differences become more apparent if the analysis is focused on graduates; in this case, the Veneto has a delicate situation, as 40.4% of graduates carry out a profession for which, according to the CP2011 classification, a degree is not required; a value which is only higher in Emilia Romagna (41.1%). The status of those holding the upper school diploma is certainly better: in our region, the pro

Fig. 6.2.1 – Percentage of overqualified workers (*) and employment rate by region – Year 2015



(*) overqualified are those workers that have a higher qualification than that required to carry out a certain profession
Source: Processing by Veneto Region - Regional Statistical System Section on Istat data

portion of those overqualified is 8.4% compared to 8.8% at the national level.

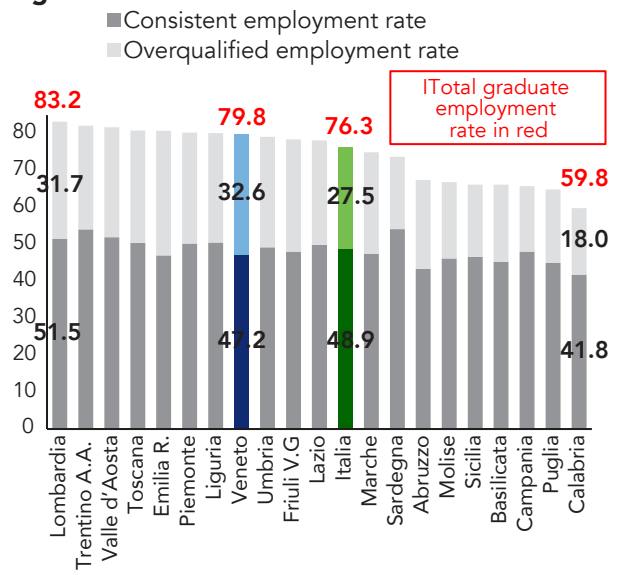
At the same time, the employment rate of graduates in the Veneto is among the best in the country: 79.8% compared to 76.3% at the national level. Our region, therefore, is characterized by good employment levels of graduates, but at the same time a high percentage of overqualified. To measure this relationship, it is possible to break down the employment rate into two components: that of work consistent with qualifications and that of work for which the worker is overqualified. Taking the first component, that of employment consistent with qualifications, the Veneto loses many places and, together with Emilia Romagna, is closer to the Southern regions than those of the North.

By way of contrast, as we have already pointed out, these two regions have the highest overqualified employment rates. This leads to a consideration: graduates' advantage in the Veneto and Emilia Romagna, in terms of high employability, is due to their overqualification rather than the component of consistency with qualifications. In other words, graduates find it easier to find work because they have probably adapted to doing a job that does not fully reflect the study programme they followed.

3 The classification identifies four levels of competence, against which the degree of formal education in the Italian system has been estimated: the first level corresponds to elementary school; the second level corresponds to first and second grade upper school, the third to the Bachelor's degree, and the fourth to the Master's degree or to the single cycle five or six year degree (ciclo unico) and to the doctorate. For the purposes of this section it has been decided to include the first-grade upper school in the first level.

4 According to this estimate, the following employees are underemployed: entrepreneurs and managers of small companies and technical professions with a level of competence 4 (master's degree, single cycle degree, doctorate), executive professions in the office, skilled professions in business and services, craftsmen, skilled workers and farmers, plant managers, fixed and mobile machinery workers and drivers of vehicles with a level of competence 3 and 4 (Bachelors' degree and higher), unqualified professions with a level of competence 2 (upper school diploma or higher). Sergeants, senior quartermasters and warrant officers in the armed forces are considered underemployed if they have competences 3 and 4, while the troops are underemployed if they have level 2 or more competences.

Fig. 6.2.2 – Graduate employment rate divided by overqualified (*) work component and not by region. Year 2015

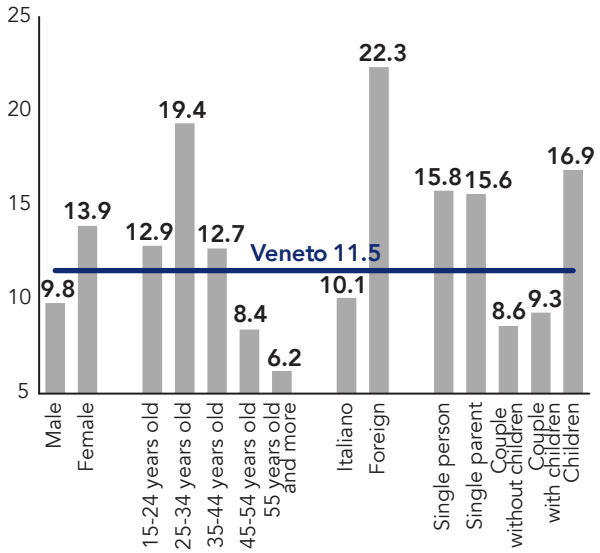


(*) overqualified are those workers that have a higher qualification than that required to carry out a certain profession
Source: Processing by Veneto Region - Regional Statistical System Section on Istat data

Women, young people, foreigners and singles are more at risk of overqualification

Continuing with the analysis, the overqualified condition is closely related to certain socio-demographic characteristics of the worker. First, women are at a disadvantage compared to men: 14% of women work below their qualifications compared to 10% of men.
Differences become more significant when observing the age class. The percentage of overqualified in the 15-24 age group is contained, because there are fewer young people who have already completed university. After the age of 25, the percentage of graduates increases, and so too does the share of young people forced to accept jobs that do not match their qualification (19%).
From the age of 35, professions fall in line with the qualification and the overqualification rate drops rapidly to 6% among workers over 55. Overqualification is therefore a phenomenon related to age and working career: upon entry into the workplace, the qualifications are lower, but with career advancement and increasing work experience, the employed can improve their position.
However, it will be interesting to see in coming years whether this phenomenon has been magnified by the economic crisis; in other words, in coming decades it will be seen whether today's young people today will be able to align their professions with the qualifications they have, just as it has been for yesterday's youth.
Another personal characteristic associated with the underemployment of human capital is citizenship: the proportion of foreigners who cannot use their qualifications rises to 22%, but this probably also depends on the difficulties they encounter in having the qualifications obtained in their country of origin, recognized.
Finally, family status also affects career prospects. People who live as couples, with or without children, are less likely to be in a position not consistent with their qualifications (9%), probably because they can count on their partner's presence and refuse unsuitable work.
On the other hand, single people or single parents, who cannot count on another income, are necessarily open to compromise and accept jobs that are probably not in line with the study programme undertaken and with the qualification achieved: the percentage of overqualified workers thus rises to 16% for singles and single parents and 17% for people who still live with their parents.

Fig. 6.2.3 – Percentage of overqualified (*) by some social and demographic characteristics. Veneto – Year 2015



(*) overqualified are those workers that have a higher qualification than that required to carry out a certain profession
Source: Processing by Veneto Region - Regional Statistical System Section on Istat data

There are, then, sectors and employment contracts where overqualification is more widespread.
In the Veneto, the proportion of workers that carry on professions non-aligned with the qualification obtained exceeds 20% in four ATECO (economic activities classification) sectors (compared to an average of 11.5%): information and communication services, financial and insurance activities, public administration, other collective and personal services.
Employees (13%), fixed-term (19%) and those with a part-time contract (17%) are mostly overqualified.

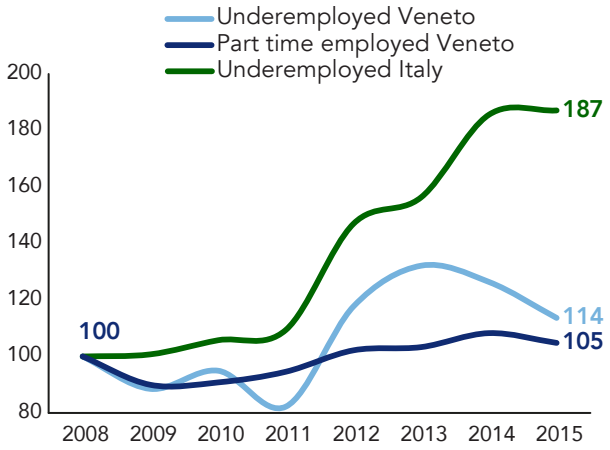
Underemployed workers

Another sign of occupational distress is underemployment. A worker contracted under a part-time contract who would like to work more hours and would be available to do so within two weeks is defined as underemployed. This, in all respects, is a mismatch between labour demand and supply: these people are employed as part-time employees, not by choice, but due to external reasons, mainly for unfavourable company needs.

The Veneto has fewer underemployed compared to other regions

In 2015 there were about 33,500 underemployed in the Veneto, representing 1.6% of all workers and 9.2% of just part-time workers. Compared to other Italian regions, the Veneto's situation is once again good: the Veneto is ranked second in the regional ranking for the lowest levels of underemployment, preceded only by Trentino Alto Adige. At the opposite end is Sardinia, while the average national value is 3.3 underemployed for every 100 workers and 18 for every 100 part timers.
While in Italy there is a gradual increase in the phenomenon, there has been a more variable situation in the Veneto over the last few years: the underemployed reached 39,000 units in 2013, while in 2011 they exceeded 24,000 units.
Underemployment is typically a female phenomenon: of all the Veneto underemployed, two-thirds are women, but this is mainly due to their greater part-time employment. If, however, the percentage of underemployed is compared with part-time workers, the considerations are different: out of 100 men employed part-time, 14 stated that they wanted to work more hours, while for women the figure dropped to 8. This partially reflects the traditional division of roles within the family: generally, the woman is responsible for the care tasks and accordingly part time is an organizational choice. For a man, however, part time is more often involuntary, that is, dictated by external reasons.

Fig. 6.2.4 – Underemployed (*) and those employed part time (Year 2008=100). Veneto and Italy – Years 2008:2015



(°) underemployed are part time workers who have stated that they would like to work more hours and would be available to do so in the following two weeks
Source: Processing by Veneto Region - Regional Statistical System Section on Istat data

Age is also associated with underemployment and mainly affects young people aged up to 35, among whom the underemployment rate rises to 12.9% of total part-time employees. In the next age group, between 35 and 44, the percentage halves. Once again, this can be traced back to the family situation: part-time is more often a choice dictated by family needs from 35 to 44 years; prior to this it is more a constraint. This consideration is confirmed by analysing the family composition: among singles there are 14 underemployed for every 100 part-time workers, while for couples it halves and goes down to 7.

6.3 Young people's abilities: strategic resources for growth

"Thinking about education" is the strategy launched by the European Commission in 2012, in view of the socio-economic changes that have overwhelmed Europe, to encourage EU Member States to take action to ensure that young people develop

the abilities and competences needed for the labour market, by reaching their goals where growth and employment are concerned. Unemployment has grown with the economic crisis, affecting mostly young people, yet at the same time there are many vacant jobs that are not occupied. What we are talking about is an important change in education preparation, putting an emphasis on the knowledge, abilities and competences that students acquire. Having spent time in a school system is no longer enough; it is necessary to improve basic abilities in reading, writing and mathematics significantly, and develop or strengthen entrepreneurial abilities and the spirit of initiative. Europe must invest more in individuals and their competences in promoting economic growth and innovation. If, therefore, Europe's capacity to increase growth and productivity depends on abilities, it is necessary to nurture the appropriate abilities for the 21st century.

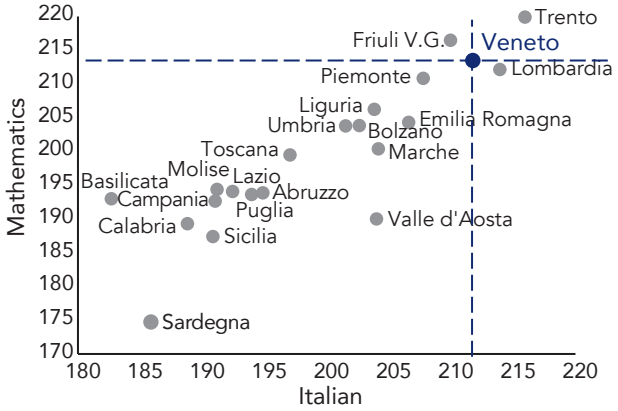
Young people from the Veneto obtain outstanding secondary school results ...

In order for education to play a key role in growth and progress, two European targets have been included: combatting premature school leaving, which should be reduced to 10% by 2020, and raising the number of young 30 to 34-year-old graduates to at least 40% over the next ten years.
In the Veneto, the proportion of children leaving school prematurely not only reached but went beyond the European target: in 2015 there was an 8.1% educational failure in young people aged 18 to 24 compared to 18.1% in 2005, the second lowest quota among all Italian regions (first Friuli Venezia Giulia with 6.9%). On the other hand, with regard to university education, the percentage for 30 to 34-year-old graduates is 26.4%, a value in line with the most achievable target set by the Italian government for 2020 of 26-27%; in detail, for this age group 32.2% are women graduates and 20.6% are male graduates.

Those from the Veneto have among the most outstanding results

According to INVALSI[5] data on those in the second and fifth year of primary school, third year of middle school and second year of secondary schools, the results of students from the Veneto progressively increase through their school career, demonstrating the schools' systematic and assiduous work on the children's growth.
If the results of our students at the beginning of school can be considered modest compared to other regions, from the end of middle school, Veneto children show improvement and in secondary school they stand out by getting to the top positions in the regional ranking for the highest grades, both in Italian and in mathematics.
In fact, by focusing on secondary school students, at an age when they are more in control of themselves and starting to think more about their future, in 2016 those from the Veneto got an average grade of 212 in Italian and 213 in Mathematics, in both cases the third best scores among the Italian regions; in the lead, in both cases, is the province of Trento with a score of 216 and 220 respectively. The performances of the children from Friuli Venezia Giulia, Lombardy and Piedmont were also good. Conversely, the southern regions record poor results with grades below the Italian average; in particular, the average score in mathematics only reaches 175 in Sardinia.

Fig. 6.3.1 – Average Italian and mathematics grades of pupils attending the high school second year by region – Year 2016



Source: Processing by Veneto Region - Regional Statistical System Section on Invalsi (National Institute for the Assessment of the Educational, Instruction and Training System) data

Those from the Veneto come first in their competences no matter what secondary school they attend

While maintaining the differences between high (academic) schools, technical and vocational schools, our secondary schools have high stan-

5 National Institute for the Assessment of the Educational, Instruction and Training System.

dards compared to other regions.
In particular, technical education, in the mathematics field, has good results, not too far from those of high school students. But what is most important is that the Veneto's performance in Italian and in mathematics by students at vocational institutes is the best in Italy: our region is ranked first for the highest grades in both subjects.
In short, in 2016, second-year Veneto secondary school pupils came in first for their competences no matter what kind of school they attend: in addition to the good performance in the vocational institutes, those who study at technical institutes are also first in Italian and third in mathematics. High school students are in third place for Italian and second in mathematics.

Tab. 6.3.1 – Regional ranking of average Italian and mathematics grades of pupils attending the high school second year by type of school- First three positions – Year 2016

High Schools				
	Italian		Mathematics	
1°	Lombardia	229	Friuli-V.G.	227
2°	Piemonte	226	Veneto	227
3°	Veneto	226	Piemonte	226
Technical Institutes				
	Italian		Mathematics	
1°	Veneto	209	Trento	220
2°	Friuli-V.G.	207	Friuli-V.G.	220
3°	Lombardia	206	Veneto	214
Vocational Institutes				
	Italian		Mathematics	
1°	Veneto	187	Veneto	184
2°	Lombardia	183	Friuli-V.G.	181
3°	Bolzano (l. it.)*	179	Lombardia	179

(*) Italian language
Source: Processing by Veneto Region - Regional Statistical System Section on Invalsi (National Institute for the Assessment of the Educational, Instruction and Training System) data

The difference between male and female results is evident: girls have the best results in Italian tests, while boys do best in mathematics. In addition, in the grades of foreign pupils the Veneto records lower grades on average compared to those obtained by Italian students of the same age, but second generation foreigners get grades that are not too far from those of the Italians in the Veneto and significantly higher than those born in other Italian regions.
For the sake of completeness, one should also keep in mind that an Italian pupil chooses to attend a high school more often than a foreigner; for non-Italian citizens, the choice is more often for a technical-vocational education.

... and more job opportunities

From Istat's survey data on the school to work transition of the 2011 upper school diploma holders and graduates interviewed in 2015, the Veneto has among the best recorded results in the Italian regions.

More job opportunities for upper school diploma holders and graduates in the Veneto

Our region records the second lowest level of upper school diploma holders who four years after leaving school are still looking for work, 12.5% (in first place is Trentino Alto Adige), while 84.8% work or study, and other conditions apply to the small remainder. In addition, among the Veneto upper school diploma holders who were working in the 2011/2015 period, the proportion of those who found their first job within a year of leaving school was 60.4%, the highest among all Italian regions (Italy 54.4%).
The proportion of Veneto graduates who are working is also among the highest in Italy: in the Veneto, the number of graduates, both bachelors' and masters' degrees (specialist or single cycle – (unico ciclo – graduates) who are working four years after graduating exceeds 89% against the national figure of 82-83%.
Finally, there are many young people with a tertiary education qualification who find work within a year: in particular, among the young people who completed their education with a bachelors' degree and who were working in the 2011/2015 period, those who found their first job within a year amount to 86.7%, the fourth highest rate among the Italian regions.
Altogether, compared to the Italian average, job searching by a upper school diploma holder from the Veneto is less demanding and does not depend on the school our young person attended.
As we shall see in the next section, on the family of origin's influence, the upper secondary school

course strongly influences a young person's subsequent choice between continuing his/her studies or seeking employment.
The choice of university mainly involves high school leavers, while those who have completed vocational or technical schooling are more oriented toward the labour market.
To cite a figure: in 2015 more than two-thirds of young people from the Veneto who had studied at a vocational institute, four years after gaining the upper school diploma were working full-time, or both working and looking for another job, while the numbers working among those who had attended a high school were just 15%.
Overall, 9.4% of girls are more likely to look for work without studying further, compared to 3.8% of male school leavers.

Higher qualifications pay off

Furthermore, continuing to university studies pays off: salaries of graduates who have completed a master's degree course are on average higher than those of bachelors' graduates, which are in turn higher than those with upper school diplomas. On average in the Veneto in 2015 a 2011 graduate who had completed a five-year tertiary education course and worked full-time has a monthly wage packet of around 1,450 euros, fifty euros more than a bachelors' graduate and two hundred euros more than those with a upper school diploma.

Finally, the higher the qualification, the lower is the unemployment rate. According to data from the Work Force Survey carried out by Istat, in 2015, the unemployment index among those aged 15 to 34 decreases as the individual's education level increases: the index is 18% for those with just a middle school certificate, dropping to 12.5% for those with an upper school diploma and reaching 11.9% for those who have completed tertiary education. On average in Italy, the situation follows the same trend and the differences are even more visible: from 30% for those with a middle school qualification to 22.4% for upper school diploma holders to 17.2% for graduates[6].
It is, however, worth remembering the earlier sub-chapter (6.2) on overqualified graduates and the significant number of young people who, at the beginning of their job career, adapt to accepting jobs beneath the level of their qualifications.
Overall, the condition of youth unemployment in the Veneto is among the best in Italy: in 2016, the youth unemployment rate, which fell sharply with respect to the previous year, was 18.7%, the second lowest in the regional ranking. Trentino Alto Adige was first with 15.1% (the Italian average is 37.8%).

Fewer unemployed and Neet[2] in the Veneto

6 See sub-chapter 6.1.

Tab. 6.3.2 - 2011 school leavers by status with respect to the labour market in 2015. Veneto by gender and type of certificate and Italy

Main status	Veneto						Italia
	Gender		Main types of certificate			Total	Total
	Maschi	Female	Vocational institutes	Technical institutes	High Schools		
Work	**59.4**	**49.9**	**76.2**	**68.7**	**31.9**	**54.4**	**43.5**
of which: just works	*39.3*	*25.7*	*56.1*	*45.9*	*11.6*	*32.2*	*23.4*
Works and looks for work	*8.0*	*10.6*	*15.4*	*11.5*	*3.7*	*9.4*	*9.3*
Works and studies	*11.0*	*10.6*	*4.3*	*9.5*	*14.5*	*10.8*	*8.5*
Looks for work	**7.2**	**17.3**	**15.1**	**8.9**	**12.5**	**12.5**	**21.8**
of which: just looks	*3.8*	*9.4*	*12.3*	-	*5.2*	*6.7*	*14.0*
Just studies	**31.1**	**29.7**	**6.0**	**19.6**	**53.2**	**30.3**	**31.3**
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0

(-) Statistically insignificant data
Source: Processing by Veneto Region - Regional Statistical System Section on Istat data

Even in the case of the Neet[7] (i.e. young people not in education, employment or training), the Veneto has an advantage over other Italian regions: in 2016, 109,680 people in the 15-29 age-group were in this position, 8% less than the previous year, representing 15.6% of this age group in the Veneto, the second lowest in Italy (first is still Trentino Alto Adige with 12.6% of Neet, while the Italian average is 24.3%).
In short, compared to other Italian regions, our young people find work more often and faster, but many adapt and accept jobs that do not match the competences they have acquired, occupying a profession for which a lower qualification than that possessed would suffice.
Moreover, as indicated at the beginning of the chapter, compared to other regions, the Veneto is characterized by a more limited range of professions where high levels of competence are needed.

... but with some sacrifices

This affects job satisfaction: those with upper school diplomas and graduates in the Veneto appreciate their jobs and degree of autonomy, but are less happy when it comes to career opportunities, even though the career satisfaction score in 2015 among those from the Veneto who graduated in 2011 is the third highest score among all regions, equal to Trentino Alto Adige (5.91 points on a scale from 0 to 10)[8] .

The influence of social status: birth or talent?

The young people's abilities and capacities, however, come up against the opportunities offered by the family. Investing in education is one of the main tools in ensuring social cohesion, as well as giving every young person a future in line with their characteristics, enabling them to play active roles in society and work. Therefore, the choices that students make after compulsory schooling, that is after middle school, and later those after gaining the upper school diploma, are crucial; as we have seen and will again see shortly, the choice of path also strongly influences the young person's future.
The term "social status" refers to the position that an individual occupies in society in relation to other individuals: several factors determine it, such as possession of material goods, employment position, access to economic resources, culture and social standing. In order to follow constitutional principles, the educational system has increasingly shifted towards a model that would allow all students to achieve educational and training goals based solely on their abilities and not on the characteristics of their family of origin.

A choice influenced by the family right from the start ...]

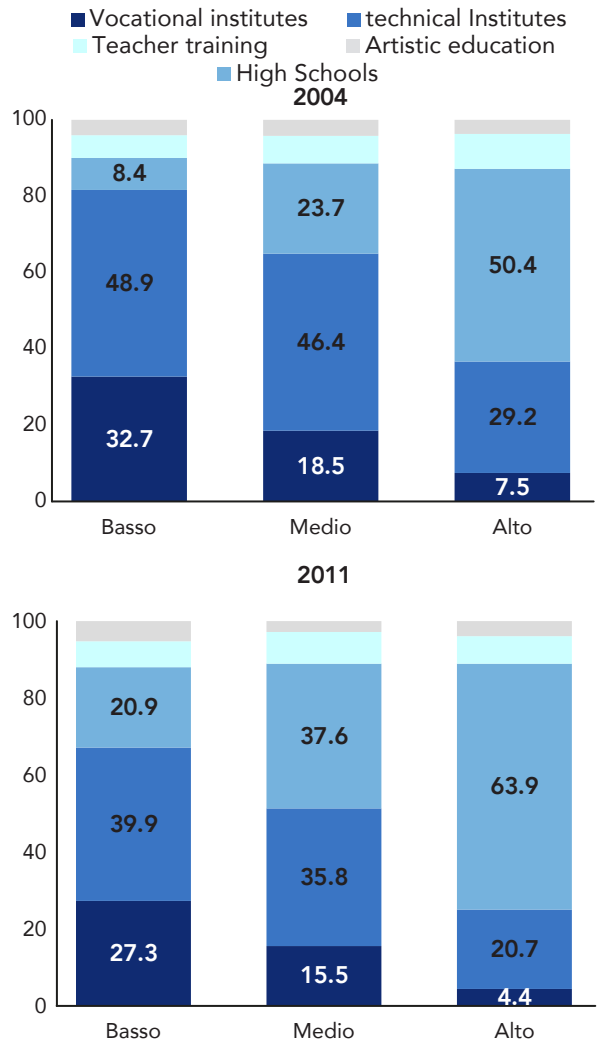
However, it needs noting that the family background greatly influences the choice of the path to be undertaken at the end of the middle school. From Istat's 2015 survey data on study paths of school leaving certificate holders in 2011, it was possible to construct a concise indicator based on the father and mother's qualifications and their work[9] .
Hence, it follows that in the Veneto, 35% of upper school diploma holders come from "low-level background" families, 34% from "middle-level background" families and about 32% from "high-level background" families.
In line with 2004 data, with the rise in the family background indicator and, consequently, the increase in the parents' qualifications and their professional position, the proportion of young people who choose a vocational or technical school decreases and the preference for high schools increases in parallel; the latest survey shows that in the Veneto 27% of young people who come from low-profile families choose a vocational school, 40% a technical school and 21% a high school. However, for those from the Veneto who have higher-profile families behind them, the percentage choosing a high school reaches 64% and only 4.4% choose a vocational institute.
It should be emphasized, however, that while the differences in the choice of school attended after middle school according to social status remain over the years, some barriers seem to weaken: that

7 More information on the employment status of young people can be found in Chapter 2 section 2.6.
8 More information on the job satisfaction of young people can be found in chapter 7.

9 A score of 1 to 4 was given for the qualification obtained by both the father and the mother (1 elementary school certificate, 4 degree or higher) and a score of 1 to 4 for the employment status (1 worker or inactive, 4 executive or entrepreneur). The score for the parents' qualification was squared, as this variable represents the cultural background of a young person, which, for his/her educational and training path, has a greater influence than the parents' working status, which is associated with the economic background. A factor analysis was applied to these scores, from which the final family background indicator was obtained, ranging from 0 (both parents are workers with the most elementary certificate) to 100 (both parents are managers or entrepreneurs with a university or post-university qualification).

is, for each status, compared to the data of seven years earlier, it is evident in 2011 that a greater share of young people chose a high school education rather than a technical and/or vocational one.
By way of example, in 2004, among those who came from a lower-profile family, high school was chosen in only 8.4% of cases, while in 2011 the figure was 21%.

Fig. 6.3.2 - Percentage distribution of 2004 and 2011 school leavers, interviewed respectively in 2007 and 2015, by choice of high school and family background. Veneto



Source: Processing by Veneto Region - Regional Statistical System Section on Istat data

As a result, vocational institutes are mainly attended by young people who come from lower status backgrounds: among all those enrolled with vocational institutes, 59% come from families with a low social status; on the other hand, 50.4% of young people with parents that have higher qualifications and professions enrolled in high schools.
The influence of the family of origin is evident even if the differences are analysed in light of the average middle school certificate grade: in short, we can affirm that the most scholarly young people (those who leave the middle school with very good/excellent/excellent) mostly enrol in a technical school if they come from low-status families, but in a high school if they come from middle-high status families.

... which will affect the future

On the other hand, the young people who encountered some extra difficulties (that is, those who leave middle school with satisfactory – good) will continue to enrol with a high school or technical institute if they come from high-level families, while more will choose a vocational institute if their social status is low.
The influence of the family of origin is also felt after leaving high school, especially as a direct consequence of the choices made five years earlier, both in the grade achieved with the secondary school certificate and in the choices about one's future after gaining the certificate.
42.2% of high school leavers in the north east in 2011 passed the secondary school certificate with a grade higher or equal to 80 out of a hundred, but this proportion climbs to 51% among high school students, while it goes down to 37% for technical institutes and to 32% for vocational institutes. In particular, as few young people from a low social status background decide to enrol in a high school, those who do so are more motivated and selected: for this reason, high school students with parents who are not graduates and have poorly qualified jobs, get a higher final grade on average than other contemporaries with equal social status who have enrolled in other types of secondary education.
At the same time, the few young people with graduate parents in highly qualified jobs who enter the vocational schools are more likely to be monitored by the family and get higher grades than the low-status students at the same school.
Differences do not end with the attainment of the secondary school certificate, but remain in the years to come, even in the choice between work and

...and the type of work and the speed with which it is found

university. Young people from low-status families are mostly work oriented, whereas young people from high-status families are university oriented: in fact, in the Veneto, 33% of young people from low social status families continue to study after gaining the certificate against 71% of those from high status families.
In detail, the majority of young people with a vocational training certificate choose to work, while high school students continue to study at university (or study and work) in 83% of cases in the high-back

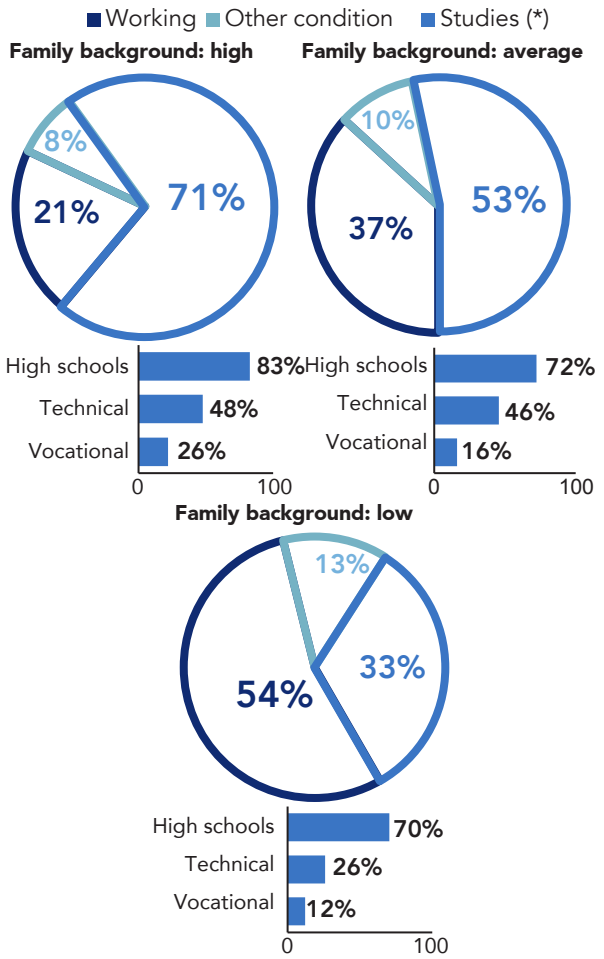
Tab. 6.3.3 – Percentage of 2011 school leaving certificate holders with an 80/100 final grade or more by certificate type and social status – North East

	Low	Medium	High	Total
Vocational institutes	29.8	33.2	33.9	31.5
Technical institutes	36.6	37.4	35.9	36.8
High schools	44.3	50.1	53.4	50.9
Total	**36.5**	**42.5**	**47.0**	**42.2**

Source: Processing by Veneto Region - Regional Statistical System Section on Istat data

ground band and 70% in the lower one. But the deviation is more evident in analysing the technical institutes: on average, among the young people with a medium-high background, 46/48% continue their studies, falling to 26% among young people from lower status family backgrounds.
The influence of social status does not stop with the upper school diploma, but also shows up among those who choose to continue studying at university. While there are no substantial differences, it is interesting to consider the degree obtained according to family background.
Although economic and statistical study programmes are the first choice among graduates, whatever status level they come from, nearly 19% of young people from the Veneto with higher profile families choose this option, against 14% of those who have a low-status profile. The latter, in comparison to their contemporaries, are more oriented towards studies of a political-social or medical nature.
It may be thought there is a link to what has been written above, or rather to those few young people from low social status backgrounds, who decide to enrol with a high school, and are more motivated and selected.

Fig. 6.3.3 – 2011 school leavers by professional status in 2015, type of school leaving certificate and family background. Veneto

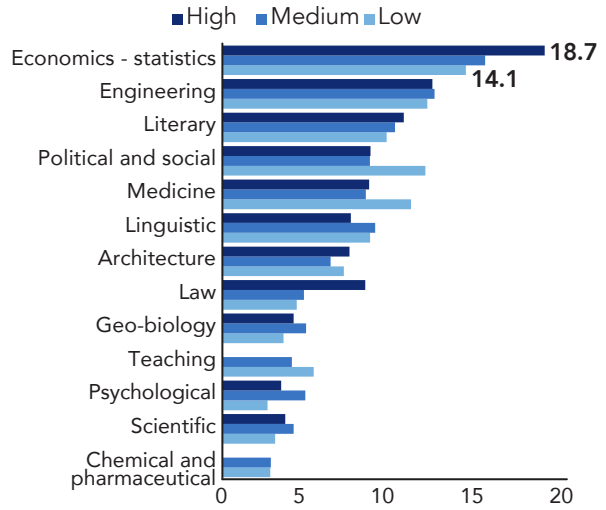


(*) Include studying and working diploma holders. The histograms show how many young people by type of school attended decided to continue studying: for example, of those who have a low social status and have a technical school diploma, 26% decided to continue their studies. The data of those who have a high social status and have a vocational institute diploma and study (26%) refers to the North East as Veneto data is not statistically significant.
Source: Processing by Veneto Region - Regional Statistical System Section on Istat data

Status influences university studies

On the other hand, young people with a higher profile graduate in legal or literary subjects to a greater extent than the others.
Of course, the choice of university to graduate from is influenced by certain factors. In particular, for those with a lower social status, the cost-related impossibility of having a variety of choice where proximity to home weighs more heavily.
In addition, the family of origin's influence also weighs heavily during university studies: in 2015, 19.6% of graduates from the Veneto in 2011 coming from higher background families had participated in European and extra-European mobility programmes (e.g. Erasmus and Socrates) against the mediocre 10% claimed by those with a low-middle status; again, nearly 39% of cases coming from higher-profile families chose not to work during their study courses against 24% of those with a lower profile. On the other hand, in 30.4% of cases, the latter found a permanent job against the meagre 14% of their contemporaries who had better educated parents with more qualified jobs.

Fig. 6.3.4 – Graduates in 2011 by social status and main degree groups. Veneto



Source: Processing by Veneto Region - Regional Statistical System Section on Istat data

Lastly, social status influences the graduate's work situation: from working status to the type of job to the number of months to find it.
In fact, in 2015, graduates from the Veneto still studying and not working were 5.4% overall. This proportion rises to 7.2% among young people who come from families with a higher background, falling to 5.4% for those who have an average background and 3.7% for those with a lower background.
The type of work also changes: graduates with a higher social family behind them are more likely to work independently or carry on with university grants, therefore working more in the private sector and for indeterminate periods.
In greater detail, 57.7% of Veneto graduates coming from a higher social status background are employment, against 70.5% of those who come from a lower family position, while 17.3% are self-employed against 12.6%, and 51.4% have a permanent contract against 63.8%. Finally, nearly 47% of young people from low status profiles start work before finishing the masters' degree[10] against 32% with high status profiles.
In short, those who come from a more privileged family can afford to find work in a more relaxed way, without accepting the first job offered.
In conclusion, young people's school choices today and the resulting career paths are often still influenced by the family of origin rather than the natural inclinations of the person; to be born in certain environments rather than in others still makes a difference and at fourteen years of age, a young person's road seems in a sense to already have a direction: if his/her parents are graduates and have a highly qualified job, he/she will have a good chance of enrolling at a University, regardless of the school attended.
But if their parents are less educated and doing simpler jobs, they will most likely choose to enter the job market.
We need to work on the short-term implementation of a policy for consolidating educational opportunities offered to young people, more geared towards their talents than their birth, to ensure that each student has the opportunity to pursue the educational path most suited to his or her talents and interests. By guaranteeing, irrespective of the choice of path, that young people achieve the goals of knowledge and acquire life abilities, means working for the country's future.

10 Graduates in two-year specialist/masters' degree programmes or master's or single-cycle specialist/masters' degree programmes.

Tab. 6.3.4 – 2011 graduates working in 2015 (*) by type of work and by social status – Veneto

	Percent values			
	Low	Medium	High	Total
Total	100,0	100,0	100,0	100,0
Employees	70,5	66,6	57,7	65,3
Of which:				
Middle management	*8,8*	*7,7*	*6,4*	*7,7*
Office worker with high/ average qualification	*36,8*	*36,6*	*32,0*	*35,3*
Executive employee	*14,3*	*12,1*	*9,4*	*12,1*
Worker	*3,8*	*2,9*	*(-)*	*3,1*
Apprentice	*6,0*	*7,1*	*7,1*	*6,7*
Term-contract workers	9,3	10,2	10,3	9,9
Freelancers	12,6	13,5	17,3	14,3
Scholarship holders	7,6	9,7	14,7	10,5
Public Administration	23,5	18,9	18,5	20,4
Independent	76,5	81,1	81,5	79,6
(Just employed workers)				
Permanent	63,8	54,5	51,4	57,2
Fixed term	36,2	45,5	48,6	42,8
(All workers excluding scholarship holders)				
Full time	79,1	80,2	84,0	80,9
Part time	20,9	19,8	16,0	19,1

(*) Excluding those holding another bachelors' degree before 2011. Graduates in paid teaching are included.
(-) Statistically insignificant detail
Source: Processing by Veneto Region - Regional Statistical System Section on Istat data

6.4 Encourage growth by focusing more on women's talents

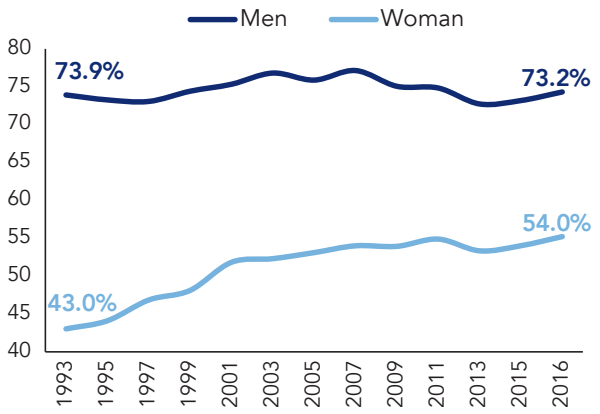
Eliminating economic, social, civil and political disparities between men and women promotes cohesion, integration and economic growth. The European Union has among its founding values the recognition of gender equality and encourages the gender outlook in the adoption of all governance policies and guidelines. Work and support for women's participation play a crucial role in achieving this goal.

Although on average they are more educated than men, women are still struggling when confronted with the world of work.

Women: many competences but not yet fully exploited

Over the years, women have tried to improve their social position through education: among older women, the proportion of those with school leaving certificates and graduates is almost half that of men, but the distance decreases as the age decreases, until the trend reverses in the younger generations.
In 2015, despite being far from the European level (43.4% for women and 34% for men) and the target set for 40% by 2020, almost one out of three women in Veneto aged 30-34 is a graduate, while this ratio between men stops at one in five.
The increase in female schooling is accompanied by greater participation in the labour market. According to Istat's Work Force Survey data, in just over twenty years, the difference between the male and female employment rate has gone from about 31 percentage points to just over 19. Women's employment has grown steadily, until in 2016, it was recorded that almost 875,600 women from Veneto were working amounting to a rate of 55.2%, up more than one percentage point with respect to 2015.

Fig. 6.4.1 – 15—64 year olds (*) employment rate by gender. Veneto – Years 1993:2016



(*) Employment rate = (Employed 15-64 year olds/Population 15-64 year olds)x100
Source: Processing by Veneto Region - Regional Statistical System Section on Istat data

... they are still disadvantaged at work: fewer employed, ...

Despite this increased female emancipation and the reduction in the employment gap between the two sexes, gender equality within the labour market is still far behind.
Women leave school with higher grades and refine their competences by continuing their university studies to a greater extent than their male contemporaries, however, employment rates remain far short from men's.

Tab. 6.4.1 – Employment rate by gender, age, qualification and family background (*). Veneto Year 2015

	Females	Males	Male/ Female difference (in % points)
15-64 year olds	54.0	73.2	19.2
Age group			
15-24	17.0	24.3	7.3
25-34	63.4	81.6	18.3
35-44	71.2	90.3	19.1
45-54	68.3	90.2	21.9
55-64	34.1	59.9	25.8
Qualification			
Up to middle school leaving certificate	34.7	62.0	27.3
Diploma	63.1	79.4	16.3
Degree	74.3	87.9	13.6
Family Status			
Single person	72.4	82.5	10.1
Single parent	72.4	77.2	4.8
Couple without children	50.1	72.8	22.7
Couple with children	58.9	87.5	28.6
Family status 25-44 year olds			
Couple without children	69.1	90.4	21.3
Couple with children	64.9	95.0	30.1

(*) Employment rate = (Employed/Reference population)x100
Source: Processing by Veneto Region - Regional Statistical System Section on Istat data

Furthermore, the difference between occupancy rates among partners living as couples with children is higher than those who live as couples without children, reaching a gap of 30 percentage points when 25-44 year olds have children compared to 21 points in couples without offspring, also bearing in mind that family responsibility weighs more on women.

... less prestigious roles and ...

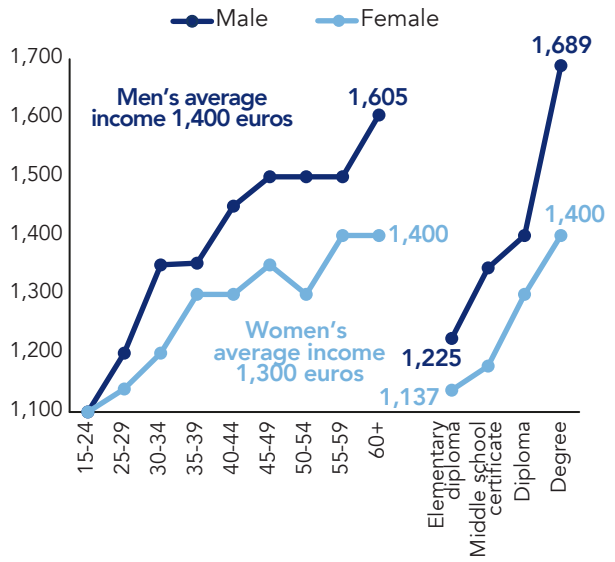
The difference between men and women in employment levels remains at any age and qualification: in greater detail, in Veneto in 2015 the gap increases for older age groups and decreases for higher qualifications. The higher the education level is, the higher the employment rate for both women and men, although the graduate woman is employed in 74.3% of cases against 87.9% of men. Senior and freelance positions are mainly covered by men, particularly in Veneto in 2015, where for every 100 male executives there were only 39 women and for every 100 freelancers only 36. Women work mostly in office jobs, many in executive professions in office work and skilled professions in business and service activities and play a vital role as assistants in family companies: for every 100 men employed there are 150 women and for every 100 male assistants 140 are females.

... lower wages for the same job

These differences are also reflected in income: considering just full-time employees not to distort the estimate of women's wages in their preference for part-time jobs, a man in Veneto in 2015 earned about 100 euros a month more than a woman, but in other regions such as Lombardy and Liguria the differences are even more evident (women earn 200 euros less). The pay gap is also there even at the same level: a male manager in Veneto earns about 220 euros more than a female manager, a middle manager over 360 euros more than a colleague and office worker 160 euro.
Even in the intellectual, scientific, and highly specialized professions where there are more women than men (13.6% of the employed against 9.8% of males), women's pay is 17% lower than those of males.
The wage gap widens as age increases, witnessing how hard it is for a woman to follow the same professional career as men and achieve the same results. Between the ages of 15 and 24, the earnings are little more than 1,000 euros, regardless of sex,

while after 40 years of age men have a significantly higher salary than women, reaching over 200 euros after the age of 60.
Moreover, a lower pay during the years of work and some "holes" in contributions, due to the need to interrupt or give up careers to look after children or care for elderly and disabled parents, penalizes women in terms of income even at the most advanced age: in Veneto in 2014 women living on a small pension, under one thousand euros a month, were almost half, against 22.5% of retired men.
But the most obvious mean deviations are recorded by observing the qualifications: a graduate woman earns on average 1,400 euros per month, or nearly 290 euros less than men with the same qualification. In reference, it needs noting that the educational paths between the two sexes are different: men undertake scientific studies much more than women, who instead prefer humanistic and social pathways that result in less well-paid types of employment. In Veneto, out of every 1,000-young people aged 20 to 29, 15.3 are graduates in scientific disciplines against girls' 8.6.

Fig. 6.4.2 - Average income of full time employees by gender, age, and qualification. Veneto - Year 2015



Source: Processing by Veneto Region - Regional Statistical System Section on Istat data

The work situation in companies with over one hundred employees[11]

Law no. 125 of 10 April 1991 ("Positive actions for achieving equality between men and women in work") introduces to Article 9 the obligation for public and private companies with over one hundred employees to draft a two-year report on the situation of male and female personnel, an obligation regulated by Article 46 of the "Code of Equal Opportunities between men and women", Legislative Decree no. 198 of April 11, 2006.
The purpose of the provision is to provide a system of information and constant monitoring in each region, carried out according to gender distinctions, of company situations in the various economic sectors, from which elements can be drawn to evaluate the effective realization of equal opportunities between men and women at work and professionally, useful in defining and putting in place interventions and policies aimed at the prevention of discrimination and the promotion of positive actions in the workplace, so that declarations of principles on equal opportunities become daily practice.
In the spring of 2015, data from companies operating in the Veneto region was collected to draw up the 2014-2015 Two-year Report by the Office of the Regional Councillor for Equality, which in their role as public official has the commitment to promote and control the implementation of the principles of equality, of opportunity and of non-discrimination between women and men at work, according to the tasks entrusted under Law no.125/1991.
More specifically, the survey aims to provide an up-to-date photo of the status of personnel by gender of companies with more than 100 employees in terms of staff recruitment, contract type, training, professional promotion, profiles, change of category or role, the reason for termination of employment and pay.

Female work is more mobile

For the two-year period 2014/2015, companies surveyed in the Veneto area were 1,057, with a total of more than 585,000 employees at the end of 2015, of whom 46.8% were females.
As far as the dimensional class is concerned, 37% of surveyed companies had fewer than 150 employe-

11 In collaboration with the Regional Councillor for Equality of Veneto; for more information, see "
Male and female employment in Veneto. 2016 Report on the personnel situation in companies with over one hundred employees".

es, 39% were companies with 150-349 employees and 24% were large companies with more than 350 that employed 77% of the personnel observed.
Men and women are concentrated differently within the sectors. There are more women than men in catering/hotels (79.3% are employed) and in health and other social services (75.1%); most of the men, on the other hand, are in building (89.4%), the agricultural sector (75.7%) and manufacturing (70.5%), the latter being more representative with 53.5 % of the total companies surveyed employing 29% of the personnel involved in the survey.
It emerged from the survey that employment growth was 2.9% for men and 2.4% for women between 2014 and 2015; in fact, women are more involved in both joining and leaving companies: more are employed (53% of the total recruitment), but also account for 55% of total terminations of the employment relationship.

Tab. 6.4.2 - Work mobility by gender. Main results of staffing survey in companies with more than 100 employees. Veneto - Year 2015

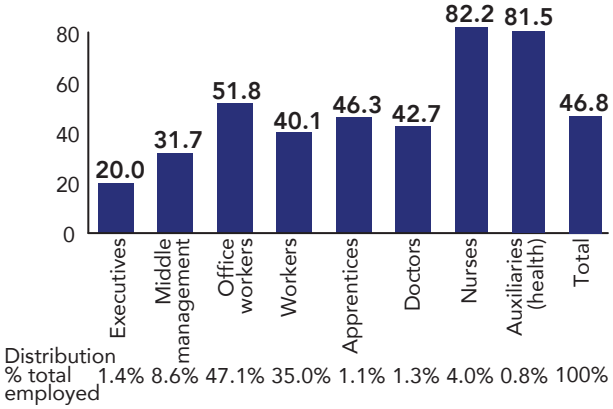
	Male	Female
% distribution of employed	53.2%	46.8%
Variation % employed 2015/2014	+2.9%	+2.4%
Variation % employed executives 2015/2014	-1.0%	+1.2%
Recruitment in the year	47.1%	52.9%
Career promotions in the year	56.9%	43.1%
Termination of work	45.1%	54.9%
% of permanent workers	93.1%	91.3%
% of term contract workers	4.6%	6.0%
% of those employed part time	4.3%	36.2%
Employed in catering/hotels:	30.3%	82.3%
% of those employed part time	35.0%	49.6%
Termination of work: % through contract expiry	21.8%	78.2%
Employees in temporary absence: % distribution by gender	0.4%	1.6%
% of employed that have changed from part to full time contract	0.5%	2.1%

Source: Processing by Veneto Region - Regional Statistical System Section on Regional Councillor for Equality data

Only 20% of women are executives

The permanent employment contract is less common among women: 91.3% of women working with this contract against 93.1% of men, still higher than the Veneto average recorded by Istat's Work Force Survey as 87.2% in 2015. Consequently, by defining "atypical" the different types of work as opposed to the regulatory prototype of the permanent employment contract, there are 8.7% of women and 6.9% of men employed by a company with a permanent or job security or apprenticeship or job training contract etc.
Compared to male colleagues, there is a greater demand for time change, the use of part time, expectations and termination of the employment relationship due to contract expiry, a sign of the continuation of the traditional model of role division in the family that also heavily affects women's careers and hence their incomes and future pensions.
The only aspect where women's work is less mobile is that of career advancement: against higher recruitment numbers, fewer women are promoted, 43% of promotions compared to 57% for men. It is to be noted, though, that there are few women in middle management or, more particularly, executive roles, with respect to men, the highest proportion of women's promotions over the number of employed in these professional categories and the growth of female workers in these categories: within a year the number of female executives rose by 1.2% while there was a decrease of men in this position and female performance in middle management and as doctors is also good.
Moreover, as has been generally highlighted for Veneto at the beginning of this sub-chapter (Istat data), women's presence in the highest company roles is also low in this survey. In 2015, only 20% of women had executive roles, and 32% middle management, while office workers account for 52% of all employees.
Even in the sectors where there is a higher female presence, there are few women in high office: in the catering/hotels field, for example, women only hold 23.5% of executive roles and 32% of middle management.
In the healthcare sector, nurses and auxiliaries in both cases represent 82% of personnel
As a result, women's gross annual remuneration surely weighs the least on companies.
The survey shows that male full-time employees earn an average of 39,600 euros a year against women's approximate 29,300 euros, a gap of almost 10,400 euros in 2015, or rather a wage packet with 26% less for women compared to their male colleagues.

