



# STATISTICHE

numeri e grafici per capire il Veneto



This edition affords an overview of Research and Development (R&D) in Veneto. It presents the most recent figures from an ISTAT report on Research and Development conducted last year, showing results for 2007, and the results of a report by Istituto MET on Veneto businesses carried out in summer 2009.

## RESEARCH AND INNOVATION IN VENETO

R&D is being continually monitored in order to provide updates on the progress along the path set out in Lisbon in 2000 by EU countries, which established objectives to be achieved by 2010 in order to turn Europe into a dynamic, competitive, knowledge-based economy. One of Europe's objectives was to earmark 3% of its GDP for R&D by 2010; this figure was set at 2.5% for Italy.

The official statistics measure the level of investment in R&D by looking at R&D spending by businesses, universities, Public Administration and not-for-profit

organisations. These figures do provide an objective and comparative overview of the situation; however it is by no means comprehensive in the case of an area like Veneto where much of the R&D produced is of an informal nature and thus may be overlooked by the rigorous, at times limiting, definitions afforded by statistics. This is why this edition will provide analysis that goes beyond R&D spending in terms of GDP and encompasses the concept of innovation.

In 2007, 1,232 million euro were spent on R&D in Veneto, over 280 million euro more than the previous year (+29.4%). This growth is in line with the trend of recent years. Over the last five years, there has been an increase of almost 50%, with particularly high peaks in the last two years. This progress has been mainly supported by business, which increased its R&D investments by 46.8% in 2007. Although Veneto is behind Italy in terms of R&D spending as a percentage of GDP (0.85% compared to 1.18% in 2007), it has made an appreciable increase in recent years, up 26% on the figure for five years ago.

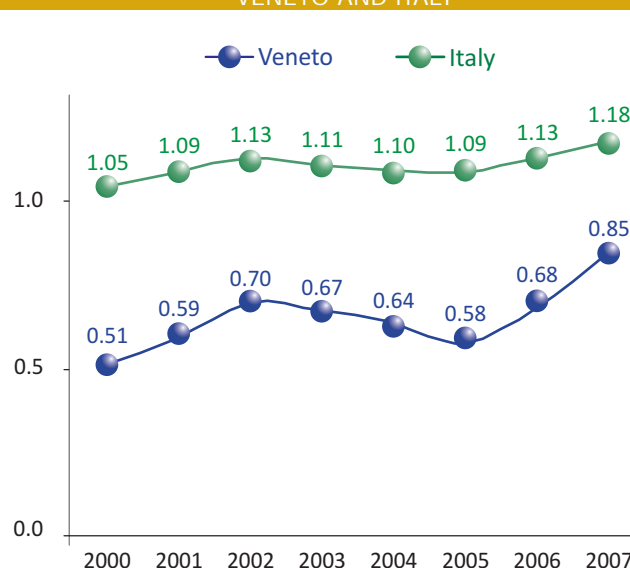
RESEARCH AND DEVELOPMENT - 2007 SPENDING, EMPLOYEES AND 2007/06 PERCENTAGE VARIATION

		Spending		Employees	
		thousands of euro 2007	2007/06 % var.	fte (*) 2007	2007/06 % var.
Businesses	Veneto	731,019	46.8	10,145	42.2
	Italy	9,454,656	15.2	93,760	17.1
Public and not-for-profit institutions	Veneto	160,861	15.6	1,929	11.7
	Italy	3,281,468	-7.0	43,554	-1.5
Universities	Veneto	340,419	8.0	4,698	8.4
	Italy	5,495,244	7.8	71,063	5.0
Total	Veneto	1,232,299	29.4	16,772	27.1
	Italy	18,231,368	8.3	208,376	8.5

(\*) Full-time equivalent

Source: processing by Regione Veneto - Direzione Sistema Statistico Regionale on Istat data

R&D SPENDING AS A PERCENTAGE OF GDP VENETO AND ITALY



ALSO AVAILABLE:

- Tourism: 2009 data
- Sport in the Veneto censuses of sports facilities, clubs and licensed
- Internationalization of enterprises

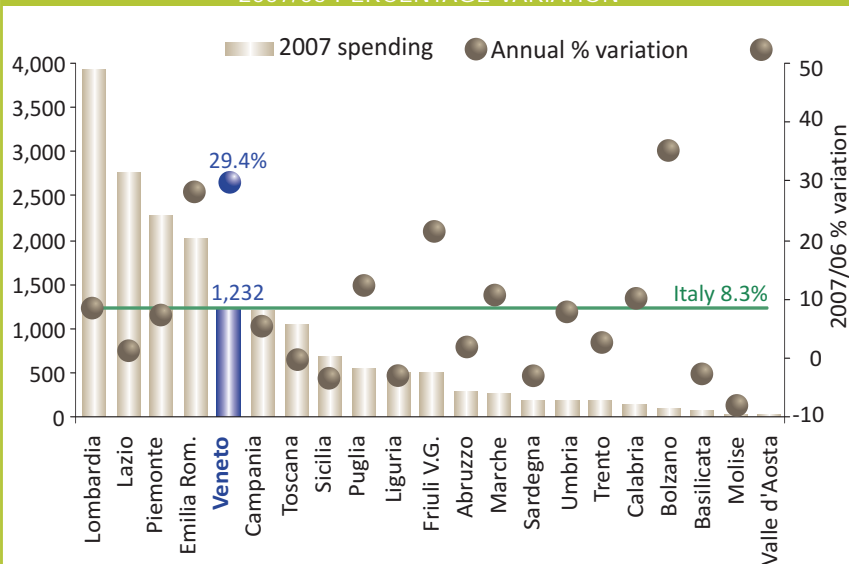
Veneto contributes 6.8% to Italy's R&D spending and it was the region with the largest increase in its support for research in 2007, second only to the development of the Autonomous Province of Bolzano and to Valle d'Aosta which, however, reported decidedly lower absolute values.

## RESEARCH AND PATENTS

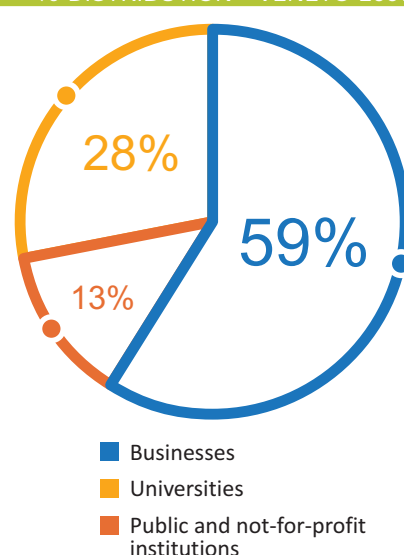
Veneto has 16,772 R&D employees, i.e. 3.5 per 1000 residents, a figure equal to the Italian average. There was also a particular increase in the number of R&D employees in business, which rose by 42.2%. The private sector dominates investments in R&D: it is responsible for almost 60% of R&D spending and employs more than 60% of its human resources. The private sector employs 2.1 people per 1000 residents, compared to the national average of 1.6. Eighty percent of spending is

made by twenty percent of companies. The main manufacturing sectors defined as being of high and medium-high technology content are the chemical-pharmaceutical, optical-electronics and mechanical sectors; technology companies in the service sector are the ones who invest most heavily in R&D, i.e. information technology and R&D services. The universities account for 28% of spending and Public Administration and not-for-profit organisations 13%.