Fig. 6.4.3 - Feminization rate and % distribution of employed by major professional categories (*). Veneto - Year 2015



(*) Percentage of women over total amount
The sum of % distribution does not amount to exactly 100 because not all categories were taken just the main ones
Source: Processing by Veneto Region - Regional Statistical System Section on Regional Councillor for Equality data

On average women receive 26% less than men in their wage packets

And the pay difference is also present on the same level and working hours: a woman executive earns on average 34.5% less than a male executive and an office employee earns 22% less than a male office employee (we quote this given that women are mostly employed in offices).

It should be emphasized that the analyses outlined here refer to those employed by category. For a more accurate reading, a more detailed analysis would be required to investigate the level effectively covered for each category, a variable required in the survey questionnaire but difficult to make uniform for the study based on the answers given by the companies.

In conclusion, from the survey of companies with more than one hundred employees, the same situation is recorded as that of the most common Istat survey on the Work Force: women still reach "high levels" with more difficulty than male colleagues with the same competences and experience and when they arrive there, in most cases they still receive a lower salary.

A greater offer for women to take positions in the top company circles, also taking into consideration the higher levels of women's schooling, less precariousness and an expected wage increase, would induce them to enter the labour market more effectively, a key element to ensure occupational growth and the achievement of Europe's and our country's economic goals. Reducing economic inequality, promoting training by investing in human capital, promoting women's participation in the labour market, including active work-family reconciliation policies, are all about achieving full social cohesion and therefore improving everyone's quality of life.

Chap. 7 - Social justice: a real commitment to leaving no one behind

Some major issues that were thought to have been mitigated or even solved have reappeared in recent years. The economic crisis has exacerbated the imbalances in the redistribution of wealth and resources, widening the social chasm and losing sight of the cornerstones of equity and social justice as the fundamental principles for fair and sustainable development.
As far as social justice goes, Italy's ranks is among the lowest in European countries: inequality, albeit diminishing, remains high, just as the risk of poverty or social exclusion is still high, especially in the weaker population groups. The overall picture shows a generationally split society in a general state of difficulty, where social justice is decreasing even as intergenerational inequalities are on the increase. Children and young people today find themselves without opportunities and are suffering more than others from the heavy repercussions of the economic crisis.
In the Veneto, the situation is better than in the rest of the country, although younger generations continue to be the most penalized.

7.1 A matter of justice

Some major issues that were thought to be unimportant or to have been mitigated or even solved have reappeared in recent years. The economic crisis and the measures that have fundamentally restructured the economies of many countries have created imbalances in the redistribution of wealth and resources. Somehow, sight was lost of the cornerstones of equity and social justice as the fundamental principles for truly sustainable development, a prerequisite for peaceful coexistence between and within states. Promoting the theme of social justice at a global level means supporting equality of all kinds, of gender, age, race, religion, income, culture or health, because there is no real progress if people's rights are abandoned, even in a rich country!

Some have too much and others nothing at all

Inequalities are actually increasing more and more, sometimes creating unbridgeable chasms, as emerges from Oxfam's latest report[1] , according to which 1% of the world's population possesses more net wealth than the remaining 99%. It is therefore necessary for governments to work on building fair societies, promoting access to decent work and supporting social inclusion platforms, especially for people at the margins of society.

In this perspective, the UN adopted Agenda 2030 for Sustainable Development, a world-wide action plan for the people, the planet and the prosperity of countries. According to the Agenda, by 2030 each country should "progressively achieve and support income growth for the socially lower 40% of the population at a higher rate than the national average[2]" . Not only that, but by 2030 each country should "strengthen and promote the social, economic and political inclusion of all", and, "adopt fiscal, wage and social protection policies to progressively achieve greater equality". There are 17 Sustainable Development Goals considered irrevocable, referring to people's well-being and the equitable distribution of the benefits of development, including combating poverty in all its forms, ensuring health for all age groups and providing fair and inclusive quality education, eliminating inequalities, adopting sustainable production and consumption patterns and dealing with climate change. These goals outline the world-wide directives for the activities of the next 15 years, meeting the needs of today's generations without compromising the ability of future generations to meet theirs. These are, "common goals, that is to say, they concern all countries and all individuals; no one is excluded or should be left behind along the way of sustainability for the whole world".

Measuring social justice]

Which states focus the most on social justice policies and the rights of the people? An interesting indicator of social justice, the Social Justice Index, seeks to answer this question for European countries[3] . The indicator summarizes a number of different aspects, such as poverty prevention policies, equity in training, access to the job market, social cohesion and non-discrimination, health and intergenerational justice. The higher the score of the indicator, the better the conditions.

In Europe, in 2016, the Social Justice Index assumed an average value of 5.75 points, slightly up from the previous year (5.63), but lower than the levels recorded before the economic crisis (6.06 in 2008). The Scandinavian countries and Denmark rank first in Europe, well above the Netherlands, Austria and Germany. By way of contrast, the countries that have been most affected by the crisis rank the lowest. Italy ranks 24th out of the 28 countries of the European Union. This means that Italy, with a score of 4.78, is well below the European average in the effort to pursue the equitable distribution of resources and rights among its people. Despite a slight recovery, in the order of a few decimal points, in the last two years, Italy has lost ground compared to 2008 (when its score was 5.10 points).

Italian injustice

Performances are unsatisfactory as far as equitable access to the educational system and poverty prevention go. The most critical areas are participation in the job market and intergenerational justice, which relegates our country to the next to last place, followed only by Greece.

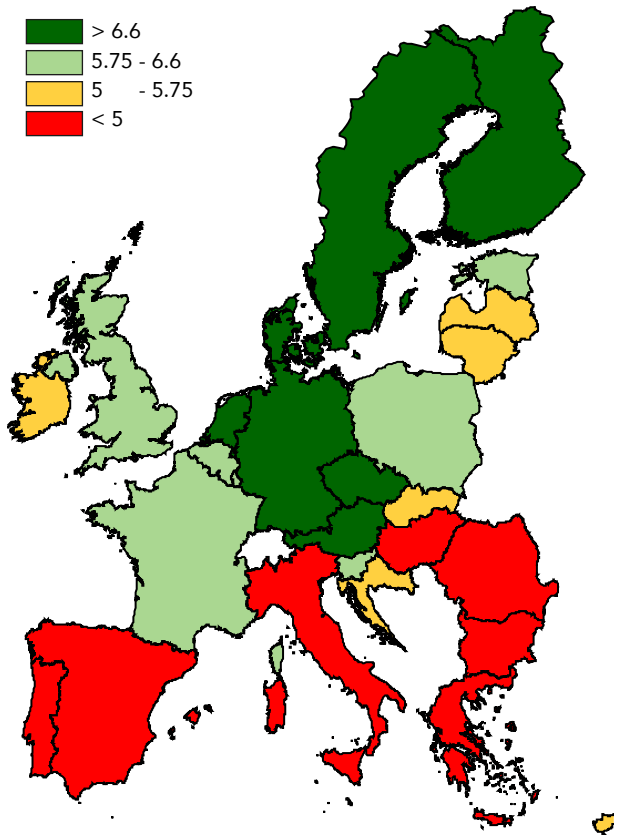
The situation of younger generations appears to be particularly serious. For them, the opportunities for social success have definitely been reduced, as evidenced by the summarising child and youth op-

1 Oxfam. An Economy for the 99%. Oxfam briefing paper, January 2017. Oxfam (Oxford Committee for Famine Relief) is an international confederation of non-governmental organisations devoted to the reduction of global poverty through humanitarian aid and development projects.
2 UN General Assembly Resolution of 25 September 2015

3 D. Shraad-Tischler and C. Schiller, Social Justice in the EU - Index Report 2016, Bertelsmann Stiftung 2016.

portunity indicator[4] , which scored 4.35, in the red zone at the European level. Only Spain, Hungary, Bulgaria and Romania did worse. It is true that in no country the situation of young people and children has improved compared to 2008, but it is also true that the conditions deteriorated more visibly in the southern European countries most exposed to the economic crisis.

Fig. 7.1.1 - Social Justice Index. EU28 - 2016 (*)
EU28 Average = 5.75



(*) The social justice index consists of six parameters scored differently according to their centrality and relevance to the concept of social justice (poverty prevention, equity in education, job market access, social cohesion and non-discrimination, health and intergenerational justice). The higher the score, the better the conditions.
Source: Developed by the Veneto Region Office of Statistics from Bertelsmann Stiftung Institute data)

Tab. 7.1.1 - Social Justice Indexes: European Score and Ranking. Italy and EU28 - Years 2008 and 2016 (*)

	Italy			UE28	
	2008	2016		2008	2016
	score	score	ranking	score	
Synthetic social justice index	**5.10**	**4.78**	**24°**	**6.06**	**5.75**
Parameters					
poverty prevention	4.80	4.16	21°	5.89	5.21
equality in education	5.08	5.49	22°	5.74	6.23
access to the job market	5.64	4.82	23°	6.42	5.93
social cohesion and non-discrimination	5.14	5.16	19°	6.41	5.89
health	6.42	5.76	19°	6.75	6.21
ntergenerational justice	3.60	3.82	27°	5.49	5.44
child and youth opportunity index	**5.52**	**4.35**	**24°**	**6.52**	**5.61**

(*) The social justice index measures a country's general level of social justice, while the child and youth opportunity index focuses on the opportunities for inclusion that a country can guarantee to its citizens of tomorrow. For all indicators, the higher the score the better the conditions observed.
Source: Developed by the Veneto Region Office of Statistics from Bertelsmann Stiftung Institute data

7.2 The social thermometer

Italy's social climate

Europe is still under the weather; this is how we could summarise the "state of health" perceived by Europeans, tested by a long period of economic crisis. The general perception of living conditions getting worse and opportunities for social success being reduced is one of the factors that will affect future developments in terms of trust, sharing and assigning responsibility. Feeling part of society, trusting in the institutions, trusting in a general solution of the issues, at least the material ones that oppress daily existence, are signs of inclusion. It is therefore important to investigate how Italy's social climate and collective mood are changing and to understand its hopes and fears.
The European Commission monitored the social climate of the 28 EU countries in the years 2009-2014,

4 The Child and youth opportunity indicator considers the number of minors at risk of poverty or social exclusion, the influence of the socio-economic background on success in school; school dropouts and the number of NEET (young people not in employment, education or training). Ibid.

i.e. during the crisis period, through a summarising synthetic indicator of satisfaction in the various aspects of life, from the individual sphere to the social and economic context of the country lived in, including satisfaction with policies adopted by governments in areas such as health, social security and social cohesion.

Italians are worried...

In 2014, the index for Europe was -1[5], the worst value of the period under review (it was -0.7 in 2009), indicating a tendency towards a negative social climate. There was a good social climate in the north of Europe, Austria and Germany, unlike most of the Mediterranean countries and Eastern Europe where there was widespread and persistent concern.

5 The indicator ranges between a minimum of -10 to a maximum of +10, where -10 indicates the worst situation, the most dissatisfaction with one's life as a whole and negative judgements for all other aspects investigated; in contrast, +10 indicates the best situation, of full satisfaction

Italy expressed a general dissatisfaction level of -3, whereas in 2009 it was -1.9 and had shown tentative signs of improvement in 2011 (-1.1). One year later, only one in three Italians believed that their country could offer a good quality of life, against 60% of Europeans, and only 16% thought that things were going the right way (21% in EU28). Despite some positive signs in the job market, Italians, more than Europeans, are pessimistic about the current socio-economic situation, so much so that 41% think that the impact of the recession is not exhausted and even that the worst is yet to come. Italy is facing a longer and more complex recession than other European countries, where the recovery that started at first in 2009 and then halted in 2012-2013 has solidly consolidated in the last two years. In Italy, however, the recession has been deeper and some weak signs of recovery were felt only between 2014

... and disheartened

and 2015, which, however, are not yet evi-

Tab. 7.2.1 - The country's social thermometer. Italy and EU28 - Years 2015 and 2016

	Italy		UE28	
	2015	2016	2015	2016
Quality of life in the country (% good)	35	-	60	-
In general, things in the country are going in the right direction (% agree)	19	16	30	21
Economic situation in the country:				
current (% good)	10	15	38	39
expectations for the next 12 months (% improvement)	29	27	26	21
Employment status in the country:				
current (% good)	10	13	28	31
expectations for the next 12 months (% improvement)	32	28	26	22
Satisfaction on: *(score between -10 = maximum dissatisfaction and + 10 = full satisfaction) (a)*				
energy sustainability	-4,0	-3,6	-2,5	-2,5
healthcare system	-1,3	-1,4	1,2	1,0
social security system	-3,8	-4,0	-1,5	-1,7
inequality and poverty	-2,7	-3,6	-2,4	-3
Public services (% good)	-	23	-	48
My voice counts in the country (% agree)	31	32	45	45
My voice counts in the country (% agree)	27	26	57	55
How democracy is working in the country (% satisfied)	33	40	53	51

(a) The data refer to the years 2013 and 2014
Source: Developed by the Veneto Region Office of Statistics from Eurobarometer data)

dent to the weaker population groups.
Lack of trust in the institutions continues (only 32% believe in them) and most Italians do not feel properly listened to or represented and are disappointed about how democracy is working.
In this context of crisis not yet completely overcome, the level of satisfaction for the country's inclusion, social protection and sustainable development policies remained negative, including from an environmental point of view. On a scale from -10 to +10, Italians assigned a score of -4 to the social security system, probably worried by recent reforms to ensure the sustainability of the pension system, -3.6 to the energy policy and -1.4 to the healthcare system, threatened by cuts.
The personal dimension: the self in society
Although In Italy the social climate is still "wintery", the personal dimension showed the first encouraging signs of change in 2016. Overall satisfaction with one's life improved for the first time, as expressed by the synthetic index of subjective well-being published by Istat in the BES report on equitable and sustainable well-being.
The index[6] for Italy rose to 96.8 compared to the value of 88.9 in 2015, after the collapse recorded between 2011 and 2012 and the substantial stability of the following period; however, it remained below the level of 2010.

Veneto citizens are more satisfied with their lives

In the Veneto, satisfaction was higher, with a score of 101.6, up 5 points over the previous year. However, our region has not yet reached the level of subjective well-being declared by citizens in the pre-crisis period. When asked "At present, how satisfied are you with your life as a whole?", the Veneto's citizens responded with an average 7.1 score on a 0 to 10 scale, 10 being very satisfied, compared to 7.3 in 2010. Similar levels of satisfaction had already been expressed elsewhere in Europe in 2013, when Italy stopped at 6.7 points, at the bottom of the European ranking. Overall satisfaction was higher in Scandinavia and Denmark, leading with 8 out of 10 points. The number of those who are highly satisfied rose as well; almost 45% of people in Veneto expressed an evaluation higher than 8 (41% in Italy). It had been 40.8% a year before (35.1% in Italy). However, greater satisfaction in one's current situation is contrasted with greater caution when looking at the future, as in the last year the number of those looking forward with optimism went down. The most pessimistic were fairly stable, while the sense of uncertainty that leads most people to expect no change in the near future got stronger.

Households worried about their economic situation

A plurality of diverse elements both material and immaterial go into determining the overall satisfaction level: one's economic condition, work, health and relational/cultural aspects.
Although, due to personal convictions and moral values, the meaning of life is tendentially highly considered just about everywhere, other aspects weighed in negatively on the judgement.
The Veneto generally expressed higher levels of

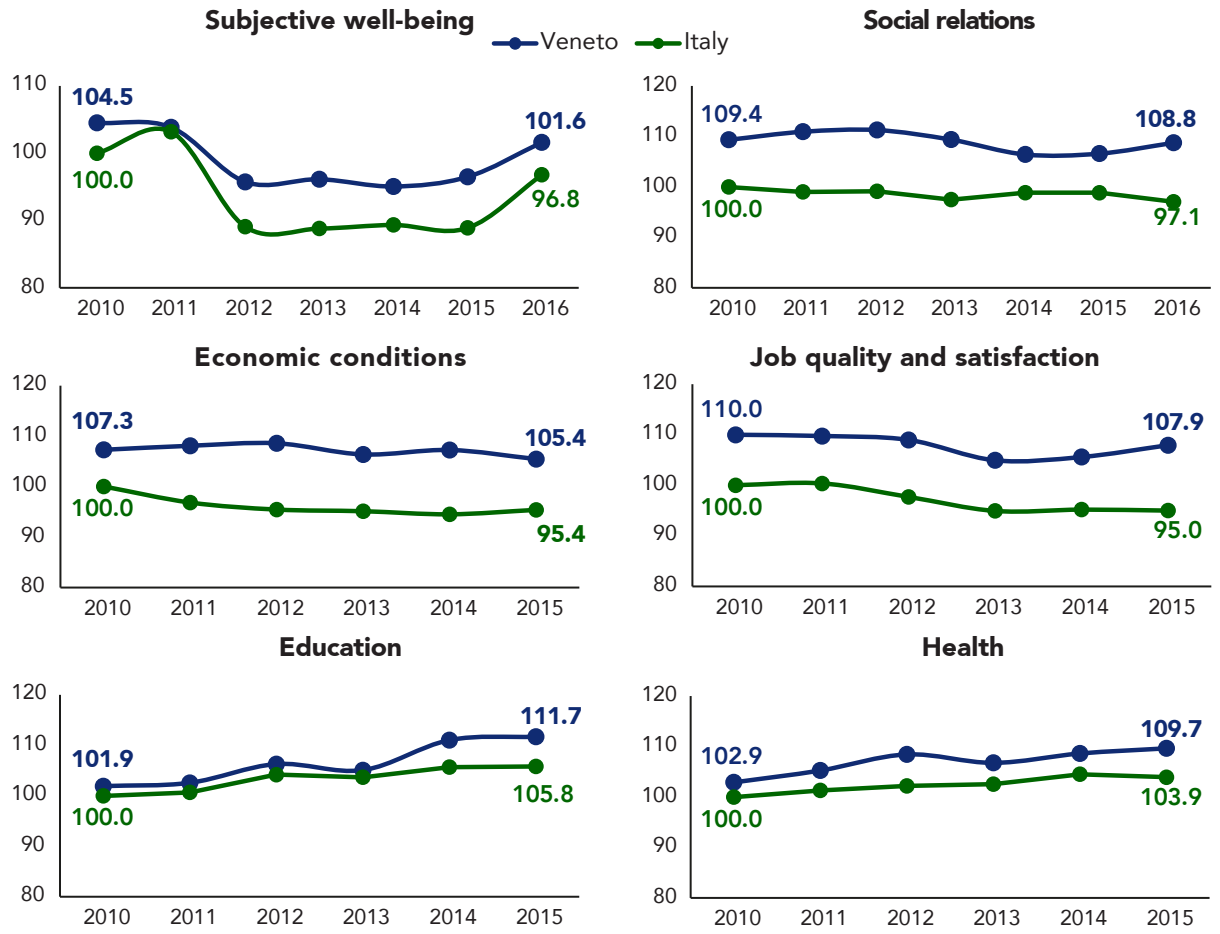
6 The subjective well-being index, like the other composite indexes proposed in the BES for the various spheres of well-being, is expressed in relation to the value recorded by Italy in 2010 (base 100).

Tab. 7.2.2 - Satisfaction with one's life and judgement on future prospects. Veneto and Italy - Years 2015 and 2016

	Veneto		Italy	
	2015	2016	2015	2016
Percentage of people aged 14 and over who:				
say they are very satisfied with life (scores 8 to 10)	40.8	44.6	35.1	41.0
believe that their situation in the next 5 years: will improve:				
will improve	32.1	28.5	28.1	26.6
will get worse	17.0	16.1	17.4	15.3
will remain the same or cannot evaluate	50.9	55.4	54.6	58.1

Source: Developed by the Veneto Region Office of Statistics from Istat data)

Fig. 7.2.2 - Satisfaction with life: composite indexes per domain. Veneto and Italy - Years 2010: 2016 (*)



(*) The composite indicator is an index that takes into account satisfaction and other indicators. It is expressed in relation to the value recorded by Italy in 2010 (base 100).
2015 is the latest available year for these domains: education, work, health and economic conditions.
Source: Developed by the Veneto Region Office of Statistics from Istat data)

well-being than the national average, but even in this region the economic and financial situation of households remained the least satisfactory area, being the one still most affected by the difficult economic situation.
The composite index of households' economic conditions produced a score of 105.4 in 2015, the lowest since 2010, though clearly higher than the national average (95.4).
The difficult conditions mainly concern some particularly vulnerable population segments, such as minors, young people and foreigners, for whom the risk of poverty or social exclusion increased more than in the rest of the population.
In the last year, the indexes pertaining to work show an improvement in the Veneto, partly due to the job market recovery but also to work quality (the synthetic index went from 105.6 to 107.9), especially in terms of stability and pay.
On the other hand, the number of those with higher qualifications than required for the type of work they are doing and those who work part-time involuntarily because they cannot find a full-time job did not decrease.
Overall, job satisfaction remained stable (with a score of 7.4) and, on a positive note, the perception of feeling vulnerable and at risk of losing one's job diminished; those afraid of remaining unemployed declined from 7.8% to 6.7% in the last year in the Veneto.

Tab. 7.2.3 – Job quality and satisfaction. Veneto and Italy - Years 2014 and 2015

	Veneto		Italy	
	2014	2015	2014	2015
Job satisfaction (a)	7.4	7.4	7.2	7.3
Employed in unstable jobs with a stable job a year later (b)	18.6	21.6	16.4	20.5
Percentage of low-paid workers	7.4	6.6	10.5	10.5
Percentage of overqualified employeesi	23.8	23.6	23.0	23.6
Percentage of involuntary part-timers over total employed	9.2	9.2	11.7	11.8
Mortality and permanent disability rate (c)	12.5	12.1	13.2	12.2
Perceived job insecurity (d)	7.8	6.7	10.2	8.6

(a) Average satisfaction value (on a 0 to 10 scale) of several aspects: earnings, number of hours worked, scheduling, work environment stability, commuting distance and job interest.
(b) Out of 100 employed. 2013/2014 and 2014/2015.
(c) Out of 10,000 employed. Years 2013 and 2014.
(d) Percentage of employed who believe it is likely they will lose their current job in the following 6 months and very unlikely they will find another similar one.

Source: Developed by the Veneto Region Office of Statistics from Istat and Inail data)

Education and health: ok!

Education and health approval ratings were very high and improving (111.7 and 109.7 respectively); there was also a slight recovery in the last year with regard to satisfaction in interpersonal relations and social participation, contrary to the national average.
It is in the most critical moments that trust in others, people and also institutions turns out to be an important factor in favouring social cooperation and cohesion. In Italy, networks of family and friends as well as associations have always played a key role in supporting the most disadvantaged groups, making up for the system's shortcomings and representing true wealth for the entire community.

Relationships are in crisis

But the protracted economic crisis also seems to have had a heavy impact on the social and relational spheres, as the synthetic indicator still did not reach the higher levels of 2010-2012. For example, compared to 2012, there was a significant reduction in satisfaction with interpersonal relationships; in the Veneto, the share of people at least 14 years old who said they were very satisfied with family relationships dropped from 43.6% to 39.8% and with relationships involving friends from 32.9% to 27.1%. There is a widespread climate of mistrust and suspicion, especially toward strangers and those who are not part of one's network of family and friends. Where the majority of citizens felt that they could rely on friends and relatives if needed (85%), only one out of five stated that most people deserve trust. Commitment to volunteering remained strong, especially in the Veneto, with 17% of the population at least 14 years old actively engaged, providing others with their own resources, ideas, and concrete help despite having to deal with their own daily obligations.
Interest in and commitment to politics decreased (75% in 2012, 71% in 2016). Citizens are distancing themselves more and more, deeming the political spectrum unable to understand the country's needs, give concrete and adequate answers and achieve a fair and cohesive society where everyone can feel a citizen in all respects.

Trust in institutions collapsing

However difficult it is to trust people, trusting institutions is even more so. In 2016, the level of trust in public institutions remained low; the worst data concerned political parties and Parliament. Trust in the judiciary and local institutions such as Regions and Municipalities scored slightly better but still very much below par. Positive judgements were reserved only for law enforcement agencies and firefighters; these institutions are loved by citizens, who appreciate their generosity and readiness to intervene in the most critical moments, like in the recent catastrophic events that hit central Italy. There is a relationship between the level of confidence in the institutions and the de

Tab. 7.2.4 - Feeling part of society: some indicators. Veneto and Italy - Years 2012 and 2016 Veneto Italy 2012 2016 2012 2016

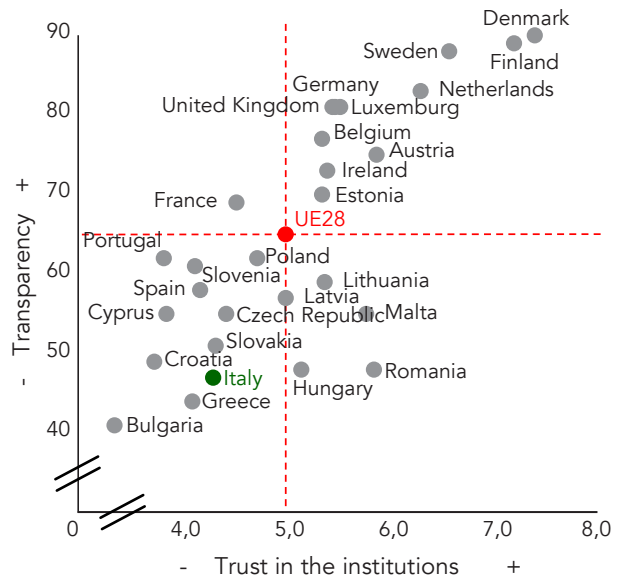
	Veneto		Italy	
	2012	2016	2012	2016
Satisfaction with interpersonal relationships				
% of people aged 14 and over who say they are very satisfied with				
family relationshipsi	43.6	39.8	36.9	33.2
relationships with friendsi	32.9	27.1	26.7	23.6
Trust in others				
% of people aged 14 and over who				
believe most people are trustworthy	20.3	21.6	19.9	19.7
have people they can rely on (a)	82.0	85.0	80.9	81.7
Participation in society				
% of people aged 14 and over who over the last 12 months				
donated their time to volunteer associations or groups	15.0	17.0	9.7	10.7
were involved in at least one activity of social participation	31.9	29.9	23.6	24.1
finanziato associazioni	20.4	19.3	14.8	14.8
talked about or manifested interest in politics (b)	74.9	71.1	67.1	63.1
Trust in the institutions				
average rating on a scale from 0 to 10				
political parties	2.1	2.1	2.3	2.5
Italian parliament	3.3	3.1	3.6	3.7
local institutions	4.4	4.2	4.0	3.9
judicial system	4.0	3.4	4.4	4.3
other types of institutions (law enforcement. firefighters...)	7.4	7.2	7.3	7.2

(a) Years 2013 and 2016
(b) 2016 data is provisional
Source: Developed by the Veneto Region Office of Statistics from Istat data)

gree of corruption perceived in the country. If institutions operate transparently, they gain credibility; in contrast, frequent scandals, which testify to the accepted widespread level of corruption, result in a negative image. In this regard, in 2016 Italy recorded a transparency index (CPI2016)[7] of 47 points on a scale from 0 to 100, where 100 denotes a very low or almost no level of corruption and hence maximum transparency on the part of the system. After Bulgaria and Greece (41 and 44 points, respectively), it was the worst performance in Europe. At the other end, the Northern European countries showed an elevated level of trust in institutions.

7 The perceived corruption index (CPI2016) is calculated by Transparency International based on how corruption in the public sector is perceived in 176 countries.

Fig. 7.2.3 - Relationship between trust in public institutions and transparency. EU28 - Years 2013 - 2016 (*)



(*) Confidence in public institutions Is indicated with an average score of 1 to 10 and refers to the year 2013. The transparency of institutions is measured by the perceived corruption index calculated by Transparency International on the basis of how corruption in the public sector is perceived in 176 countries. It assumes values between 0 and 100, where 0 indicates little transparency and a high level of perceived corruption, while 100 denotes a very low or almost no level of corruption, and thus maximum system transparency. The data provided refers to 2016.
Source: Developed by the Veneto Region Office of Statistics from Eurostat and Transparency International data)

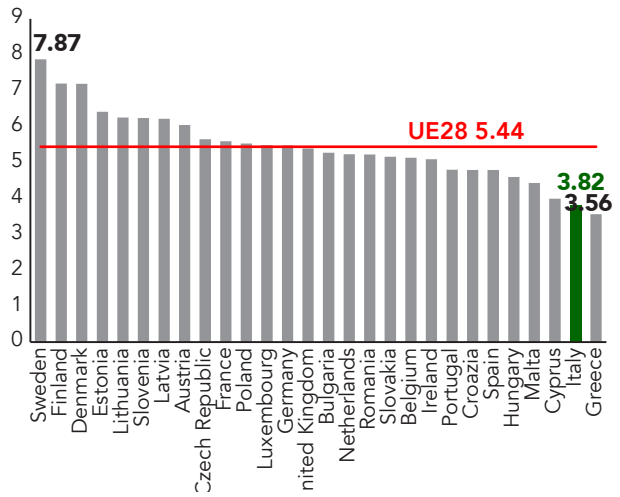
7.3 And are young people satisfied?

As mentioned in the introduction to this chapter, children and young people are now particularly bereft of opportunities and suffering more than others from the heavy repercussions of the crisis and the resulting economic restructuring policies. In essence, the analysis shows a society having general difficulties and split by generations, where social justice decreases also because intergenerational inequalities increase. A significant indicator of intergenerational justice[8] highlights the imbalances (income, rights, quality of life) that distance generations from each other and, among all the sub-indicators that make up the aforementioned Social Justice Index, is the one in which Italy did worst, ranking 27th, ahead only of Greece.

Social justice is low in Italy for young people

The highest old/young people proportion in Europe and the strongest indebtedness after Greece influence this result; both of these aspects weigh heavily on the future and are thus a heavy burden on young people. Investment in research and development is still too weak (1.3% of the GDP), but above all there is a scarcity of policies for the family, where Italy ranked last in Europe. Lack of family policies, for example, services, subsidies, tax breaks and paid leave for those with children, limits participation in the job market and increases family costs, thus increasing the risk of poverty.

Fig. 7.3.1 - Intergenerational Justice Index. EU28 – Year 2016



Source: Developed by the Veneto Region Office of Statistics from Bertelsmann Stiftung Institute data)

If this profound inequality between generations is the general picture of today's reality, it is no surprise that 57% of all Italians are convinced that the lives of their children or grandchildren will not be better than theirs[9] . This is confirmed by the data, since for the first time in history, young people are poorer than their parents and also their parents when they were young. The income of millennial families is lower by 15.1% than the average citizen's and by 26.5% than people their age twenty-five years ago.

8 The intergenerational justice index is composed of several indicators: policies for the family, pension and environmental policies (qualitative), level of renewable energy and greenhouse gas emissions, research and development expenditure, level of indebtedness and demographic dependence (quantitative).
D. Shraad-Tischler and C. Schiller, Social Justice in the Eu - Index Report 2016, Bertelsmann Stiftung 2016

9 Censis Institute, Report on the Social Situation of the Country for 2016. Rome, 2016

Young people poorer than their parents

It is precisely young people who are being more penalized by a precarious job market low on opportunities and almost forgotten by politics. Their entry into the job market is becoming more and more difficult, since the unemployment rate among the 15-34 age group has almost doubled in the last ten years; from 13.5% to 23.2% in Italy and from 6.8% to 13.3% in the Veneto[10] .

Naturally, given the greater economic and employment difficulties, fewer young[11] people manage, albeit with some effort, to become independent and live alone or start a family. There were 127 thousand "young" households in the Veneto in 2015, 25% fewer than just 6 years earlier. Of these, 76% stated that they got to the end of the month with some difficulty and 50% that they would not to be able to cope with unforeseen spending of about 800 euros; these numbers are rising when compared to pre-crisis levels and greater than the poverty suffered by less young households.

Tab. 7.3.1 - Poverty indicators in young and older households. Veneto and Italy - Years 2009 and 2015 (*)

	Veneto		Italy	
	2009	2015	2009	2015
Not able to deal on their own with unforeseen spending of about 750-800 euros (%)				
Young households	39.1	49.5	42.6	46.5
Other households	25.7	33.9	32.4	39.6
Getting to the end of the month with some difficulty (%)				
Young households	70.9	75.6	77.8	77.0
Other households	68.2	67.7	72.9	73.0

(*) Singles and single parents under 35 as well as couples whose head of household was under 35 were considered to be "young" households.
Source: Developed by the Veneto Region Office of Statistics from Istat data)

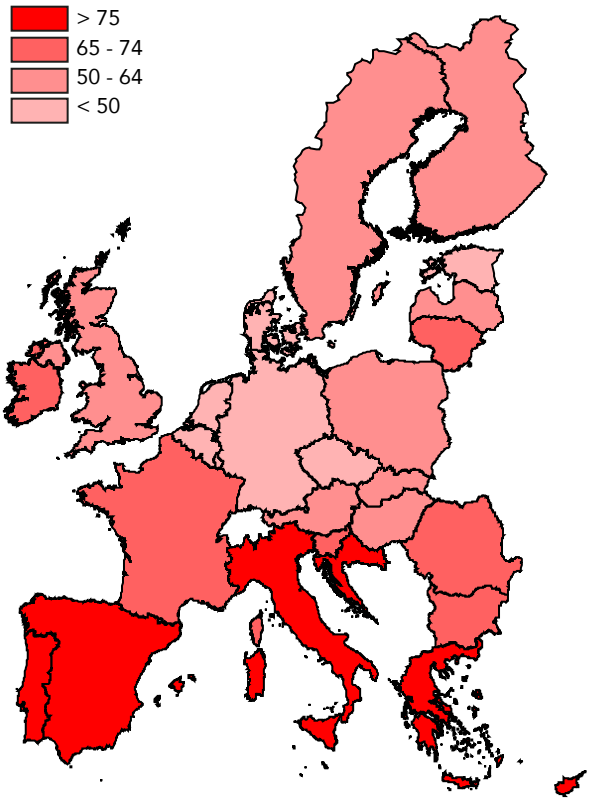
Moreover, young adults are the most exposed to the risk of poverty or social exclusion, an increasingly worrisome trend in recent years. For them, the risk increased from 13.5% in 2009 to 18.4% in 2015, whereas for the general population it increased by two percentage points, stopping at 16.8%. For Italy, where the problem for young people was widespread already in 2009, it went from 27% to 35.4%.

A country losing its future

It is no coincidence, therefore, that only 39% of the 25-34 age group feel optimistic about the future; well below the European average (62%) and decreasing, since it was 46% in 2007. Additionally, 41% of them would like to study or work in another European country, against a 32% EU average.

Fig. 7.3.2 - Percentage of young people between the ages of 16 and 30 who think they have been marginalised by the economic crisis. EU28 - Year 2016

EU28 average = 57



Source: Developed by the Veneto Region Office of Statistics from Eurobarometer data)

However, the hardships and difficulties of everyday life do not seem to be what drives young people to look for new opportunities abroad but rather the lack of improvement prospects. Indeed, all in all,

10 For a closer look at youth employment in the Veneto, see Chapter 6
11 Singles and single parents under 35 as well as couples whose head of household was under 35 were considered to be "young" households

the degree of satisfaction of the 25-34 age group in their lives was equal to the average of the entire population and the percentage of young people who felt that what they did in life was useful and interesting was in line with the European average (81%).
These are signs of how inconsistent the rhetoric is that young people are dissatisfied and incapable of rolling up their sleeves. More probably, the demolition of social protection in the countries most affected by the crisis, including Italy, has had the greatest impact on those people who do not yet have a job or house; the absolute majority of young people felt that it was precisely the crisis that had led to their marginalisation and exclusion from the economic and social life (78% in Italy, 57% in Europe).

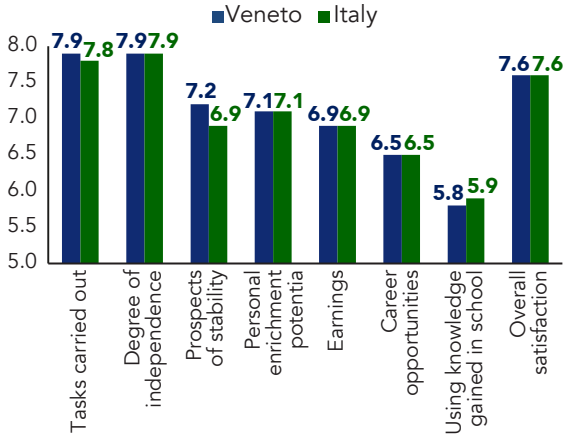
An unrewarding job

Work is the area where young Italians feel particularly bitter; 22% of them were not satisfied with their working conditions, the highest figure in all European Union countries (14% on average), and a good 8% were not satisfied at all (3% in the European average).
41% of the employed in this age group carried out operational and manual tasks. This may explain their strong dissatisfaction with their work's degree of independence (29% versus 19% in Europe). But in the light of those future prospects mentioned above, stability must also weigh in when determining general discontent with working conditions: 19% of young people had no prospect of maintaining employment for at least 6 months, against 15% of the average for all age groups and 14% of young Europeans.
The most sensitive time for evaluating one's working conditions is experienced immediately after the end of one's studies. Partly, the evaluation is influenced positively by the novelty of the new environment and the achievement of a certain economic independence; in part, however, it can be negatively affected by unrealistic expectations accumulated during one's studies that clash with the monotony of daily duties or the lack of prospects.
Four years after gaining the upper school diploma, perhaps these aspects are still there and perhaps they offset each other; the fact is that in the Veneto, young school leavers working 4 years after gaining their diploma expressed a medium-high level of job satisfaction (7.6 points), in line with the national value.
Men expressed greater satisfaction than women (7.7 vs. 7.5), and so did leavers from technical and vocational institutes (7.7 and 7.6 respectively) compared to other upper school leavers. Most probably this is the cumulative effect of the selection by type in these particular educational choices.

Neither career nor personal enrichment

Upper school diploma holders from the Veneto appreciate above all the tasks they carry out and the degree of independence. The most disappointing aspects, however, concern the use of school-acquired knowledge and career opportunities. Young school diploma holders from the Veneto seem to suffer a little less than their Italian counterparts from their employment prospects, but this aspect remains problematic, along with the possibilities of personal enrichment and earnings.

Fig. 7.3.3 - Satisfaction of working 2011 upper school diploma holders with some aspects of their jobs (*). Veneto and Italy - Year 2015

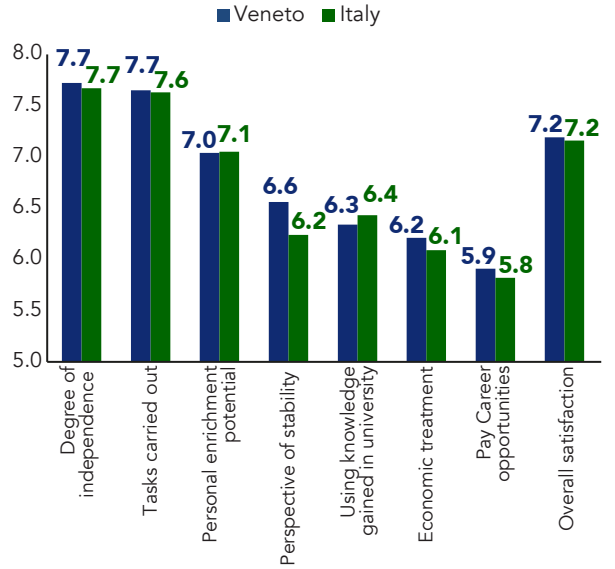


(*) 0 to 10 scores.
Source: Developed by the Veneto Region Office of Statistics from Istat data)

Turning now to university graduates, in 2015, the satisfaction level of Veneto's working university graduates four years after graduation was slightly lower than for upper school diploma holders (7.2), in line with the national average. Graduates in education (7.8) science, medicine and economics-statistics (7.4-7.5) were generally more satisfied.
As with vocational school diploma holders, the job aspects most appreciated by new university graduates were the degree of independence and the tasks involved; the least appreciated were career opportunities and economic treatment.
The Veneto's graduates suffered a little less than

the Italian average from job instability, but this is a real concern for them as well.

Fig. 7.3.4 - Satisfaction of working 2011 university graduates with some aspects of their jobs (*). Veneto and Italy - Year 2015



(*) 0 to 10 scores.
Source: Developed by the Veneto Region Office of Statistics from Istat data

Asked about the rating they would give the the school system, young and very young Italians gave it a score of at least 6. This score was shared by a large number of young Europeans with regard to their countries' systems. Greeks, Bulgarians and Romanians differed in a negative way (4 or 5). The most satisfied were the Danes and the Finns, who gave their school system a score of 8. A more specific Istat survey examines universities and how well new young undergraduates liked their courses. Their level of satisfaction was average, between 6 and 8, with different scores according to the various aspects of education, services and infrastructures available to students. Education scored the highest, in particular the university teachers' competence in their subjects (8.1) and availability to students (7.5). Infrastructural aspects, language labs (5.7), computer labs (6.4) and classrooms (6.9) were given lower ratings.

Jobs not equal to one's abilities

Nevertheless, the impact with the world of work leads to some disappointment because one's job does not always correspond to the knowledge and abilities gained from studying, and is often lower than one's level of education and potential. The satisfaction of university graduates with this aspect was 6.3, barely sufficient, and was among the most disappointing factors of one's job; it was even lower for upper school diploma holders, 5.8.

7.4 A matter of inclusion

Income and inequality

After a negative trend lasting several years, household consumption is recovering, thanks to a slight increase in income and purchasing power, favoured by a moderate inflationary dynamic. In 2014, the average annual income of Italian households, including imputed rents[12] , was 35,017 euros, essentially stable in real terms[13] compared to 2013 and stopping the drop that had been occurring since 2009.

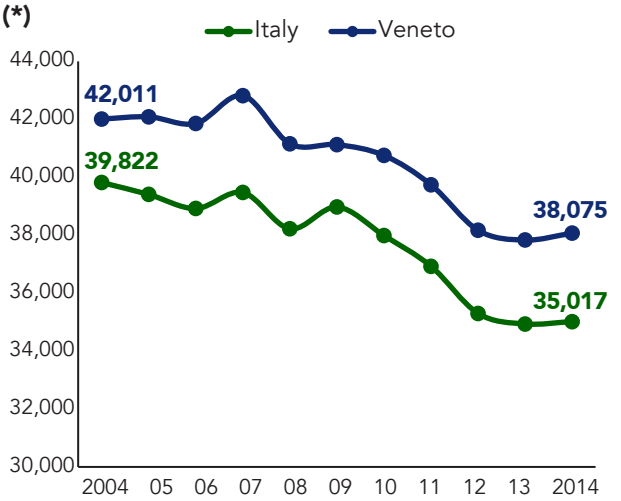
First positive signs

In the Veneto, economic conditions in general are steadily improving; households earned an average of 38,075 euros a year (around 3,170 euros a month), still far behind the pre-crisis period (-11% compared to 2007, the year of maximum economic expansion), but recovering in the last year (+0.6%). However, it should be noted that 50% of the Veneto's households have an income lower than 33,205 euros a year (29,694 euros in Italy).

The first reports of household income recovery are associated with tentative signs of reduced inequality in income distribution, albeit still high. Narrowing the social chasm is in the general interest, because inequality affects a country's social, economic and political balance. It strangles social mobility, limits the growth opportunities of the worthy and hampers access to appropriate education and training and a satisfactory job, thereby violating fundamental human rights. Various studies also show that in richer countries with lower income inequalities the population enjoys greater levels of well-being, and that a decrease in income inequality reduces many social and health problems such as crime, obesity

12 Since residential ownership is common in Italy, income is considered including imputed rents, i.e. the figurative income of the dwellings occupied by the owners, estimated via appropriate econometric models. Including imputed rents allows us to compare correctly the economic conditions of tenant and owner households.
13 Percentage variations are calculated on a constant income basis, i.e. considering past incomes as if they had the same purchasing power as 2014.

Fig. 7.4.1 - Average annual net income of households including imputed rents (in euros with 2014 values). Veneto and Italy - Years 2004:2014 (*)



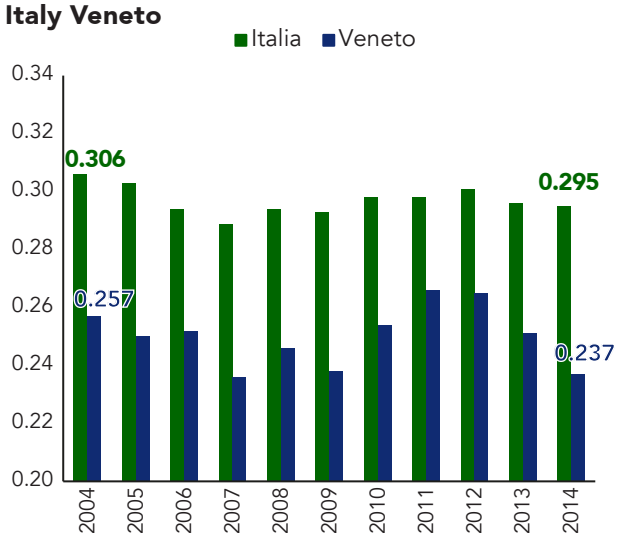
(*) In order to compare correctly the economic conditions of tenant and owner households, income is considered including imputed rents, i.e. the figurative income of the dwellings occupied by the owners estimated via appropriate econometric models. We considered the value of income at constant values of 2014, i.e. past incomes were transformed as if they had the same purchasing power as 2014, the last available year.
Source: Developed by the Veneto Region Office of Statistics from Istat data)

and psychological disorders.
According to the OECD[14] , from 1980 to 2008 there was a general increase in the level of inequality, both in countries that have always been characterised by strong disparities and in usually more egalitarian countries.
In Italy, disparity grew from the 1980s to the mid-1990s, then declined slightly, without however counterbalancing the increase of the first period. In the last decade, the level of inequality in income distribution has been following the cyclical trend of income, shrinking in times of economic expansion and growing in times of reduced income. Thus, inequalities got stronger again starting in 2009, stopping only in the last two years.

Inequality, a bit of a truce...

The Gini index, a synthetic measure of dispersion ranging from 0 to 1, where 0 indicates a condition of perfect equity and 1 of maximum inequality, assumed in 2014 a value of 0.295[15] for Italy, when it was 0.301 in 2012. The inequality in the Veneto is more limited than the national average, which is affected by the greater levels of disparities of the southern regions. In the Veneto, the Gini index stopped at 0.237 , with the highest peaks of inequality having occurred in the two-year period 2011-2012, after which a positive downward phase began that brought the Veneto almost to the lowest value, recorded in 2007 (0.236).

Fig. 7.4.2 - Income distribution inequality: Gini Index. Veneto and Italy - Years 2004:2014 (*) Italy Veneto



(*) The Gini index is a measure of income distribution disparity; it assumes values between 0 and 1, where 0 is associated with fair distribution of income, while 1 represents the greatest disparity.
Incomes inclusive of imputed rents are considered.
Source: Developed by the Veneto Region Office of Statistics from Istat data

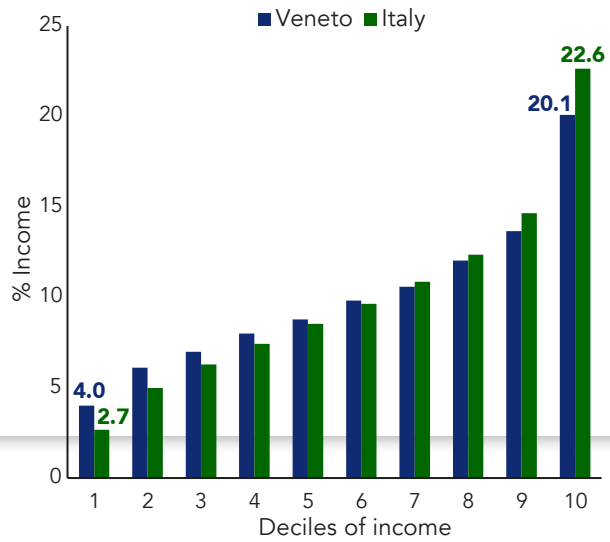
The differences appear to be more intense when we consider the extreme ends of the population; the Veneto's richest 20% of households held 33.7% of the total income, whereas the poorest 20% had only 10.1%. This means that the income of the Veneto's wealthiest households was 3.3 times greater than the poorest households' (in 2012 it was higher, 3.8). For Italy, in view of the greater disparity, the ratio rose to as high as 4.9.
The top 10% alone accumulated as much as one fifth of the overall income, 5 times the income available to the poorest 10% of the population (8.5 in

14 OECD. Divided We Stand. Why Inequality Keeps Rising, 2011.

15 With income inclusive of imputed rents; excluding the rents, the Gini index is higher, equal to 0.276 for Veneto and 0.326 for Italy.

Italy).

Fig. 7.4.3 - Net equivalent household income, including imputed rents, ordered by deciles. Veneto and Italy - Year 2014 (*)

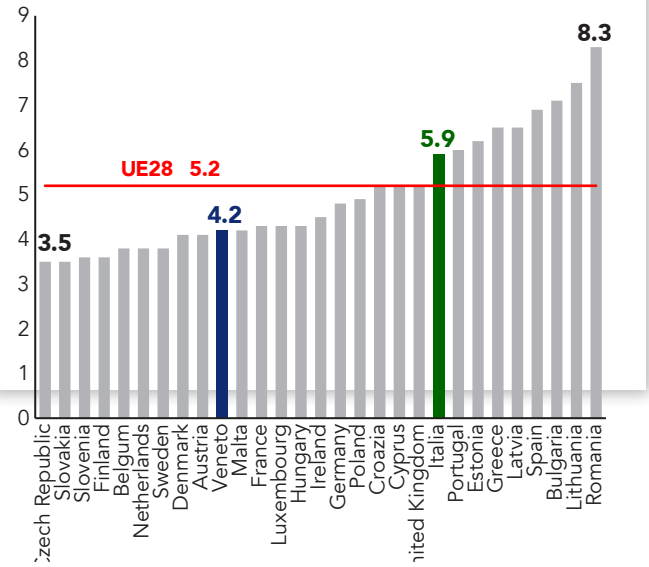


(*) In order to measure income distribution inequality, it is possible to sequence households from the lowest income to the highest, defining ten groups of equal numbers (deciles). In a situation of perfect equality, every decile of households would have a 10% income share of the total.
We consider the equivalent income, that is, the net household income transformed according to appropriate parameters so that the economic conditions of households differing by number and composition can be compared correctly.
Source: Developed by the Veneto Region Office of Statistics from Istat data

...but still high in Italy

The Veneto did not too badly even when compared to Europe, not far from the most egalitarian European countries, while in Italy overall the level of inequality was among the highest. The most uneven income distributions were found in Portugal, Greece and Spain and in most of the countries of the former Soviet bloc; the imbalance was instead considerably less in the northern European countries and in Slovenia, Slovakia and the Czech Republic.

Fig. 7.4.4 - Income distribution inequality: % ratio between the income of the wealthiest 20% of households and the income of the poorest 20% of households. Veneto and EU28 countries - Year 2014 (*)



(*) In order to allow for a comparison with European countries, we considered equivalent income without imputed rents.
Source: Developed by the Veneto Region Office of Statistics from Eurostat and Istat data

Poverty and social exclusion: the risk of being left out

Poverty is the most extreme effect of income inequality. The persistence of the economic crisis makes it even more urgent to try and counter poverty and promote social inclusion decisively. Also because last year's few positive signs, of increase in available income and reduction in inequality, did not seem to involve the weakest sections of the population.

The European inclusion objective, envisioned by the Europe 2020 Strategy, is to reduce by at least 20 million the number of European people exposed to the risk of poverty[16] or social exclusion by the

16 Anyone experiencing at least one of the following three situations is at risk of poverty or social exclusion.
1) Poverty risk: living in households with an equivalent income below the poverty line, equal to 60% of the median of the equivalent national income available after social transfers.
2) Severe material deprivation: living in households forced to face at least four deprivations or sacrifices among the following: being able to pay the rent, mortgage or bills; keeping one's house heated adequately; facing unexpected expenses; eating meat or protein regularly; going on vacation at least one week out of the year; and being able to afford buying a TV set, washing machine, car or telephone.
3) Working less than normal: being under 60 and living in households where adults worked less than 20% of their potential working time in the previous year.

year 2020. For Italy, this means taking 2.2 million citizens out of this condition. Thus, if at the beginning of the monitored period the risk of poverty or social exclusion totalled 15.082 million Italians (25.5% of the population), by 2020 it should drop to 12.882 million.

Fighting poverty, something has to change

In reality, to date the desired target appears to be far away; in 2015, the risk of poverty or social exclusion still accounted for almost 17.5 million people, equal to 28.7% of the population, higher than the European average (23.7%). After a slight improvement in 2009, the situation in Italy worsened again, so much so that the index reached almost 30% in 2012, after which it has dropped and stabilised substantially over the last three years. Compared to other countries, the situation is now well known; similar poverty levels to Italy's were observed in Spain, and were worse only in Bulgaria (41.3%), Romania (37.3%) and Greece (35.7%). Compare this to Sweden or Finland, where the risk of poverty or social exclusion stopped at 16%.

It is therefore confirmed that poverty in Italy is a major social problem, especially in the light of the highly worsening trend in progress, and above all of the fact that there is still no specific national strategy to come up with anti-poverty measures.

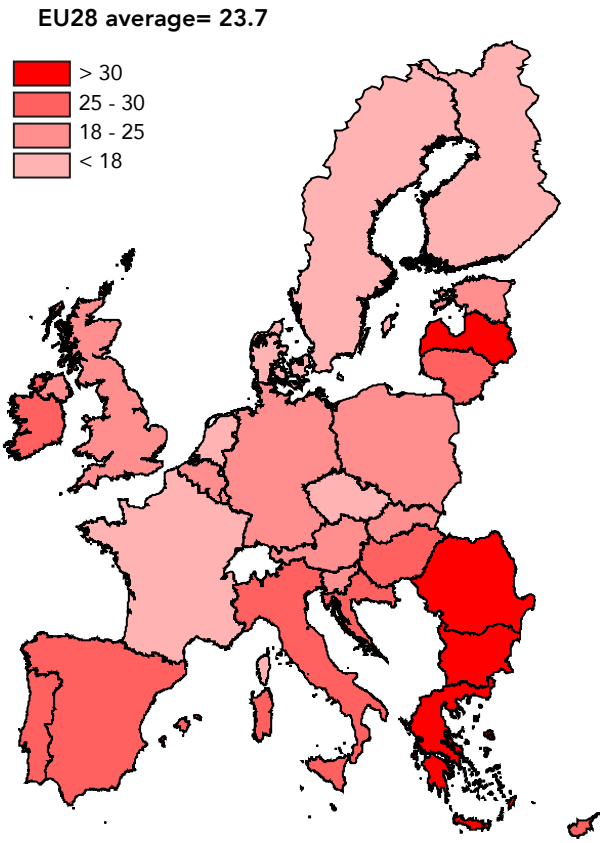
The many faces of poverty

The European definition of poverty and social exclusion refers to a broad and multidimensional quality of life concept. Anyone experiencing at least one of the following three situations is at risk of poverty or social exclusion: being in a state of relative poverty, i.e. living on an income below the poverty line; experiencing serious material deprivation because forced to make do without goods or services that most people enjoy; and living in households where adults work for only a fifth of their potential working time.

In Italy, all indicators showed more widespread disadvantages compared to the European average. Monetary poverty is the most significant type of exclusion; in Italy, almost one in five people was relatively poor (17.3% in EU28), slightly up from 2014. Low work ratios (11.7 %) decreased compared to the previous year, following the protracted increasing trend throughout the period 2009-2014, while the spread of severe material deprivation remained unchanged, accounting for 11.5% of the population, much higher values than the pre-crisis ones. The situation in the Veneto is relatively less worrying: 16.8% of the population are at risk of poverty or social exclusion, almost 12% less than Italy as a whole. The percentage remained virtually stable, because although the risk of poverty (10.9%) and serious material deprivation (3.6%) went down, working less than one's potential rose to 7.2%, when a year earlier it was 5.5%. Although the comparison with the national and European average is comforting, the extent of the phenomenon in terms of citizens involved should not be neglected; about 828 thousand Veneto residents experienced serious difficulties, being unable to live decently in current society and to provide for the basic necessities of life in the most serious cases.

It is very worrying that still nearly 6% of the population stated that they did not have the money to eat

Fig. 7.4.5 - Percentage of people in a condition of poverty or social exclusion. EU28 – Year 2015 (*)



(*) For the definition of risk of poverty or social exclusion, see footnote 16.
Source: Developed by the Veneto Region Office of Statistics from Eurostat data

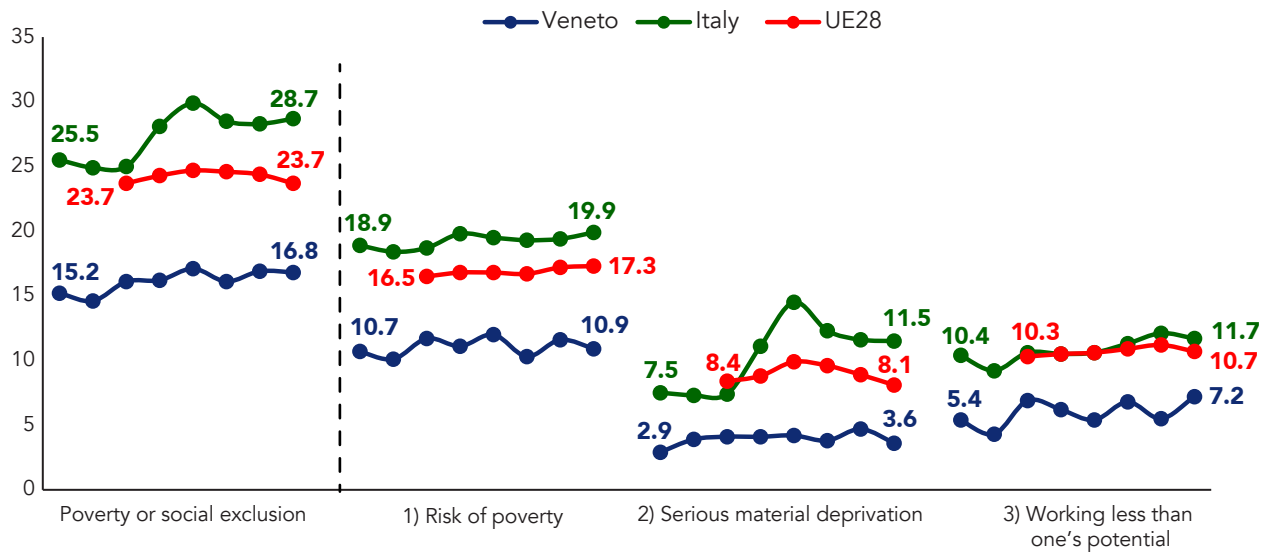
an adequate meal, meat, fish or vegetarian equivalent, at least once every two days (11.8% in Italy). Households without the resources to cope with an unexpected expense of 800 euros (32.7%), who could not afford even just one week of vacation a year away from home (38.3%) and were struggling to deal with home expenses were on the increase.

Housing conditions worsening

The housing problem has become more widespread with the crisis, extending also to that grey area of the population whose accrued income does not make them eligible for public housing but who at the same time do not have the capability to access the free market.

In 2015, 8.1% of Veneto's population was clearly lagging behind with the rent, mortgage or bills, and nearly 9% failed to heat their home adequately. The housing problem was even more serious for nearly 431,000 people in a state of severe deprivation, i.e. living in an inadequate home because of overcrowding and serious structural deficiencies, damp or poor lighting. These were mostly young households, couples with dependent children, single parent households and people with low academic qualifications renting older housing.

Fig. 7.4.6 - Percentage of people in a state of poverty or social exclusion and individual poverty situations. Veneto, Italy and EU28 - Years 2008:2015 (*)



(*) For the definition of risk of poverty or social exclusion, see footnote 16.
The EU28 value is available from the year 2010.
Source: Developed by the Veneto Region Office of Statistics from Eurostat data

The Veneto's severe housing deprivation problem is increasing; albeit less extensive than in other Italian regions, it is more widespread than the EU average (Veneto 8.7% and EU28 4.9%).

Health inequality

In addition to threatening the universal right to housing, social inequalities question the very principle of universality of the fundamental human right to health. According to the "social gradient law", the more one goes down the social ladder the more one is exposed to health risks, illness and death. A bad social and economic condition takes away more than two years of life, almost as much as smoking, diabetes, or a sedentary life[17].

The most probabe reason is that a low social and economic status involves additional risk factors, such as increased exposure to stress, a less healthy lifestyle, worse childhood conditions, more harmful environmental situations and less access to care and prevention.

Moreover, households' growing economic difficulties created by the recent economic crisis, as well as by austerity policies and welfare cuts, present a

17 Socioeconomic status and the 25 × 25 risk factors as determinants of premature mortality: a multicohort study and meta-analysis of 1•7 million men and women. The Lancet, Volume 389, No. 10075, pp, 1229-1237, 25 March 2017. http: //www.thelancet.com/journals/lancet/article/PIIS0140-6736(16)32380-7/fulltext

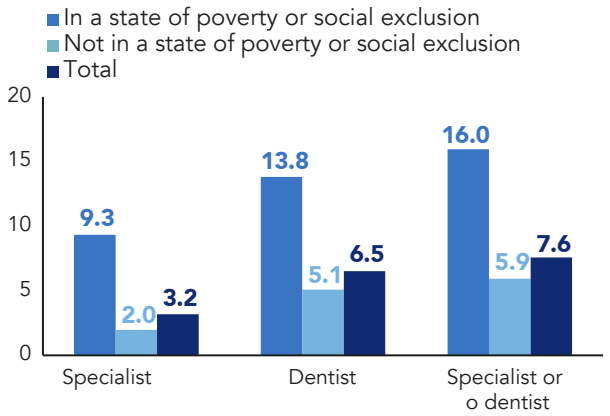
Tab. 7.4.1 - Material deprivation indicators. Veneto, Italy, EU28 - Years 2014 and 2015

	Veneto		Italy		UE28	
	2014	2015	2014	2015	2014	2015
Percentage of people who:						
could not afford a protein meal at least once every two days	7,9	5,7	12,6	11,8	9,5	8,5
could not cope with an unforeseen expense	30,0	32,7	38,8	39,9	38,9	37,4
could not afford one week of vacation a year away from home	36,7	38,3	49,5	47,3	36,9	34,4
were behind with bills, rent, mortgage or other type of loan	7,9	8,1	14,3	14,9	12,5	11,5
non possono riscaldare adeguatamente l'abitazione	9,5	8,9	18,0	17,0	10,2	9,4
could not heat the house adequately	7,2	8,7	9,5	9,6	5,0	4,9
sovraffollamento	17,6	20,5	27,2	27,8	16,7	16,7
lived with damaged windows, doors, roofs or floors, or damp	28,6	28,5	25,0	24,1	15,7	15,2
lived with poor lighting	6,1	5,1	7,2	7,0	5,9	5,5

(a) People living in overcrowded housing with at least one structural problem
Source: Developed by the Veneto Region Office of Statistics from Eurostat and Istat data)

worrying horizon for the right to health, especially for the weakest. Although its National Health Service is considered among the most universalist, with Essential Levels of Care guaranteeing free care as equal as possible for all, according to a Eurostat survey, Italy is one of the countries with the highest proportion of unsatisfied health needs because care expenses are considered too high.
In 2015, the number of people in Veneto who gave up on medical care because they could not afford it even though they needed it rose to more than 315,000 (up by 69,000 compared to 2009). This kind of deprivation affected 7.6% of the population (11.5% in Italy), mainly for dental treatment, but also for specialist visits. Of course, the difficulties in accessing care were greater for people at risk of poverty or social exclusion, almost triple compared to those who have more resources, which shows a very high level of injustice.

Fig. 7.4.7 - Percentage of people aged 16 and over who stated that they gave up on a specialist visit or a dental treatment in the last 12 months because they were too expensive and could not afford it. Veneto - Year 2015



Source: Developed by the Veneto Region Office of Statistics from Istat data

Not a country for families

Who are the people most at risk of ending up in the poverty tunnel? And those who paid the worst price for the crisis? Women and people with a low educational level are at greater risk; studying is still an effective way to fight poverty, so much so that the higher their educational qualifications the more significantly the percentage of people at risk

of poverty or social exclusion is reduced. Poverty[18] is often associated with not having a job; however, it must be stressed that in recent years not even having a job gives complete protection from marginalisation and very low salaries can push some workers under the poverty line. The percentage of employed people at risk of poverty or social exclusion was in fact 17% in Italy and 8% in the Veneto. As we have seen, minors and young people were the most affected age groups. In the Veneto, 18.1% of all minors were at risk of poverty or social exclusion (as many as 33.5% in Italy) and 18.4% (35.4% in Italy) of young people. The problem has grown more serious over the years; the overall risk of poverty or social exclusion increased by 2.7% between 2009 and 2015; for minors and young people the increase was higher, 3.1% and 4.9% respectively. At the opposite end, the risk of poverty or social exclusion for senior citizens went down from 17.4% to 15.4% (from 22.9% to 19.9% in Italy). It is true that, during this period, retirement payments and money transfers to seniors declined, but they did so more slowly than the incomes of the younger population. The game of intergenerational justice is also played in the field of politics, which should be able to meet the needs of the elderly without losing sight of the future of new generations. Considering household types, people who live alone are more at risk, especially older people, and households with dependent children, especially if they have three or more children.

Grave concern over poverty among minors

The future of a country depends on the ability to safeguard its young people, including by trying to stop the intergenerational transmission of disadvantages and poverty. Unfortunately, weak family policies and the lack or scarcity of adequate support, both in terms of income and services, do not help households with children. Nearly 148,000 children and young people under the age of 18 were at risk of poverty or social exclusion, 21% more than in 2009. Living in a state of social exclusion from an early age is an uphill battle, with long-term and even life-long repercussions, and the accumulation of disadvantages, frailties and rights denied; fewer opportunities in terms of acquiring social abilities and education may hinder the achievement of one's potential, making one more vulnerable to the risk of living in poverty also as an adult.

Fewer opportunities starting from childhood

In addition to family privations, there are sacrifices that affect children directly, which, though apparently smaller, are neither trivial nor negligible. It is hard, especially for children, to accept being different from the majority of their peers; this is most likely what one youth out of five suffer in the Veneto and almost one out of three in Italy, being forced not to do or have what almost all of their friends can afford. In 2015, almost 16% of Veneto's children under 16 could not even have just one week of holiday a year away from home because their families could not afford it; 6% could not go on school trips or participate in other extracurricular activities and 3% owned no games or could not invite friends over to celebrate a birthday or even just have snacks together. Some households could not even buy new clothes and shoes for their children, as was the case for 8% of children/young people, up from 2013.

Households with minors were those more often in absolute poverty , not being able to afford the consumption of goods and services considered essential for a minimally acceptable living standard, experiencing a condition of "last among the last".

In 2015, absolute poverty in the Veneto affected about 4% of households and almost 6% of households with minors; an even bigger problem is found at the national level, as percentages rose to 6.1% and 9.3% respectively. In Italy, the incidence at the household level remained largely stable over the last few years, although rising when measured in terms of people involved, reaching the highest figures since 2005 in the last year. This was mainly due to an increase in absolute poverty among larger households, especially those with minors. In 2015, almost 10% of children in Italy were in absolute poverty, whereas ten years earlier the percentage had stopped at 3.9%.

18 Absolute poverty is based on the monetary valuation of a basket of goods and services considered to be essential in order to avoid serious forms of social exclusion. Households with a monthly expenditure equal to or less than the absolute poverty threshold value are categorised as absolutely poor; this differs by household size, composition and age, geographical breakdown and demographic amplitude of the municipality of residence.

Tab. 7.4.2 - People at risk of poverty or social exclusion for some characteristics. Veneto, Italy and EU28 - Years 2009 and 2015 (*)

	Veneto		Italy		UE28 (a)	
	2009	2015	2009	2015	2009	2015
Total						
in thousands	688	828	14.799	17.469	114.208	118.823
%	14.1	16.8	24.9	28.7	23.3	23.7
Gender (%)						
males	12.0	15.0	22.9	27.7	22.0	23.0
females	16.1	18.5	26.7	29.6	24.5	24.4
Age (%)						
0-17	15.0	18.1	28.7	33.5	26.4	26.9
18-64, di cui:	12.8	17.0	24.4	30.4	22.7	24.7
18-34	13.5	18.4	27.0	35.4	-	-
35-64	12.4	16.4	23.1	28.8	-	-
65 and over	17.4	15.4	22.9	19.9	21.8	17.4
Education level (% of population aged 18 or over) low						
low	17.7	19.9	30.3	35.6	32.5	34.7
average	9.8	14.3	18.2	23.9	21.0	22.1
high	7.7	9.8	11.3	13.4	10.4	11.7
Employment (% of population aged 18 and over)						
employed	7.5	8.1	13.4	16.7	12.3	12.5
unemployed (b)	39.6	49.0	60.5	68.4	63.9	66.6
retired from work	15.6	11.1	19.5	16.8	22.7	18.2
Family type (%)						
singles	29.9	27.0	33.0	31.6	33.9	33.0
persone anziane sole	33.4	30.0	34.8	30.1	31.7	26.0
senior citizens living alone	11.1	12.8	23.2	25.9	22.5	22.4
households with dependent children	13.0	17.3	26.6	31.7	24.0	25.1
two adults with 1 dependent child	11.1	9.7	18.8	23.9	16.5	17.6
two adults with 2 dependent children	11.9	14.2	23.4	26.5	18.0	18.2
two adults with 3 or more dependent children (b)	20.0	26.5	39.9	46.8	31.7	31.6

(a) The data refer to the EU27 average for 2009
(b) Veneto's data is replaced by Northeast data (*)
(*) For the definition of risk of poverty or social exclusion, see footnote 16.

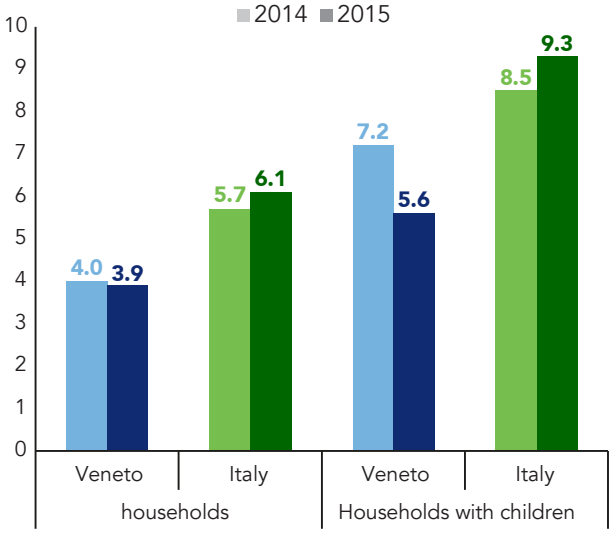
Source: Developed by the Veneto Region Office of Statistics from Eurostat and Istat data)

Tab. 7.4.3 - The deprivation of minors in households. Veneto and Italy - Years 2013 and 2015

	Veneto		Italy	
	2013	2015	2013	2015
Percentage of people who:				
affrontano almeno una privazione	20,2	21,2	37,6	31,7
non possono permettersi almeno una settimana di vacanza all'anno lontano da casa	15,8	15,8	29,3	25,9
non possono permettersi abiti nuovi o almeno due paia di scarpe	7,1	7,8	12,2	10,2
non possono permettersi di svolgere attività extrascolastiche o di andare in gita con la scuola	7,4	6,1	18,3	17,3
non hanno giochi, non festeggiano con gli amici o non possono invitare gli amici a casa	6,1	3,2	16,2	13,7

Source: Developed by the Veneto Region Office of Statistics from Istat data

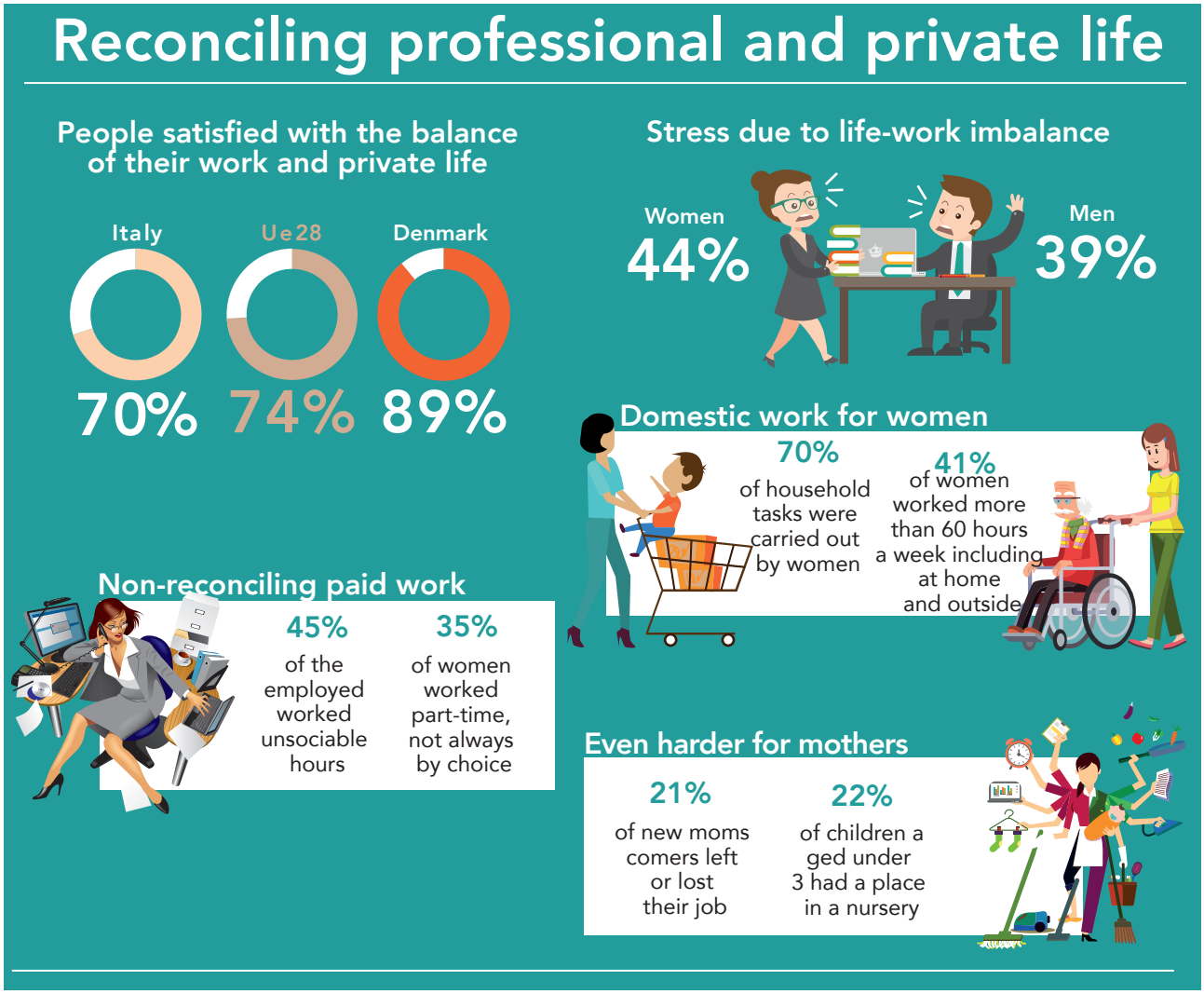
Fig. 7.4.8 - Households in absolute poverty. Veneto and Italy - Years 2014 and 2015 (*)



(*) The absolute poverty estimate defines as poor a household whose consumption spending is lower than or equal to the monetary value of a basket of goods and services considered essential in order to avoid serious forms of social exclusion. The monetary value of absolute poverty is re-evaluated annually in the light of price dynamics.
Source: Developed by the Veneto Region Office of Statistics from Istat data)

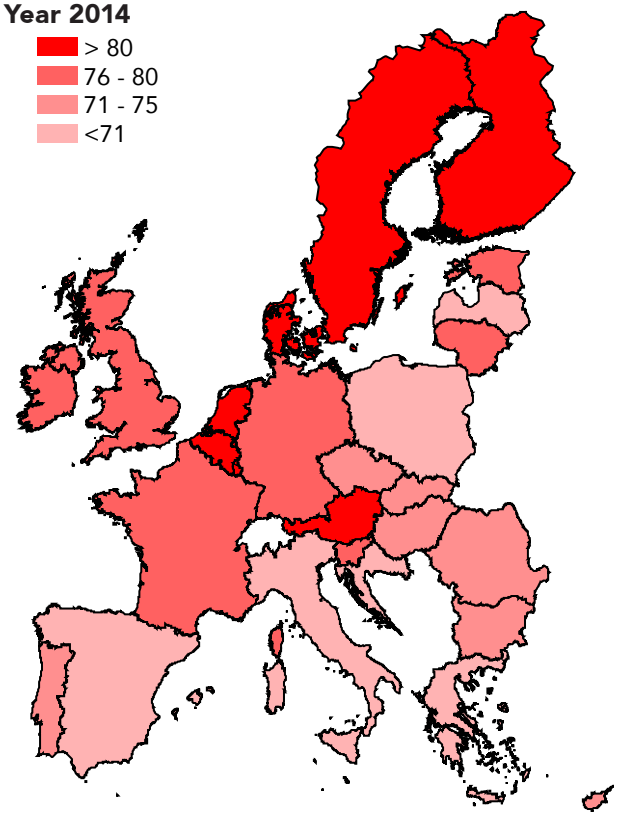
Chap. 8 - Reconciling professional and private life

In 2014, 70% of all Italians felt satisfied with the balance of their work and private life. This data may seem to be reassuring, but it was the sixth lowest value among all the countries of the European Union. In Italy, reconciliation is still conceived of as a women's issue and the country is struggling to do away with this label and encompass the overall family-work system. The difficulty of reconciling work and personal-family life is mainly a result of cultural factors, such as traditional roles that exempt male partners and children from carrying out domestic tasks, but other factors also play a role, such as a certain rigidity in the job market and poor availability of childcare and care services. The phenomenon of leaving the job market following the birth of a child is still widespread among women, even increasing in recent years in a fairly generalised manner throughout the country. In 2014, 70% of all Italians felt satisfied with the balance of their work and



private life. This data may seem to be reassuring, but it was the sixth lowest value among all the countries of the European Union. Lower values were recorded by Greece, Spain, Croatia and Latvia, whereas Denmark, Holland and Belgium were the most satisfied nations.

Fig. 8.1 - Percentage of people satisfied with the balance of their work and private life. EU28 - Year 2014



Source: Developed by the Veneto Region Office of Statistics from Eurobarometer data

The situation in Northeast Italy (74%, in line with the EU28 average) as well as for those working part-time (77% compared to 68% of full-time workers) was better. The strongest dissatisfaction was experienced by people working for small businesses (60%) and living in big cities (66%). The main consequences of this imbalance were perceived as stress and the inability to cope with family needs or to handle chores after a day's work, especially so for low-income people. The correct balance between life and work is so important in the lives of people that it was the second global factor in choosing a job after economics. The economic factor was preferred by 84% of people when choosing a job, the chance to reconcile life and work was chosen by 64%[1].

Tab. 8.1 - Percentage of people reporting consequences from work-life imbalance. Italy - Year 2012

	Males	Females	Low income(*)	High income(*)	Total
Stress due to work-life imbalance	39.0	44.0	57.0	38.0	41.0
Difficulties in meeting household needs due to too much work	22.0	19.0	29.0	23.0	22.0
Difficulty focusing on work due to family responsibilities	6.0	11.0	18.0	5.0	9.0
Getting home too tired to do chore	35.0	40.0	53.0	34.0	37.0

(*) Low income: 25% least remunerated part of the population; High income: 25% most remunerated.
Source: Processing by Veneto Region Statistical Office on Eurofound data

Reconciliation of professional, private and family life is a broad concept involving the balance and harmonisation of these areas. We need to recognise that the private and professional spheres of life are interdependent and act in such a way as to strike an efficient balance "between work, the opportunity to spend time with family and friends, taking care of family members, free time and personal development". This is what the European Parliament Resolution says that provided for reconciliation as a fundamental right of all[2] in 2016.

Reconciliation is a right

The Resolution sets forth some cornerstones of necessary legislative interventions for greater equality between women and men and better employment quality, while emphasising that, "a cultural change is necessary above all to eliminate gender stereotypes, so that work and taking care of family members are more fairly shared between men and women".

1 Kelly Global Workforce Index, 2014
2 European Parliament resolution 0338 of 2016

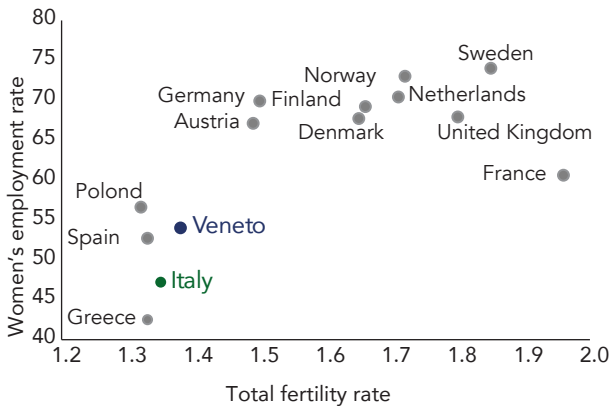
8.1 Patterns change along with needs

The concept of reconciliation is fairly recent. It involves the ideas of work and family, whose patterns have changed over time as a result of social, demographic and cultural changes.
Something new occurred in the 1970s in Italian and European society; young women with small children started holding on to their jobs rather than giving them up to take care of the family on an exclusive basis.

Reconciliation is the result of extensive transformations

Up until then, the division of roles between men and women was precise and rigid both inside and outside the home; the man was the breadwinner and head of the family, providing for the economic needs of wife and children, whereas the woman was the unpaid homemaker, taking care of household chores and family members. Work was exclusively male-oriented and governed by strict contractual rules and fixed schedules. The changes in the social behaviour of women caused child bearing and caring issues to burst onto the labour market from those years onwards. This was a whole new phenomenon involving a relationship between women at work and child bearing that undermined a commonplace notion; even then, Swedish women had more children than Italian women while also being employed more, a situation that has persisted until today.
In countries where women have been working longer, there are more services, more reconciliation tools, and more children. In short, it is not work that hinders reproductive life so much as the conditions in which it occurs. Italy has still much to learn in terms of family policies and reconciliation compared to most other countries; in addition to low levels of female employment, it is penalised by a very low fertility rate, with 1.35 children per woman, the lowest value after Poland, Greece and Spain. Veneto's situation is slightly better than the Italian average, but still below European standards. This is why at the time reconciliation was seen as a women's issue, so much so that the term "double presence" was coined, understood as the need to respond simultaneously to the demands of paid and domestic-family work, and it is still struggling to do away with this connotation and include the

Fig. 8.1.1 – Women' occupational and fertility rates. Veneto, Italy and some European countries - Year 2015



Source: Processing by Veneto Region Statistical Office on Eurostat data

family-work system overall. In Italy, having children at a young age is still an obstacle to women's chances of achievement, so much so that the literature speaks of child penalty.

Employed mothers are still few

In Italy, the employment rate of women with children under the age of 6 was 55.2%, when in Europe it was 63.3% and in Sweden as high as 81.6%. Consequently, for every 100 employed women aged 25 to 49 without children, there were only 78 employed mothers with young children, an improving figure, albeit still low. In Veneto, the situation was better (88) but the gaps remain; 82% of resignations and consensual employment contract resolutions concerned working mothers in 2014 Italy.

Households and care needs change...

Nowadays, childbearing choices are not the only factor demanding reconciliation policies; there are others as well, brought about by changes that have occurred in family patterns. These include: longer life expectancy, which raises the issue of caring for the elderly, including those who are not self-sufficient; decrease in family size, which means the elderly who had fewer children have fewer people to rely on; and marital instability, which interrupts intergenerational solidarity (there are no daughters-in-law).

Tab. 8.1.1 – Women' occupational and fertility rates. Veneto, Italy and some European countries - Year 2015

	1 child	2 child	3 or more	total
Greece	54.9	50.7	45.6	51.6
Italy	**61.9**	**53.5**	**35.8**	**55.2**
Spain	67.1	59.9	43.6	60.8
German	70.9	63.6	42.7	63.1
United Kingdom	75.8	66.4	43.6	63.9
France	79.6	70.9	47.7	68.2
Sweden	81.9	83.3	76.9	81.6
UE28	**69.9**	**64.6**	**47.3**	**63.3**

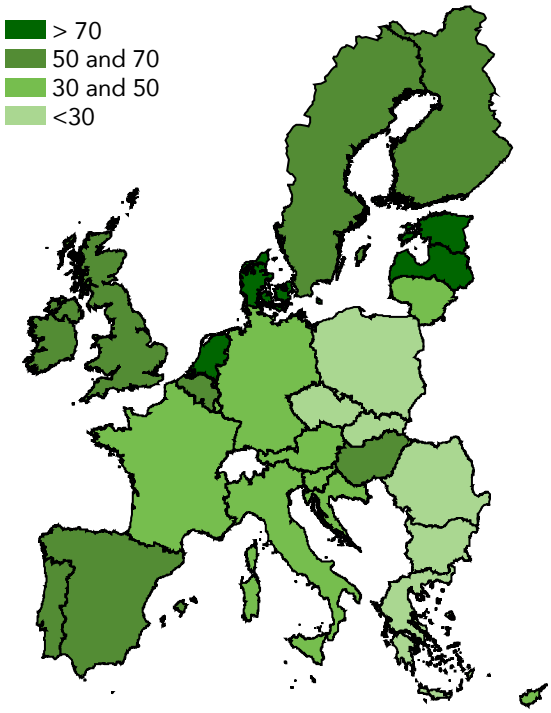
Source: Processing by Veneto Region Statistical Office on Eurostat data

Despite all these transformations and the growing participation of women in the labour market, in most western countries domestic work and caring for the children and family continue to burden mainly women. The average European Gender Equality Index calculated for home and care chores was far from being even (100), reaching just 42.8 points, and it was even lower for Italy (40.4).

...but rigidity remains in family roles

The transformation that would have been expected did not happen, that is, greater sharing of home chores matching the greater involvement of women in work outside the home. In Italy, when you add up paid work hours to the hours spent doing chores, 33.6% of people worked longer than 60 hours a week (38.3% in Veneto), but 35.4% were women and 31.9% men. This discrepancy was greater in Veneto, 41.4% and 35.3% respectively. The family work asymmetry index points to the same thing: in Veneto, in the case of couples where only the man works,
the woman did 76% of the family work; with both partners working, the imbalance decreased but not by much, as women took care of 68% of family chores in this case. Generally speaking, on an average week day, men took care of family work for 1 hour and 56 minutes whereas women spent 4 hours and 26 minutes.

Fig. 8.1.2 - Gender Equality Index for home and care chores. EU28 – Year 2012



Source: Processing by Veneto Region Statistical Office on Eige data

A recent survey conducted in Veneto[3] showed that 40% of working women were the main child carers, compared to 5.3% of their male counterparts. However, there were signs of improvement in younger couples, especially in childcare, where the asymmetry index dropped to 60%.
Such imbalances in work schedules inevitably affect other areas of private life. On an average day, women enjoy one hour less free time than men. In Italy, the difficulty in reconciling work and family life is mainly due to cultural factors, such as traditional roles that exempt male partners and children from doing chores, but other factors should not be forgotten, such as a certain rigidity of the labour market and the low availability of childcare services.

Still little reconciliation from the labour market

A family having children often clashes with labour market inflexibility in terms of scheduling; for example, parental leave paid only 30% and the fact that more and more workers, mostly young people of childbearing

3 Veneto Region, North East Foundation. The Time Found. Paths, ideas and proposals for reconciliation in Veneto. 2013.

Tab. 8.1.2 - Asymmetry index of family work (*) for employed couples with children, by the woman's age and type of activity. Northeast - Year 2013

	25-44 years	45-64 years	total
Domestic work	70.4	71.2	70.8
Cooking, washing dishes	74.6	78.9	76.6
House cleaning	72.8	80.1	76.1
Washing and ironing	91.8	93.8	92.8
Purchasing goods and servicesi	55.2	62.4	58.7
Caring for family members	61.3	71.0	64.1
Caring for adults	70.9	65.5	67.4
Total	**65.9**	**69.6**	**67.6**

(*) Asymmetry index of family work: 100 if done entirely by the woman, 0 if done entirely by the man.
Source: Processing by Veneto Region Statistical Office on Istat data

age, do not have it in their contracts. In 2015, private sector employees receiving parental leave were 90% women (85% in Italy). Not even 2% of these workers benefited from the paternity leave introduced by Law 92/2012. This phenomenon is of course affected by gender norms and cultural traditions that make it almost inevitable for mothers to take the leave.
The gender pay gap is also a major influence, which makes it more convenient for fathers to continue working. Even greater difficulties occur when parents are forced to work uncomfortable hours, like evenings, nights or weekends. In such cases, they are faced not only with organisational but also existential discomfort, because this prevents them from spending quality time with their children.

Almost 50% of the employed work uncomfortable hours

Around 45% of Veneto's employed had a job with uncomfortable hours, generally more men (46%) than women (43%), and 49% of the employed nationwide. Evening work accounted for 18.8% of the employed, nightly work 10%. Most of them did not do so occasionally, but two or more times a month, so that the percentage of employed usually busy in the evening or at night was 13.8% and 7.2% respectively. Working on the weekend, and especially on Sunday, is a major detriment to the opportunity for the family to spend some time together; this quality time is disappearing, also because it is now normal for businesses to stay open on Sundays.
This type of work schedule has become habitual for as many as 29.7% of the employed, fewer than nationally (35.6%), but still a fairly high percentage compared to the 27.5% European average. When considering those who also work on Saturdays or Sundays but less, the percentage rose to 40% for Veneto and 45% for Italy.

Tab. 8.1.3 - Percentage of employed usually working uncomfortable hours, by schedule and gender. Italy and UE28 - Year 2015

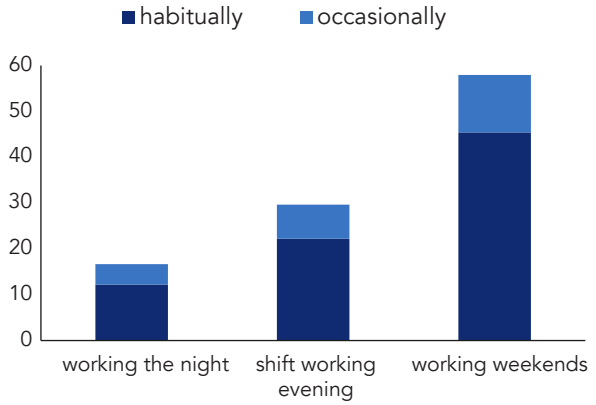
		Veneto	Italy	Ue28
Working evenings	Men	14.1	18.0	17.4
	Women	13.4	13.1	14.4
	Total	13.8	15.9	16.0
Working the night shift	Men	8.0	10.1	7.7
	Women	6.1	5.6	4.3
	Total	7.2	8.2	6.1
Working weekends	Men	28.0	35.7	28.1
	Women	32.0	35.5	26.8
	Total	29.7	35.6	27.5

Source: Processing by Veneto Region Statistical Office on Eurostat data

This means that for 30% of the families where both parents work, at least one of the two worked in the evening, and 17% where one of the parents worked nights. Weekend work affected 58% of all households. In addition, both parents work both on Saturdays and Sundays in 5% of the cases, showing remarkable family management skills.
Non-standard working hours, such as working shifts, in the evenings or at night or weekends, increase considerably work and family incompatibility and consequently dissatisfaction with one's life[4]. On the contrary, where there is an opportunity to have some independence in managing one's work schedule, the positive effects extend not only to the balance of work and private life, but also on overall health and well-being. Various research has shown

4 AA.VV., The influence of working time arrangements on work-life integration or 'balance': A review of the international evidence, in "Conditions of Work and Employment Series No. 32". ILO, Geneva.

Fig. 8.1.3 - Percentage of couples with children working uncomfortable hours, by schedule. (*) Veneto - Year 2015



(*) On the total of couples with children working uncomfortable hours.
Source: Processing by Veneto Region Statistical Office on Istat data

that non-standard working hours are seriously damaging to one's health, causing insomnia, stress and cardiovascular disorders[5].

8.2 Do-it-yourself reconciliation

At times, people choose to work part-time to cope with very rigid working situations, an option adopted more by women than by men. In fact, in 2015, more than 30% of European women worked part-time, against less than 9% of men. The overall Italian results did not differ from these figures, while in Veneto the situation was even more polarised, as 34% of employed women worked part-time, the sixth highest value among the Italian regions, against 6% of men, the lowest value in Italy.

Tab. 8.2.1 - Percentage of part-timers by gender. Veneto, Italy and EU28 - Years 2008 and 2015

	2008			2015		
	Men	Women	Total	Men	Women	Total
Veneto	4.1	33.6	16.3	6.0	34.1	17.8
Italy	4.8	27.7	14.1	8.0	32.4	18.3
EU28	7.0	30.4	17.5	8.9	32.1	19.6

Source: Processing by Veneto Region Statistical Office on Istat and Eurostat data

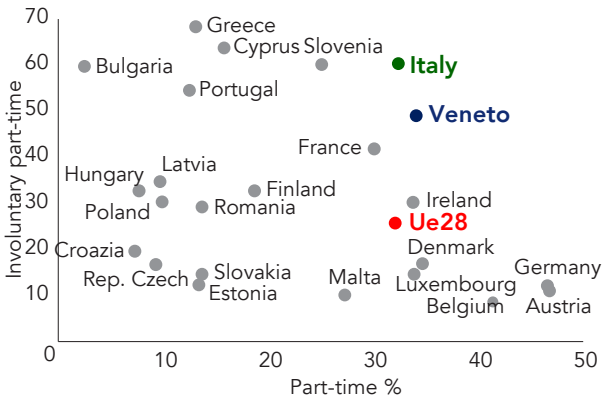
5 Ibid

However, working part-time was not always a choice. In Italy, most of the men and women (80% and 60% respectively), especially in the Southern regions, were forced to work part-time because they could not find a full-time job.

Part-time employment as a fallback

This phenomenon was even more pronounced among young people; in the 20 to 29 age group employed part-time, 85% of the men and 80% of the women would like a full-time job.
In Veneto, 49% of women who worked part-time did so because they had no alternative; this figure has been rising in recent years, to more than double that of 10 years ago (22.2% in 2005). On average in Europe the percentage of involuntary part-timers was smaller, only 25.7% of employed women would choose full-time jobs if they had the opportunity. Germany, Austria and the Netherlands were among the most virtuous countries, where a lot of women work part-time voluntarily.

Fig. 8.2.1 - Percentage of women working part-time and working part-time involuntarily. (*) Veneto, Italy and European Countries - Year 2015



(*) Percentage on women working part-time.
Source: Processing by Veneto Region Statistical Office on Eurostat and Istat data

So-called voluntary part-time, although it fulfils the desire to manage one's work schedule independently, is not always by free choice, but due to having to cope with the contingent and inevitable needs of family work.

Part-time work as a necessity

Employed women aged 25 to 49 chose to do part-time work most of all to take care children

or other family members (35%), also to make up for an inadequate welfare system offering poor or overly expensive services, as reported by 25.8% of them, more than the national average (19%). In these cases, women's commitment to family care is even more apparent.

Tab. 8.2.2 - Percentage of women aged 25 to 49 working part-time and why. Veneto and Italy - Year 2015

	Veneto	Italy
Employed part-time	35,0	34,6
Reason for working part-time:		
To take care of the children or other family members (a)	34,9	24,9
Because of inadequate or no care services (b)	25,8	19,0

(a) Percentage on women employed part-time.
(b) Percentage on women employed part-time to care for the family.
Source: Processing by Veneto Region Statistical Office on Istat data

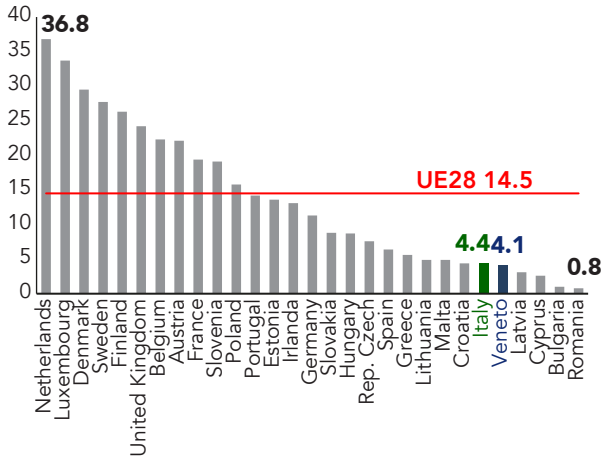
The fact that it is mostly women who are employed part-time brings up serious issues not only in the present time, for this implies that reconciliation remains a problem that affects only women, but also for these women's future employment opportunities and social security benefits. Women, rather than men, are almost always required to accept the necessary compromises involved in adapting one's job to family needs. As for men, the European Labour Market Survey conducted by the Dublin Foundation showed no difference between full-time and part-time male workers with regard to the time spent caring for other family members[6].

Telecommuting is largely an unknown

Another means of reconciliation such as telecommuting, i.e. working from home, thus minimising travel times to and from work, which can be full-time, is rather uncommon in Italy (4.4%) and even more so in Veneto (only 4.1%), against 30% in Northern Europe and a 14.5% European average.
Telecommuting women were even fewer: just 3.1% in Veneto (3.9% in Italy) against an EU average of 14.1%.

6 European Foundation for the Improvement of Living and Working Conditions, Combining family and full-time work

Fig. 8.2.2 - Percentage of people working from home. Veneto, Italy and European Countries - Year 2015



Source: Processing by Veneto Region Statistical Office on Eurostat and Istat data

Reconciliation decreases when a child arrives

The birth of a child involves a profound reorganisation of one's personal, family and work life. In 2012, 65% of Veneto's mothers were employed two years after the birth of a child7 (54% in Italy), 8% were looking for a job (9% in Italy) and 24% stated they were housewives (34% in Italy). Employment level changes according to the number of children[7], showing a clear drop when there are more than two children; the proportion of employed mothers was 67% in the case of the birth of a first or second child, falling to 49% with a third child or more. Conversely, the number of mothers who identified themselves as housewives rose from 20% to 47% among mothers with several children.
Some new moms kept the same job they had before their pregnancy, sometimes by changing their schedule or working part-time to better reconcile family and work commitments, but others lost their job, because of giving it up or being dismissed.
Moreover, women returning to work did so gradually, getting back to their pre-maternity income levels only after about twenty months.
At best, therefore, when they become mothers, women workers lose nearly two years of income and

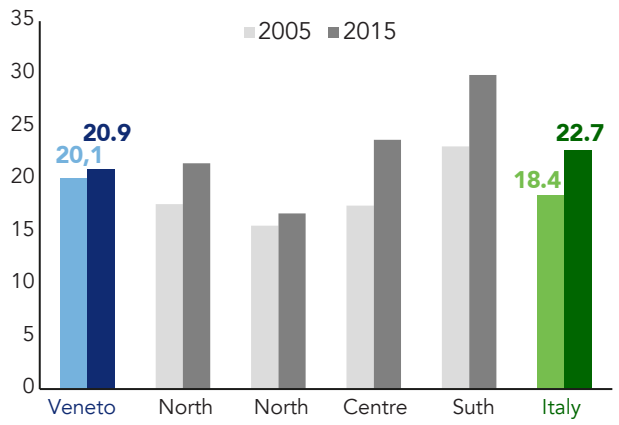
7 The data refer to the "Istat Survey on Births and Mothers" conducted in 2012, which shows how a woman's professional status changes right after a child's birth. In 2012, mothers who had a child in 2009/2010 were interviewed, meaning an average of about two years from childbirth. The previous edition dates back to 2005.

career progression, widening the gap that separates them from their male colleagues, including fathers[8]. 60.5% of Veneto's new moms were employed both before and after pregnancy, while 19.4%, who were already jobless when expecting, continued to be unemployed, postponing or definitively forsaking employment.

Losing or leaving one's job after pregnancy

Only 4% of the new moms changed their status in a positive way and, shortly after giving birth, they were able to enter the labour market, but 16% lost their pre-maternity job, remaining unemployed after about two years of giving birth. Compared to only the women employed during pregnancy, and not the totality of new moms, the percentage rose to 20.9%, expressing the risk of no longer having a job following the birth of a child.
This risk was 22.7% at the national level, particularly high in the southern regions and less so in the North, especially the North West.

Fig. 8.2.3 - Mothers who left or lost the job they had during pregnancy. Veneto, Italy and geographical breakdowns – Years 2005 and 2012 (*)



(*) Percentage values on total of women employed during pregnancy.
Source: Processing by Veneto Region Statistical Office on Istat data

The phenomenon of leaving the labour market following the birth of a child is therefore still very widespread, even rising in a fairly generalized manner in recent years in Italy; it was 18.4% in 2005, 4 fewer percentage points. 62.8% of women who lost their job in Veneto quit or gave up their business, mostly because their working conditions had become irreconcilable with caring for their families (in 70% of cases). 14.3% of new moms were dismissed, while for 18.4% of them a contract or consulting job came to an end.
The number of layoffs was higher in Italy (22.9%), whereas that of mothers giving up employment voluntarily was lower (54.1%).

Younger and less educated mothers are more at risk

The risk of losing one's job after the birth of a child was greater for younger women (rising to 32% for mothers below the age of 30), also because of less stable employment contracts with less maternity protection. It was lower, however, for mothers aged 30-34 and those having a second child; being older, they are presumably better placed in terms of work. Moreover, Veneto's women having a third child lost or left their jobs more frequently, when evidently childcare commitment became such as to require the continued presence of a parent in the house and external aids, grandparents and/or services, were no longer enough.
Having a degree is a relevant factor when it comes to women's participation in the labour market; moreover, in the case of mothers, higher education not only increases the likelihood of employment but also of keeping it after a child is born; indeed, to a higher degree corresponds a lower number of mothers who quit work.
Women working in the private sector are more at risk, especially if employed in small to medium-sized companies with a fixed-term contract in a low-level position compared
to mothers with an open-ended employment contract or in a higher-level position, a sign that maternity protection is still a goal far from being achieved.
Some characteristics of these women's partners help give a better picture of the socio-economic status of households; it turns out that the risk of no longer working after the birth of a child increases for the more vulnerable households where the partner is not employed or employed in a low-level position. This may reflect a general cultural component involving gender roles, since mothers giving up or losing their job is more common in less educated households as well.

8 Enrica M. Martino, What is the cost of maternity for women? The voice.info, 20.12.16.

Tab. 8.2.3 - Mothers who left or lost the job they had during pregnancy. Veneto and Italy - 2012 (*)

	Veneto	Italy
Total	**20.9**	**22.7**
Mother's characteristics		
aged up to 29 anni	31.8	32.4
aged 30-34	15.3	20.4
aged 35 and over	19.3	17.7
first child	21.3	24.7
second child	19.3	20.6
three or more children	24.8	19.5
vocational school degree	10.4	12.2
middle school diploma or lower	23.3	23.2
con al massimo la licenza media	24.4	32.2
Job characteristics during pregnancy		
dependent employment (a)	18.4	22.6
autonomo (a)	15.4	16.6
co-ordinated and continuous collaboration agreement/occasional service (a)	39.5	42.7
public sector	13.7	13.8
private sector	22.2	26.4
open-ended employment contract	14.9	16.6
fixed-term contract	39.3	45.9
business with up to 10 employees	29.7	33.2
business with more than 10 employees	13.7	16.9
manager, supervisor, employee	14.2	16.3
worker	26.3	35.5
Partner's characteristics		
employed (a)	18.5	22.1
unemployed (a)	26.3	33.6
manager, supervisor (a)	10.8	13.9
employee (a)	17.8	19.7
worker (b)	20.9	26.6
university degree or higher (b)	11.8	14.0
vocational school degree (b)	21.1	22.3
middle school diploma or lower (b)	26.3	28.0

(*) The data refer to women who had a child in 2009/2010. Percentage values calculated on women employed during pregnancy with the same characteristics.
(a) Veneto's data is unavailable; it is replaced by that of the North
(b) Veneto's data is unavailable; it is replaced by that of the North East
Source: Processing by Veneto Region Statistical Office on Istat data

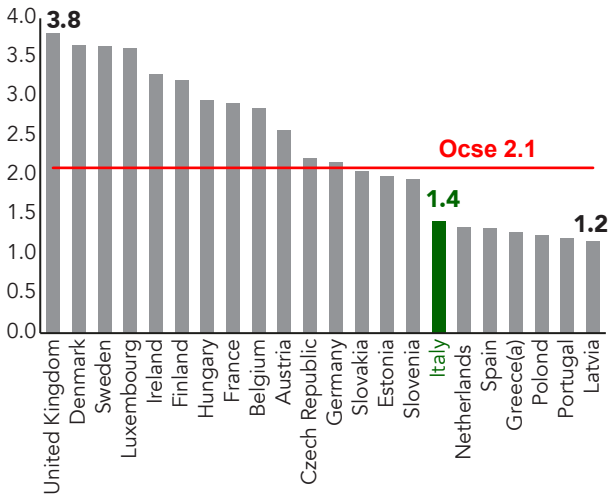
8.3 Family services are still poor

A factor that contributes to improving the balance between private and work life is the availability of social services. The above-mentioned European Parliament resolution urges States to, "invest in high quality early childhood education and assistance and care services for senior citizens and dependent people" and calls on them, "to ensure that these services are available, universally accessible and reasonably priced", also considering the possibility of, "increasing public spending".

What kind of household spending?

But domestic public spending for households has not adjusted to the changing needs of families and reconciliation of our times; it was only 1.4% of Italy's GDP in 2013, when in the UK it was close to 4% and the OECD average was 2.1%.

Fig. 8.3.1 - GDP percentage of household spending. Various countries and OECD average - Year 2013



(*) For Greece, the data refers to 2012.
Source: Processing by Veneto Region Statistical Office on OECD data

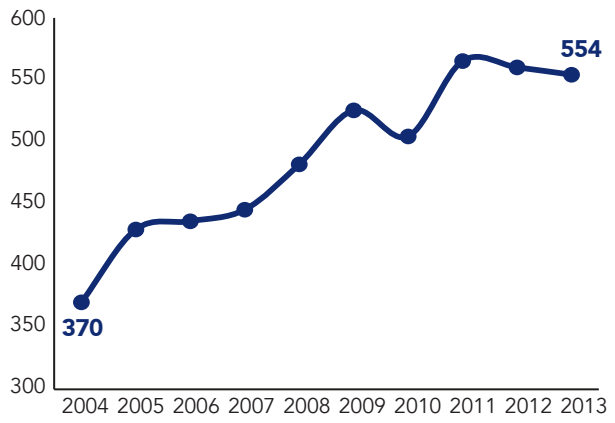
Municipal spending for household care and social services has been decreasing in the past few years, mainly as a result of the drastic reduction of the National Fund for Social Policies and other public spending transfers to municipalities, almost zeroed in 2012.
Right when welfare became more urgent due to the consequences of the crisis, which is paid mainly by the more vulnerable categories, the cuts introduced along with the constraints defined in the

Internal Stability Pact slowed down the provision of services.
In 2012, Veneto's public spending[9] on social services was about 1.27 billion euros, down 4.1% compared to 2010 (-2.3% reduction at the national average level). However, in recent years, Italy's public institutions have grown more sensitive to the issue of early childhood services, increasingly recognised for their important educational value and decisive in promoting employment for mothers.

There is growing attention around early childhood

Over nine years, Veneto's public spending for early childhood care and services grew by about 22 million, going from 370 euros for each child aged 0-2 in 2004 to 554 euros in 2013.
81.4% of municipalities started early childhood care services, accommodating about 11% of children under the age of 3. Adding private offer to that, the percentage of children covered was 22.3%, all in all a discreet result for Italy (20.5%), although still far from the European target set to 33%.

Fig. 8.3.2 - Municipal expenditure for early childhood care and services (per capita values in euros). Veneto - Years 2004:2013



Source: Processing by Veneto Region Statistical Office on Istat data

The fact that early childhood services are not available to everyone makes it impossible to "ensure that all boys and girls will have equal opportunities for education, care, relating to others, playing and overcoming territorial, economic, ethnic and cultural barriers and inequalities[10]". At the same time, it can reinforce the conviction that day nurseries and other early childhood services have low cultural legitimacy and are to be used only in case of extreme need or lack of alternatives.
There is an additional demand for early childhood services that goes unmet in Veneto as well. For example, 39% of mothers who had a child for about two years and resumed working made use of public or private day nurseries when they were at work (35% in Italy), whereas 51% availed themselves almost exclusively of the help provided by hr grandparents, who were required to make a daily commitment.
A very low number (4%) employed primarily baby-sitters to take care of their children when they were away.

The welfare of grandparents in good shape

Such a demanding commitment required of the grandparents is explained by considering the age of the children and the shortage of room in public and private day nurseries. In fact, 32% of households that did not make use of day nurseries would like to do so (33% in Italy), but could not do it because the fees were too high (60% in Veneto and 52% In Italy), or because there was no more room or no services in their municipality or the services were too far or had schedules that did not match theirs (21% in Veneto and 29% in Italy). Day nurseries were mostly used by mothers with high levels of education; 48% of mothers with a university degree did so versus 35% of women with low academic degrees. As a matter of fact, the more educated households had their children taken care of through services rather than the grandparents (42%).

Available educational services to bridge inequalities

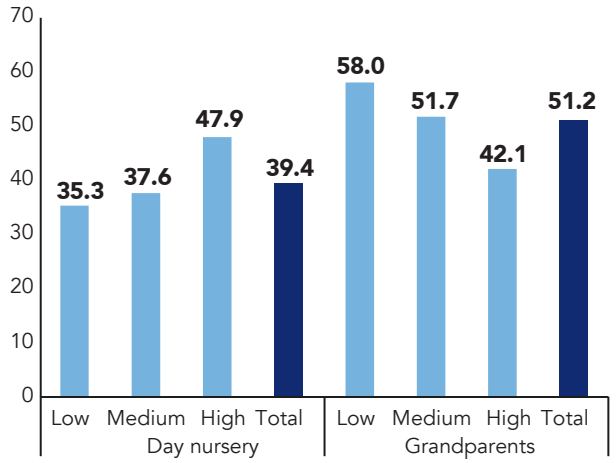
This is due to various reasons. Women with a high degree of education tend to have children when they are older and therefore have older and, probably, less available grandparents, but the economic potential of households surely have an impact as well, since households that are better off can pay fees more easily or resort to private services when there is no room in public day nurseries. The effect of a

9 Because of the high level of social and public health integration in Veneto's care sector, we consider the social expenditure borne by the municipalities and the co-payments of the National Health Service for the provision of social and public health services.

10 Legislative Decree Scheme stating the following: "Establishing an integrated education system from birth to the age of six" of January 2017.

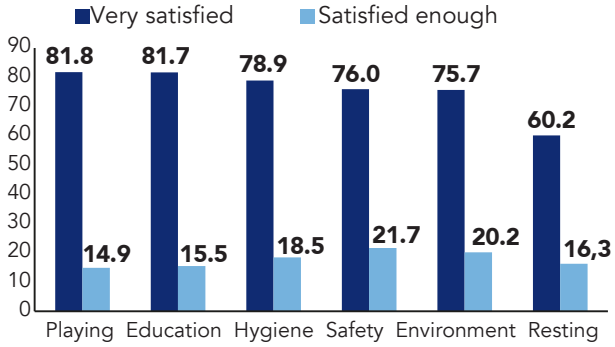
cultural change now widespread among the better educated should also be considered, which sees day nurseries as an opportunity for children to be educated and socialise. In fact, households that had the opportunity to send their children to day nurseries expressed satisfaction for their generally good service, educational approach, hospitality and competence of the staff taking care of the children.

Fig. 8.3.3 - Employed mothers: child care type by mother's degree. Veneto - 2012 (*)



(*) The data refer to women who had a child in 2009/2010 and went back to work.
Percentage scores calculated on the total number of mothers who went back to work.
Source: Processing by Veneto Region Statistical Office on Istat data

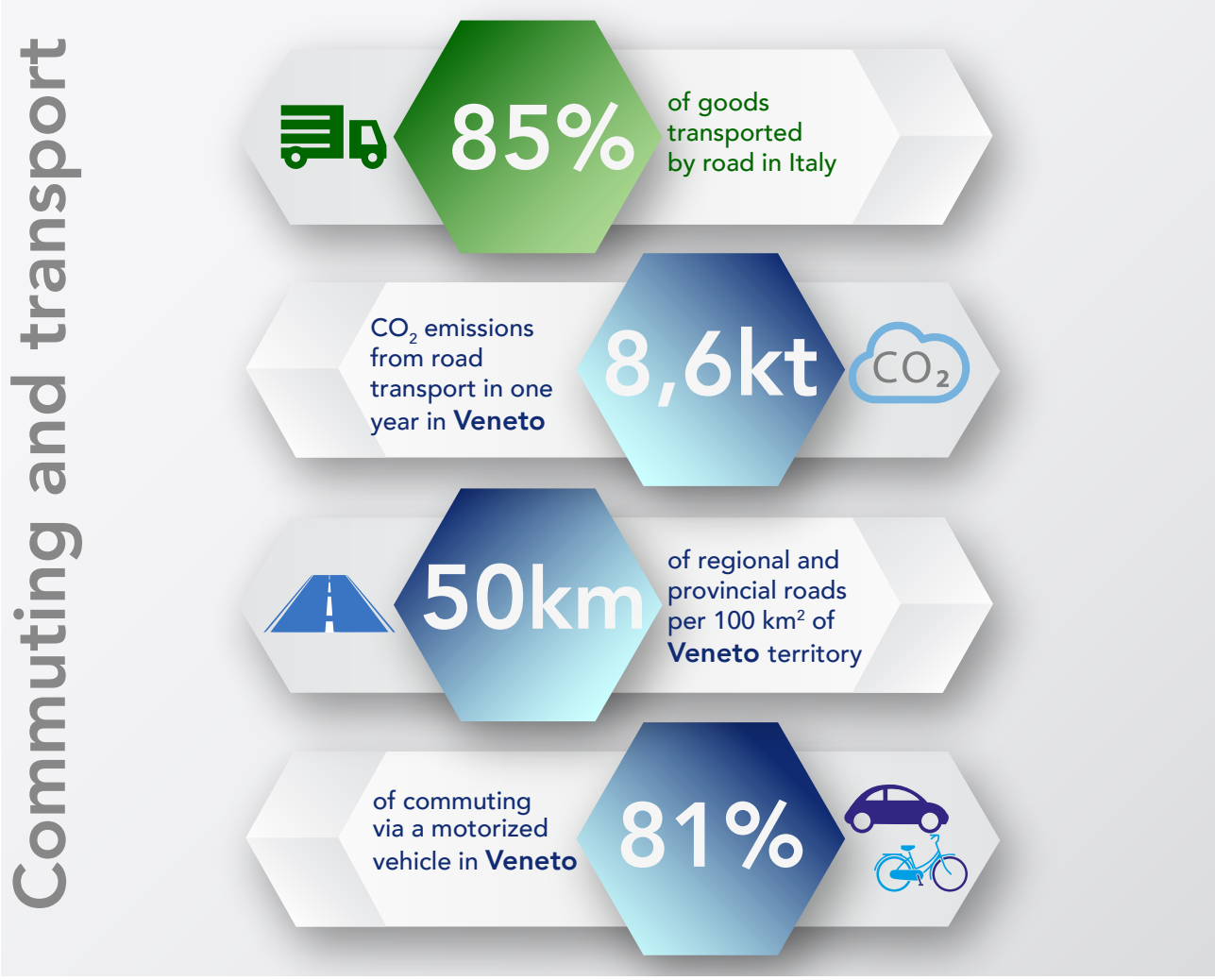
Fig. 8.3.4 - Employed mothers with children attending day nurseries by service satisfaction level. Veneto - Year 2012 (*)



(*) The data refer to women who had a child in 2009/2010, went back to work and put their child in a day nursery
Source: Processing by Veneto Region Statistical Office on Istat data

Chap. 9 - Transport and the environment: a possible and indispensable balance

The purpose of this chapter is to provide an overview of statistical information on the transport sector, particularly in Veneto, starting from environmental and sustainability objectives, which for a number of years have been included in the relevant policy programmes. In view of these objectives, the data and indicators presented, sometimes chronologically, can reveal directly or indirectly the developments, successes and failures of these programmes. The first part describes the instruments at the various institutional levels, ranging from international to regional and local, that include measures and interventions to balance the growing demand for transport by containing the harmful effects it produces as far as pollution, soil consumption and landscape alteration. Some issues regarding the sector - from infrastructures to different transport modes - are addressed in the following sections, using official statistics and comparing Veneto's situation to that of Italy and, where possible, the EU28. This presentation cannot be exhaustive, as it deals with a very complex matter, but it provides an initial overall picture while suggesting further possible approaches for analysis. Completing the chapter is a part regarding Veneto and accidents in the various modes of transport including an analysis of local public transport by car, rail and over water.



Besides being necessary to a country's development and a daily fact of our lives, transport is also history, architecture and the design of new elements inside the landscape. Transport modifies the land where we live and conditions human behaviour. Transport is therefore culture. And since it affects our reality from all points of view, we need to pay increasing attention to it, from an interdisciplinary perspective. From "Trasporti & Cultura" "Transport & Culture", a landscape infrastructure architecture magazine.

Over the course of history, the evolution of transport systems has had a profound effect on the landscape and changed man's behaviour; for instance, the train was considered a symbol of progress and ushered in a new era for the entire world, shortening distances and carrying huge numbers of goods and people. The first public railway lines, the English Stockton-Darlington Railway and Liverpool-Manchester, were inaugurated in 1825 and 1830 mainly to meet the needs of the mining and textile industries importing cotton and shipping products; with the traditional means of transport used in those times, it would take longer to travel the fifty miles between Liverpool and Manchester than to cross the Atlantic. This very route was the first to be used for passenger transport, whose volume grew tenfold in the first year of operation. In Italy, on October 3, 1839, the first train left from Naples, taking nine minutes to get to Portici, where King Ferdinand II of Bourbon and the engineer Mr Bayard were waiting. Over the next forty days, as many as 85,759 passengers used the railroad and in the following years, the iron and steel and mechanical industries flourished in that same area. The first railway line built and inaugurated in Veneto was Padua-Marghera, in 1842, as part of the Milan-Venice line, which at that time was called Ferdinanda Ferdinandea. Very accurate evidence of the features of the area affected by this line is found in Carlo Cattaneo's Annals of Statistics of 1836, which show how the institutions are called upon to handle a complex and interdisciplinary matter when dealing with transport, including economic, technical, architectural urban and geographical aspects as well as sustainability and respect for the environment.

One crucial challenge requires the ability to find a balance between transport policies for the ever-increasing need for mobility and environmental protection policies, aimed primarily at reducing emissions.

9.1 Sustainable transport policies

All political bodies are concerned with transport and environmental protection; world-wide emission standards for air and sea transport are defined by the UN International Civil Aviation Organisations and international conventions, like the Convention on Long-Range Transboundary Air Pollution for greenhouse gases, including those produced by transport while excluding international aviation and maritime transport, from the Kyoto Protocol (included in the Framework Convention on Climate Change).

As for the EU, the policy on transport was one of its first, whose goal was to establish a common market and ensure fair competition; the demand for the transport of people and goods has kept increasing from then on, thanks to the lower prices brought about by the liberalisation of markets and the abolition of internal borders. The other side of the coin is that transport has a significant negative impact on the environment and human health, because it generates one fourth of all EU greenhouse gas emissions and is the only economic sector in Europe where they have increased since 1990; it also contributes greatly to the emission of nitrogen oxides and is one of the main sources of environmental noise pollution.

The 2011 White Paper of the European Commission: a source of reference for all transport policies

In 2011, the European Commission approved the White Paper "policy for a competitive and sustainable transport system", including the following main points:

- halve the use of conventional-fuelled cars in urban transport by 2030 and completely eliminate them by 2050, and achieve urban logistic systems with zero CO2 emissions in the main cities by 2030;
- increase the use of low carbon fuels in air transport up to 40% by 2050; reduce CO2 emissions due to combustible oils in sea transport by 40% and even 50% if practical by 2050;
- 30% of road haulage should be transferred to other modes, such as rail or waterways, on distances of over 300 km, reaching 50% by 2050 by setting up adequate infrastructure;
- complete the European high-speed rail network by 2050 while maintaining a dense railway network; most of the passenger transport on medium distances will have to be done by rail;

• complete the Trans-European Transport Networks (TEN-T) infrastructure by 2030;
• link rail, airport, sea and river networks;
• complete the Single Air Traffic Management System (SESAR) and the single European airspace by 2020, and apply land and sea transport traffic management systems as well as the Global Navigation Satellite System (GALILEO);
• set up a framework for a European multimodal transport information, management and payment system by 2020;
• halve road accidents by 2020 and approach the "zero victims" objective and increase the safety of all EU transport modes by 2050;
• proceed toward the full application of the "user pays" and "polluter pays" principles.

In Italy, the Ministry of Infrastructure and Transport (MIT) document "The new MIT in 10 key words" lists the main strategies for the coming years: usefulness, simplicity, participation, sustainability, care, integration, safety, iron, South, Europe; there are many links to the EU White Paper objectives:
• stop infrastructures that impact heavily and distort the land and favour modern transport networks and services that respect it;
• prioritise passenger and freight transport on rail and renew and maintain material travelling by rail and road, prioritising low consumption vehicles;
• reactivate damaged infrastructure before new works;
• design and carry out operations within an overall context and not as stand-alone'
• come up with a ports and logistics plan.

These objectives are spelled out in the strategies and actions of the document "Strategies for infrastructures and logistics", i.e. the Infrastructure Annex to the Economics and Finance Document (Def), while the programming involves two fundamental tools: the General Transport and Logistics Plan and the Multiannual Programming Document, which should integrate all existing public works programmes, RFI, Anas, Ports, Airports, urban networks and Motorway Concessions. The annex to the Def analyses the strengths and weaknesses of the Italian context, such as scarce resources invested in maintenance, uneven distribution of infrastructure and services throughout the country and modal imbalance favouring the road conditions, and sets four priorities: accessibility to Europe and the Mediterranean, quality of life and competitiveness of urban areas; safe and sustainable mobility and support for industrial chain policies.

Regional and local levels play an important role in land use decisions, which in turn impact in a major way on user demand and choice of transport modes; their political choices on these matters cannot exempt themselves from providing easily accessible public transport.

The gradual decentralisation of legislative and planning powers in matters of transport from the Government to Regions and local Agencies and regional regulations have produced coexisting planning tools that complicate an integrated vision of mobility-related issues, which is why many hope for its simplification and greater orientation towards sustainability.

With the Mobility and Transport Plan, the Regions define transport policies in accordance with the National Plan while taking into account the programming made by local Agencies, in connection with territorial planning and economic development provisions, so as to ensure that the transport network will privilege integration between the various modes while favouring those with less environmental impact; they also adopt local public transport intervention programmes, contribute to the development of the national transport plan and sectoral plans and cooperate in the preparation of the directives for the exercise of the delegated functions.

With the 2016 update of the Regional Economic and Financial Document (Defr) 2017 -2019, the Veneto Region defines its strategic objectives for the programme "Transport and right to mobility". For local public transport, they include the following:
• promoting an integrated multimodal system and the modernisation of the vehicle fleet;
• interagency electronic ticketing for the local car and railway public transport service;
• ensuring adequate rail transport service quality standards;

and for the infrastructure:
• starting the procedure to implement the Dolomite train;
• building high railway speed - capacity in the Brescia-Padova route;
• strengthening the port system;
• completing the Pedemontana Veneta motorway;
• starting to build the new regional road network between Monselice and Legnago;
• verifying the financial and social sustainability of road works;
• ensuring greater coordination between road and motorway operators.

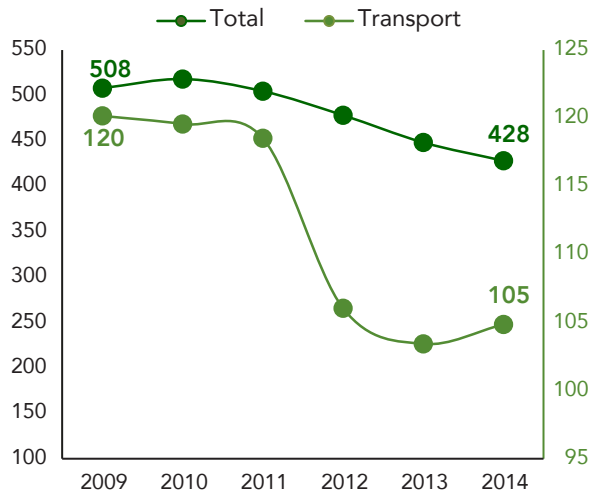
As far as local authorities are concerned, the provin-

cial tool is the Extra Urban Road Traffic Plan, while Municipalities have the Urban Mobility Plan, the Urban Traffic Plan and the Urban Parking Plan.
Reducing greenhouse gas emissions is therefore a challenging target for all institutional levels that can set up actions and interventions to reduce the impact on the environment and health with the tools they have. Unfortunately, the data show that the current combination of modes of transport and fuel consumption is not sustainable; a series of measures ned to be adopted to improve urban planning and use of technologies, increase the use of alternative fuel types and apply more rigorous standards; investment must be in line with these targets.

An estimated 50% passenger and 80% freight transport growth by 2050

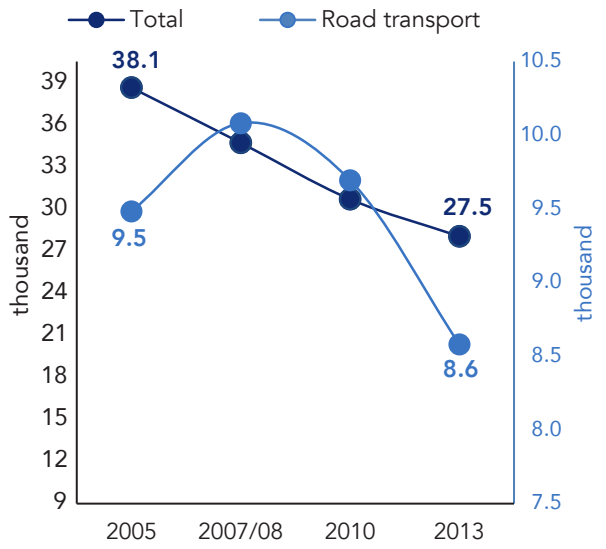
According to estimates by the European Commission, by 2050 passenger transport will grow by more than 50% and freight transport by 80% compared to 2013 levels; the goal of the European Commission is to reduce greenhouse gas (GHG) emissions by 80-95% compared to 1990 levels, while the reduction rate for the transport sector is 60%. The transport sector is responsible for approximately 20% of GHG emissions - 25% in Italy - and carbon dioxide (CO2) accounts for 98.9% of the total; road transport contributes in a prevailing way to CO2 emissions, with 93.2% of the total.
From 2009 to 2014, total greenhouse gas emissions in the EU declined by 8% and 5.5% from transport; in Italy, the decreases were 15.7% and 12.7% for the same period.
These improvements are mainly due to a more efficient vehicle fleet thanks to advanced technologies and the increasing spread of ecological fuels as well as greeter attention paid to the construction of road infrastructure to streamline traffic; these results are however not totally unrelated to the effects of the unfavourable economic situation.
A noticeable decline of just under 20% occurred from 2005 to 2013 with regard to CO2 emissions from the transport sector at the national level, due not only to better energy efficiency of the means of transport but also to a significant decline in freight and passenger traffic, which however picked up again in 2014 by 1.4%, as confirmed by the provisional data of 2015.
At the regional level, the decrease from 2005 to 2013, last year available, was 28% for total CO2 emissions and about 10% for road transport.

Fig. 9.1.1 - Total and transport greenhouse gas emissions (millions of equivalent tonnes of CO2). Italy - Year 2009:2014



Source: Processing by Veneto Region Statistical Office on Eurostat data

Fig. 9.1.2 - Total CO2 emissions and CO2 emissions from road transport (thousands of tonnes). Veneto Years 2005, 2007/8, 2010 and 2013



Source: Processing by Veneto Region Statistical Office on INEMAR data

9.2 Veneto's transport infrastructure network[1]

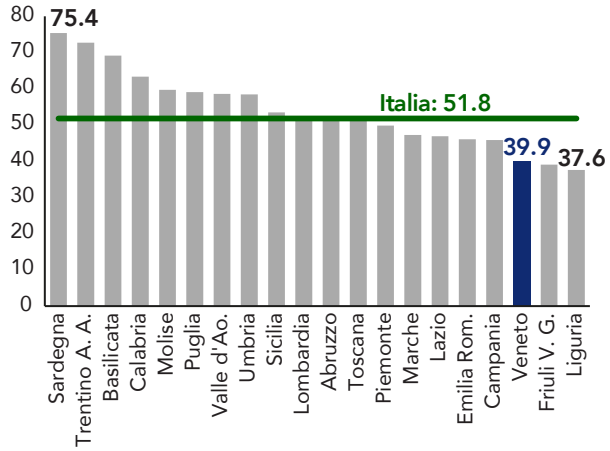
International networks and corridors

The design of the trans-European network in Veneto is characterised by three core corridors; which makes it one of the EU's most infrastructured in terms of links to international markets.
The corridors are the following:

- the "Scandinavian-Mediterranean" corridor, connecting Munich to Palermo, with a node in Verona, the seat of the main European interport (Interporto Quadrante Europa), specialising in intermodal logistic handling using movable crates technology. This infrastructure is already operational, although full functionality will only be achieved with the completion of the Brenner Base Tunnel, recently funded by the EU for 1.18 billion with the CEF instrument;
- the "Mediterranean" corridor, called "Lisbon-Kyev" in the past, gradually being completed between the Veneto and Lombardy regions. The railway quadrupling of the Venezia-Padova section is already operational In Veneto, while operations on the Padova-Verona stretch are being evaluated;
- the "Adriatic-Baltic" corridor, whose extension in the Vienna-Udine-Venice-Bologna-Ravenna section was made possible by intense coordination activity of the North-eastern Italian regions. In this case too, the design of the road infrastructure is essentially functional thanks to interventions to overcome historical bottlenecks such as the Mestre ring road, relieved of congestion by the opening of the Passante, while further railway improvements can be undertaken along level the "Mestre - Trieste" route.

1 By the Directorate of Infrastructure, Transport and Logistics

Fig. 9.2.2 - Accessibility index (*) by region. Year 2013



(*) It expresses travel times to urban and logistic nodes; it is obtained from travel times in minutes, from the centroid of each municipality to the three nearest infrastructures for each of the four categories considered (ports, airports, railway stations and motorway toll booths)
Source: Processing by Veneto Region Statistical Office on Istat data

Strategic railway infrastructure

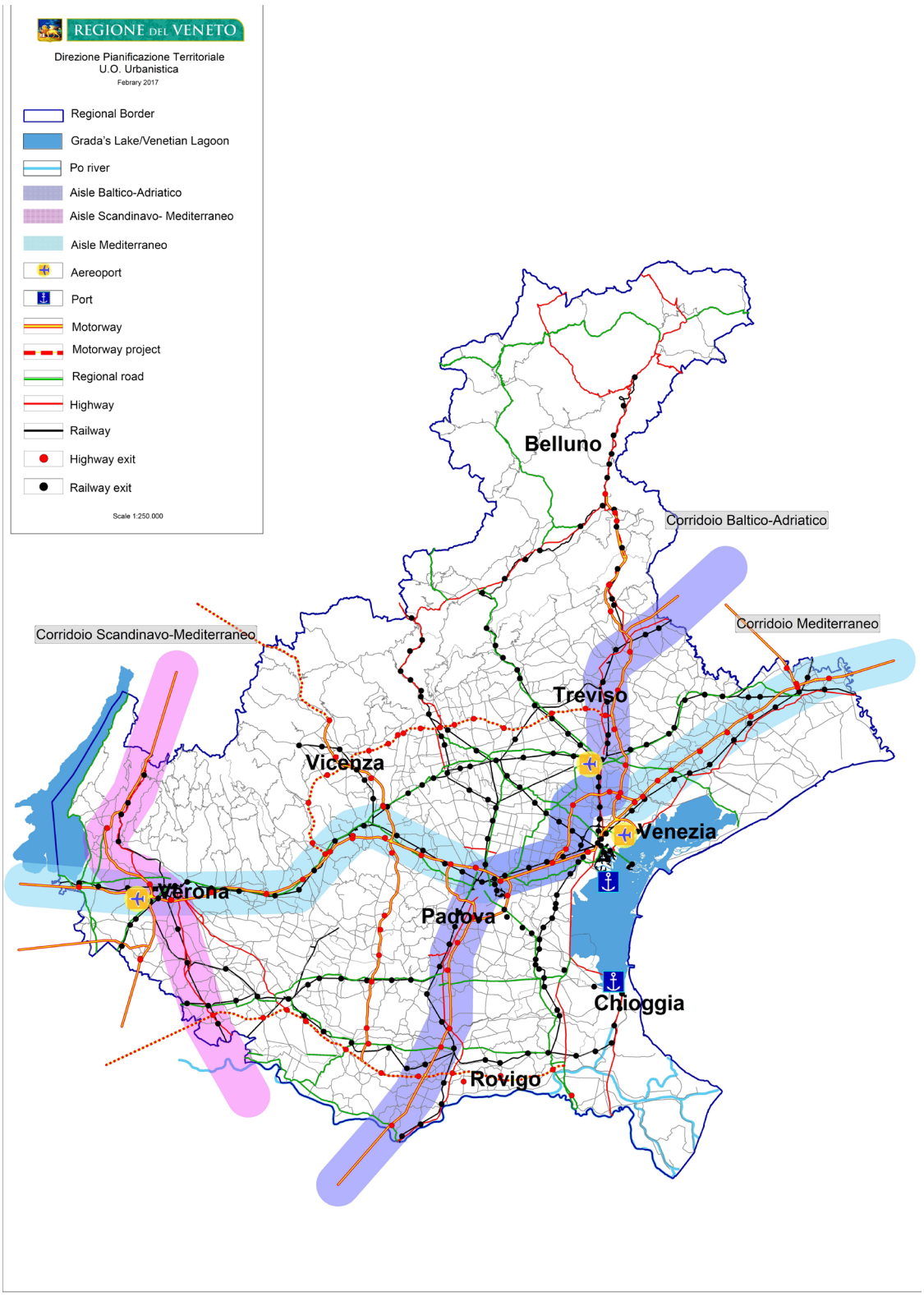
The over 140 km long Milan-Verona HSR/HCR link forms part of the east-west transversal route Turin-Milan-Venice, which in turn is part of the Mediterranean Corridor and, as far as the Veneto area is concerned, is included in the General Framework Agreement of 2003 between the Italian Government and the Veneto Region under "infrastructures of highest national interest", later confirmed by the General Framework Agreement of 2011.
The intervention "Railway Axis Corridor 5 LYON-KIEV - Verona-Padua HSR/HCR line" is also included in the "10th Infrastructure Annex to the Economic and Financial Document for 2012" approved by

Tab. 9.2.1 - Surface areas used by the transport infrastructure: km per km2 of surface area. Veneto and Italy - Year 2015

		Other national roads	Altre strade di interesse nazionale	Motorways	Railways	Ports	Airports	surface by km2
km of infrastructure per 100 km2 of surface area	Veneto	50.0	4.0	3.1	6.5	0.02	0.04	18,407.5
	Italia	51.7	6.6	2.3	5.6	0.01	0.04	301,339.0

Source: Processing by Veneto Region Statistical Office on Ministry of Infrastructure and Transport data

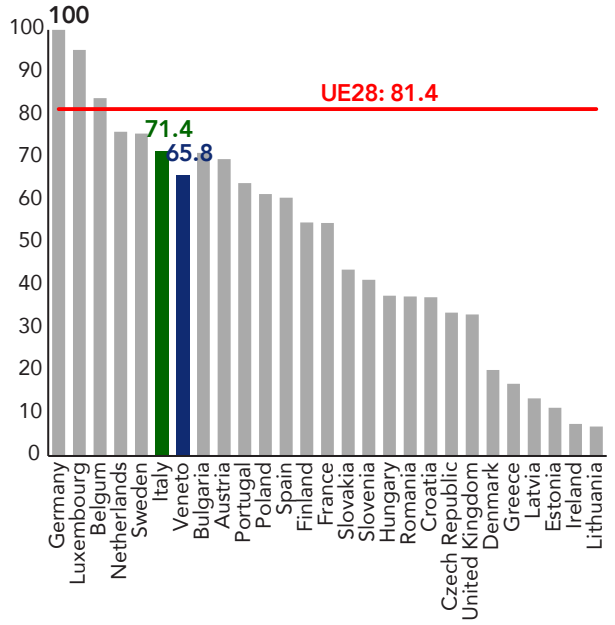
Fig. 9.2.1 – Veneto's transport infrastructure network



Source: Territorial Planning Direction - Urban Planning O.U.

the CIPE (Interministerial Committee for Economic Planning) with Resolution no. 136/2012. The Veneto area involves two different projects, organised by the RFI (Italian Railway Network); one involves the Brescia-Verona line, the other the Verona-Padua line.
The preliminary Brescia-Verona HSR/HCR line project will reach about 73 km and have two interconnections with the existing line, altogether about 7 km long. Another 10 km of urban crossing will connect the new line to Verona station.
As for the Verona-Padua line, it will be 78.8 km long and run through 19 municipalities (6 in Verona province, 9 in Vicenza province and 4 in Padua province). The integration between the new line and the existing line will be made through two interconnections located one in Vicenza and the other in Padua, at the entry point of the HSR/HCR line and the Venice freight train line in the Castelfranco-Treviso-Udine/Portogruaro direction.
The new line will run through Verona Porta Vescovo, San Bonifacio, Lonigo, Montebello Vicentino, Vicenza, Lerino, Grisignano of Zocco, Mestrino, Rubano and Padua stations.

Fig. 9.2.3 - Electrified railway network (% values). EU28 (*) Year 2014 (**)



(*) Cyprus and Malta are not included because they do not have railway networks
(**) Denmark's figures are from 2008, Belgium 2009, Luxembourg 2011 and the Czech Republic, Greece, Spain and Italy 2013
Source: Processing by Veneto Region Statistical Office on Eurostat data

Tab. 9.2.2 - Railway line classification, type and power (km). Veneto and Italy - Year 2015

CLASSIFICATION	Italy	Veneto
Basic lines	6,367	414
Complementary lines	9,466	707
Node lines	955	67
TYPE		
Double-track lines	7,647	612
Single-track lines	9,141	576
POWER		
Electrified lines	12,023	782
- double-track	7,570	612
- single-track	4,453	170
Non-electrified lines (diesel)	4,765	406
TOTAL LENGTH OF TRACKS	24,435	1,799
conventional line	23,085	1,799
HSR line (2)	1,350	-

Source: Processing by Veneto Region Statistical Office on Ministry of Infrastructure and Transport data

The Regional Metropolitan Railroad System (S.F.M.R.)

Veneto's Regional Metropolitan Railroad System started out as a coordinated set of interventions on the existing transport network and railways, with the following objectives:
- ensure good public mobility levels for Veneto's population in a polycentric context;
- improve the quality of regional public transport services to make them more attractive and competitive than individual transport;
- contribute to containing the atmospheric and acoustic pollution generated by transport;
- increase transport safetfy and ensure fast, reliable and safe connections.

The SFMR intends to achieve these goals by creating a new integrated transport system, extended to the whole of Veneto, conceptually similar to that of metropolitan areas, given the characteristics of the regional territory, and therefore characterized by high-frequency convoys, generally mnemonic timetables, timed transfers between different lines, homogeneous rolling stock as far as performance and quality, integrated fares and high system accessibility.
Starting from 2016 and for the next three years - 2017-2019 - a series of interventions will be carried out in the 1st, 2nd and 3rd SFMR development phases in order to execute priority works.

Tab. 9.2.3 - SFMR: Lines involved, investment and financing (in millions of Euro) and realisation (% values) - Year 2017

	SFMR					
	Lines involved		Investment	Realisation	works in progress in 2017	
PHASE 1	Venezia- Quarto d'Altino	Mestre-Padova	640	92%	1 interventions under design development, 2 interventions in progress	
	Mestre-Castelfranco	Padova-Castelfranco				
	Mestre-Treviso					
PHASE 2	Monselice-Padova	Vicenza-Treviso	350	15%	5 interventions under design development, 1 intervention in progress	
	Treviso-Conegliano	Quarto d'Altino-Portogruaro				
MARCO POLO	Collegamento Aeroporto Marco Polo Venezia		260	-		
PHASE 3	Mira Buse-Adria	Chioggia-Rovigo	1,200	-	3 interventions under design development	
	Rovigo-Monselice	Vicenza-Schio				
	Bassano-Camposampiero	Bassano-Castelfranco				
	Montebelluna-Castelfranco	Montebelluna-Treviso				
	Treviso-Portogruaro	Padova Interporto-Chioggia				
Western SFMR	Vicenza-Verona-Mantova	Rovigo-Verona-Trento	550	-		
	Legnago-Monselice					
Complementary Interventions			1,200	-		
PHASE 4	Bassano-Trento	Montebelluna-Belluno	1,100	-		
	Conegliano-Calalzo	Rovigo-Occhiobello				
	Conegliano-Pordenone					
Rolling Stock			600	25%		
Totale			5,900			

Source: Processing by Veneto Region - Road Infrastructures and Concessions O.U.

The road network and major road infrastructure

The Veneto Region is involved in two major motorway projects currently under construction:

- the Pedemontana Veneta Motorway;
- the third A4 motorway lane of the Venice-Trieste route

The "Pedemontana Veneta Motorway" will be part of European Corridor 5, where the national motorway network has to deal with major issues due to the saturation of existing arterial roads.
Completing an ideal ring that encloses Veneto's entire central area by means of road infrastructure with two lanes in each direction, it will join the Vi-

cenza area to the Treviso area, affecting the Agno valley from Montecchio Maggiore to Castelgomberto and Veneto's foothills from Malo and Bassano del Grappa in Vicenza province and from S. Zenone degli Ezzelini, Montebelluna and Spresiano in Treviso province. The Pedemontana Veneta project will rearrange and reorganise the entire local road network to improve overall quality and safety and meet public mobility and development needs, bringing about substantial changes throughout italy's North-East. The Pedemontana Veneta project involves 36 municipalities, of which 22 in Vicenza province and 14 in Treviso province. The project is estimated to be about 30% done, with the current deadline set by the end of 2020. The third A4 motorway lane project, on the Venice-Trieste route, plans to carry out by functional steps the realisation of a
third lane for each direction of travel along this arterial road part of the Mediterranean corridor, which crosses Italy horizontally from Turin to Trieste and is fundamental in making traffic towards Central and Eastern Europe more fluid, especially for heavy goods. The first stretch, entirely inside Veneto, from Venice to San Donà di Piave, has already been built and is regularly open to traffic. Open construction sites currently involve 26 kilometres of motorway between San Donà di Piave and Alvisopoli (third stretch) and about 5 kilometres from Gonars to Palmanova (first step of the fourth stretch).

Airports, ports and interports

Veneto's regional airport system, revolving around Venice intercontinental airport, has been extended to encompass national interest layovers (Verona and Treviso), establishing itself as the third largest national transport system.

In 2016, the Venice Port Authority and the Port of Chioggia Public Agency merged into the new Port Authority of the North Adriatic Sea. For both Chioggia and Venice, the infrastructure of Veneto's ports is still largely limited by accessibility issues involving the need to keep up continuous excavation work to create sufficient seabed for ships to dock. Nevertheless, the quality of the infrastructure is quite adequate as far as freight traffic needs. Road freight transport from the port of Venice has increased significantly after the opening of the Fusina RORO terminal.

Tab. 9.2.5 - Number of dockings by type. Veneto and Italy - Year 2015

	passenger	freight term.	other liquid goods	bulk dry goods	packaged goods	container	RO/RO	other goods	fishing	pleasure	service vehicles	mooring of military ships
Port of Chioggia	2	18		26	26	12	8	12			12	
Port of Venezia	10	11	2	21	15	7	8	16	5	34	13	11
Veneto	12	29	2	47	41	19	16	28	5	34	25	11
Italy	513	163	134	252	282	135	341	218	412	730	228	197

Source: Processing by Veneto Region, Logistics and Port Inspectorates O.U.

The ports of both Venice and Chioggia are directly connected to the main railway network from inside their own operational areas.

Tab.9.2.4 - Main technical features of ENAC (National Civil Aviation Authority) certified Italian airports (*)

LOCATION' (name Administrative district)	D.A. di appartenenza	Management body (main user)	ICAO class	Airport fire-fighting service category	Area sedime (ha)	Distance from city (km)	Airplane parking area (sqm))
TREVISO Sant'Angelo	VENEZIA -TRIESTE	AERTRE S.p.A.	4D	7^ ICAO	120	3	52,500
VENEZIA Tessera "Marco Polo"	VENEZIA -TRIESTE	SAVE S.p.A.	4E	8^ ICAO	331	12	380,600
VERONA Villafranca "Valerio Catullo"	VERONA	Aeroporto Verona Villafranca S.p.A.	4E	8^ ICAO	340	10	147,000

(*) Data updated as of 15 April 2016

Source: Processing by Mobility and Transport O.U. on ENAC - ASSAEROPORTI data

Tab. 9.2.6 - Average distances from ports to nearest logistic nodes. Veneto and Italy - Year 2015

	Average distances from ports (km)		
	to the nearest train	station to the nearest airport	to the nearest motorway tollbooth
Port of Chioggia	1.5	57.5	42.5
Port of Venice	1	9.7	5
Average for Italy	10.4	61.7	40

Source: Processing by Veneto Region, Logistics and Port Inspectorates O.U.

Generally speaking, in recent years, Veneto's regional logistic system has been polarised around the major European interport nodes of Padua and Verona Quadrante Europa, both of which are connected to two European corridors; Padua to the Mediterranean Corridor and the Baltic-Adriatic Corridor and Verona to the Mediterranean Corridor and the Brenner Corridor. A significant role is also played by Rovigo's interport, which includes river traffic, and by Portogruaro's, whose eastward railway segment is growing at a high pace. Overall, Veneto's regional logistics is well structured in terms of freight transport modes and includes the whole range from containers to swap bodies, project cargo bulk and RORO.

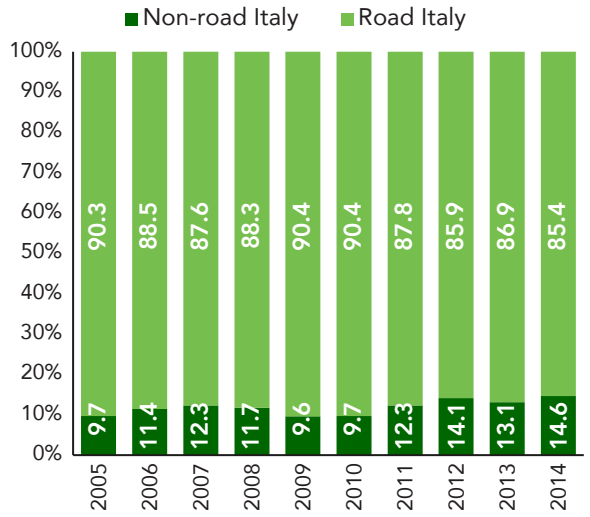
9.3 Transport modes

Road transport

The most widespread transport type, including both people and goods, is by road. If a shift in transport modes is an EU target, it does not seem to have had much success until now; over the past ten years, road transport of goods in the EU has encompassed three fourths of the total, leaving the remaining fourth to rail and inland waterways. In Italy, the situation was even more unbalanced in 2005, 90% was road transport, well above the EU average, and gradually decreased until reaching 85.4% in 2014.

This mode is also responsible for much of the air pollution; the European Environment Agency (EEA) reports that the pollution generated by freight transport has increased the most since 1990 as far

Fig. 9.3.1 - Percentage of road and non-road (rail or inland waterways) freight transport. EU28 and Italy - Years 2005: 2014



Source: Processing by Veneto Region Statistical Office on Eurostat data

as greenhouse gas emissions and, in some parts of Europe, is that much more of a significant issue the greater the volume of road freight traffic.

Over the last ten years, the impact of road transport on total CO2 emissions has remained pretty much stable, around 93%; passenger transport emissions remained 63% and those of goods 36%, even though freight traffic in Italy has declined since 2009 due to the economic crisis and is still not showing any clear signs of recovery.

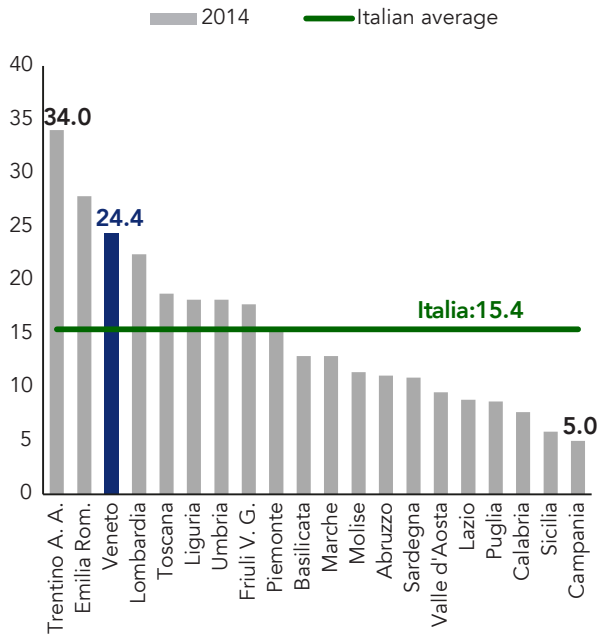
In 2007-2014 the freight traffic index marked a significant 38% decrease for the whole country and 33% for Veneto; Veneto has consistently maintained index values above the national average and therefore seems less affected by the road transport crisis.

In 2014, a 24.4 tonne road traffic index ranked Veneto third among Italian regions and far above the National average of 15.4. However, even in Veneto there was a noticeable reduction of more than 35% in the road sector from 2006 to 2015, both as far as inbound and outbound goods.

The number of vehicles that rode Veneto's motorways in 2015 increased by 3.5% over the previous year

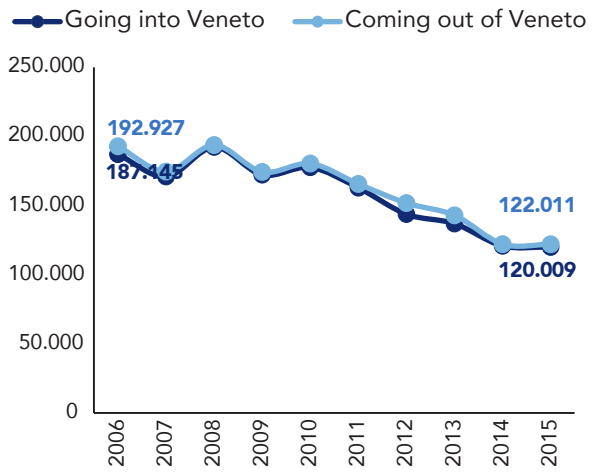
Veneto's strategic geographic position at the crossroads of three trans-European corridors makes it so that its internal and national public mobility are aug

Fig. 9.3.3 - Road freight traffic index (*) (**) per region - Year 2014



(*) Inbound and outbound goods (tonnes per inhabitant)
(**) Average of inbound and outbound goods
Source: Processing by Veneto Region Statistical Office on Istat data

Fig. 9.3.4 - Road freight transport (thousands of tonnes) coming out of or going into Veneto - Years 2006:2015



Source: Processing by Veneto Region Statistical Office on Istat data

mented by consistent and continuous international cross-traffic. This aspect is shown by the traffic on Veneto's operational motorways, which marked a 2.9% increase in heavy goods vehicles from 2014 to 2015. As for light vehicles, there was also an increase, of 3.7%; overall, 1,072,318 vehicles rode Veneto's motorways in 2015, up by 3.5% over the previous year.

Tab. 9.3.1 - Average daily vehicles (*) riding on Veneto's operational motorways (**) - Years 2014: 2015

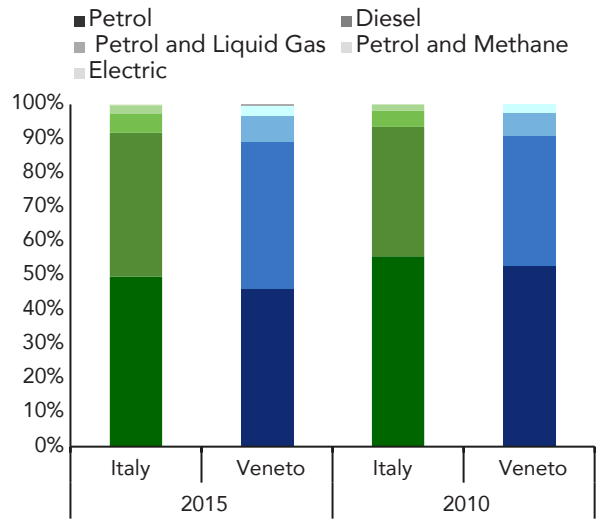
	2014/2015		2015/14		% change	
	Light vehicle traffic	Heavy vehicle traffic	Light vehicle traffic	Heavy vehicle traffic	Light vehicle traffic	Heavy vehicle traffic
BS-PD	202,933	62,183	09,005	63,674	3.0	2.4
VE-TS (a)	136,890	41,122	141,825	42,384	3.6	3.1
Bren-MO (b)	94,074	27,264	96,581	28,097	2.7	3.1
BO-PD	91,563	28,305	92,449	28,543	1.0	0.8
PD-Mestre	130,808	34,855	137,547	35,948	5.2	3.1
Bren-MO (c)	56,093	19,966	57,119	20,523	1.8	2.8
Mestre-BL	53,937	12,724	55,851	12,691	3.5	-0.3
TN-VI-RO (d)	32,727	10,597	38,163	11,918	16.6	12.5
Total	799,025	37,016	828,540	243,778	3.7	2.9

a) Venice - Trieste (to Palmanova-Udine and Portogruaro-Conegliano)
(b) Brennero - Modena (Brennero - Verona section)
(c) Brennero - Modena (Verona - Modena section)
(d) Trento - Vicenza - Rovigo (Vicenza - Piovene Roc. section). Valdastico from 2014.
(*) All the vehicles that entered the motorway irrespective of kilometres travelled.
(**) All of Venetos' operational motorways are reported including when the terminals are in other regions. These values thus reflect exclusively movement from and to cities in Veneto, including data on travel outside the regional scope. These values have an appreciable meaning as far as determining trends.
Source: Processing by Veneto Region Statistical Office on Aiscat data

Road transport is also prevalent with people; Italians chose private cars in 84% of cases, even more in Veneto, 87%.
The rate of motorization, also indicative of people's degree of use of private road transport, was above the European average in Italy, third after Liechtenstein and Malta, a further indication of how Italy has a clear preference for this mode of transport.

In the past five years, the motorization rate increased from 606 to 616 vehicles per thousand inhabitants in Italy and from 595 to 613 in Veneto.
This is probably because people can get around more easily with a private vehicle, especially in areas where people settle after moving away from city centres due to a higher cost of life, resulting in widespread urbanization and a less serviceable public transport system.
Veneto's population's clear preference for road travel is also shown by a growing number of vehicles in circulation, 3,939,514 in 2015, of which 76%, 3,011,316, were private cars.
One of the pollution-reducing objectives of the European Commission's White Paper on Transport is to spread the use of motor vehicles fuelled with alternative methods that will meet emission standards. In the five-year period that goes from 2010 to 2015, we can observe a decrease in petrol-fuelled cars and an increase in diesel and hybrid (petrol and liquid or methane gas) types, together with the appearance of electric hybrids; this has also been the consequence of incentive policies. Nevertheless, in 2015, petrol-fuelled cars still had the lion's share, followed by diesel; less so in Veneto, where the hybrids were higher than the national values.

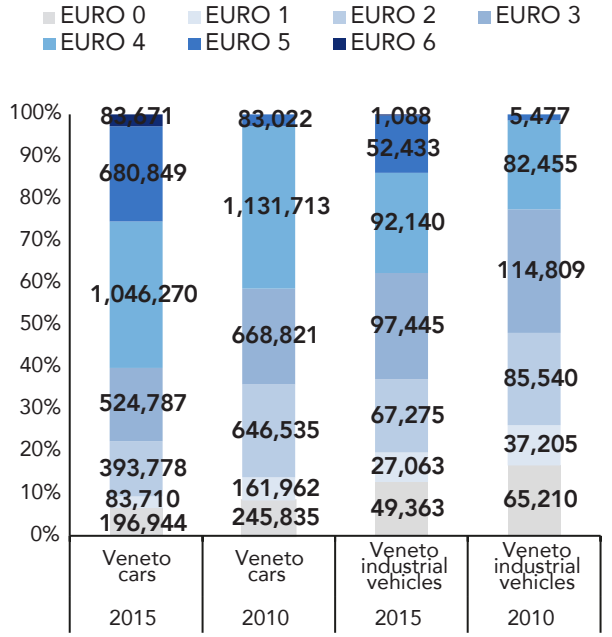
Fig. 9.3.5 - Distribution of private vehicles based on fuel type used. Veneto and Italy - Years 2010 and 2015



Source: Processing by Veneto Region Statistical Office on ACI (Italian Automobile Club) data

Starting from 1991, the European Union has been issuing a series of directives to reduce vehicle-produced pollution, based on which, vehicles produced by car manufacturers are assigned different categories. These are Euro 1-2-3-4-5-6, plus Euro 0 for the vehicles that pollute the most, registered before December 1992, whereas Euro 6 indicates those that pollute the least. When we compare Veneto and Italy from 2010 to 2015, we can see that Veneto was always one step ahead of the national average, with fewer of the more highly polluting private and industrial vehicles and, conversely, more of the less polluting ones. Moreover, from 2010 to 2015, the less polluting categories grew more in Veneto than they did in Italy. In 2015, Veneto's over 3 million private vehicles and Italy's 37.5 million were categorized mainly as Euro 4 (34.7% and 32.3%), with Euro 5 coming in as a close second (22.6% and 20.3%), marking a net increase in this latter category compared to just 2.8% in 2010.
As for industrial vehicles, there is a greater need for renewal and adaptation to less polluting categories compared to private vehicles. In 2015, Veneto

Fig. 9.3.6 - Private and Industrial Vehicles by Euro categories. Veneto and Italy - Years 2010 and 2015



Source: Processing by Veneto Region Statistical Office on ACI (Italian Automobile Club) data

still had 12.8% of its 387,000 industrial vehicles in the Euro 0 class and Italy 19.3% out of 4.6 million.

The most numerous category was Euro 3, with one quarter of the vehicles for Veneto and 22.6% for Italy. On a brighter note, compared to 2010, Euro 5 category vehicles increased from 1.4% to 13.5% for Veneto and from 1.3% to 13.4% for Italy.

Rail transport

Rail is the most sustainable mode of transport: minimal impact on the land, emissions of pollutants equal to 2% of the total and higher efficiency thanks to its ability to move more passengers and tonnes of goods than road transport in the same amount of time. Nonetheless, in 2014, only 5.2% of Italy's and 3.4% of Veneto's workers, schoolchildren and students normally used the train over those who used other means of transport. As seen in the previous paragraph, Italy's rail freight transport, along with that for inland waterways, was 14.6% of the total, against 85.4% for road transport.

The train was used by 3.4% of Veneto's commuters

A non-secondary reason for private mobility and the consequent low use of public transport, both for people and goods, is that the networks are not sufficiently calibrated on the characteristics of the land, whereas integrated transport, land, logistics and settlement planning can overcome the critical issues concerning links between road networks, port gates and railway nodes. Indeed, where the northern European ports are well connected with railways and interports, goods travel mainly by truck in Italy.

The use of rail transport and the reorganization of mobility can be promoted by developing the rail network and services together with appropriate incentive policies. In Italy, the number of passengers traveling on rail increased steadily from 2005 to 2015, finally reaching 14.8%, whereas the average travel distance decreased by 9.3%, down from 65.9 to 59.8 kilometres. The trend for transported goods was more discontinuous, with a marked reduction in 2009 due to the crisis followed by a recovery in the following years, with an overall 2.8% increase from the beginning to the end of the period. Thus, 92.3 million tonnes of freight were transported by rail in 2015, while the average travel distance decreased by 11.2%.

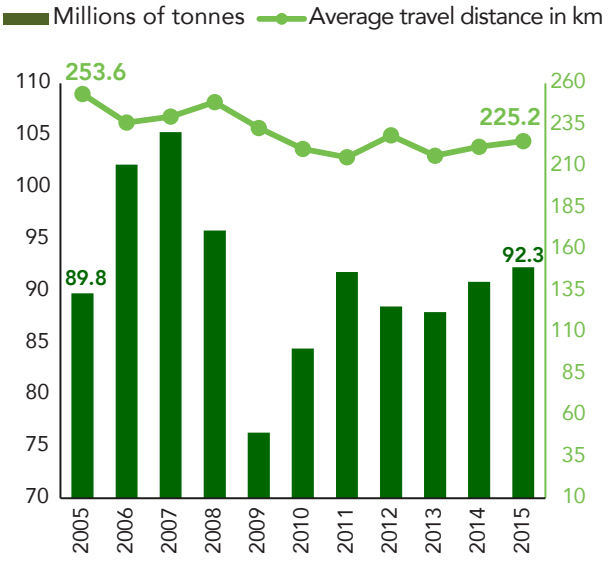
In Veneto, there are 8.7 railway stations for every 1,000 square kilometres and their distribution is directly proportional to population density, it being higher in Padua, Treviso and Venice provinces, which have larger housing settlements, and lower in the remaining areas, with mountainous Belluno province holding up the rear.

Italy' railway stations are classified into four categories according to performative and functional characteristics based on objective evaluation pa-

Fig. 9.3.7 - Passengers transported by rail. Italy - Years 2005:2015

Source: Processing by Veneto Region Statistical Office on Istat data

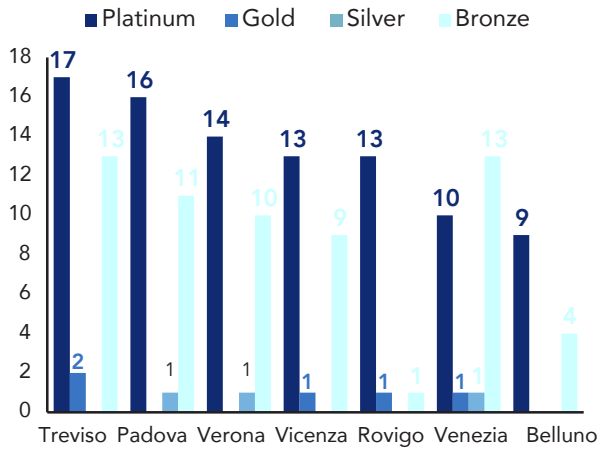
Fig. 9.3.8 - Goods transported by rail. Italy. Years 2005:2015



Source: Processing by Veneto Region Statistical Office on Istat data

rameters that have been recently reviewed (daily patronage, traveller service level, areas open to the public and intermodality); these four categories range from platinum, signifying very high patronage, more than 25,000 passengers per day, to bronze, meaning very low patronage but, in any case, over 500 passengers a day.

Fig. 9.3.9 - Classification of railway stations by province (*). Veneto - Year 2015



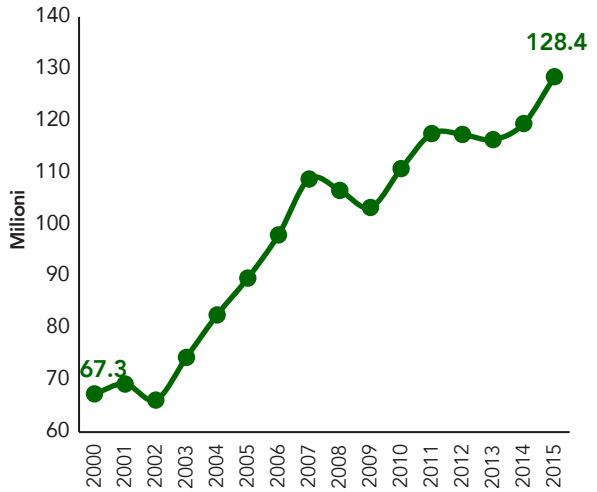
(*) PLATINUM (large stations): more than 6,000 passengers per day on average and a high number of medium quality trains in addition to a high percentage of high quality trains per day. Cities with these types of stations are important from a touristic, cultural, institutional and architectural point of view and have a high business potential.
GOLD (medium-sized to large stations): fairly high patronage, with a significant local and high-quality transport offer. The places they serve hold a certain level of touristic, cultural, institutional and architectural importance.
SILVER (medium-sized to small stations): average patronage for metropolitan-regional and long-distance services lower than the GOLD category.
BRONZE (small, low-patronage stations): small-scale low-level facilities providing regional services.
Source: Processing by Veneto Region Statistical Office on RFI data

Air transport

European air transport routes have been steadily increasing in recent decades, along with the number of passengers and goods, leading up to a proliferation of medium- and small-sized airports; the opening of the market contributed to the trend by making this mode of transport more accessible.
It is estimated that, in Italy, the number of commercial movements (both scheduled and non- scheduled) increased by 7.5% from 2000 to 2016, passengers by 78% and tonnes of freight by 30%.

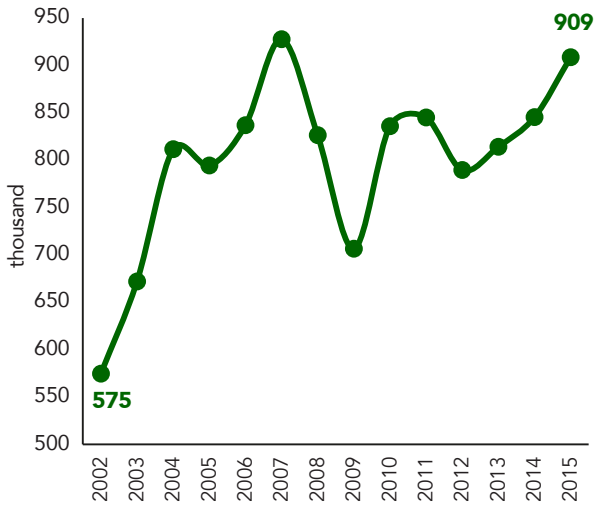
Over the last decade, the economic crisis has affected also this sector in a significant way, slowing down its growth in Italy; however, at the end of this period, we have an increase in the number of passengers by 20.9% and goods by 2.1%.

Fig. 9.3.10 - Passengers transported by air (millions). Italy - Years 2002:2015



Source: Processing by Veneto Region Statistical Office on Eurostat data

Fig. 9.3.11 - Goods and mail delivered (thousands of tonnes) by air. Italy - Years 2002:2015



Source: Processing by Veneto Region Statistical Office on Eurostat data

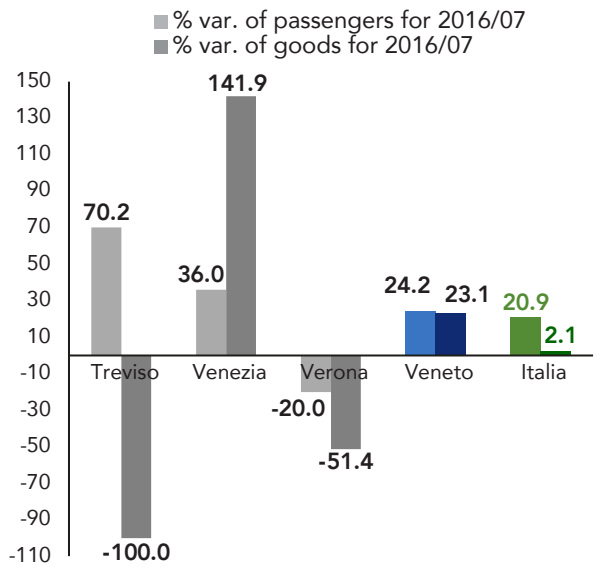
In the same period, the Venice Airport System, including Venice Marco Polo and Treviso, recorded a substantial 42.1% increase in the number of passen-

gers, whereas Verona Catullo had a 20% decrease; Treviso, in particular, experienced a steady traffic increase generated by low-cost airlines. A different trend occurred in the traffic of goods, gradually concentrating more than 90% of the total tonnage of cargo on the Venetian airport. In the short term, all three airports performed very well as far as the total number of passengers in transit, exceeding 15,000,000 altogether in 2016, 9.8% more compared to 2015, with both Venice and Treviso totalling more than +10% and Verona a very appreciable +8.4%. For Venice, this was a record, both as far as traffic volume - more than 9 million users - and growth over the previous year, 10% against a national average of +4.6%. As for goods, Marco Polo stood at +13.8%, reaching 58,000 tonnes.

Record for Venice - Marco Polo in 2016: more than 9 million passengers in transit

Within Italy, the Venice Airport System secured its already well-established third-pole position as an international hub behind Rome and Milan. Marco Polo airport is part of the global Trans-European network and has the greatest traffic data; Italy's National Transport Plan ranks it as the third intercontinental gate after Rome Fiumicino and Milan Malpensa.

Fig. 9.3.12 - Passengers and goods in Veneto's airports and total for Italy. - Years 2007 and 2016



Source: Processing by Veneto Region Statistical Office on Assaeroporti data

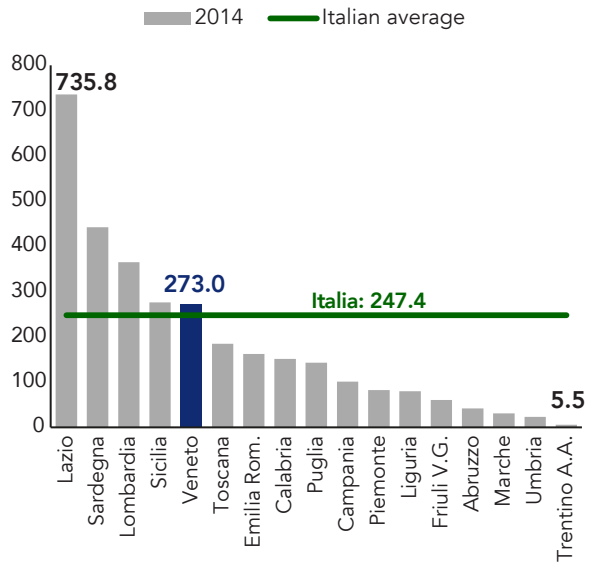
- Passengers in transit and cargo moved (tonnes) for Veneto airports and total for Italy. - Years 2016 and 2015

	Passengers			Cargo		
	2015	2016	% var. for 2016/15	2015	2016	% var. for 2016/15
Venice	8,751,028	9,624,748	10.0	50,961	57,973	13.8
Verona	2,591,255	2,807,811	8.4	4,953	4,452	-10.1
Treviso	2,383,307	2,634,397	10.5	0 1	–	
Italy	57,200,120	64,691,059	4.8	985,525	1,043,422	5.9

Source: Processing by Veneto Region Statistical Office on Assaeroporti data

Veneto's "passengers per 100 inhabitants" index was 273, higher than the Italian average (247.4) and among the highest in Italy, the fifth after Lazio, Sardinia, Lombardy and Sicily. These data confirm the significant role played by air transport for both business and tourism; the high indices of Sardinia and Sicily are certainly attributable to the fact that they are tourist-bound islands, while Lazio and Lombardy - with Fiumicino and Malpensa - serve

Fig. 9.3.13 Air traffic index (*): Passengers embarked and disembarked by air (per 100 inhabitants)



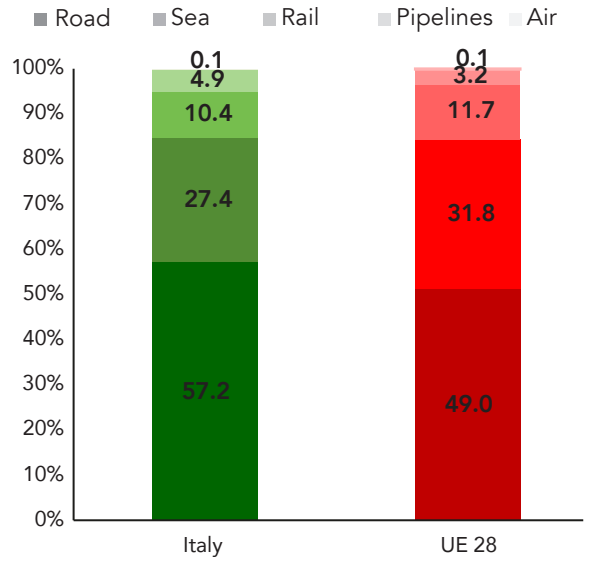
(*) The air transport survey data set consists of airports with traffic of more than 15 thousand passenger units. Passengers in transit not included.
Source: Processing by Veneto Region Statistical Office on Istat data

Rome, Italy's capital and administrative centre as well as a major touristic attraction, and Milan, the top financial and industrial centre.
The reverse of the medal for sustained air transport growth is increased energy consumption and CO2 production. One of the objectives of the European Union is to make this mode more sustainable through traffic management systems and the use of less polluting aircraft to reduce congestion and emissions.

Sea and river transport

Sea and waterway transport is an important alternative; the European Union considers it an effective strategy for economic growth and limiting the predominance of road transport, and emphasises this mode also within the TEN-T network, with the development of ports and "motorways of the sea"; at the same time, however, the White Paper lists some specific environmental protection measures.
The European Union's freight traffic travelled 32% by sea and 4.3% by river; the data for Italy, where the competition from road transport is higher, were 25.4% and 0.1%.
In 2015, more than 390 million passengers transited through European ports, and more than 70 million through Italian ports, due to tourism and the movements of people residing in islands and peripheral regions.

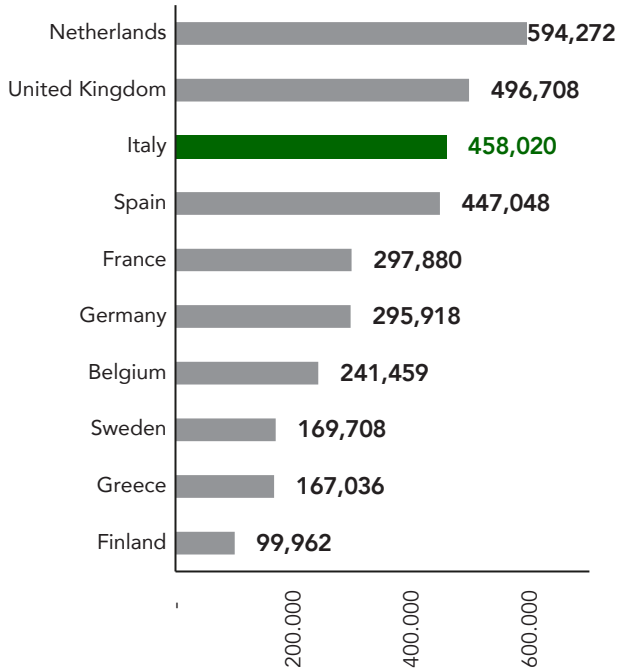
Fig. 9.3.14 - % distribution for tonnes-km of goods by mode of transport. Italy and EU28. - Year 2014



Source: Processing by Veneto Region Statistical Office on Eurostat and OECD data

To promote goods intermodality and a simplified system for the transition from trains to ships, by using containers for example, and to improve accessibility to ports, Italy launched the National Strategic Plan for Ports and Logistics, with the aim of increasing freight and passenger traffic through navigation as well as of enhancing its role in the Mediterranean and with international trade.
In the EU, sea freight movement increased by 5% from 2010 to 2015, whereas Italy's declined by 7%, while remaining among the top five EU countries at the end of this period, placing third after the Netherlands, where the port of Rotterdam marked a 10% increase, and the UK, and followed by Spain and France. Italy placed first as far as sea passenger traffic, even though it experienced a 20% decrease during the 2010-2015 period; this sort of decline occurred all across the EU and was common to all of the top five countries, with the exception of Germany, where the number of passengers grew by 4.5%.

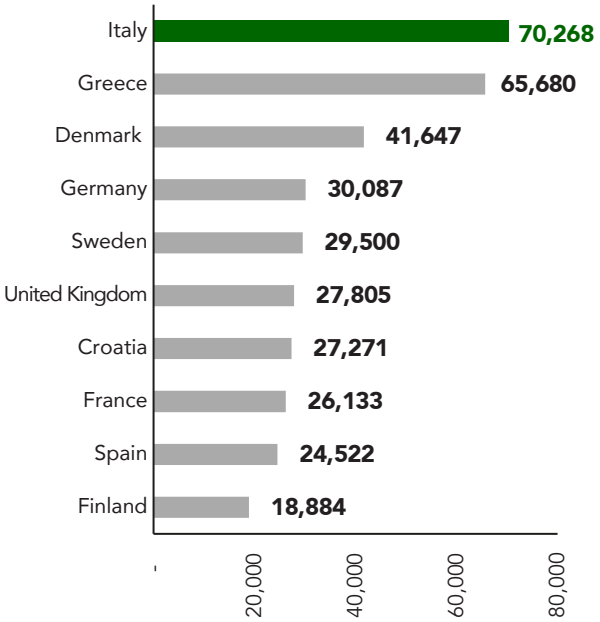
Fig. 9.3.15 - Movement of goods in the top 10 EU countries (thousands of tonnes). - Year 2015



Source: Processing by Veneto Region Statistical Office on Eurostat data

Out of the over 458 million tonnes of freight transported in Italy, 62.2% crossed national borders and 37.8% was done by short sea shipping. From 2010 and 2015, international transport dropped by

Fig. 9.3.16 - Movement of passengers in the top 10 EU countries (thousands). - Year 2015



Source: Processing by Veneto Region Statistical Office on Eurostat data

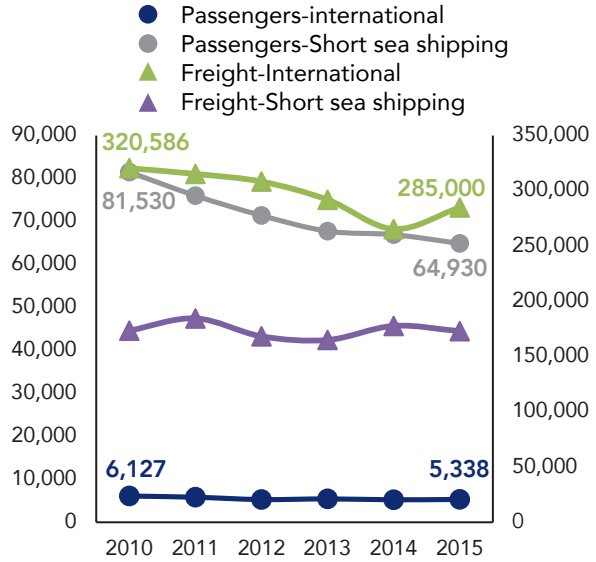
11.3%, marking a recovery in the last year considered, whereas short sea shipping was more discontinuous, keeping equal values at the beginning and end of the period, however. As for passengers, international transport took 7.6% of the total against 92.4% of national transport, both affected by a drop: 12.9% for the former, with a 1.6% recovery in 2015, and 20.4% for the latter.

Among the Italian regions, Liguria moved the largest quantity of goods and its ports are the gateway to Northern Italy; Friuli Venice Giulia is the top region for Italy's North East. Veneto's total embarkations and disembarkations, 55% international and 45% short sea shipping, amounted to 6% of Italy's total. After a five-year decline, international traffic marked a 16% recovery from 2014 to 2015, while short sea shipping grew by 28.5% over the period considered.

The main regions with which Veneto traded goods by sea were the bordering Friuli-V.G. and Emilia Romagna, 36% and 18.4%, and Calabria and Sicily, which together reached 32.4% of the total tonnage in 2015.

Italy's island regions and those in their vicinity provided the largest volumes of passengers with their connections; in 2015, Veneto' ports embarked and disembarked a total of over 1,576 million passengers, mainly cruise, ferry and hydrofoil travellers heading to other Adriatic and Greek ports, amounting to 9,7% less than in 2014.

Fig. 9.3.17 - Maritime transport of freight and passengers by type (thousands of tonnes and thousands of passengers). Italy - Years 2010:2015



Source: Processing by Veneto Region Statistical Office on Istat data

Tab.9.3.3 - Passengers embarked and disembarked via short sea shipping and international transport (thousands of passengers). Veneto and Italy - Years 2014 and 2015

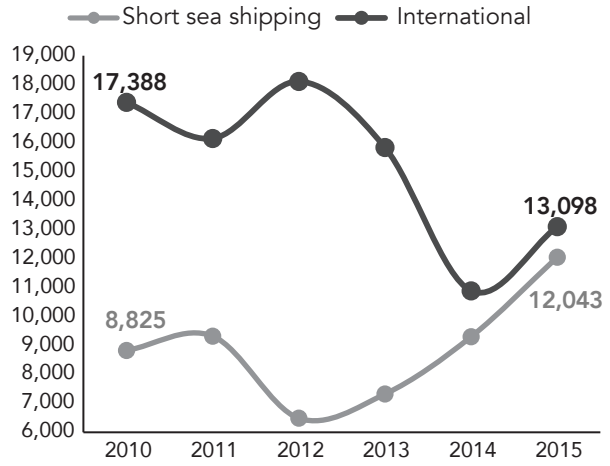
		2014	2015	2015/14 % var.
Short sea shipping	Veneto	1.326	1.169	-11.8
	Italy	66.972	64.930	-3.0
International	Veneto	419	407	-2.9
	Italy	5.253	5.338	1.6

Source: Processing by Veneto Region Statistical Office on Istat data

The port of Venice is at the centre of Veneto's maritime transport; it is an important port of the Adriatic Sea because of its national and international trade flows, is located at the crossroads between the Mediterranean and Baltic-Adriatic Corridors and is also a nodal point for motorways of the sea. The global economic crisis affected freight traffic volume, which kept declining starting from 2008,

but which in 2015 showed a trend reversal in international transport, with a 20.4% increase over 2014, while short sea shipping has been marking a recovery since 2013, with a total increase of 85% from 2012 to 2015.

Fig. 9.3.18 - Freight transport in the port of Venice (thousands of tonnes) - Years 2010-2015



Source: Processing by Veneto Region Statistical Office on Istat data

Over 25 million tonnes of goods in all were moved in 2016, an increase of 16% from 2014. Container movements have also been constantly increasing, by 33% from 2014 to 2016, reaching 605,875 TEUs[2].

Container movements increased by 33% over two years in the port of Venice

As far as passenger traffic is concerned, the port of Venice was the top receiver of cruise ships in the Mediterranean, leading also in the departures of several ferry lines and numerous fast ships and hydrofoils; in 2015, the cruise port was named the finest terminal port in the Mediterranean by Cruise Insight Magazine, as part of the SeaTrade Cruise Global event, an international benchmark for the industry. In 2016, the cruise travellers arriving at or passing through Venice were over 1.625 million, 1.5% more than in 2015.
Chioggia, Veneto's second port, has a significantly lower capacity for moving goods than Venice, and in the last decade has also suffered the repercussions of the economic crisis; in 2015, traffic amounted to 1,700 million tonnes, of which 96% for international transport.

2 TEU stands for twenty-foot equivalent unit, the standard ISO container volume, corresponding to about 40 cubic metres.

Tab. 9.3.4 - Traffic in the port of Venice - Years 2014:2016

	2014	2015	2016
Ship arrivals	3,359	3,408	3,507
of which cruise ships	568	606	622
Passengers	1,945,322	1,755,485	1,777,399
of which cruise passengers	1,750,698	1,601,172	1,625,637
Movements of goods (tonnes)	21,765,590	25,104,217	25,243,818
Movements of containers (TEUs)	456,068	560,301	605,875

Source: Processing by Veneto Region Statistical Office on Venice Port of Authority data

Fig. 9.3.19 - Freight transport in the port of Chioggia (thousands of tonnes) - Years 2010-2015

Source: Processing by Veneto Region Statistical Office on Istat data

When appropriately integrated into an intermodal system and connected to the production system, water transport provides advantages in terms of safety, the environment and energy saving; it is estimated that waterways cost less per tonne of transport than rail and road.
The internal Padano-Veneto waterway system, part of the Trans-European Transport Networks, runs across four Northern Italian regions, including Veneto, and extends along the course of the Po river as far as the sea. 480,630 tonnes of goods were transported over the Padano-Veneto Waterway System In 2014, (761,722 in 2013); Veneto's data were 171,865 tonnes in 2014 and 251,979 in 2013.

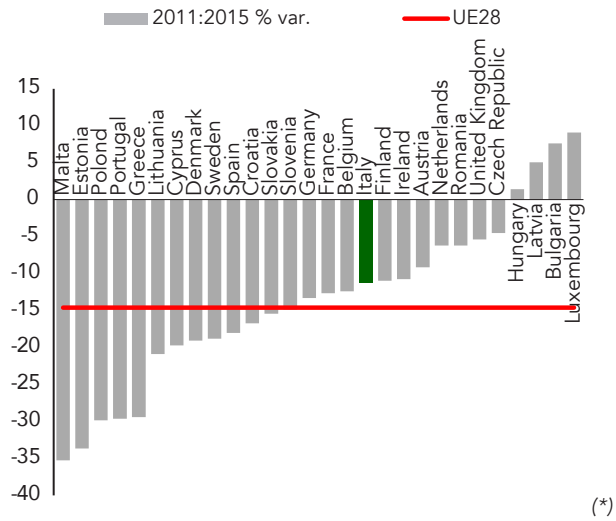
"Agricultural, hunting and fishing products", "metallic minerals and quarry and mining products" and "chemicals, synthetic fibres and rubber and plastic products" were the main types of goods transported.

9.4 Accidents by mode of transport

Road accidents

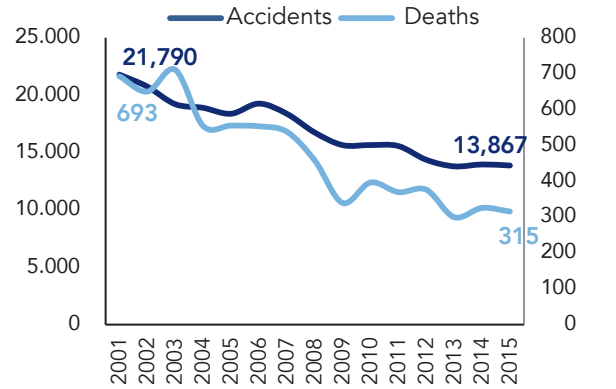
European Commission policies have been concerned with the significant reduction of road accidents and mortality for over fifteen years now. The social and economic interest in limiting this phenomenon becomes obvious when we consider that, in 2015, road accidents caused an average of 51 deaths per million inhabitants, for a total of over 26,000. However, the effectiveness of the policies put in place over the course of time is shown by the fact that, in the 1970s, the deaths on roads over the land area occupied by the EU28 exceeded 80,000 a year almost constantly, whereas in the years 2011 to 2015 they were cut down to below 30,000, pursuant to the European Commission setting the target of halving deaths in the 2001-2010 decade; the result achieved was -43%. The goal, re-launched for 2020, is again to bring mortality down by half; as of 2015, the decrease was almost 15% compared to 2011; when projected to 2020, this percentage does not seem to allow the same performance achieved in the 2001-2010 period. Like in the other EU countries, the policies implemented by lawmakers In Italy are geared toward accelerating the significant reduction of the phenomenon, and get as close as possible to the 2020 target. Over the last five years until 2015, the decline in deaths in Italy was below the EU28 average, standing at 11.2%, structurally similar to the decreases achieved by countries such as France (12.7%) and Germany (13.3%).
Among the major European countries, Spain had the best performance, with a decrease of 18.1%. In 2015, the number of deaths per million inhabitants was 36 for Spain, 43 for Germany, 54 for France and 56 for Italy.
Veneto showed a decrease to below 14,000 accidents in the years ranging from 2013 to 2015. The fall in accidents in 2015 compared to 2001 was little higher than 36% and reached the lowest number in 2014, with 13,794 accidents. Deaths due to accidents recorded a better trend, dropping by 54.5%, again when comparing 2015 to 2001, with the lowest number of deaths recorded in 2013 (299), the only year with fewer than 300 deaths due to road accidents.

Fig. 9.4.1 - Road casualties (*) - EU28 - % Variation - Years 2011:2015



Preliminary 2015 estimates for Austria, Belgium, Finland, Germany, Greece, Lithuania, Portugal, United Kingdom and Spain
Source: Source: Processing by Veneto Region Statistical Office on data from ETSC (European Transport Safety Council). Annual PIN Report. Year 2015.

Fig. 9.4.2 -Evolution of road accidents and deaths in Veneto - Years 2001:2015



Source: Processing by Veneto Region Statistical Office on Istat data

In 2015, Italy recorded 174,539 accidents, down 1.4 percentage points from 2014, while deaths increased from 3,381 to 3,428; the injured were 246,920, down 1.7%. In the same year, Veneto recorded a decrease in accidents, deaths and injuries compared to 2014. There were 13,867 acci-

dents, down 0.7%, 315 deaths, a 3.1% drop, and 19,156 injured, decreased by 1.8%. As far as Veneto's provinces, the variations in the 2015 accidents compared to 2014 went from a 4.9% maximum decrease for Padua province to 3.2% maximum increase for Vicenza province. On a brighter note, the number of deaths in Verona and Belluno provinces went down respectively by 19.2% and 19%. Only in Treviso province there was an increase in deaths, 4 more than the 53 of 2014.
All in all, we can see a reduction of the phenomenon from 2011 to 2015, albeit at a lower speed than what was recorded in the 2001-2010 decade.

Tab. 9.4.1 - Road accidents with deaths and injured. Italy, Veneto and Provinces – Years 2014: 2015

	Accidents			Deaths			Injured		
	2015	2014	% Var,	2015	2014	% Var,	2015	2014	% Var,
Italia	174,539	177,031	-1.4	3,428	3,381	1.4	246,920	251,147	-1.7
Veneto	13,867	13,958	-0.7	315	325	-3.1	19,156	19,512	-1.8
Belluno	498	490	1.6	17	21	-19.0	683	734	-6.9
Padova	2,889	3,038	-4.9	59	51	15.7	3,926	4,095	-4.1
Rovigo	594	590	0.7	18	18	0.0	808	843	-4.2
Treviso	2,180	2,195	-0.7	57	53	7.5	3,119	3,155	-1.1
Venezia	2,357	2,389	-1.3	59	59	0.0	3,390	3,503	-3.2
Verona	3,048	3,026	0.7	59	73	-19.2	4,139	4,108	0.8
Vicenza	2,301	2,230	3.2	46	50	-8.0	3,091	3,074	0.6

Source: Processing by Veneto Region Statistical Office on Istat data

Railway accidents

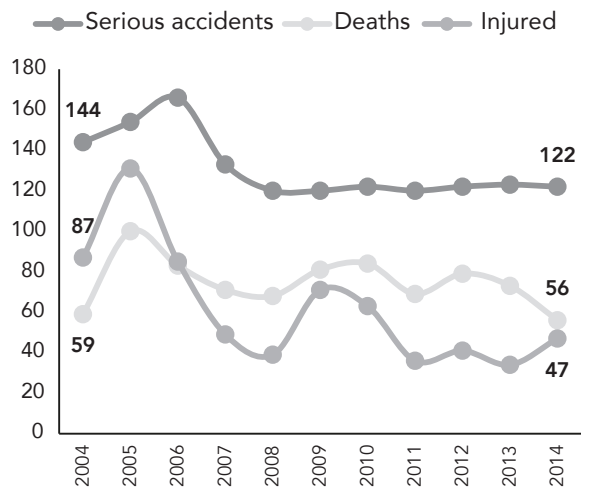
Serious rail accidents[3] slowly decreased from 2004 to 2014 in Italy; after the peak reached in 2006, when 166 accidents were recorded with 83 deaths and 85 injured, their number stabilized at around 120 per year; the number of casualties dropped as well.
Almost two-thirds of the accidents reported were caused by moving rolling stock; 17% involved level crossings, with residual percentages having to do with rolling stock derailment, collision or fire.

Maritime accidents

In Veneto's two maritime environments of Venice and Chioggia, accidents involving boats peaked

3 Suicides are not considered

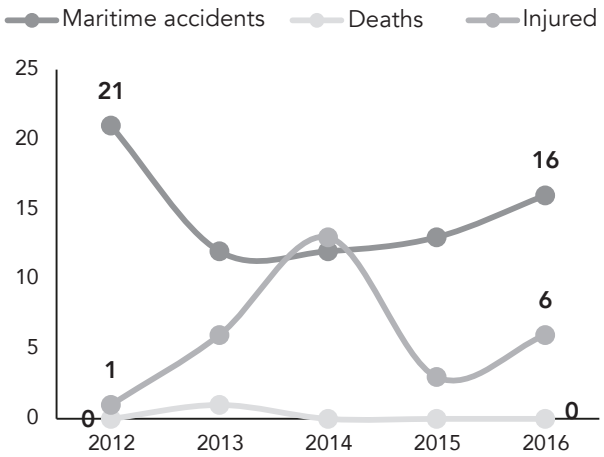
Fig. 9.4.3 - Serious railway accidents and resulting deaths and injured per year. Italy - Years 2004: 2014



Source: Processing by Veneto Region Statistical Office on MIT (Italy's Ministry of Infrastructure and Transport) data

during the course of 2012 with 21, which caused no deaths and only one injured person. Accidents decreased in the following years, but the number of the injured increased and one case of death occurred in 2013.

Fig. 9.4.4 - Maritime accidents and resulting deaths and injured in the maritime districts of Chioggia and Venice - Years 2012: 2016



Source: Processing by MIT on Port Authorities data

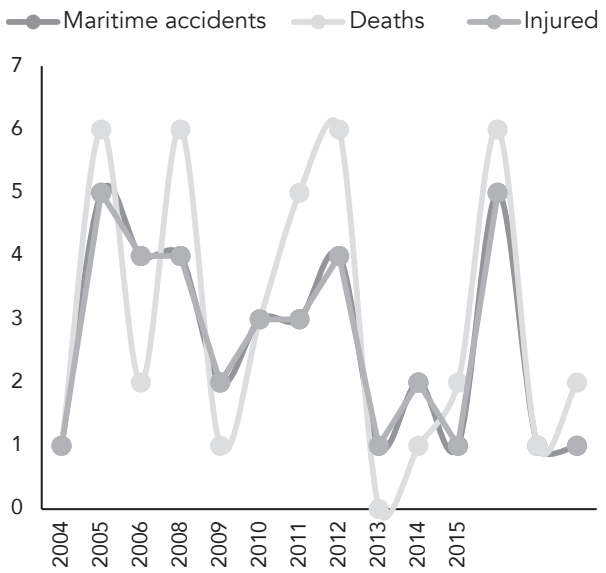
At the same time, in the maritime district of Venice, the largest number of accidents occurred in the lagoon's internal waters and involved primarily recreational craft and secondly passenger transport ships; the accidents that occurred in Chioggia's

maritime district were of a different nature, the majority of them taking place in coastal waters with fishing vessels and cargo ships.

Aviation accidents

Veneto had 37 accidents involving aircraft over the last 15 years, totalling 42 dead and 37 injured. There has been a fluctuating trend over time, although it is possible to determine that the highest number of mishaps may be ascribed to the first decade of 2000.

Fig. 9.4.5 - Severe aviation accidents and resulting deaths and injured per year. Veneto - Years 2001:2015



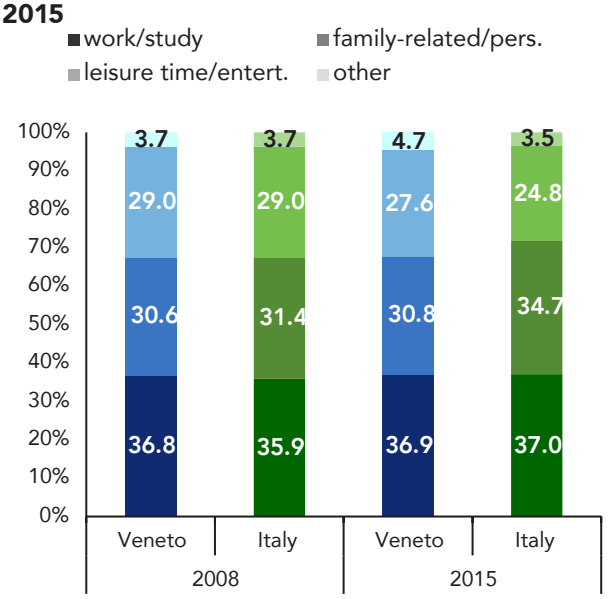
Source: Processing by MIT on ANSV (Italy's National Flight Safety Agency) data

Three-quarters of the accidents occurred in general aviation, 16% involved aerial work operations and 8% concerned commercial aviation. Half of the 37 accidents that took place in the 15 years under consideration involved fixed-wing aircraft, 22% helicopters and 16% gliders.

9.5 Some data on people and movements

Every year, the Higher Education Institute for Transport Research carries out a regional sample survey[4] on the mobility habits of Italians. For the year 2015, 3 million and a half of Veneto's people stated that they had left the house on the day of the survey, equal to 86.2% of respondents, 80.3% countrywide. People move mostly to study or work; 36.9% of Veneto's people who got around did so for these reasons (37% countrywide); very similar values had been recorded 7 years earlier in 2008. Family-related mobility involved 30.8% of regional travel, much like 2008, rising over time by more than 3 percentage points to 34.7% for Italians in general. Conversely, leisure time travels went down 1.4 points in Veneto, reaching 27.6%, and even lower in Italy, from 29% to 24.8%.

Fig. 9.5.1 - % distribution of movements by activity type (*). Veneto and Italy - Years 2008 and 2015

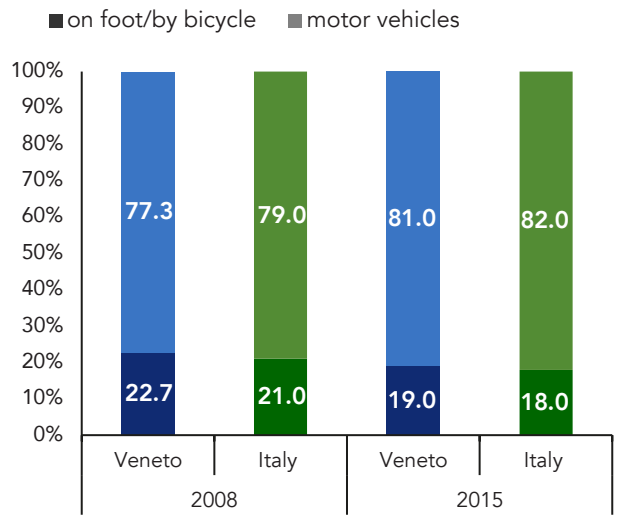


Source: Processing by Veneto Region Statistical Office on ISFORT-AUDIMOB data

In the clear majority of cases, people got around by motorized means; as for people in Veneto, 81% stated in 2015 that they used a motor vehicle, a number that has grown over time, while 82% of Italians said so; the others got around on foot or by bicycle.
Private cars were certainly the preferred mode of motorized transport for daily trips. Adding up drivers and passengers, the value reached in Veneto for 2015 was 87.1%, slightly lower in Italy (83.7%). Both regionally and countrywide, this value increased over time by 2 and 2.7 percentage points respectively, at the expense of 2-wheeled motor vehicles and combinations of means of transport, whose percentages decreased.

4 Audimob-Observatory on Mobility of Italians

Fig. 9.5.2 - % distribution of movements by mode. Veneto and Italy - Years 2008 and 2015



Source: Processing by Veneto Region Statistical Office on ISFORT-AUDIMOB data

However, public transport use increased in Veneto, although it did not exceed 6.3% (it was 5.9% in 2008); in contrast, the Italian figure went from 8.1% to 7.3%.

9.6 Local public transport services in Veneto[5]

In recent years, the local public transport sector has undergone profound changes on the regional level, and also within the context of similarly significant changes on the national level.
The economic crisis and the impact on citizens' mobility and the reduction of state transfers to the services went hand in hand with policies to reorganise, streamline and improve both state and regional transport.
Starting from 2013, the Veneto Region laid the foundations for a comprehensive reform of Local Public Transport with the purpose of achieving economic and social sustainability in that sector. This reprogramming started with the launch of the new cyclic schedule of the regional railway service, together with the implementation of new estimate models of standard costs and needs for the car/tramway and waterway sectors.

The new cyclic schedule of the regional rail service was launched in 2013

After a few years, the big picture from the analysis of the entire industry shows its importance in terms of services offered to citizens, transported passengers and public resources employed. 439.5 million passengers travelled on regional public transport in 2015, 16 million train*km of railway service were offered to the public, also 126 million km of car/tram service and 517 thousand active hours of lagoon transport service. Public funding to support the supply of transport services in Veneto amounted to 410 million Euros.
The Region schedules and manages railway services of regional and local interest. As for the powers delegated by Legislative Decree 422/1997, the Region has signed service contracts with several railway companies over time.
Initially, the programming of rail services, fragmented into several contracts connected with separate land areas, was based on an "upon request" model designed to meet the area's mobility needs, especially at peak times.
However, that model had a number of issues (rolling stock shifts, busy tracks, interference with services offered by other operators, etc.) and was not always able to meet the regularity and frequency requirements of service, transfers and travel times.
The cyclic scheduling model, started with the schedule change of December 2013, is based on the principle of regularity and recurrence of the services offered, divided into two categories: slow services, which stop at all stations, and fast, which stop only at the major stations.
After the cyclic schedule was made operational, various recalibrations were carried out on the basis of monitoring results and observations received from Associations, Committees, local administrations and individual users.
Currently, the service can supply about 16.3 million*km per year, of which 15.7 million on RFI and 0.6 million on a regional network. The railway services are entrusted to two different operators: Sistemi Territoriali SpA, for the lines Adria-Mestre, Rovigo-Chioggia and Rovigo-Verona, with a valid service agreement from 2016 to 2019 for a total of about 1.6 million Trains*Km per year, and Trenitalia SpA with a contract, extended until 31/12/2023, for services on all the remaining regional routes, divided into 16 routes for a total of about 14.7 million*km per year.
Railway services are carried out on 1,188 km of

5 By the Infrastructure, Transport and Logistics Directorate

network operated by Rete Ferroviaria Italiana (R.F.I S.p.A.) of which 782 km electrified and 406 km non-electrified and 57 km of non-electrified network managed by Sistemi Territoriali S.p.A.
In December 2016, the Region signed a framework agreement with R.F.I. S.p.A. for the use of infrastructure capacity for ten years, which can be extended for another five years.
The agreement provides the Region with a railway infrastructure capacity of about 15.7*km per year and provides also a series of medium to long-term infrastructure investments, the implementation of which is expected to increase by 3% the volumes of the current scenario.
The scheduling change led to an initial increase in the number of transported passengers until 2014 and then to a decrease of the 2013 values in 2015, a trend that is disconnected from the quality of the service delivered, showing a growing trend in the parameters analysed.

Tab. 9.6.2 - Satisfaction percentage for some indicators. Veneto - Years 2013:2016

	2013(*)	2014(*)	2015(*)	2016(**)
Overall trip	81%	83%	85%	88%
Railway availability	67%	74%	82%	82%
Travel preparations	92%	94%	95%	94%
Getting to the departure station	78%	83%	85%	80%
Stay at departure station	83%	87%	88%	87%
Train stay	80%	83%	84%	87%
Getting out of the arrival station	80%	84%	85%	82%

(*) Adria-Mestre line excluded;
(**) Adria-Mestre, Rovigo-Chioggia and Rovigo-Verona lines excluded.
Source - Monitoring of Trenitalia S.p.A.'s perceived quality

Tab. 9.6.1 - Railway services: demand and supply per year. Veneto - Years 2012: 2016 (*)

	2012	2013	2014	2015	2016(**)
Railway network extension	1,245	1,245	1,245	1,245	1,245
R.F.I.	1,188	1,188	1,188	1,188	1,188
Sistemi Territoriali	57	57	57	57	57
Train*km supply (**)	15,135,350	15,358,572	15,950,313	16,245,178	16,347,524
Trenitalia	14,556,673	14,783,358	15,387,185	15,678,199	14,700,000
Sistemi Territoriali	578,677	575,214	563,128	566,979	1,647,524
Passengers	41,272,276	43,732,306	45,624,331	43,052,114	n.d.
Trenitalia	40,275,273	42,645,312	44,399,034	41,739,884	n.d.
Sistemi Territoriali	997,003	1,086,994	1,225,297	1,312,230	n.d.

(*) Estimated data
*(**) Including substitute bus*km.* *n.a. data not available*
Source: Processing by Veneto Region Mobility and Transport O.U.

The cyclic schedule, thanks also to the work done on its infrastructure, caused a significant 5-minute increase in user perceived punctuality[6], from 87.6% in 2013 to 91.6% in 2015 for RFI network trains. The overall quality improvement perceived by users was also reflected in the results of customer satisfaction surveys[7].

User perceived quality improved, according to the results of customer satisfaction surveys

Lastly, as a result of the extension signed until December 31, 2023, Trenitalia has undertaken to implement a multi-year investment plan that includes the construction of infrastructure, the implementation of new systems and technologies and especially the purchase of new rolling stock (five "Vivalto" double-decker trains, a control car with four hauled wagons, nine Swing trains, modern diesel convoys for non-electrified lines and nine new high-capac-

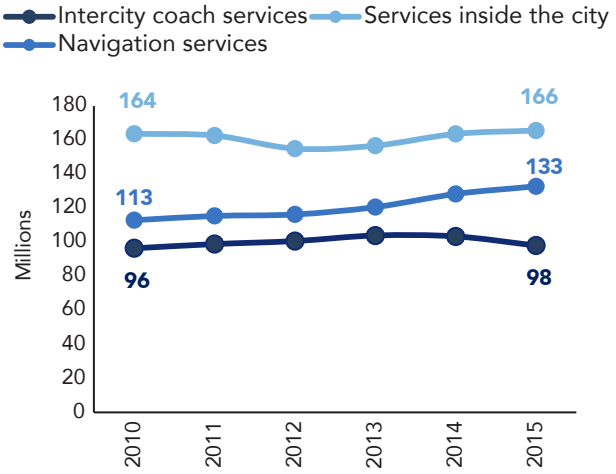
6 Data from Pic WEB RFI - Processing by Veneto Region - Mobility and Transport OU
7 Surveys by Trenitalia S.p.A. in the period between January and November. The data represent the average of the responses received every two months. The percentage values shown represent the percentage of satisfied customers (% of customers who expressed their opinion on a single item with a rating of 6 or more on a scale of 1 to 9)

ity "Rock" electric trains). The supply of "Swing" and "Vivalto" trains, which began in 2016, will end by late 2017, while the supply of the "Rock" trains, will take place from 2020 with three trains per year until 2022. The new convoys are all equipped for the transport of persons with reduced mobility and bikes and they also have monitors and audio equipment for better communicating with passengers as well as interior and exterior video surveillance cameras.

Local public bus, tram and lagoon navigation transport services

Veneto's public transport services sector - by bus, tramway and water - is important in terms of public financial commitment, staff employed, number of services provided and passengers transported.
The supply of services has essentially settled since 2013, following a general reprogramming of public transport services and the implementation of new mobility estimation models of supply and demand. With the financing of the sector remaining substantially stable over the three-year period 2013-15, the production of intercity coach and city bus services was generally consolidated (+1.37% in the two-year period 2014-2015) and tram services became more popular in the cities of Padua and Mestre (+ 32.01% in the 2014-2015); engine hours produced by the lagoon navigation service in the city of Venice also increased although to a lesser extent, +1.52% in 2015 compared to the previous year, which brought production back to 2010 levels; when the effects had not yet come about from the severe crisis that the sector experienced with the first substantial state transfer cuts in in 2011.
As far as the amount of demand for mobility that was met, in 2015 we see a mild increase in the region with respect to 2014, transported passengers[8] amounted to a total of 396 million. Not only did this result confirm the growing trends of recent years but it was also the highest ever; over the last six years, demand in Veneto has increased by more than 23 million passengers. However, when we observe services broken down by type, different dynamics appear.

Fig. 9.6.1 - Transported passengers by service type. Veneto - Years 2010:2015



Source: Processing by Veneto Region Mobility and Transport O.U.

When we break the data down by transport mode, a significant decrease becomes immediately apparent in passengers transported outside the city (-5.12%) in the last year, which is discontinuous compared to previous years but coherent with what happened at the national level. In 2015, the passen-

8 The indicator 'Number of Transported Passengers' is calculated as the sum of the single movements. Specifically, for regular tickets as the sum of the number of issued tickets; for passes as the product of the virtual number of 2 movements for each day of validity multiplied by a coefficient of utilization.

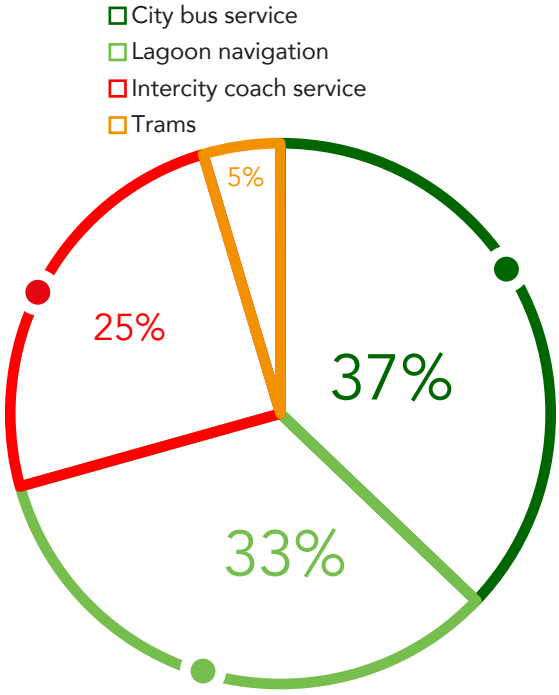
Tab. 9.6.3 - Production by service – Years 2012:2015

PRODUCTION (KM/ENGINE HOURS)	2010	2011	2012	2013	2014	2015
Intercity coach services (km)	92,857,962	88,125,315	85,258,262	84,756,267	84,056,717	85,611,144
City bus services (km)	44,289,384	40,438,615	37,986,060	38,479,734	38,766,085	38,888,245
Tram services (km)	719,110	1,084,884	998,205	992,174	1,159,850	1,531,159
Navigation services (engine hours)	518,709	509,649	513,145	508,385	509,398	517,158

Source: Processing by Veneto Region Mobility and Transport O.U.

gers transported by public intercity transport were only 24.74% of the total amount for the Veneto Region.
The decreasing trend in intercity passengers was accompanied by an increase in passengers*Km[9], which went from 1.68 billion in 2014 to 1.75 billion in 2015.
The inverse relation that links the variations of transported passengers and passengers*km is due to the increase in the average distance travelled, from 16.88 km in 2014 to 17.04 km in 2015. The increasing trend in distance travelled per single trip was in line with the national trend and had a peculiar character in Veneto, particularly in the central area of Padua, Treviso and Venice provinces, whose residential, manufacturing and service oriented settlement structure has a strong functional synergy and is characterised by urban sprawl phenomena with growing migration from large urban centres to the suburbs and small municipalities.
Compared to the national scene, where the demand met by local public transport in and outside the city was reduced, Veneto's urban areas kept their overall number of transported passengers, achieving a modest increase compared to 2014 (+1.21%) and confirming a growing trend thanks to which passenger numbers lost since 2011 were recovered.
In 2015, the share of passengers transported on public buses in urban areas reached 41.76% of the total number of passengers transported in Veneto, confirming the important role played by collective public services in high density areas; we see the importance of services provided by trams in the urban centres of Padua and Venice Mestre, which in 2015 met a demand equal to 4.62% of the total local public transport for the region.
A substantial +3.49% increase in the number of travellers on navigation services in 2015 compared to the previous year is a phenomenon absolutely peculiar to the city of Venice that confirms the steadily increasing demand for public transport in the lagoon. In the short span of six years, the number of transported passengers went from 112 million in 2010 to over 132 million in 2015, out of which 67.57% were pass holders (residents and city users) and only 32.43% regular ticket holders (tourists or occasional visitors to the city).
On the other hand, the percentage of pass holders went from 71.14% in 2010 to 67.57% in 2016, due to an increased number of tourists and occasional passengers.

Fig. 9.6.2 - Demand met according to transport modes. Veneto Year - 2015



Source: Processing by Veneto Region Mobility and Transport O.U.

Tab. 9.6.4 - Regular passengers and pass holders of the lagoon navigation service. Veneto - Years 2010:2015

Year	Regular travellers transported in that year		Pass holders transported in that year		Total travellers transported in that year
	No.	% incidence of total	No.	% incidence of total	No.
2010	32,602,716	28.9%	80,361,636	71.1%	112,964,352
2013	37,934,816	31.4%	82,714,281	68.6%	120,649,097
2014	38,855,714	30.3%	89,492,196	69.7%	128,347,910
2015	43,075,418	32.4%	89,731,780	67.6%	132,807,198

Source: Processing by Veneto Region Mobility and Transport O.U.

Regarding the regional distribution of mobility demand met by local public transport in 2015, travellers of Veneto's central area on intercity coach and city buses and trams accounted for 41.48% of the

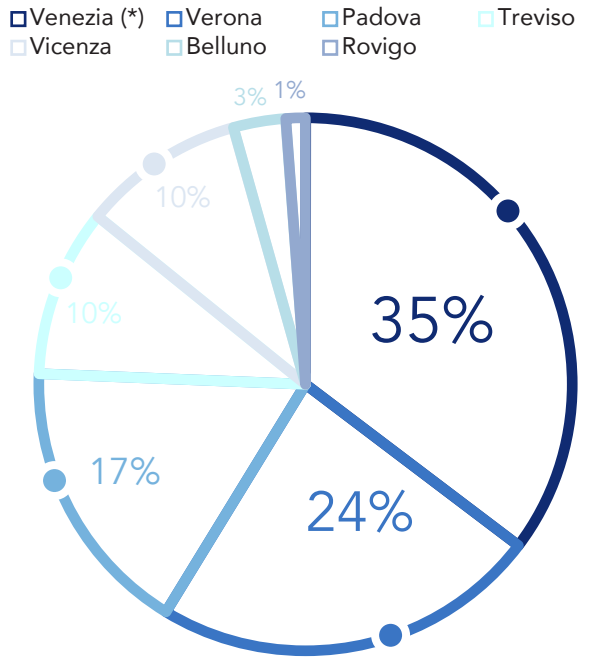
9 The 'passengers*Km' indicator is obtained by multiplying the number of transported passengers, as described above, by individual average kilometres travelled

total mobility demand at the regional level.
By adding the percentage of demand met by the navigation service, equal to 33.50% of the entire regional demand, this central area (including Padua, Treviso and Venice provinces) alone accounted for 74.98% of the total mobility demand met by local public transport services for the region.
The Verona area is the second most important after Venice for the size of its public transport mobility demand, which amounted to 15.59% in 2015.

41.5% of the entire regional mobility demand moves by bus and tram in Veneto's central area

In 2015, the Vicenza area was confirmed to be lower intensity with 6.53% of the total regional demand. Lastly, the Rovigo and Belluno areas had a modest level of demand for local public transport services (2.11% and 0.79% respectively on the total of passengers transported in Veneto) as their morphology and settlement characteristics make it difficult to provide sustainable and adequate services.

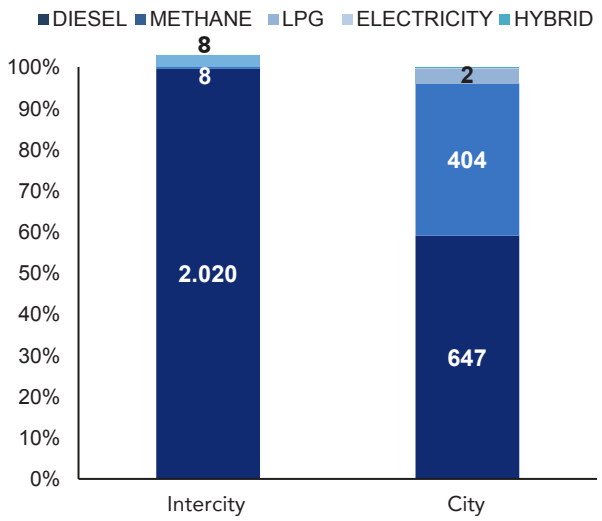
Fig. 9.6.3 - Passengers transported by area. Veneto - Year 2015



(*) only buses
Source: Processing by Veneto Region Mobility and Transport O.U.

As for the means of local public transport currently in service, there are 3,123 buses, 161 vessels and 36 trams in the cities of Mestre and Padua. The average age of the buses is 13.7 years and that of the vessels is 23. The trams servicing Padua and Mestre are newer, service having started in 2007 and 2010, respectively.
As far as fuel, 85.40% of the buses are diesel-powered and the rest run on methane, LPG, electricity or hybrid power. Intercity and city buses are mostly Euro 2 or Euro 3 as far as emission standards; there is, however, a significant percentage of vehicles with E5, E6 and EEVs emission standards that were purchased over the last few years. When we break the data down by where the buses are used, we can observe that intercity buses use most prevalently diesel fuel (99.61%), whereas there is a significant proportion (36.89%) of methane fuelled city buses as a result of recent investments.
The electricity powered tramway systems of Mestre and Padua have respectively 20 four-module trams and 16 three-module trams

Fig. 9.6.4 - Bus distribution % by fuel used and type. Veneto - Year 2016

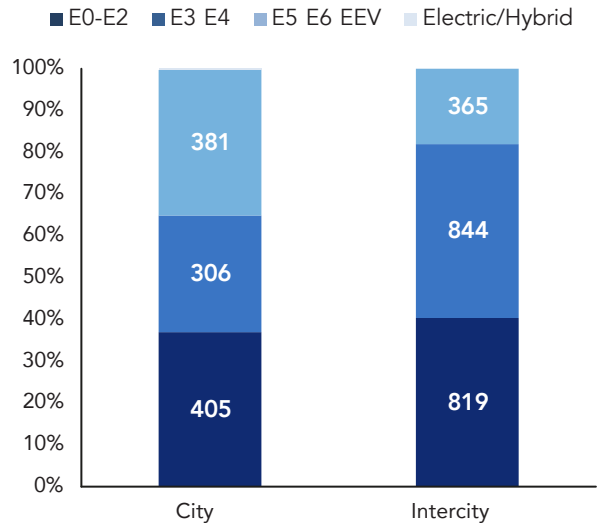


Source: Processing by Veneto Region Mobility and Transport O.U.

The following table shows the fleet of vessels servicing the Venice lagoon according to different types and quantified in terms of number of equivalent buses
As regards the development of Intelligent Transport Systems (ITS) we should mention the electronic ticketing systems (ETS) in use across companies, also thanks to the financial commitment provided by the Region, as well as actions taken to initiate

regional tariff and modal integration. E-tickets are an evolution of the current paper/magnetic tickets to contactless ticketing via a card or smartphone/tablet app, usually by means of a QR code. This recent technology simplifies and improves ticket use and diversifies purchase options. E-ticket validation is also faster and more functional than mechanical validation.

Fig. 9.6.5 - Bus distribution % by EU emission standard and type. Veneto - Year 2016



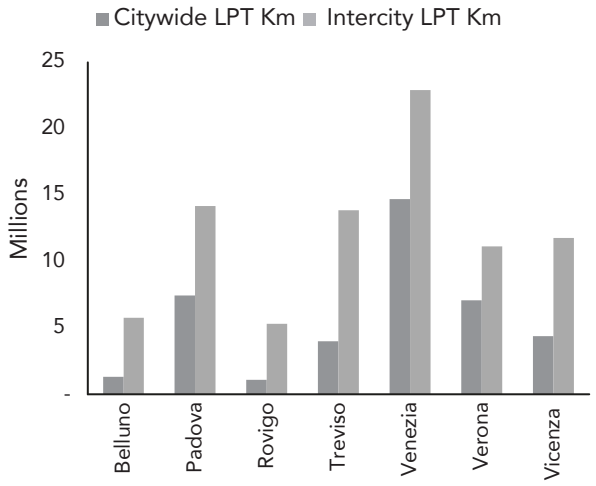
Source: Processing by Veneto Region Mobility and Transport O.U.

Tab. 9.6.5 - Quantity of navigation service vessels in the city of Venice by type and average seniority. Year 2013

Type.	Interisland ferry	Passenger motor boat	Fast boat	Small fast boat	Ferryboat	Electric boat	Total	Totale
Number of vessels	23	62	54	8	5	7	2	161
Average seniority as of 31.12.2013 [years	16	24	22	15	51	32	21	23
Equivalent number of buses(*	83	149	95	2	69	62	5	465

(*) Equivalence calculated as follows: vessel seats (by vessel type of) / 90 (average number of city bus seats)
Source: Processing by Veneto Region Mobility and Transport O.U.

Fig. 9.6.6 - Kilometre production in 2013 with e-ticketing systems



Source: Processing by Veneto Region Mobility and Transport O.U.

Summarising the above data, we can assert that a substantial proportion of Local Public Transport services provided within the regional borders are currently carried out via automatic ticketing systems. The tables show that the kilometre production of services rendered is attributable to the major transport companies. Lines that are not yet equipped with these systems are spread over vast areas and are usually run by medium or small businesses predominantly located in peripheral areas of the region in relatively large numbers. As a result, a "single regional ticket" is in the works, an ambitious and Innovative goal of achieving a single regional tariff system and the possibility of modal integration on the entire local public transport service network. A major step in this direction is the "single Belluno ticket".

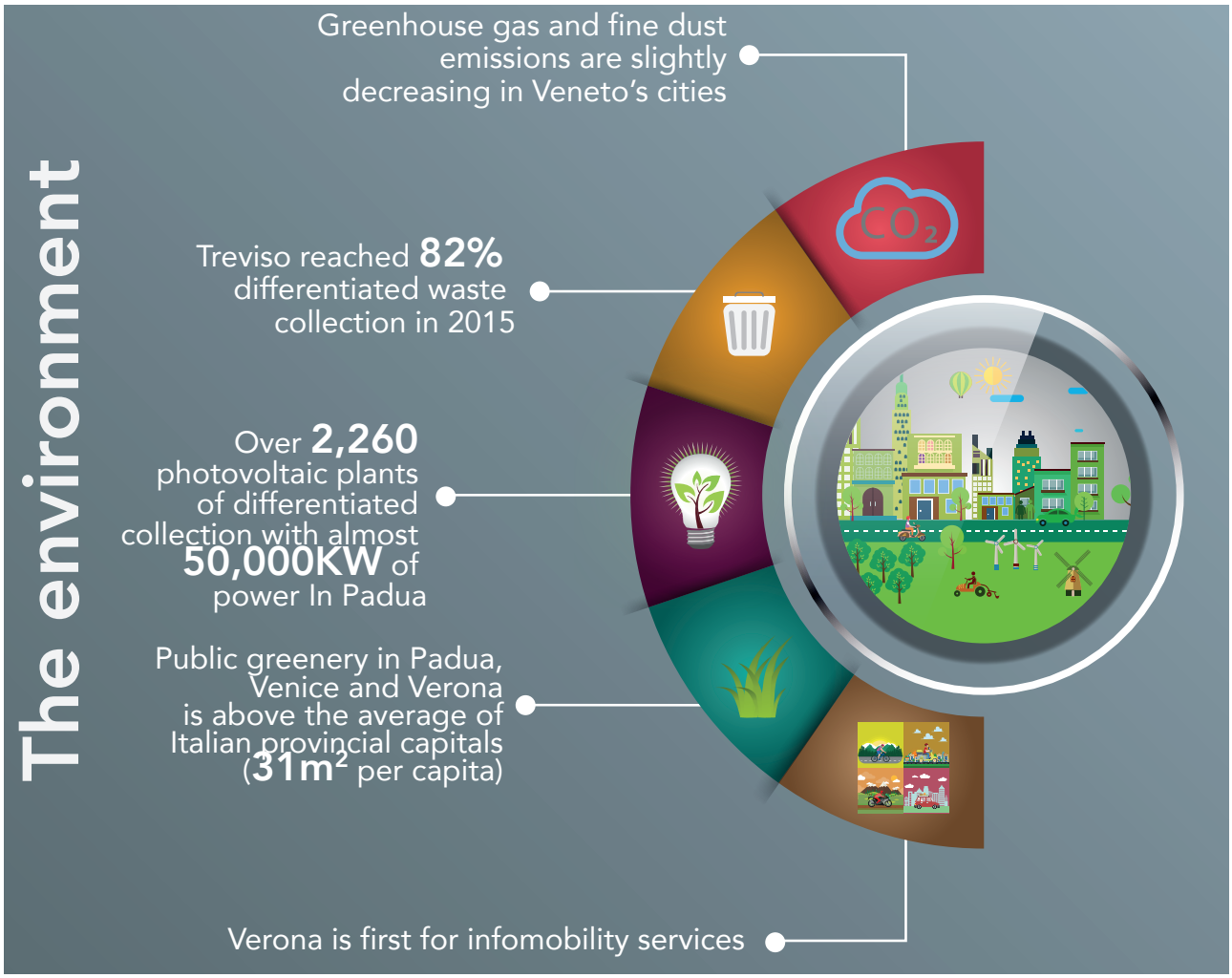
From the "single Belluno ticket" to the "single regional ticket"

The "single Belluno ticket" is the result of a collaboration between Trenitalia S.p.A. and Dolomitibus S.p.A., which operate in the Belluno area and share technical structures that handle technological, tariff, ticketing and marketing issues.
The two companies currently have coordinated services and schedules that provide transport by bus and rail throughout Belluno province.
The Region's "Single Veneto" project aims to offer customers a single physical support (a ticket or, better, a card) by mid-2017 for multimodal travel

within Belluno province and railway travel only within the region.
Users will be able to plan their trips and purchase and reload a single card or ticket for any LPT route in the Belluno area. Technically speaking, a card allows you to manage multiple tickets.
Therefore, by unifying issuing, selling, and reloading procedures and networks, users are given the option of a card that can be used on the bus and train both. Integrated tariffs however are not available and therefore the above refers to a (Trenitalia + Dolomitibus) company level standard that is still in the works and will appropriately and necessarily be adjusted to the future regional standard.

Chap. 10 - Urban environmental quality in Veneto's provincial capitals; eco-friendly management, traffic, vehicle fleet, greenery

Urban development is one of the challenges of the near future, seeing as how half of the world's population is concentrated in cities and will reach 60% by 2030. Given the situation, we need to make use of all our skills to ensure economic growth and better life conditions while respecting the environment. This chapter provides an environmental picture of Veneto's cities and mentions the policies that have been put in place to contain the effects of pollutants caused by human activity. Some critical issues were observed pertaining to losses in the water distribution network, though below the national average in most cases. As far as air pollution, we observed a slight but encouraging reduction in greenhouse gas emissions and also fine dust emissions in some cases. As far as waste management, Veneto is still one of the best regions in Italy. Veneto cities are quite dynamic when it comes to eco-management, especially as regards requalifying municipal buildings, purchasing goods and services while adopting minimum environmental criteria, differentiating waste in municipal offices and making public lighting more efficient. As far as transport mobility, several actions have been taken to reduce the environmental impact of traffic and improve traffic on city streets; there are more and more pedestrian precincts, 30 km/h zones, park and rides, restricted traffic areas and cycle lanes, as well as infomobility services and last generation intelligent semaphores.



Urban environments are ecosystems composed of several interacting elements. We are talking about biotopes, environments inside of which the organisms of an ecosystem have their relationships, which may be broken down into artificial, semi artificial and semi natural as far as urban environments are concerned.

60% of the population will live in cities

The above points to the complexity of the urban environment concept, which is controlled by the interactions of multiple factors, one of them being the decisive factor of human activity.

Urban development is one of the challenges of the near future, seeing as how half of the world's population is concentrated in cities and will reach 60% by 2030. In addition to this figure, which is already quite eloquent, we should consider that cities occupy 3% of the Earth's surface but consume 80% of the world's energy and are responsible for 75% of all carbon emissions.

Given the situation, we need to make use of all our skills to ensure economic growth and better life conditions while respecting environmental sustainability and protecting our unfortunately limited natural resources.

The UN has been working for years to find solutions in this sense that may be shared by all countries and geared towards sustainable development, where the importance of cities has been increasingly emphasized.

The first UN Conference on human settlements, named Habitat I, was held in Vancouver back in 1976, and then held again every twenty years. This means there was a second Conference in 1996, named Habitat II, which took place in Istanbul and resulted in a programme named after the conference, Habitat II Agenda, together with a Declaration signed by all attending heads of state and government. The fundamental principles of that Declaration pertained to the right to a home and the sustainable development of human settlements.

At the United Nations Millennium Summit of September 2000, the heads of state of 189 countries approved the Millennium Declaration together with 8 Millennium Development Goals that expired at the end of 2015.

Agenda 2030 was launched in 2015

A new global action plan for people, the planet and prosperity, named Agenda 2030, was formulated in 2015 and signed by the 193 UN member states.

This programme encompasses 17 Sustainable Development Goals broken down into a total of 169 targets. The work for achieving these goals started officially in 2016, indicating the course to be taken over the next 15 years, as the UN member states undertook to reach said goals by 2030. The Agenda 2030 Development Goals are de facto the natural continuation of the eight Millennium Goals mentioned above; they cover a set of important developmental issues like fighting poverty, eliminating hunger and contrasting climate change. Specifically, goal number 11 addresses cities and emphasises how to make them inclusive, safe, durable and sustainable.

One year after the approval of Agenda 2030, the third United Nations Conference, named Habitat III, was held in Quito, Ecuador, from 17 to 20 October 2016. As part of Habitat III, representatives of the various nations drafted the New Urban Agenda, an extension of Agenda 2030, outlining all the actions to be implemented in order to review city planning and management. The commitments and principles on which the New Agenda Urban is based include: putting an end to poverty, ensuring rights and opportunities for all, improving education, food security and health, ensuring decent work and access to basic infrastructure and services as well as adequate housing and promoting environmental sustainability.

The European Commission has also been active in this respect, at the same time making three more commitments aimed at achieving the overall objectives of the New Urban Agenda. The first commitment involves creating a specific EU Urban Agenda closely linked to the New Urban Agenda; the second pertains to developing a global and harmonised definition of cities; and the third deals with promoting cooperation between cities as far as sustainable urban development.

Within this international context of sustainable urban development, chapter 10 focuses on Veneto's provincial capitals, seeking thereby to provide a picture of their current environmental quality status, in both a strict and broad sense. Therefore, we analysed the different aspects pertaining to water resources, air quality, sound pollution, energy use and urban mobility, which puts significant pressure on the environment.

10.1 Water

Water is certainly one of the major elements of the environment. It is an natural resource essential for life and as such it should be preserved both in terms of quality and quantity. In Italy, water management has seen significant legislative changes over the last two decades, from the Institution of Optimal Land Areas (ATO) and related Authorities (AATO), responsible for their management and the drafting and updating of the Optimal Land Area Plan (PdA) (L.D. 152/06 on the Integrated Water Service (SII)) to the abolition of the AATO with effect from 31 December 2012, as provided by L.D. 2/2010, (later converted into Law 42/2010). Subsequently, L.D. 133/2014 required the Regions to identify the "Area Government Authorities" by 31 December 2014. Currently, 13 Regions have complied with L.D. 133/2014 by setting up Area Government Authorities.

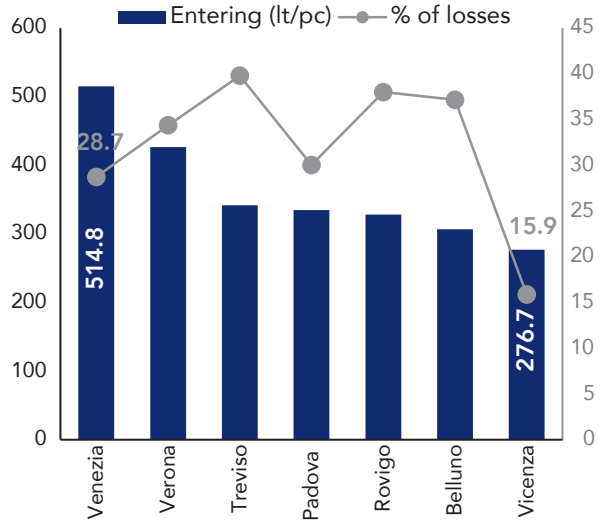
Another important aspect related to water use is sewage treatment. The EU started dealing with this aspect many years ago; directive 91/271/EEC on wastewater treatment[1] had the precise goal of protecting the environment from the negative consequences of urban wastewater and established EU standards for wastewater collection, treatment and discharge, requiring wastewater collection and at least one secondary treatment1 for urban settlements with a population of at least 2,000. A more advanced treatment was required for urban settlements with a population of over 10,000 in sensitive areas[2].

By analysing the water consumption data of Veneto's provincial capitals, we see that the amount of water distribution per capita is on average lower than the rest of Italy, with the only exception of Venice and Verona, which in 2015 delivered respectively 514.8 and 426.4 litres per inhabitant per day, against the 396.1 average of Italy's provincial capitals. As regards the most pressing aspect of domestic water use, i.e. network losses, the Italian situation is still critical (the EU recently initiated a 62-million-euro infringement procedure against Italy because of this issues); the percentage of network losses, i.e. the percentage incidence of the difference between the total water entering the distribution network and that actually supplied to end users was 35.3% nationwide.

In Italy, 35.3% of the water is lost in the network

As for Veneto's cities, four of them showed values below this value but still close to and even higher than 30% with the exception of Vicenza, which marked a more encouraging 15.9%.

Fig. 10.1.1 - Water entering municipal distribution networks, water supplied and losses* (litres per capita per day and % values). Veneto's provincial capitals – Year 2015

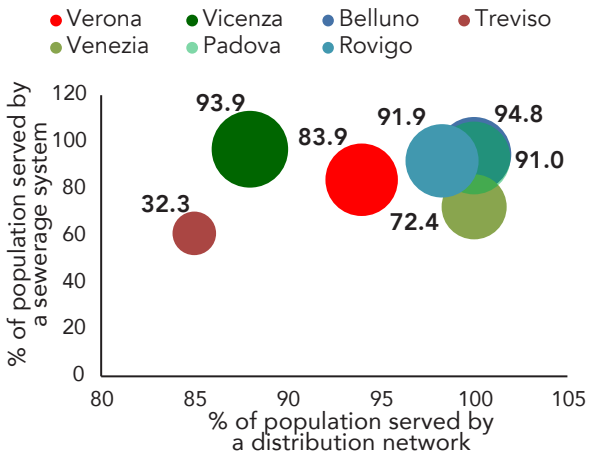


(*) It includes apparent losses, that is, water lost apparently due to unauthorized consumption (for example, illegal connections)
Source: Processing by Veneto Region Statistical Office on Istat data

Sill relating to water services, 97.7% of the population resident in Italy's provincial capitals Is served by a distribution network, 93.4 by a sewerage network and 88.9% is connected to water purification plants. In Veneto's provincial capitals the situation is quite heterogeneous, with three cities - Belluno, Venice and Padua - served by a distribution network that reaches 100% of the population and Treviso, where the percentage remained at 85. The differences are even more marked when it comes to sewerage networks, with values ranging from 96.9% for Vicenza and 61 for Treviso. Lastly, Belluno's water purification plants make it the city with the most complete service, as 94.8% of the population is connected to them, while Treviso is lagging behind with 32.3%.

1 This is a process that generally involves biological wastewater treatment carried out to meet the requirements in Annex I of the Directive
2 These are areas where a eutrophication risk exists for natural water bodies or may exist in the near future if no protective action is taken or these water bodies need further treatment to comply with other EU directives

Fig. 10.1.2 - Resident population served by the drinking water supply network and the sewerage system and connected to wastewater purification plants(*) in Veneto's provincial capitals (% of total population) - Year 2015



(*) Bubble size shows the percentage of resident population connected wastewater plants
Source: Processing by Veneto Region Statistical Office on Istat data

10.2 Air

The second fundamental element that characterizes the environmental quality of a place is the air we breathe in it. The fight to reduce or, at least, contain air pollution is currently under way, though amidst many a difficulty.
Directive (EU) 2016/2284 of the European Parliament and the Council of the European Union on reducing national emissions of certain atmospheric pollutants entered into force on 31 December 2016. Member States will have to transpose the legislative provisions needed to comply with the Directive by 1 July 2018. The Directive establishes future national commitments to reduce emissions of sulfur dioxide (SO_2), nitrogen oxides (NO_x), non-methane volatile organic compounds (COVNM), ammonia (NH_3) and fine particulate matter ($PM_{2.5}$). The emission reduction ratios that each country will have to pursue are also identified For each pollutant. Each European Union State will have to adopt and implement its own national air pollution control programmes in order to limit human emissions and contribute to meet the reduction targets set by the Directive.
Member States will also have to transmit their first national air pollution control programmes to the Commission by 1 April 2019, and also come up with national inventories of annual emissions and national emission projections. Article 9 of the Directive also requires each country to monitor the negative impacts of air pollution on ecosystems using a network of monitoring sites for fresh, natural and semi-natural habitats and ecosystems.
This chapter considers some aspects connected to the air situation in Veneto's cities, looking at the situation from two different points of view: the current status of some pollutants (ozone, PM_{10} and $PM_{2.5}$ and greenhouse gases) and the policies put in place by local administrations to contrast the phenomenon of air pollution from traffic (management of restricted traffic areas and emergency traffic blocks).
An initial analysis of the phenomenon concerns

Greenhouse gas emissions in common are reducing, albeit slowly

pollutant emissions within cities, in particular greenhouse gases and fine dust, by using information from the Emissions Inventory INEMAR, managed and updated by ARPAV.
In Veneto's provincial capitals, 2005-2013 data show situations tending towards slow improvement, except for Padua, where the last year of observation shows almost 993,000 tonnes per year compared to the 937,000 of 2005. Focusing our attention on the transport sector, we can see that, over the same time period, it had a variable impact on total greenhouse gas emissions, from 3.2% in Venice 2005 (here, of course, the figure is much lower than everywhere else because of the city's particular geographical configuration) to 44.6% in Padua 2007/08[3]. Considering the data of the last available year, 2013, and excluding the outlying Venice, the impact of city transport ranged from 22.1% in Verona to 38.8% in Rovigo. As for fine dust (PM_{10} and $PM_{2.5}$) emissions, they followed different trends from one city to the next, marked by a certain immobility, however.

PM_{10} emissions were down in three cities

There were, however, three exceptions as far as PM_{10}, the cities of Venice, Vicenza and Verona, where we saw a progressive reduction in emissions.
3 The "2007/08" survey is called like that because it was made over the course of a year's time overlapping the two years

3 The "2007/08" survey is called like that because it was made over the course of a year's time overlapping the two years

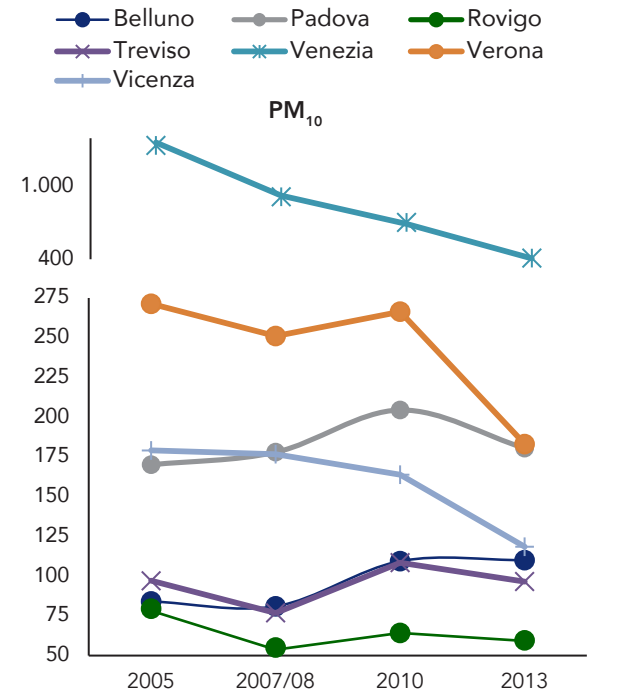
Tab. 10.2.1 - Main overall greenhouse gas emissions(*) and road transport emissions by provincial capital (thousands of tonnes/year and impact %). Veneto - Years 2005, 2007/08, 2010 and 2013

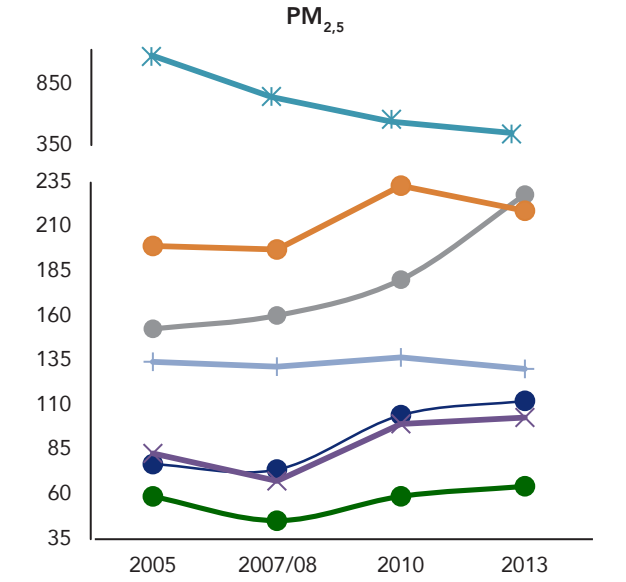
	2005		2007/08		2010		2013	
	Total (kt/ year)	Transport (%)	Total (kt/ year)	Transport (%)	Total (kt/ year)	Transport (%)	Total (kt/ year)	Transport (%)
Belluno	149.5	21.7	139.7	23.1	121.2	25.3	102.6	26.9
Padova	937.1	32.8	869.1	44.6	968.5	35.7	992.8	32.9
Rovigo	230.2	32.3	208.8	36.1	202.0	41.1	212.0	38.8
Treviso	358.7	25.0	276.5	31.9	300.1	28.3	287.6	26.1
Venezia	12.645.3	3.2	10.437.3	4.2	7.025.9	5.6	7.947.0	3.4
Verona	1.672.1	18.6	1.457.7	26.6	1.339.8	27.9	1.255.9	22.1
Vicenza	614.2	29.9	615.3	33.7	639.3	30.8	598.1	28.7

(*) To measure the potential greenhouse effect of a gas, its global warming potential (GWP) is multiplied times the tonnes emitted by that gas. CO2 has a GWP equal to 1, Methane (CH4) equal to 21 and Nitrous Oxide (N2O) equal to 310. This means that a CH4 molecule has a GWP 21 times higher than CO2, and an N2O 310.
Source: Processing by Veneto Region Statistical Office on INEMAR Inventory data

$PM_{2.5}$, however, with a steady state for 4 out of 7 cities and an increase in Verona and Padua, behaved differently, with the exception of Venice, which showed a marked decrease in emissions as it did for PM_{10}, probably due to the progressive dismantling of several port facilities in Marghera. Padua's increase was rather marked, $PM_{2.5}$ emissions going from 153 tonnes/year to over 228.

Fig. 10.2.1 - PM_{10} and $PM_{2.5}$ emissions in Veneto's provincial capitals (tonnes/year) - Years 2005, 2007/08, 2010 and 2013





Source: Processing by Veneto Region Statistical Office on INEMAR Inventory data

Residential systems are the most polluting sector as far as fine dust

Among the macro-sectors with the most emissions we find that the most critical fine dust related issues are connected to non-industrial combustion almost totally from the residential heating sector. 6 out of the 7 provincial capitals of Veneto confirmed this phenomenon, with the only exception of

Venice, whose overall emissions from residential installations were in line with the other cities, but which was impacted more than thrice as much by the "Other mobile sources and machinery" macro-sector, characterised mostly by the "Maritime activities and inland navigation" sector.

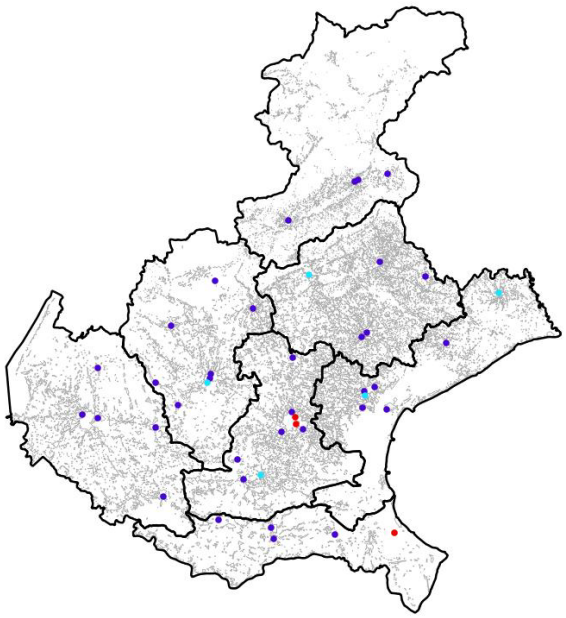
Tab. 10.2.2 - PM_{10} and $PM_{2.5}$ emissions in Veneto's provincial capitals in the main macro-sectors (tonnes/year of the three macro-sectors with the most emissions in the city) – Year 2013

	Description of 3 macro-sectors with the most emissions PM_{10} $PM_{2.5}$	PM_{10}	$PM_{2.5}$
Belluno	Non-industrial combustion	92.5	91.6
	Other mobile sources and machinery	9.5	9.4
	Road transport	6.5	5.3
	Total	**112.5**	**110.0**
Padova	Road transport	67.0	56.4
	Production processes	66.8	31.3
	Non-industrial combustion	66.0	65.3
	Total	228.2	180.5
Rovigo	Non-industrial combustion	31.3	31.0
	Road transport	19.4	16.4
	Other mobile sources and machineryi	3.9	3.9
	Total	**64.6**	**59.6**
Treviso	Non-industrial combustion	70.7	70.0
	Road transport	19.0	15.3
	Other mobile sources and machineryi	3.0	2.9
	Total	**103.2**	**96.6**
Venezia	Other mobile sources and machinery	216.8	216.2
	Non-industrial combustion	67.9	67.2
	Produzione energia e trasformazione combustibili	47.4	28.0
	Total	**446.1**	**405.1**
Verona	Non-industrial combustion	68.4	67.7
	Road transport	65.3	54.0
	Other mobile sources and machinery	18.5	18.4
	Total	**219.1**	**183.0**
Vicenza	Non-industrial combustion	53.7	53.1
	Road transport	40.3	34.6
	Other mobile sources and machineryi	14.2	14.1
	Total	**130.4**	**118.5**

Source: Processing by Veneto Region Statistical Office on INEMAR Inventory data

ARPAV, Veneto's Regional Environmental Prevention and Protection Agency, monitors current pollution levels and concentrations of harmful substances via the assistance of over 40 stationary units located at strategic points inside the region, each with its own environmental characteristics (ranging from industrial to traffic, urban and rural areas).

Fig. 10.2.2 – ARPAV map of air quality monitoring units



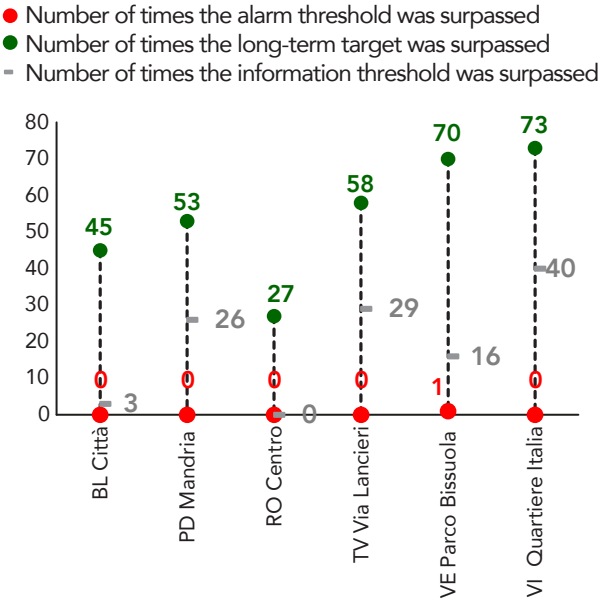
Source: Processing by Veneto Region Statistical Office on ARPAV data

The substances considered in this chapter are ozone (O_3) and fine dust or particulate matter (PM_{10} and $PM_{2.5}$).

O_3 data recorded at the monitoring units located in the provincial capital cities show that the alarm threshold of 240 micro grams of ozone per cubic meter of air (μg/m³) laid out by Legislative Decree 155/2010 was never surpassed in 2015 except for a sporadic case at the Bissuola Park in Mestre. As for the population's information threshold, equal to a concentration of 180μg/m3, it was surpassed many times with a peak of 40 cases at Quartiere Italia in Vicenza. The long-term target threshold of 120μg/m3, exactly half of the alarm threshold, still seems a way off; it was surpassed in all the units considered from a minimum of 27 cases in the centre of Rovigo to a maximum of 73 in Vicenza.

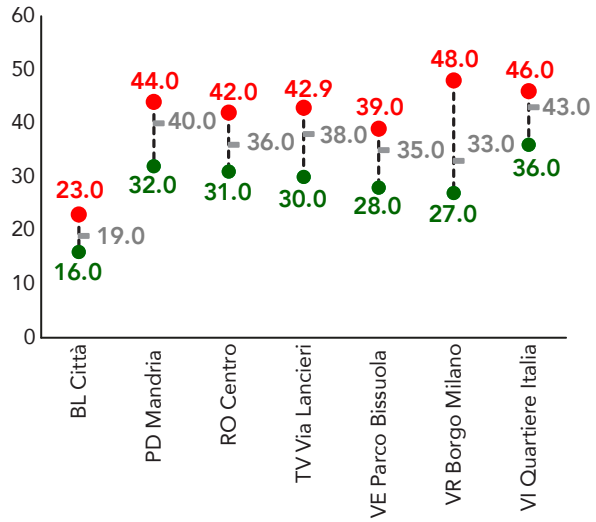
On to thin dust, and the average annual concentrations of PM_{10}, from 2010 to 2015 we can observe significant oscillations in the monitoring units located in areas of urban background and traffic in provincial capitals. The chart considered three reference values for each unit recorded over the five years: the highest, the lowest and the latest (2015). The trend is not shown because, during the five years, the phenomenon considered was subject to fluctuations linked more to climate conditions than increasing or decreasing trends. Instead, the

Fig. 10.2.3 - Exceeding information, alarm and long-term target thresholds in O_3 concentrations in the air in Veneto's main monitoring units - Year 2015



Source: Processing by Veneto Region Statistical Office on ARPAV data

Fig. 10.2.4 - Average annual concentrations of PM_{10} in Veneto's main monitoring units (µg/m3(*)) - Years 2010:2015



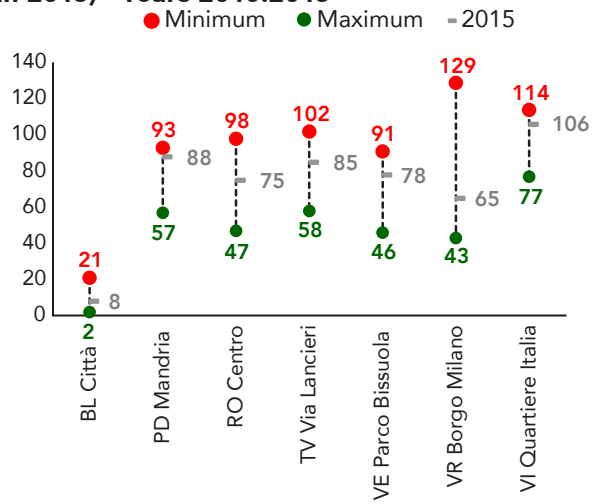
(*) The limit value for human health protection is equal to an annual average of 40µg/m³
Source: Processing by Veneto Region Statistical Office on ARPAV data

emphasis was placed on the variations that took place over the course of the five years, highlighting the differences between the best and worst value, adding in the last year for the sake of completeness and to have a picture of the most recent period. Currently in force Legislative Decree 155/2010 requires a per year average concentration limit of no more than 40µg/m³.
In the last year considered, 2015, only the Vicenza monitoring unit recorded an average concentration above this limit.
This data mitigates in part the critical issue that emerges sharply from analysing the number of days when the 50µg/m³ daily concentration limit required by said decree was exceeded; this limit should not be exceeded more than 35 times over the year.

Weather conditions strongly affect dust levels in the air

No trend in this case either, current weather conditions always being the most influential element when determining PM_{10} stagnation levels (as seen above, emissions followed a fluctuating trend in five years, but, apart from some exceptions, they remained fairly constant). However, it may be

Fig. 10.2.5 - Exceeding the 50µg/m³(*) daily limit of PM_{10} concentration in the air in Veneto's main monitoring units (maximum and minimum number of instances in the period and instances in 2015) - Years 2010:2015

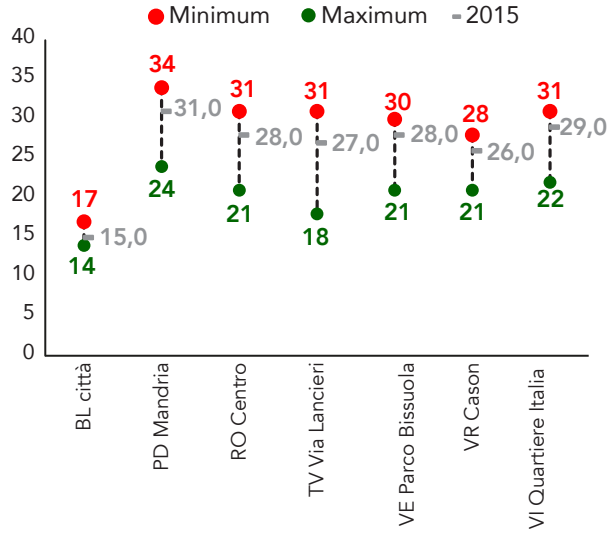


(*) Daily limit value for human health protection not to be exceeded more than 35 times per calendar year
Source: Processing by Veneto Region Statistical Office on ARPAV data

noted that legal limits were exceeded fewer than 35 times only in one monitoring unit – the one in

the centre of Belluno – and above 35 times in all the other units and in the worst year, some locations recorded even more than triple the days above 50µg/m³ than required by law.
As for even thinner dust, $PM_{2.5}$, which has a diameter of less than 2.5 µmetres, Legislative Decree 155/2010 establishes an average annual limit of concentration in the air no greater than 25 µg/m³. Here again we analysed the data of the units located in the urban and traffic areas of Veneto's cities during the five years 2010:2015. The only unit always within the limit was Belluno centre, for which the worst figure came to 17µg/m³ (year 2011). In 2015, the last year surveyed, all units except Belluno recorded $PM_{2.5}$ concentrations higher than those required by law.

Fig. 10.2.6 - Average annual concentrations of $PM_{2.5}$ in Veneto's main monitoring units (µg/m³(*)) - Years 2010:2015



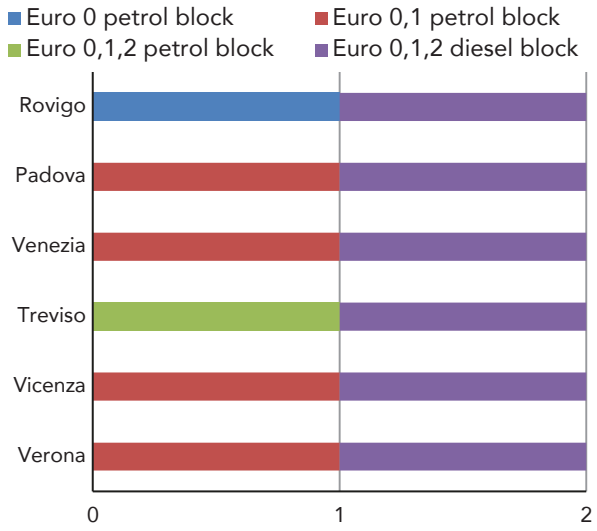
(*) The annual average concentration of $PM_{2.5}$ should not exceed the annual limit value of 25µg/m³
Source: Processing by Veneto Region Statistical Office on ARPAV data

Let us recall that home heating is the main source of PM_{10} and $PM_{2.5}$ emissions in cities, followed, and surpassed in the case of Padua, by road transport. Road transport is the second most polluting sector as regards fine dust

Road transport is the second most polluting sector for fine dust

Where controlling heating emissions is a complex matter hard to implement, at present a lot more can be done for road traffic. Therefore, we will provide some indication as to the policies put in place to contain the thin dust problem generated by road traffic in urban areas. Let us then analyse two types of actions, some of them involved with planning and others implemented for immediate emergencies. Planning actions include restricted traffic areas (ZTLs), which can now be found in all of Veneto's provincial capitals, whose official websites provide all pertinent user information, including maps and surveillance camera schedules. As for emergency type actions, traffic blocking management in residential areas according to vehicle type was added. It may be observed that, during the winter 2016/2017 season, four cities out of six imposed traffic blocks only on older vehicles, namely "EURO 0" and "EURO 1", Treviso including also "EURO 2", while Rovigo included only "EURO 0" vehicles and Belluno did not implement any kind of traffic blocking. As for diesel vehicles, all the major cities except Belluno imposed traffic blocks on types up to "EURO 2".

Fig.10.2.7 - Emergency traffic blocks in the provincial capital of Veneto by vehicle emission category. Winter season 2016: 2017



Source: Processing by Veneto Region Statistical Office on data from Veneto's provincial capitals

10.3 Noise

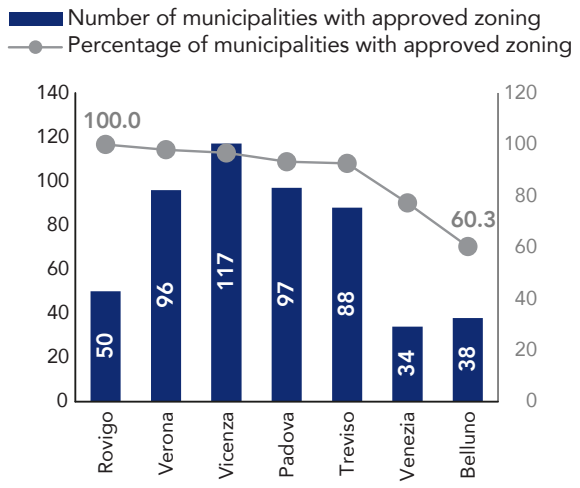
Perhaps less well-known, noise is a pollution source that affects the quality of city life. Italy's national legislation for noise pollution refers to Framework

Law 447/95, which has been modified over the years; the latest, very recent modification was brought by Legislative Decree 42 of 17 February 2017. In addition to national legislation, European Directive 2002/49/EC is in force, transposed by Legislative Decree 194/2005.
The transposition involves "translating" the Articles and Annexes of the EU regulation into a national level legislative text with the addition of a system of penalties. Integrating the EU Directive with national laws has not been easy and there is still work to do.
Functionally speaking and only for the more basic aspects, Framework Law 447/95 already provides for noise-grading plans on a municipal scale for the purpose of containing noise pollution. This involves acoustic zoning, i.e. the division of the municipal land area into homogeneous areas depending on their intended use; this activity is strongly linked to the General Regulatory Plans (PRGs) and the Land Consolidation Plans (PAT and PATI).
Maximum permissible input and output noise levels are defined for each area, more restrictive for protected areas (class 1: parks, schools, hospitals, etc.) and higher for exclusively industrial areas (class 6). In addition to Law 447/95, R.L. 21/1999 is the local-scale legal instrument requiring municipalities to determine acoustic class areas. The goal is for all of Veneto's municipalities to have "zoning" (100% of the regional territory).
For the purpose of monitoring the progress being made with the aforementioned objective, the municipalities that approved the Acoustic Classification Plan are understood to have been "zoned".
The Acoustic Classification Plan's final result of fully covering the entire regional territory has not yet been reached, although the number of municipalities that have approved acoustic zoning plans has been grown in all Veneto's provinces starting from 2006.

90.4% of Veneto's municipalities have had acoustic zoning

In the last year observed, 2016, the situation remained virtually unchanged as compared to the previous year, with 90.4% of municipalities having been zoned; only Rovigo province reached 100%, while Verona and Vicenza came very close (98% and 97% respectively). There are in total still 55 municipalities in Veneto that have not approved the acoustic zoning plan.

Fig 10.3.1 - Acoustic zoning in Veneto's municipalities by province (absolute number and % values as compared to total municipalities) - January 2016



Source: Processing by Veneto Region Statistical Office on ARPAV data

Acoustic zoning was approved in all of Veneto's seven provincial capitals, the dates of the last updates ranging from 1998 for Verona to 2014 for Rovigo.

Tab. 10.3.1 - Acoustic zoning in Veneto's provincial capitals by year of last update

	Year of last update
Verona	1998
Vicenza	2011
Belluno	2007
Treviso	2001
Venezia	2005
Padova	2012
Rovigo	2014

Source: Processing by Veneto Region Statistical Office on Istat data

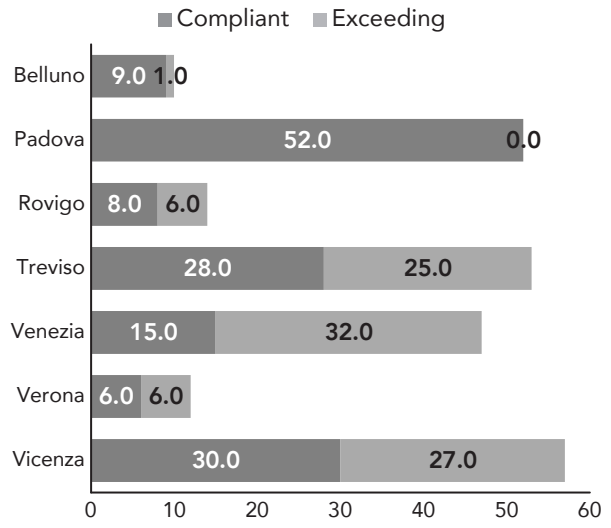
Zoning municipalities is only the first step in noise control. Monitoring compliance with legal noise thresholds is also useful.

Provincial capitals exceeded noise limits 39.6% of the times they were checked

Out of a total of 245 controls

carried out in Veneto in 2015, noise limits were exceeded 97 times, equal to 39.6%. The highest number of controls was carried out in Vicenza, 57 in total, 23 of which with service and commercial businesses - recording that noise level thresholds were exceeded 19 times - and 15 with manufacturing businesses, where the thresholds were exceeded 8 times. Treviso was second with 53 controls and thresholds exceeded 25 times, then Padua with 52 controls and no thresholds exceeded, a positive piece of data and Venice with 47 controls and thresholds exceeded 32 times, particularly service and commercial businesses (23 of the total 32).

Fig. 10.3.2 - Exceeding noise thresholds recorded in the controls carried in the provinces (absolute control values of compliant and exceeding results). Veneto - Year 2015



Source: Processing by Veneto Region Statistical Office on ARPAV data

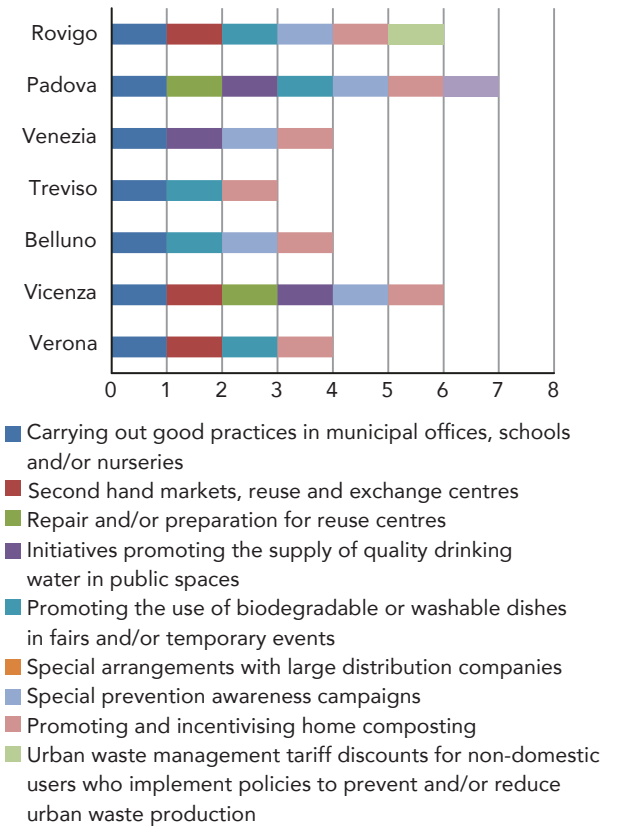
10.4 Waste

Urban waste production and management play a major role in the environmental quality of cities
Over the years, local administrations have adopted many initiatives to incentivise urban waste allocation reduction and increase its differentiation and consequent treatment, constantly working on increasing the quantity of materials recycled and hence reused.
In Italy's various geographical areas, the situation is quite heterogeneous and, overall, still slightly behind national and EU goals. For example, differentiated waste collection reached 38% in 2014, compared to the total waste collected, far from the 65% target set by L.D. 152/2006, which should have been reached by 2012. As far as Veneto's cities are concerned, the situation is definitely more positive, thanks to the strong efforts to improve waste management made by local administrations over the last twenty years. In the mid-1990s, the phrase "differentiated waste collection" was semi-unknown, whereas it is now a common practice for all of Veneto's households.
The first step to reducing the impact of waste on the environment is certainly to reduce the amount produced, thus being preventive. Our analysis of Veneto's provincial capitals shows that many "good practices" were implemented in the waste sector in 2015. The most common were the good practices of municipal offices, schools and/or nurseries, which included using washable dishes in canteens and promoting less use of paper and the use of filtered water dispensers, to name a few, and which are carried out in all seven of the region's provincial capitals.
Incentives to encourage domestic composting have also become regular practice in Veneto and are being implemented in all provincial capitals.
Other well-known good practices are promoting the use of biodegradable or washable dishes in fairs and/or temporary events and awareness-raising campaigns specifically on prevention (often carried out in schools as well), which we find in five out of the seven provincial capitals.
The result of the activities described above is certainly positive, indeed, urban waste production trends from 2010 to 2015 show a gradual decrease in per capita values in several cities, while always taking into account the impact of the economic crisis, which certainly contributed to the reduction of consumption and thus waste, especially between 2013 and 2014.

Per capita waste decreasing in Veneto from 2010 to 2015

This downward trend is confirmed on the regional scale, from 487.8 kg/pc of urban waste in 2010 to 445 in 2015. Among the provincial capitals, the highest value was observed in Venice, almost 612 kg/pc in 2015, heavily contributed to by tourism, followed by Rovigo with almost 605 kg/pc and Vicenza with about 584. It should be remarked that, except for Belluno and Treviso, all the other provincial capitals produced average values of waste per capita above the regional average (meaning all of Veneto).

Fig. 10.4.1 - Initiatives to prevent and reduce urban waste production in the provincial capitals(*) - Year 2015



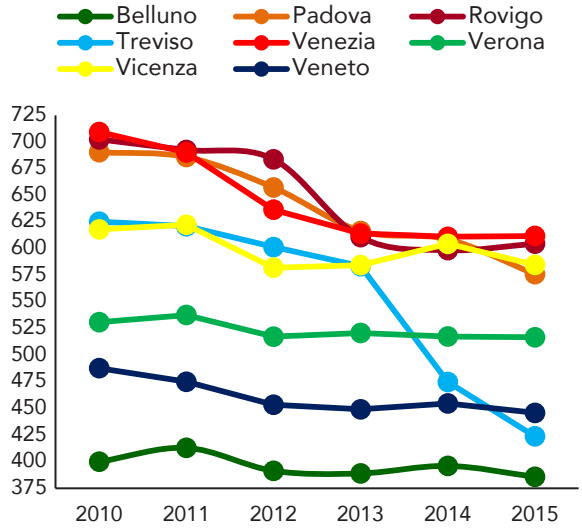
(*) Excluding those to increase differentiated waste collection
Source: Processing by Veneto Region Statistical Office on Istat data

This confirms that cities are critical as far as the environmental pressure exerted by anthropic activity.
When it comes to differentiated waste collection, the result of the policies implemented over the years is even more evident since its percentage compared to the total urban waste is growing in almost all of Veneto's cities.

Over 66% differentiated waste collection in Veneto

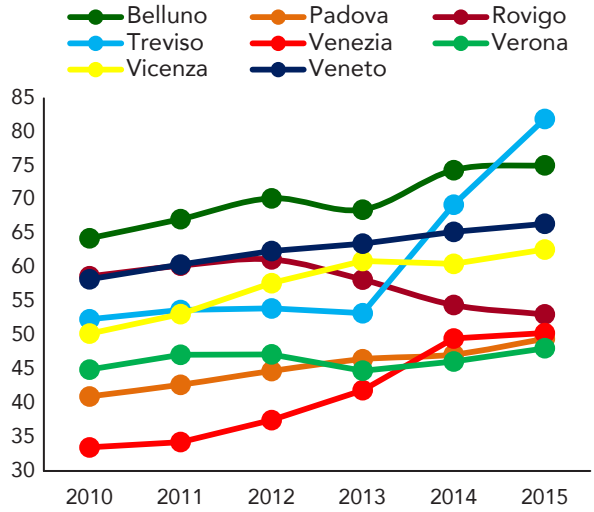
Veneto's total regional average of 66.5% puts it at the top of the national ranking for this environmental indicator while surpassing the 65% regulatory target, however, excellence was achieved by Belluno with 75.1% and Treviso with 82%.

Fig. 10.4.2 - Urban waste production per capita in Veneto's provincial capitals (kg/pc). Years 2010:2015



Source: Processing by Veneto Region Statistical Office on ARPAV and Istat data

Fig. 10.4.3 - Differentiated waste collection (% values) in Veneto's provincial capitals - Years 2010:2015

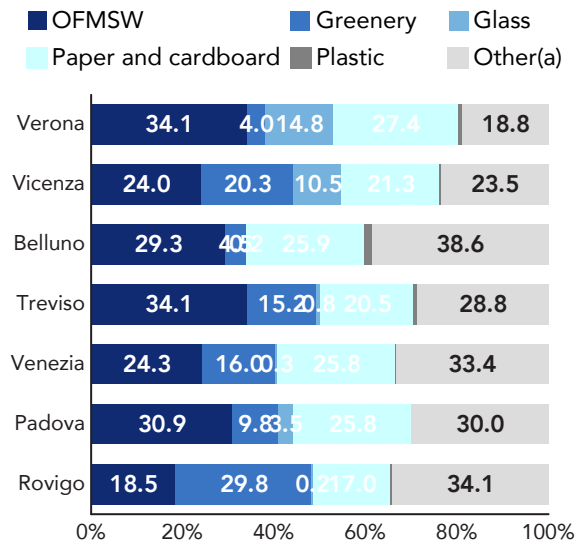


Source: Processing by Veneto Region Statistical Office on ARPAV data

Different situations may be observed depending on the types of materials being differentiated; the organic fraction of municipal solid waste prevailed in Verona, Vicenza, Treviso and Padua, while "other", which includes packaging, plastic and cans, electronic waste and other recoverable

and special waste prevailed in Rovigo, Venice and Belluno. Paper and cardboard also made a rather important impact just about everywhere, ranging from 17% in Rovigo to 27.4% in Verona.

Fig. 10.4.4 - Differentiated waste collection by type in Veneto's provincial capitals (impact %) - Year 2015



(a) Including the following: packaging, plastic and cans, electronic waste and other recoverable and special waste
Source: Processing by Veneto Region Statistical Office on ARPAV data

10.5 Energy

In 2008, following the adoption of the EU 2020 Climate and Energy Package, the European Commission launched the Covenant of Mayors to endorse and support the efforts made by local authorities in implementing sustainable energy policies. The Covenant of Mayors was a grassroot-like initiative that succeeded in engaging many local and regional authorities on a personal basis, prompting them to develop action plans and invest resources for environmental protection in cities and climate change mitigation.

Mayors Adapt was launched in May 2014

The Mayors Adapt initiative was promoted in 2014 on the wake of the consensus reached by the Covenant of Mayors; it was based on the same management model, promoting policies to implement preventive actions and prepare cities for the inevitable effects of climate change.
At the end of 2015, the initiatives merged into the new Covenant of Mayors for Climate and Energy, which adopted the EU 2030 goals and an integrated approach to mitigating and adapting to climate change.
The annual per capita electricity and gas consumption of Veneto's provincial capitals may be compared with the national average. As far as electricity is concerned, in 2014, Treviso, Venice and Padua's per capita consumption values were slightly higher than the Italian average of 1,056 KW/pc for all provincial capitals, Padua showing the highest with close to 1,150. On the other hand, all of Veneto's other cities held their own electricity consumption somewhat below the national value.

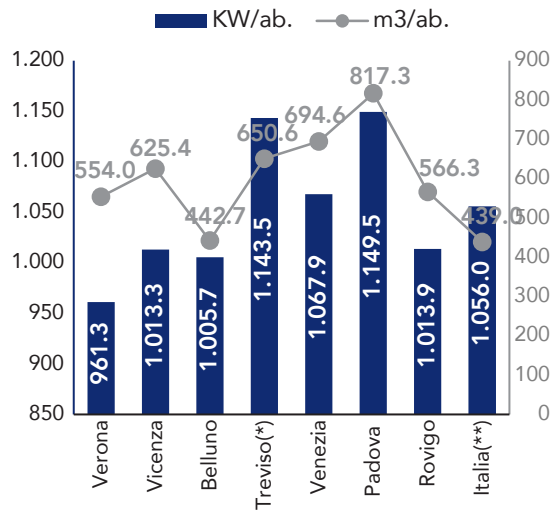
Veneto's gas consumption a little higher than Italy's

The situation is different for methane gas consumption; all of Veneto's seven provincial capitals had higher per capita levels than the national average, which stood at 439 m3/pc, while Belluno recorded the lowest value in Veneto in 2011 with 442.
This data can be explained by observing the climatic differences within the Italian peninsula; in the north, winter temperatures are definitely colder than in the centre and they are even more so compared to the south, which entails higher domestic heating gas expenditure.
Belluno presented an apparently abnormal case; this is a municipality located near mountains, where an even higher per capita consumption level would be expected, but instead it had the lowest. In this case there are obviously several factors involved, like buildings with better thermal insulation and more alternative heating systems than elsewhere, specifically pellet stoves and wood fireplaces/stoves.
Many energy saving and renewable energy initiatives have been put in place. Veneto's municipal administrations have promoted awareness-raising and information campaigns for the conscious use of energy, introduced district heating and installed charging stations to encourage the use of electric vehicles.

District heating is on the rise

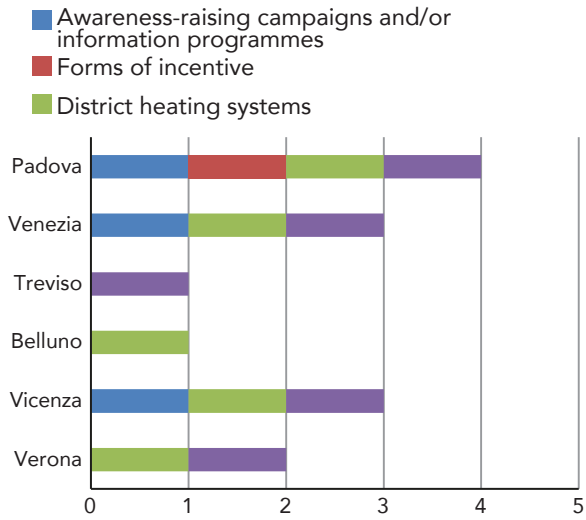
District heating systems have grown over the years and in 2015 they were found in almost all

Fig. 10.5.1 - Electricity and natural gas consumption in homes (KW/pc and m3/pc) for Veneto's provincial capitals. Year 2014



(*) The gas consumption data is from 2011
(**) Here, Italy means the sum of all provincial capitals
Source: Processing by Veneto Region Statistical Office on Istat data

Fig. 10.5.2 - Municipal administration strategies to promote energy requalification and the use of renewable energy in the provincial capitals (yes/no*). Veneto - Year 2015



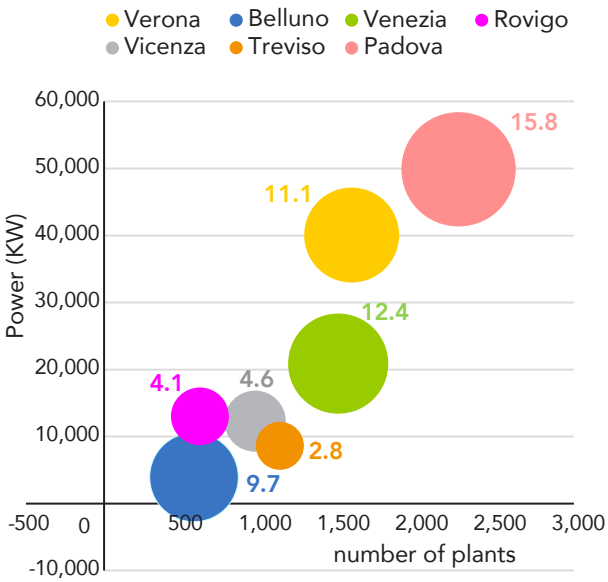
(*) Cities that implemented the proposed strategy were assigned a coloured bar
Source: Processing by Veneto Region Statistical Office on Istat data

of Veneto's provincial capitals. The same goes for charging stations. Always in 2015, the municipal administrations of Padua, Venice and Vicenza carried out sustainable energy awareness-raising campaigns and Padua also incentivised the use of district heating and electric vehicles.
Over the last few years, thanks to strong state incentives, photovoltaic energy has experienced unprecedented development.

Photovoltaic energy played an important role: 15.8% in Padua

In 2015, photovoltaic systems were found to a significant degree in both private and municipal buildings of the provincial capitals. Installed photovoltaic power has reached quite considerable levels, especially in Padua, where it contributed 15.8% of all energy needs, Venice, as high as 12.4%, and Verona, where it exceeded 11%.

Fig. 10.5.3 - Photovoltaic plants installed in provincial capitals and power description (absolute values, KW and % incidence on total power of the province). Veneto - Year 2015



(*) The diameters of the bubbles represent the percentage of power installed in a municipality compared to the total for the province
Source: Processing by Veneto Region Statistical Office on Istat data

Veneto's district heating situation is quite heterogeneous, having provided in 2015 from 46.5 m3 per capita in Verona to no service at all in Treviso and Rovigo, but also 20 m3 per capita in Vicenza, 1.7 in Belluno, 0.6 in Padua and 0.4 in Venice.
The Italian average for provincial capitals in the same year was 11.6 m3 per capita.
The proportion of district heating in Italy's residential sector was around 65%, while in Veneto's cities it was quite variable, from 100% in Padua to zero in Belluno. As for the residents served, compared to a national average of 5.6%, Veneto's cities ranged from 26.6% in Verona to 0.1% in Venice.

Tab. 10.5.1 - District heating volumes and residents served in the provincial capitals (m3 per capita, % of residential sector only, residents served and % residents served on the residents' total). Veneto - Year 2015

	Total volumes (m3/pc)	Residential percentage (%)	Residents served	Residents served wrt residents' total
Verona	46.5	82.3	69.043	26.6
Vicenza	20.0	26.8	4.213	3.7
Belluno	1.7	0.0	0	0.0
Treviso	0.0	0.0	0	0.0
Venezia	0.4	27.4	184	0.1
Padova	0.6	100.0	752	0.4
Rovigo	0.0	0.0	0	0.0
Italy(*)	11.6	65.2	1,021,832	5.6

Source: Processing by Veneto Region Statistical Office on Istat data

10.6 Urban greenery

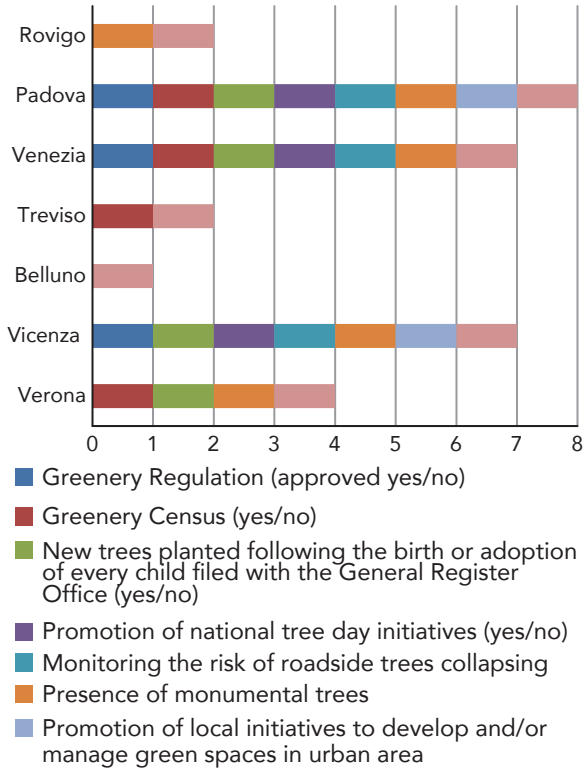
Urban greenery is a very important element in the qualitative assessment of the environment in cities for it concerns the preservation of vegetation within them, which is basic to life itself and essential to mitigating the adverse effects of pollution induced by human activities. Urban greenery consists of several elements that may broken down into the two macro categories of protected areas and municipal areas allocated to greenery (which we shall refer to as "urban greenery in the strict sense").
The municipal areas include historical greenery, city parks, equipped greenery, urban furnishings, urban forestry, urban vegetable gardens, outdoor sports areas, wooded areas, wild greenery and green areas used as botanical gardens, zoos, cemeteries and all other green areas not included in this list.
Before delving into the details of the urban green areas of Veneto's cities, let us look at some relevant aspects of local government management.

9 m2 is the minimum public greenery threshold per capita in the city...

Please bear in mind that M.D. 1444/1968 defines a minimum threshold of 9 m2 per capita of "regulated greenery" described as "public parks with playground and sports areas that are actually usable... with the exception of roadside greenery". To be able to at least meet this minimum threshold implies taking a set of actions to develop and preserve urban greenery, among which we should mention planning tools.
The main one is the Greenery Plan, albeit still uncommon, followed by the Greenery Regulation, mostly about management. As of 2015, the latter was adopted only by three out of Veneto's seven main cities. The Greenery Census survey is a bit more widespread; four cities out of seven had it.
However, all cities have an ecological network[4] and four of them require that, "new trees be planted following the birth or adoption of every child filed with the General Register Office", as provided by Law 10/2013 "Rules for the Development of Green Spaces in Urban Areas".
Analysing now in detail the current situation in Veneto's cities when it comes to green spaces in urban areas, the data from the last available year, 2014, show diversified realities for each provincial capital. But first we should mention that the average density of the total urban greenery of Italian cities, meaning the complex of protected natural areas and urban greenery inside the municipal borders, is 18.5% of the total of pertinent surface areas. On average, Veneto had lower values, with the exception of Venice with 65%, which subtends however a special geographical situation where the lagoon protected area plays a major role, and Belluno with 22%, which is in turn positively conditioned by its location close to the mountains and its Dolomite natural parks and protected areas.

4 An ecological network is the whole of the environmental corridors connecting the different nodes of an area occupied by an animal or vegetable species. Therefore, there is a potentially infinite number of networks according to the various species found in any given area (from "Il Sistema Bibliotecario Montiferru", http://www.bibliomontiferru.it/www/Destra/Ambiente/progettoReloc/Progetto/VediAnche/terza.html)

Fig. 10.6.1 - Public greenery management through policies, actions and initiatives in Veneto's provincial capitals (yes/no*). Year 2015



(*) Cities that implemented the proposed policy, action or initiative were assigned a coloured bar
Source: Processing by Veneto Region Statistical Office on Istat data

Tab. 10.6.1 - Total urban greenery* in Veneto's provincial capitals (surface areas in m2 and % incidence on municipal area) - Year 2014

	Surface area (m²)	Density (%)
Verona	18,058,432	9.1
Vicenza	3,813,524	4.7
Belluno	32,320,339	22.0
Treviso	6,355,546	11.4
Venezia	270,158,771	65.0
Padova	8,582,476	9.2
Rovigo	1,413,751	1.3
Italia(a)	3,824,950,970	18.5

(a) Here the term Italy refers to the set of all its provincial capitals
(*) Including protected natural areas and urban greenery within the municipal area and the values are net of the partial overlapping between protected natural areas and urban greenery areas
Source: Processing by Veneto Region Statistical Office on Istat data

By breaking down the data of the two macro categories referred to at the beginning of the paragraph, i.e. protected natural areas and urban greenery in the strict sense, we can better understand the differences between the cities we just analysed. Indeed, we can observe that, out of 270 million square meters of municipal land occupied by urban greenery in total, more than 260 million are protected natural areas, of which the lagoon is part, as mentioned above. The same goes for Belluno, where we found 31.5 million square meters of protected natural areas out of 32.3 million of total urban greenery.

Tab. 10.6.2 - Protected natural areas in Veneto's provincial capitals (surface areas in m2 and % incidence on municipal area) - Year 2014

	Surface area (m²)	Density (%)
Verona	9,298,558	4.7
Vicenza	722,023	0.9
Belluno	31,557,912	21.4
Treviso	4,631,165	8.3
Venezia	260,707,281	62.7
Padova	69,592	0.1
Rovigo	-	-
Italy(a)	3,332,303,733	16.1

(a) Here the term Italy refers to the set of all its provincial capitals
Source: Processing by Veneto Region Statistical Office on Istat data

As for the surface area of urban greenery in the strict sense, without the addition of protected natural areas, more homogeneous values may be observed among the seven provincial capitals - and also more aligned with the national average, which stood at a density of 2.7% -, Padua leading the way with 9.2% incidence of urban greenery in the strict sense compared to the overall municipal area, followed by Verona with 4.4 and Vicenza with 3.8.
Still referring to urban greenery in the strict sense, the situation in Veneto's cities is positive with respect to current regulations as in all cases the available greenery exceeds abundantly the minimum threshold of 9 m² per capita.

...all of Veneto's cities are above 9 m² of greenery per capita

Still referring to 2014, Padua,

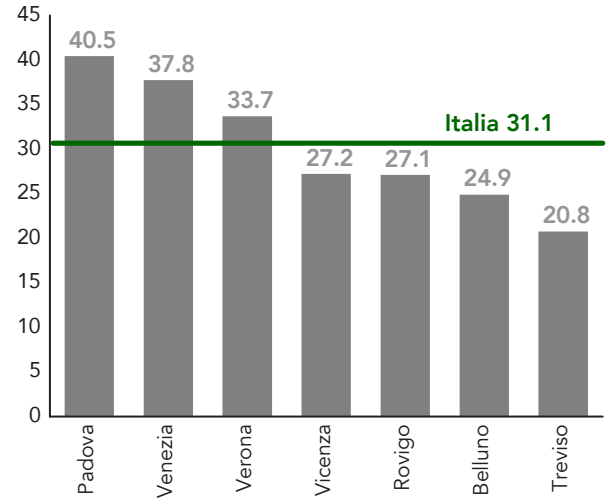
Venice and Verona had 40.5, 37.8 and 33.7 m2 per capita, above the 31.1 m2 national average.

Tab. 10.6.3 - Urban greenery in the strict sense in Veneto's provincial capitals (surface areas in m2 and % incidence on municipal area) - Year 2014

	Surface area (m²)	Density (%)
Verona	8.759.874	4.4
Vicenza	3.091.501	3.8
Belluno	892.754	0.6
Treviso	1.732.561	3.1
Venezia	9.988.587	2.4
Padova	8.512.884	9.2
Rovigo	1.413.751	1.3
Italy(a)	567.050.090	2.7

(a) Here the term Italy refers to the set of all its provincial capitals
Source: Processing by Veneto Region Statistical Office on Istat data

Fig. 10.6.2 - Urban greenery in the strict sense available in Veneto's provincial capitals (m2 per capita) -Year 2014



Source: Processing by Veneto Region Statistical Office on Istat data

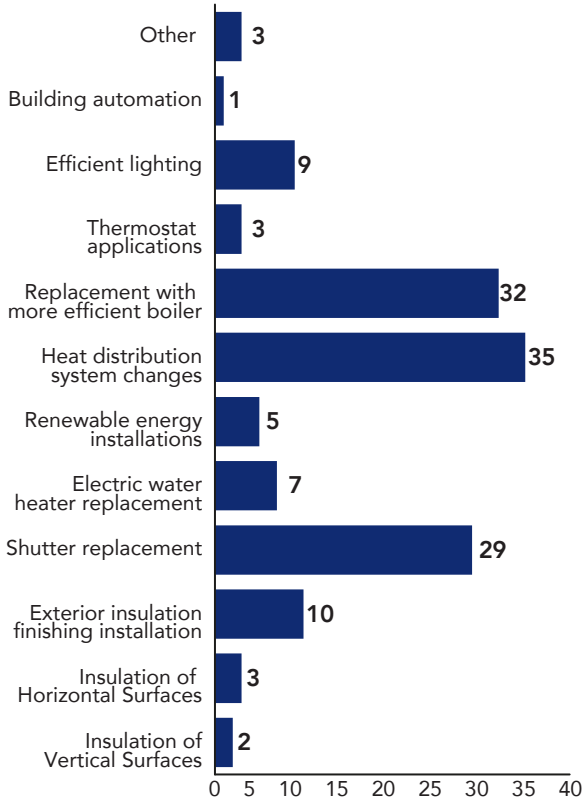
10.7 Eco-management

The environmental sustainability of cities goes through a multiplicity of actions implemented by the local administrations that go under the name of eco-management, Including the requalification of municipal buildings, the purchase of goods and services while adopting minimum environmental criteria (MECs), the set of good practices including purchasing fair trade products, waste differentiation In municipal offices, increased public lighting efficiency and the use of zero-emission or otherwise low-emission vehicles by municipal administrations.

Almost 140 requalification interventions in the municipal buildings of Veneto's cities from 2012 to 2015

Between 2012 and 2015, Veneto's provincial capitals put in place a long series of interventions to requalify buildings owned or otherwise in use, including 35 changes to the heat distribution system, 32 boilers replaced with more efficient ones and 29 shutter replacement jobs

Fig. 10.7.1 - Requalification interventions on municipal buildings (owned or in use) made between 1 January 2012 and 31 December 2015 in Veneto's provincial capitals(*)



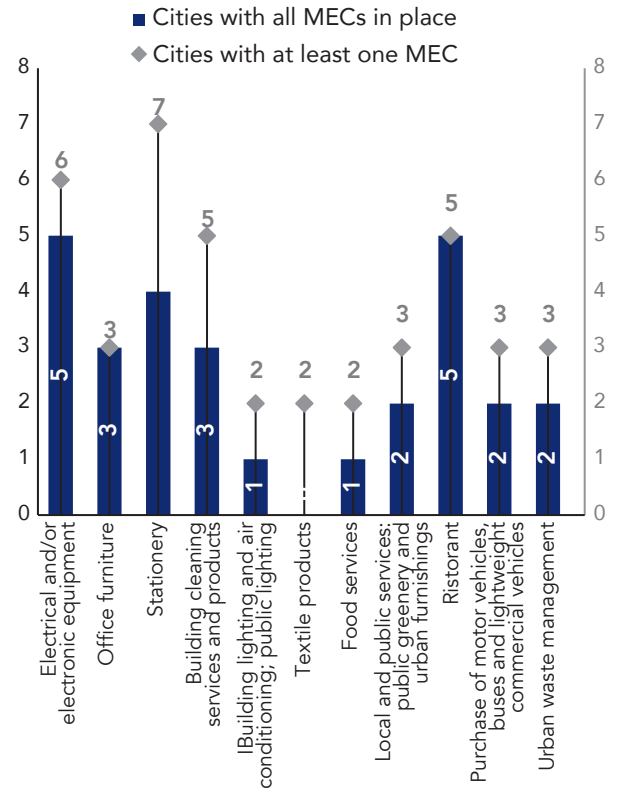
(*) Meaning the total of the region's 7 provincial capitals
Source: Processing by Veneto Region Statistical Office on Istat data

Regarding purchases of goods and services using minimum environmental criteria (MECs), for each type of purchase we added up the cities that used at least one MEC and those that used all the MECs currently in force.

Public purchases using MECs are increasingly popular…

We may observe that purchases using MECs are more widespread with regard to electrical and/or electronic equipment, such as printers, PCs, copiers, cartridges and toners, stationery and food, specifically canteen services and food supplies.

Fig. 10.7.2 - Provincial capitals that purchased goods and/or services by type while adopting minimum environmental criteria (MECs) (absolute number of cities with at least one MEC or all MECs in place for each purchase type). Veneto - Year 2015



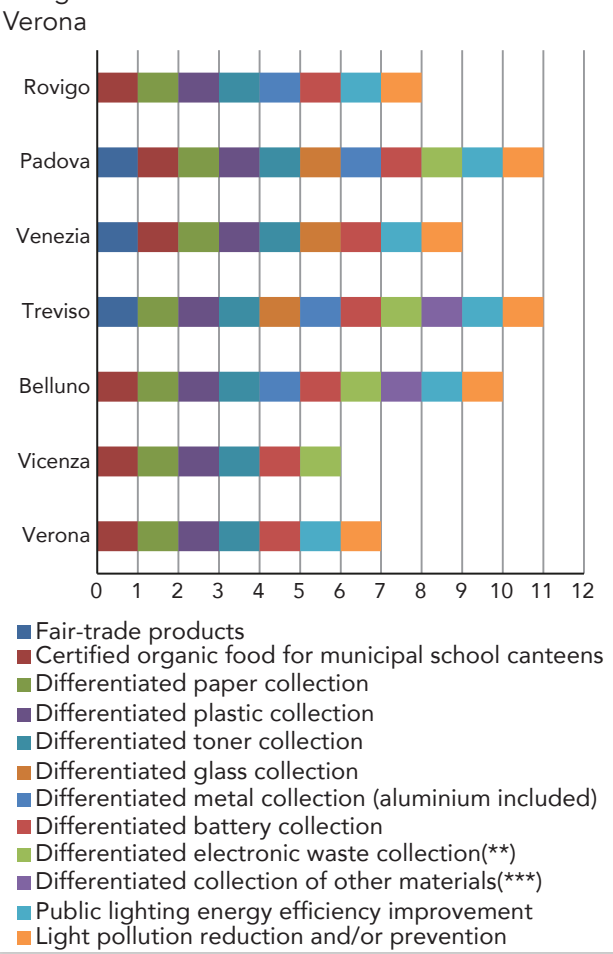
Source: Processing by Veneto Region Statistical Office on Istat data

…and so are sustainable fair-trade purchases

We come now to "good practices", which range from purchasing sustainable fair-trade products to buying certified organic food for municipal school canteens, carrying out differentiated waste collection at municipal offices, improving energy efficiency in public lighting and reducing light pollution. The good practices most widespread among Veneto's provincial capitals in 2015 were the differentiated collection of paper, plastic, toners and batteries in the offices, which we found in all seven cities.

As far as buying organic food for school canteens, improving energy efficiency in public lighting and trying to reduce and/or prevent light pollution,

Fig.10.7.3 - Good eco-sustainability practices implemented by municipal administrations (yes/no*) - Veneto's provincial capitals - Year 2015



(*) Cities that implemented the proposed action or initiative were assigned a coloured bar
(**) Waste from electrical and electronic equipment
(***) Including medicines, rubber, cumbersome items, wood, oils, dry waste, mowings and branches and organic recycling.
Source: Processing by Veneto Region Statistical Office on Istat data

these actions were implemented in six out of the seven cities. Padua and Treviso had the most good practices in place with 11 out of the 12 considered.

Technology in service of public lighting efficiency

In relation to public lighting, over the years use has been made of new technologies by creating increasingly advanced systems that, on the one hand, have improved the quality of street lighting and, on the other, have reduced consumption. In addition to this, auxiliary services have also been integrated by installing remote sensors, cameras traffic data communication systems and environmental monitoring systems onto street lights.

Analysing some of these lighting systems in detail, in 2015, in all seven of Veneto's main municipalities, the use of street lights with light pointed downwards and shaded (which enables a reduction in glare and more light where it is actually needed) is now very widespread with almost 711 light points equipped with this system out of every 1,000. This value is also greater than the average for Italian municipalities as a whole, which stands at 685 light points per 1,000. The second most widespread characteristic is variable and/or programmed light dimming based on outdoor conditions, present in 307 light points out of every 1,000 in the seven municipalities, followed by LED lighting installed in 170 light points per 1,000. The old systems with mercury vapour or incandescent lamps remain active on almost 98 lights per 1,000. A value that is nevertheless markedly lower compared to the Italian average (always to be understood as the average of all main municipalities) which is still over 128 light points per 1,000.

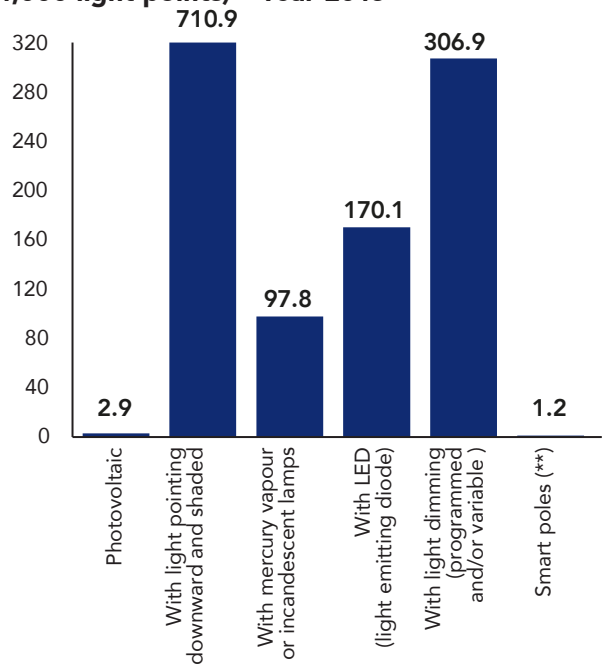
Concluding the analysis of eco-management, one cannot fail to mention the vehicle parking offered by local administrations in order to understand the degree of evolution towards clean-powered vehicles or vehicles with lower environmental impact. In 2015 most vehicles are still the traditional type, i.e. petrol or diesel, with percentages that range from 71.5% of the total in Padova to 98.7% in Treviso.

Low environmental impact Municipality vehicles on the rise

The evolution of methane vehicles shows significant incidences in various municipalities, with a percentage of 21.7% in Verona, followed by Venice with 13%. In relation to LPG-powered vehicles there are only significant values in Padova (18.2%) and in Vicenza (6.3%).

Finally, the percentages of electric vehicles are still residual, reaching 6.3% only in Vicenza.

Fig.10.7.4 – Public light points by type in the main municipalities of Veneto* and Italy* (number per 1,000 light points) – Year 2015

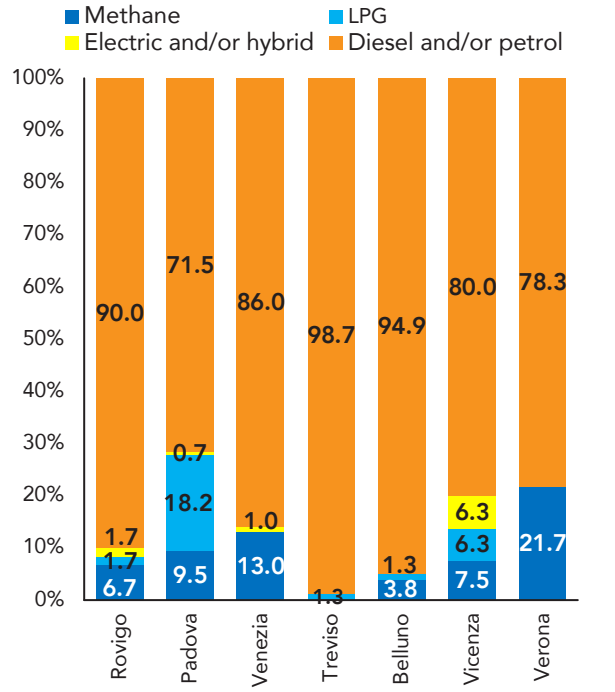


(*)Veneto and Italy are understood as the main municipalities overall

(**)Light points with low energy consumption lighting and at least one function of those listed: remote sensors; remote cameras; power line communication with data transmission and/or processing; UMTS communication; WI-FI communication; environmental monitoring.

Source: Veneto Region Statistics Office processing on Istat data

Fig.10.7.5 - Municipality vehicles by power type (% values). Veneto's main municipalities – Year 2015



Source: Veneto Region Statistics Office processing on Istat data

10.8 Mobility

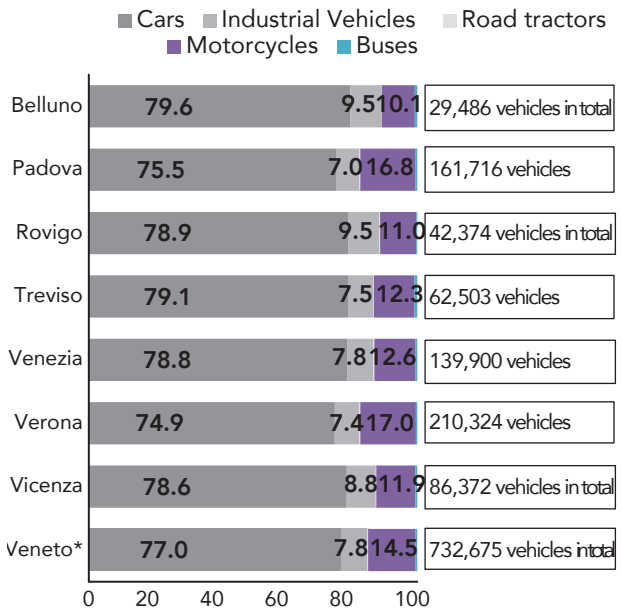
There are multiple aspects connected to urban mobility: from traffic to circulating vehicles to infrastructure, as well as the policies aimed at reducing the environmental impact of traffic itself and even road safety. As regards the environmental impact, pursuant to Italian Legislative Decree 285/1992 ("New Highway Code"), municipalities with over 30 thousand inhabitants are required to adopted an Urban Traffic Plan (UTP). This requirement was subsequently extended to other municipalities, identified by specific Legislative Decrees, including Sondrio, Isernia, Carbonia and Iglesias. Aside from this it should be noted that, pursuant to Italian Law 340/2000, individual municipalities or aggregates of municipalities with over 100 thousand inhabitants have the possibility to develop an Urban Mobility Plan (UMP) and, consequently, access state co-funding for the interventions provided for therein.

By monitoring the situation of Veneto's main municipalities, it can be observed how all seven have approved the UTP but none of them had yet adopted it in 2015. This is not the case for UMPs, approved only by Vicenza, Venice and Padova. Let's now try and understand the size of the "mobility phenomenon" in Veneto cities through by analysing the main pressure factor which is the volume of vehicles circulating on urban streets. The absolute numbers reflect the sizes of the various main province towns, ranging from over 210,000 total circulating vehicles in Verona in 2015, to less than 30,000 in Belluno.

Cars represent 77% of vehicles circulating in Italian cities

What is common to all the cities, and can also be seen nationally, is the distribution of vehicles by type: cars have long represented the most widespread vehicle type, with percentages ranging from 74.9% in Verona and 79.6% in Belluno, with an average for Italian cities of 77%. The important presence of motorcycles in the urban environment should also be noted, with percentages over 10% (Belluno) across the board and peaking at 17% (Padova and Verona). Finally, note the rather low incidence of buses, which never reaches 1%.

Fig. 10.8.1 – Circulating vehicles by type in Veneto's main municipalities (% incidence of each type and absolute total values) – Year 2015



Source: Veneto Region Statistics Office processing on ACI data

In order to provide a standardised measurement of the weight of traffic within cities, circulating vehicles in relation to the population has also been calculated.

Over 72 vehicles per 100 inhabitants in Italian cities...

It was therefore discovered that the national average (always to be understood as the average of all of the country's main municipalities) stands at 72 circulating vehicles per 100 inhabitants in 2015.

...with percentages over 80 in Belluno, Rovigo and Verona

In Veneto, with the exception of Venice which has an entirely pedestrianised historic centre, in all other cities the weight of traffic is greater compared to the rest of Italy, with the lowest value in Treviso, in any case over 74 vehicles per 100 inhabitants, and with percentages over 80 in Belluno, Rovigo and Verona.

Tab.10.8.1 – Circulating vehicles in Veneto's main municipalities (vehicles per 100 inhabitants). – Year 2015

	Vehicles	Population	Vehicles/ 100inhab..
Belluno	29.486	35.870	82.2
Padova	161.716	210.401	76.9
Rovigo	42.374	51.867	81.7
Treviso	62.503	83.731	74.6
Venezia	139.900	263.352	53.1
Verona	210.324	258.765	81.3
Vicenza	86.372	112.953	76.5
Total of Veneto's main municipalities	732.675	1.016.939	72.0

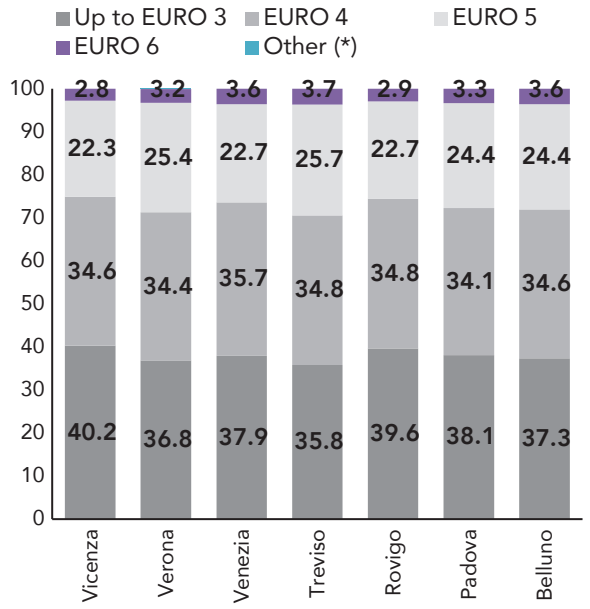
Source: Veneto Region Statistics Office processing on ACI and Istat data

As we have seen previously, cars within cities represent the vast majority of circulating vehicles, and this results in the need to understand the qualitative level of the same in terms of pollutant emissions in relation to current European standards, or rather their emission class.

In 2015 most cars are EURO 4 and 5

In 2015, the last available year, cars circulating in cities are mainly class EURO 4 and 5, with cumulative incidences that range from 60.5% in Treviso to 56.9% in Vicenza.
However, the significance of the weight of cars in classes up to EURO 3 should be noted, which also include the oldest EURO 0, with percentages ranging between 35.8% in Treviso and over 40% in Vicenza.

Fig. 10.8.2 – Cars by emission class in Veneto's main municipalities (% values in relation to total cars for each municipality). – Year 2015



(*)Other includes cars with power supplies not "covered" by those envisaged and undefined cases. In the graph, given the very small number of these cars, the label showing the relative quantity of circulating cars is not shown

Source: Veneto Region Statistics Office processing on ACI data

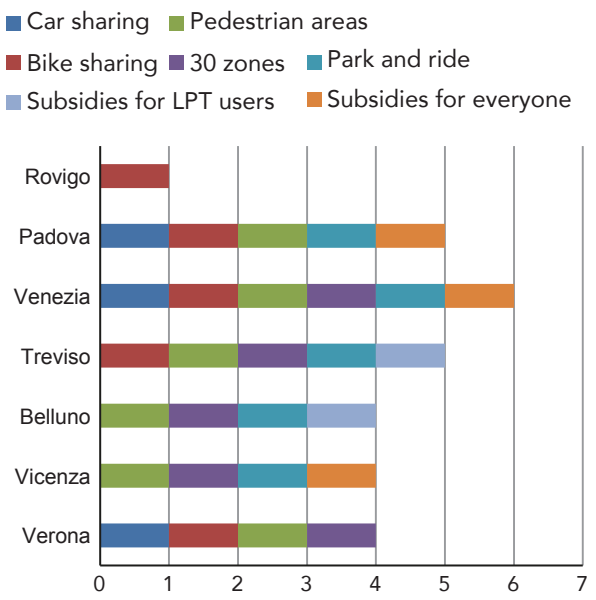
Once the pressure factors have been analysed, let us now study the policies implemented by local administrations intended as actions undertaken in order to improve general traffic conditions, reduce the volume of circulating traffic and incentivise the use of alternative means with lower environmental impact compared to cars.

Good dissemination of pedestrian areas!

In 2015, in Veneto's main

municipalities there is widespread dissemination of pedestrian areas, present in six out of seven cities, with densities between 17m² per inhabitant in Verona and 32.5 in Belluno, as well as the 500 in Venice, which however represents a case in itself, as previously mentioned. In five out of the seven cities there is also a bike sharing service, the presence of park and ride services and "30 zones", or rather roads that tend to be located near residential areas in which the speed limit has been lowered to 30km/h for safety reasons and to further protect the most vulnerable users (cyclists and pedestrians).
It should be noted, however, that there is scarce dissemination of forms of subsidy for users of Local Public Transport (LPT), present only in Treviso and Belluno.

Fig.10.8.3 – Car and bike sharing services, pedestrian areas, 30 zones, park and ride services, tariff subsidies in carparks for everyone and tariff subsidies in carparks only for those holding a public transport (LPT) ticket in Veneto's main municipalities (presence/absence*) – Year 2015

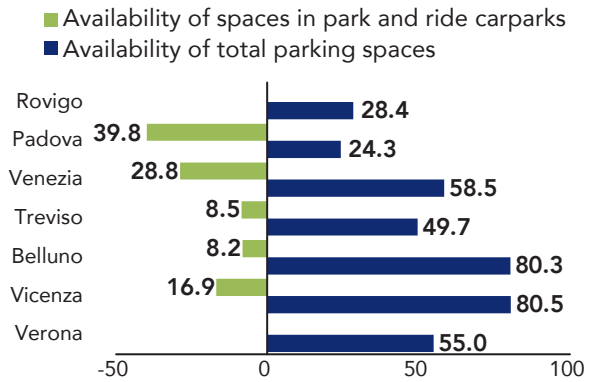


(*) A coloured bar is attributed to the city if the service is present
Source: Veneto Region Statistics Office processing on Istat data

Another important element that streamlines urban mobility is the presence of carparks in strategic locations within inhabited centres. Here we have evaluated the overall availability of paid parking spaces[5] along the streets and those located within park and ride[6] carparks, comparing this number with the number of circulating cars.

The situation that emerges is not uniform among Veneto's cities, in fact it ranges from over 80 paid parking spaces per every 1,000 cars in Vicenza and Belluno, to 24.3 and 28.4 in Padova and Rovigo, respectively, or rather from values that are much higher than the national average of 57.3 to others that are less than half of the average. The same observation can be made when considering parking spaces in park and ride carparks, with quite significant differences, showing values above the national average (13 parking spaces per every 1,000 cars) in Padova, Venice and Vicenza with 39.8, 28.8 and 16.9 parking spaces/1,000 cars, respectively. However, these are general indications as, given the individual and particular road situations of the various cities, a summary evaluation of the quality of services offered is quite complex.

Fig.10.8.4 – Availability of total paid parking spaces and parking spaces in park and ride carparks in the province's main municipalities (spaces per 1,000 cars circulating). Veneto. Year 2015



Source: Veneto Region Statistics Office processing on Istat data

Still in the context of mobility, in recent years automated systems have been developed in order to facilitate access to services for road users and public transport users. These systems are called "info-mobility services" and the following graph

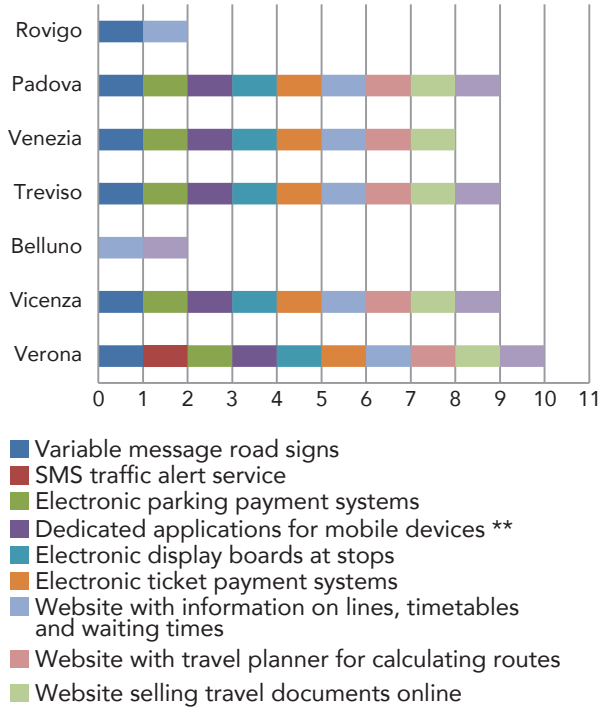
5 A parking space is an individual space for a car, and the set of one or more parking spaces constitutes a car park
6 Park and ride carparks are parking structures normally located at stations or at the end of the line of public transport services and enable commuters and other people to park their car and to use a bus or metro service (etc.) to get into the city

summarises the updated situation in 2015 as regards Veneto's main municipalities and their provision of these services. Although shown together on the same graph, these can be divided into two macro types: those related to private mobility and those related to public transport.

"Info-mobility services" are widespread throughout all of Veneto's main municipalities...

As regards private mobility the most widespread info-mobility service is the presence of variable message road signs with notifications on the traffic and road conditions, active in six out of Veneto's seven main municipalities. Next we find electronic payment systems for parking and "apps" for smartphones and tablet for accessing information on traffic, parking and the quickest route to take, available in 5 cities.
The SMS traffic alert service is less widespread, present only in Verona.

Fig. 10.8.5 – Info-mobility services present in Veneto's main municipalities (presence/absence*) – Year 2015



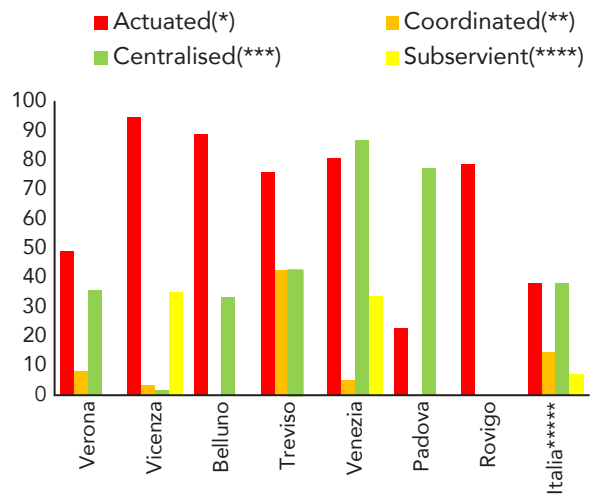
(*) A coloured bar is attributed to the city if the service is present
Source: Veneto Region Statistics Office processing on Istat data

Moving on to the public transport offered, the website with information on lines, timetables and waiting times is now available in all of Veneto's main cities. In any case, the situation is also very positive in relation to all other services, or rather electronic display boards at stops, electronic ticket payment systems, the website with a travel planner for calculating routes, the website selling travel documents online and the website with real time information on the progress of public transport along its route, active in at least 5 out of 7 cases.

... as well as increasingly "smart" traffic light systems

As regards, in particular, the systems for improving and streamlining traffic, let us now analyse the traffic light systems present in the urban centres of Veneto which, thanks to current technology, have undergone some transformations over the years, making them more "smart" and able to adapt to the actual traffic flow.
This is where we find actuated installations, or rather those equipped with sensors that activate the green phases according to the presence of vehicles; coordinated installations, or rather those connected online to synchronise the green phases along a determined axis; centralised installations, or rather those controlled by a central processer that activates the green phases according to the traffic flows detected and, finally, subservient installations that are equipped with sensors that activate the 'go' signal with priority to public transport vehicles, in order to minimise stops at cross roads.
All these systems are present in Veneto's main municipalities with highly variable incidences in terms of the total traffic light installations. On average, the most widespread are actuated installations, present everywhere and with an incidence never lower than 22.8% (Padova), reaching a peak of 94.7% in Vicenza.
Next, we find centralised traffic lights which, although not active in all cities, where they are present reach rather high incidences in some cases, such as in Venice with 86.7% or Padova with 77.2%.
It should be noted that when adding up the percentages of the different types of traffic light installation for each city, the total exceeds 100% as a single installation may simultaneously have the characteristics of more than one type.
Sustainable urban mobility is also made up of ecological vehicles and limitations on motor traffic, at least in specific zones considered to particularly sensitive.
This is why over the years increasing numbers of cycle paths have been built and regulated traffic

Fig. 10.8.6 – Traffic light installations by type (% values out of total installations). Main municipalities in Veneto and Italy – Year 2015

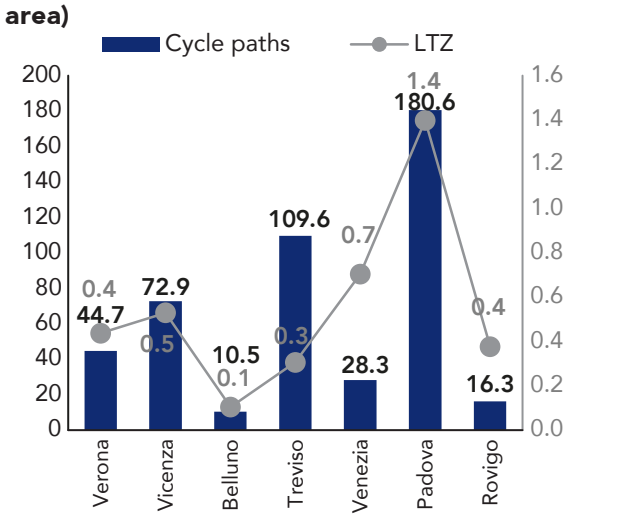


(*)Installations equipped with sensors that activate the green phases according to the presence of vehicles (vehicle actuated) and/or call button for pedestrians (pedestrian actuated).
(**) Installations connected online to synchronise the green phases along a determined road axis according to the established average speed.
(***)Installations controlled by a central processor that activates the green phases according to the traffic flows detected.
(****) Installations equipped with sensors that activate the go signal with priority to public transport vehicles, in order to minimise stops at crossroads.
(*****) The word Italy refers to all main province municipalities.
Source: Veneto Region Statistics Office processing on Istat data

access areas, so-called "limited traffic zones" (LTZ) have been activated. In relation to cycle paths, in 2015 Padova certainly stands out with over 180km of cycle path per 100km2 of territory, followed by Treviso with almost 110. However, these numbers should be analysed in the context of the individual realities: Venice, for example, has low values, however its particular situation automatically precludes the use of the bicycle within its historic centre, while Belluno is a small municipality, with a lower traffic volume and in any case it presents many panoramic cycle routes outside of the municipality border, on the provincial scale. In any case Padova's high values present some issues as the cycle paths are built within a city with a road system that is certainly not modern and therefore taken from limited spaces or footpaths, with frequent interruptions and often not actually reserved for cycles but rather shared with pedestrians.

The LTZs, although to a lesser or greater extent, are now present in all of the cities and represent a widely used traffic reduction measure. Padova, still with reference to 2015, seems to be the city where we find the greatest concentration of LTZs, with an incidence of 1.4% on the total municipal area.

Fig.10.8.7 – Density of cycle paths and incidence of limited traffic zones (LTZ) in the province's main municipalities – Years 2008 -2015 (km per 100 m2 and % values compared to the municipal area)



Source: Veneto Region Statistics Office processing on Istat data

In a recent study, "Big Data and transport: new scenarios and directions for Smart Mobility in Veneto", a synthetic smart mobility index was developed through accurate and robust methodology, useful for assessing the performance of systems, facilities and services implemented in the field of transport and mobility, with particular reference to the use of smart mobility applications and Big Data technology.

Big Data in favour of smart mobility

This Index was calculated experimentally for Veneto's main municipalities, with the main purpose of promoting a reflection on the current situation and to propose a roadmap scheme for developing smart mobility. All of this was done in a view of smart land on a regional scale and the results can provide support, in terms of knowledge, to decision makers and citizens. In fact, in the urban context smart mobility has a strategic role: mobility must be managed effectively to guarantee sustainable and eco-compatible liveability levels;

new information and communication technologies, applied to vehicles, road signalling systems, traffic detection systems and information systems, are bringing profound innovations to the transport sector. The powerful volume of data collected with increasing ease by connections to mobile networks enables knowledge on the behaviour of the individuals moving around urban areas; Big Data may play an essential role in support of urban mobility, for the implementation of urban transport energy, environmental and economic sustainability policies, for reducing traffic congestion levels and therefore for the creation of smart cities.
As a corollary to the topic of mobility within urban centres, the question related to safety on the city streets is also of great importance, representing one of the priorities for local administrations, along with the improvement of road conditions and reduction of harmful emissions from traffic.

Road accidents decreasing over time

Although road accidents with injuries and deaths continue to be recorded, in the last decade there has been a significant decline in the phenomenon: in 2015 In Veneto 13,867 road accidents with personal injury were recorded, a value well below the 19,261 accidents recorded ten years prior (-28%).

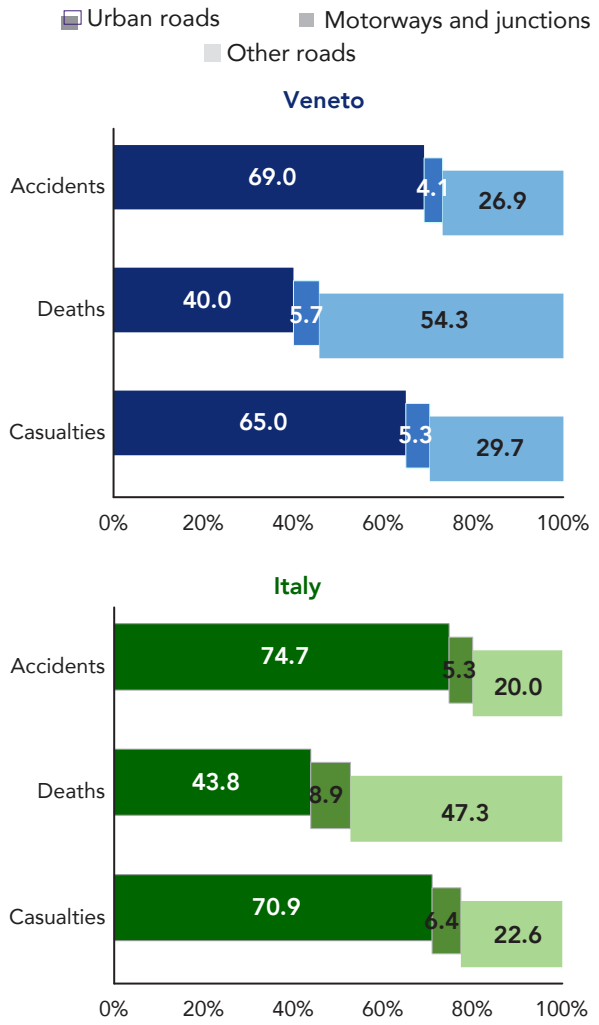
69% of accidents with injuries occur within the city in Veneto...

The majority of road accidents occur on the urban streets with an incidence in Veneto that reaches 69% in 2015 (Italian average 74.7%).

...But 54% of deaths occur outside of inhabited centres

While injuries follow a similar distribution, with 65% of these concentrated in urban streets, deaths present a slightly different distribution: in fact, 40% of deaths occur within inhabited centres, while over 54% occur on "other roads", or rather state, regional and provincial roads outside of the inhabited area and extra-urban municipal roads.
This figure suggests that while the city is the place where the majority of accidents with personal injuries occur, it is outside of cities where we find the greatest danger in terms of consequences sustained by people, a factor certainly linked to the greater vehicle speeds on extra-urban roads.

Fig.10.8.8 – Road accidents with personal injury, deaths and casualties according to the road category. Veneto and Italy (%). Italy, Veneto – Year 2015



**The other roads category includes state, regional and provincial roads outside of the inhabited area and extra-urban municipal roads*
Source: Veneto Region Statistics Office processing on ACI-Istat data

Going into detail on accidents within the main municipalities, the 2015 figures show a decrease compared to the previous year almost everywhere, accompanied by a trend of reductions in deaths and casualties as well.
The only exceptions are seen in Rovigo and Venice where accidents have, however, slightly increased, while in Venice we are also experiencing an increase in deaths and casualties and in Rovigo, for the second consecutive year, no deaths have been

recorded and casualties have decreased.

Tab. 10.8.2 – Road accidents with personal injury occurred on an urban street. Main province municipalities – Years 2015:2014

	Accidents		
	2015	2014	% Var.
Belluno	97	98	-1.0
Padova	1.131	1.256	-10.0
Rovigo	149	147	1.4
Treviso	277	317	-12.6
Venezia	494	464	6.5
Verona	1.183	1.258	-6.0
Vicenza	411	427	-3.7
Veneto	3.742	3.967	-5.7

Source: Veneto Region Statistics Office processing on ACI-Istat data

But how much do the main municipalities "weigh" compared to the total of their province? In general, considering all seven main municipalities, these account for 39% of all accidents in the urban environment in Veneto. Substantial differences can also be seen between the various cities with incidences that vary, in relation to their provincial totals (still in terms of accidents within inhabited areas), from 20% in Treviso to 54.5% in Verona.
These differences may have several causes, such as the size of the main municipality or its level of attractiveness, factors that determine different traffic volumes and therefore potential risks on the roads.
Speaking of cities, of sustainable mobility and road safety, it is worth going into further detail with regard to vulnerable road users, or rather pedestrians, cyclists and motorcyclists.

The mortality index for vulnerable users is higher inside inhabited centres than outside

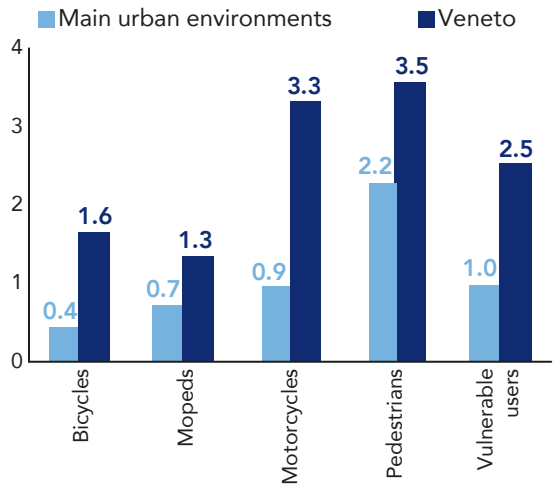
In Veneto the overall mortality index is equal to 2.3 deaths per 100 accidents in 2015. The corresponding values are higher on average for vulnerable users only within urban centres, reaching 2.5 deaths per 100 accidents. This value is significantly contributed to by pedestrians with 3.5 deaths/100 accidents and motorcycles with 3.3. Restricting the analysis to only the province's main municipalities, a positive figure emerges given that the indicator decreases significantly, slightly exceeding 1 death/100 accidents. In this case as well, the most affected categories are pedestrians and motorcycles.

Tab. 10.8.3 - Road accidents with personal injury, deaths and casualties in the urban environment. Provinces and main towns – Year 2015

	Accidents			Deaths			Casualties		
	Main town	Province	%	Main town	Province	%	Main town	Province	%
Belluno	97	277	35,0	*	10	*	123	353	34,8
Padova	1.131	2.137	52,9	7	21	33,3	1.430	2.739	52,2
Rovigo	149	339	44,0	0	4	0,0	176	433	40,6
Treviso	277	1.377	20,1	*	20	*	347	1.867	18,6
Venezia	494	1.545	32,0	8	33	24,2	623	2.035	30,6
Verona	1.183	2.170	54,5	6	19	31,6	1.471	2.787	52,8
Vicenza	411	1.721	23,9	4	19	21,1	531	2.234	23,8
Veneto	3.742	9.566	39,1	28	126	22,2	4.701	12.448	37,8

**Data omitted for statistical confidentiality*
Source: Veneto Region Statistics Office processing on Istat data

Fig. 10.8.9 – Mortality index(*) of accidents that have affected vulnerable users on urban roads. Veneto's main municipalities and Veneto total – Year 2015



*(*)Mortality index = number of deaths / number of accidents * 100*
Source: Veneto Region Statistics Office processing on ACI-Istat data

Going into detail on the days of the week, the mortality indices show certain aspects on which to reflect. To make the estimates more robust, given the detail of these indicators, figures from the last three years, 2013, 2014 and 2015, were aggregated.

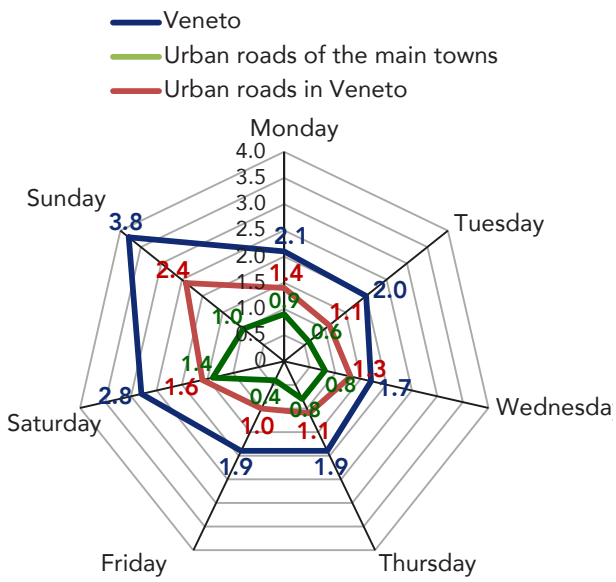
Greater general mortality on Saturday and Sunday...

Generally, in Veneto (all roads) two peaks can be noted on Saturday and Sunday, probably related to the different type of traffic moving on the roads: this is lower in quantitative terms compared to weekdays, however more dangerous.
These aspects may be attributable to different driver behaviour on the weekend compared to the rest of the week, such as a possible greater speed (given that the roads are less congested), at times being more distracted while driving and greater alcohol levels. Restricting the analysis to only those incidents that occur within inhabited centres, the mortality indices on the days of the week reduce significantly although the same anomaly we have just mentioned related to the two weekend days remains.

...But lower mortality on the weekend in urban centres

Something different emerges when we further hone in on only the inhabited centres of the region's seven main municipalities. In fact, morality indices are even lower, confirming the initial considerations on the distribution of deaths mostly concentrated outside of the cities. Furthermore, in the three year period considered, the day that shows the highest mortality index is Saturday and not Sunday, as in previous cases. This may be due to the fact that Sunday tend to be the day on which traffic reduces most drastically in the historic centres of the main towns, conversely to other roads, as many people either do not use their cars or go away for a classic "weekend getaway".

Fig.10.8.10 – Mortality index(*) by day of the week in Veneto and on the urban roads of the main towns. Aggregate figures for the years 2013, 2014 and 2015



*(*)Mortality index = number of deaths / number of accidents * 100*
Source: Veneto Region Statistics Office processing on ACI-Istat data

BIBLIOGRAPHY

AA.VV., Combining family and full-time work, European Foundation for the Improvement of Living and Working Conditions, Dublin, 2007

AA.VV., Socioeconomic status and the 25 × 25 risk factors as determinants of premature mortality: a multi-cohort study and meta-analysis of 1•7 million men and women, The Lancet, Volume 389, No. 10075, p1229–1237, 25 March 2017

AA.VV., The influence of working time arrangements on work-life integration or 'balance': A review of the international evidence, in "Conditions of work and employment Series No. 32", ILO, Geneva, 2012

AA.VV., The world of organic agriculture: statistics and emerging trends 2016, FIBL-IFOAM, 2017

AA.VV., World viticulture situation: statistical report on world viticulture, OIV, 2016

AA.VV., XVI Rapporto 2016 sulle produzioni agroalimentari e vitivinicole italiane DOP IGP STG, Ismea-Qualivita, 2017

Agenzia Interregionale per il fiume Po, Dati e considerazioni sulla navigazione interna e sul sistema idroviario padano veneto, January 2009

Amartya Sen, Development as Capability Expansion. In: Fukuda-Parr S, et al Readings in Human Development. New Delhi and New York, Oxford University Press, 2003

Andrea Bacchetti, Chiara Corbo, Damiano Frosi , Smart AgriFood: una mappatura delle principali soluzioni offerte dal mercato, 1 February 2017 (on-line document)

Bicchierini E. and Oro E., Propost e per la valorizzazione di una nuova offerta ferroviaria in ambiti a medio-bassa densità insediativa. Le linee S9 e S13 nel sud-ovest milanese, years 2011/2012

Cattaneo Carlo, Ricerche sul progetto di una strada di ferro da Milano a Venezia, Annali universali di statistica economia pubblica, storia, viaggi e commercio, Milan 1836

Censis, Rapporto sulla situazione sociale del Paese 2016, Rome, 2016

Cerved, Osservatorio su fallimenti, procedure e chiusure di impresa, February 2017

Confindustria, Indagine conoscitiva su "Industria 4.0": quale modello applicare al tessuto industriale italiano. Strumenti per favorire la digitalizzazione delle filiere industriali nazionali, March 2016

Consorzio Netcomm, School of Management Politecnico di Milano, Osservatorio e-commerce B2C, October 2016

D. Shraad-Tischler and C. Shiller, Social justice in the EU – Index report 2016, Bertelsmann Stiftung 2016

Danielis Romeo, La teoria economica e la stima dei costi esterni dei trasporti, Torino, 2001

Donati Anna, Decarbonizzare i trasporti in Italia: le scelte della politica e dei cittadini, August 2016

Enrica M. Martino, Quanto costa alle donne la maternità, La voce.info, 20 December 2016

Eros Regolini, Tesi di Laurea in Pianificazione dei Trasporti: Big data e trasporti: nuovi scenari e orientamenti per la smart mobility nel Veneto, 2016, Venice

European Commission, European Economic Forecast. Winter 2017. Institutional paper 048, February 2017

European Commission, Mobility and Transport, Statistical pocketbook 2016

European Commission, Public opinion in the European Union - Report, Standard Eurobarometer 83, Spring 2015, May 2015

European Commission, Public opinion in the European Union - Report, Standard Eurobarometer 85, Spring 2016, May 2016

European Commission, Social climate – Report, Special Eurobarometer 418, November 2014

European Commission. "Ripensare l'istruzione" e l'Italia

European Environment Agency, Politiche dei trasporti, June 2016

European Environment Agency, Segnali 2016: Verso una mobilità pulita e intelligente: i trasporti e l'ambiente in Europa, 2016

European Foundation for the Improvement of Living and Working Conditions, La situazione sociale dei giovani in Europa, Foundation findings n.3, Dublin, 2014

European Union, Raccomandazione del Parlamento Europeo e del Consiglio, 23 April 2008, Costituzione del Quadro europeo delle qualifiche per l'apprendimento permanente

Eurostat, Being young in Europe today, Luxembourg, 2015

Eurostat, News release n.52/2017, March 2017

Facchinelli Laura, Rivista Trasporti & Cultura n.1., Venezia, 2001

Federazione Anie – Confindustria, Comunicato stampa, 6 December 2016

FMI, World Economic Outlook, April 2017

Fondazione Nord Est, Il tempo ritrovato. Percorsi, idee e proposte di conciliazione in Veneto, Regione del Veneto, 2013

General Assembly of the United Nations, 70/1. Trasformare il nostro mondo: l'Agenda 2030 per lo Sviluppo Sostenibile, 21 October 2015

Gravagnuolo Benedetto, Napoli-Portici: si inaugurava 170 anni fa la prima ferrovia mai vista in Italia, Corriere del Mezzogiorno, October 2009

Ignazio Visco, Investire in conoscenza. Crescita economica e competenze per il XXI secolo, Il Mulino, Bologna 2014.

Il Corriere della Sera, various articles, 2017

Il Sole 24 Ore, various articles, 2017

Infocamere, Start-up innovative, Rapporto, IV trimestre 2016

Instilla, Report Startup SEO r1, 2016 (on-line document)

Invalsi. Rilevazioni nazionali degli apprendimenti 2015-16. Rapporto risultati

Isfort - Audimob Osservatorio sui comportamenti di mobilità degli italiani, Le fermate sulla mobilità n. 27, January 2017

Ispra, Annuario dei dati ambientali, 2016

Ispra, XII rapporto – Qualità dell'ambiente urbano – 2016 Edition, December 2016, Rome

Istat , Viaggi e vacanze in Italia e all'estero, 2016

Istat, "Nuova area tematica dedicata al capitale umano", note for the press, 2 December 2016

Istat, Ambiente Urbano: gestione eco compatibile e smartness – anno 2013, 5 December 2014, Rome

Istat, Ambiente urbano: gestione eco sostenibile e smartness – anno 2015, 23 November 2016, Rome

Istat, Giornata mondiale dell'acqua, 22 March 2017

Istat, I musei, le aree archeologiche e i monumenti in Italia, 2016

Istat, I percorsi di studio e di lavoro dei diplomati e dei laureati. Statistiche report, 29 September 2016

Istat, La classificazione delle professioni. Rome 2013

Istat, Le tecnologie dell'informazione e della comunicazione nella Pubblica Amministrazione locale. Statistiche report, 03 January 2017

Istat, Mobilità urbana – Anno 2014, 28 June 2016, Rome

Istat, Movimento turistico in Italia, 2016

Istat, Qualità dell'ambiente urbano – fattori di pressione – anno 2014, 10 November 2015, Rome

Istat, Rapporto sulla competitività dei settori produttivi, March 2017

Istat, Statistiche flash Le esportazioni delle regioni italiane. IV trimestre 2016, March 2017

Istat, Statistiche flash Prezzi al consumo. Dati definitivi, December 2016

Istat, Statistiche report La ricerca e sviluppo in Italia, Anni 2014-2016, November 2016

Istat, Statistiche report Risultati economici delle imprese, Anno 2014, October 2016

Istat, Verde Urbano – anno 2014, 24 May 2016, Rome

Istat. BES 2016. Il benessere equo e sostenibile in Italia

Istat. Condizioni di vita e reddito – anno 2015. Statistiche report, 6 December 2016

Istat. La povertà in Italia – anno 2015. Statistiche report, 14 July 2016

Istat. La soddisfazione per i cittadini per le condizioni di vita – anno 2016. Statistiche report, 22 November 2016

J. Nancy, European youth in 2016, Special Eurobarometer of the European Parliament, 2016

Legambiente, Rapporto Pendolaria 2016

Marzo Magno Alessandro, Italia, quando il treno era un mito di progresso, LINKIESTA , March 2012

Ministero dell'Economia e delle Finanze. Documento di Economia e Finanza 2017, April 2017

Ministero delle Infrastrutture e dei Trasporti, Conto nazionale delle infrastrutture de dei trasporti – 2013- 2014 e 2014-2015

OCSE, Interim Economic Outlook - Will risks derail the modest recovery? Financial vulnerabilities and policy, March 2017

OCSE, Rapporto economico Ocse Italia, February 2017 Oecd, Divided we stand. Why inequality keeps rising, 2011

Osservatorio città sostenibili, Dipartimento interateneo territorio - Politecnico Università di Torino, Strumenti di pianificazione dei trasporti

Oxfam, Un'economia per il 99%, Oxfam briefing paper, 2017

Pavesi Maria, Corbo Chiara, Bartezzaghi Giulia, Start Up e innovazione: i trend del mercato Agrifood tra Agricoltura di Precisione, IoT e Big Data, 4 March 2017 (on-line document)

Pertoldi Martina, Spazi della logistica: la costruzione di una rete a bassa densità e ad alta intensità - Conferenza nazionale SIU, Naples 2013

Presidenza del Consiglio dei Ministri, Habitat III Italy's National Report, June 2016, Rome

Prometeia - Intesa Sanpaolo, Rapporto Analisi dei Settori Industriali, October 2016

Prometeia, Rapporto di previsione. Various months, 2016 and 2017

Prometeia, Scenari per le economie locali. Various months, 2016 and 2017

Raccomandazione del Parlamento Europeo e del Consiglio 2006/962/CE

REF. Congiuntura REF. Periodico di analisi e previsione. Various months, 2016 and 2017

Regione del Veneto, (2011) Conferenza Regionale dell'agricoltura e dello sviluppo rurale, "Schede informative"

Regione del Veneto, "Relazione Annuale sullo stato di attuazione del Programma di Sviluppo Rurale 2007-2013" –2015 (on-line document)

Regione del Veneto, Congiuntura agricola veneta – Focus "Innovazione in Agricoltura", in collaborazione con Ismea e Veneto Agricoltura", May 2015 (on-line document)

Regione del Veneto, L'occupazione maschile e femminile in Veneto. Rapporto sulla situazione del personale nelle aziende con oltre cento dipendenti 2016. Venice 2016

Regione del Veneto, La qualità educativa in Veneto. Venice 2011

Regione del Veneto, Valutazione in itinere del Programma di Sviluppo Rurale 2007-2013 della Regione Veneto, "Aggiornamento della Relazione di Valutazione Intermedia", 30 December 2012 (on-line document)

Regione del Veneto, Valutazione in itinere del Programma di Sviluppo Rurale 2007-2013 della Regione Veneto, "Allegato I – Analisi valutative per misura dell'Aggiornamento della Relazione di Valutazione Intermedia", 30 December 2012 (on-line document)

Regione del Veneto, Valutazione in itinere del Programma di Sviluppo Rurale 2007-2013 della Regione Veneto, Relazione di Valutazione Intermedia, December 2010 (on-line document)

Regione del Veneto. Rapporto Statistico. Various years

Regione Emilia Romagna, Rapporto di monitoraggio 2016: i dati sul settore idroviario

Soave Piero, Politica comune dei trasporti: Principi generali. Note sintetiche sull'Unione Europea 10/2016 – European Parliament

Stentella Daniele, La ferrovia Liverpool-Manchester, Archeologia industriale Terni, August 2009

Ufficio Studi Confcommercio, Analisi e previsioni per il trasporto merci in Italia, May 2015

UN, Resolution of the General Assembly 25 September 2015: Agenda 2030

UN, Resolution of the General Assembly, 25 September 2015

UN, The Sustainable Development Goals Report 2016

Unioncamere - Rapporto sull'Economia del Mare, 2016

United Nations Conference on Housing and Sustainable Urban Development (Habitat III), Draft outcome document of the United Nations Conference on Housing and Sustainable Urban Development (Habitat III), 17-20 October 2016, Quito, Ecuador

UNWTO (2004), Indicators of Sustainable Development for Tourism Destinations A Guidebook UNWTO (2016), Tourism Highlights

Vallini Eleuterio, La ferrovia Napoli – Portici, November 1999

Veneto Agricoltura (2013), "Fattorie didattiche in Veneto", 2013, on-line publication

Project Manager: Maria Teresa Coronella, Manager of the Veneto Region Statistics Office
Analysis and text:
Desirè Molin, O.P. Statistics on education and work (Ch. 2.6 and Summary)
Massimiliano Baldessari, O.P. Statistics on the secondary sector and internationalisation. (Ch. 1,2,3,4)
Cinzia Viale, O.P. Statistics on the territory and Sistan-Sistar relations (Ch. 5,9 and 10)
Nedda Visentini, O.P. Statistics on social issues and health, and statistical methodology (Ch. 7 and 8)
Publishing and distribution: Andrea Fosco, O.P. Statistics on labour, data acquisition and distribution
Administrative Manager: Paolo Capacci, O.P. Legal and administrative affairs

Content by the Regional Statistical System Office with some outside contributions
Chapter 1
Massimiliano Baldessari, Giorgia Faggian and Valeria Boscolo Galazzo
Chapter 2
Massimiliano Baldessari, Giorgia Faggian and Valeria Boscolo Galazzo, Elisa Mantese, Desirè Molin, Elena Santi, Antonella Trabuio and contributions from:
Sub-chapter 2.3, Veneto Agency for Innovation in the Primary Sector: Antonio De Zanche, Alessandra Liviero, Renzo Rossetto, Nicola Severini and Gabriele Zampieri
Chapter 3
Massimiliano Baldessari and Giorgia Faggian
Chapter 4
Elena Santi and contributions from:
Sub-chapter 4.3, Veneto Region – Tourism Section: Paolo Rosso, Stefan Marchioro
Sub-chapter 4.4, Ciset: Mara Manente, Erica Mingotto
Chapter 5
Cinzia Viale, Antonella Trabuio and contributions from:
Sub-chapter 5.3: Veneto Agency for Innovation in the Primary Sector: Antonio De Zanche, Alessandra Liviero, Renzo Rossetto, Nicola Severini and Gabriele Zampieri
Chapter 6
Desirè Molin, Elisa Mantese
Chapter 7
Nedda Visentini, Alessandra Padoan, Patrizia Veclani
Chapter 8
Nedda Videntini, Patrizia Veclani
Chapter 9
Cinzia Viale, Antonella Trabuio, Lorenzo Mengotti, Diego Gasparini and contributions from:
Sub-chapter 9.2: Veneto Region – Infrastructure, Transport and Logistics Section: Marco D'Elia, Luigi Zanin
Sub-chapter 9.6: Infrastructure, Transport and Logistics Section: Mauro Menegazzo, Cecilia Pavan, Elena Romano, Ivan Fava
Chapter 10
Cinzia Viale, Lorenzo Mengotti, Diego Gasparini and contributions from:
Sub-chapters 10.1, 10.2, 10.3, 10.4 ARPAV – Computer and Networks Service: Luca Menini, Giovanna Ziroldo
Accessibility and computer support
Carmelo Paganino, O.P. Computer applications – statistics
Federico Bonandini, Nicola Diblasi, Fabio Salerno
Operational support
Marco De Bianchi, Rudy Panciera, Matteo Rigo, Massimo Zuin

Thanks to:
ACI, Agenzia ICE, Arpav, Assoporti, Northern Tyrrhenian Ports Authority, World Bank, Censis, Centro Studi di Banca Intesa Sanpaolo, Ciset, European Commission, Eige, Eurobarometro, Eurofound, European Environment Agency, Eurostat, International Monetary Fund, Global Insight, Inail, Infocamere, Inps, Invalsi, Ismea, Ispra, Istat, National statistics institutes of other countries, Beterlsmann Stiftung Institute, Ministry of National Heritage and Culture, Ministry of Tourism, Ministry of Economy and Finance, Ministry of Infrastructure and Transport, Ministry of Labour and Social Policies, Ministry of Economic Development, OCSE, UN, Oxfam, Prometeia, Ref Ricerche, Transparency International Unctad, Unioncamera, UN-Comtrade, U.S Energy Information Administration, Veneto Lavoro, WTO

Veneto Region
Infrastructure, Transport and Logistics Section, Territorial Planning Section, Tourism Section, Regional Council Office for Equal Opportunities

In implementation of Italian Regional Law No.8 of 2002, the Veneto Region Statistics office collects, analyses and distributes statistical information of regional interest. The processed data belongs to the community and is distributed through publications and through the Veneto Region website at www.regione.veneto.it/web/statistica.

The publication was completed using data available as of 30th April 2017.

Layout by Ediguida s.r.l
Printing completed in the month of June 2017
Ediguida s.r.l. – Cava de' Tirreni (SA), Italy
www.ediguida.com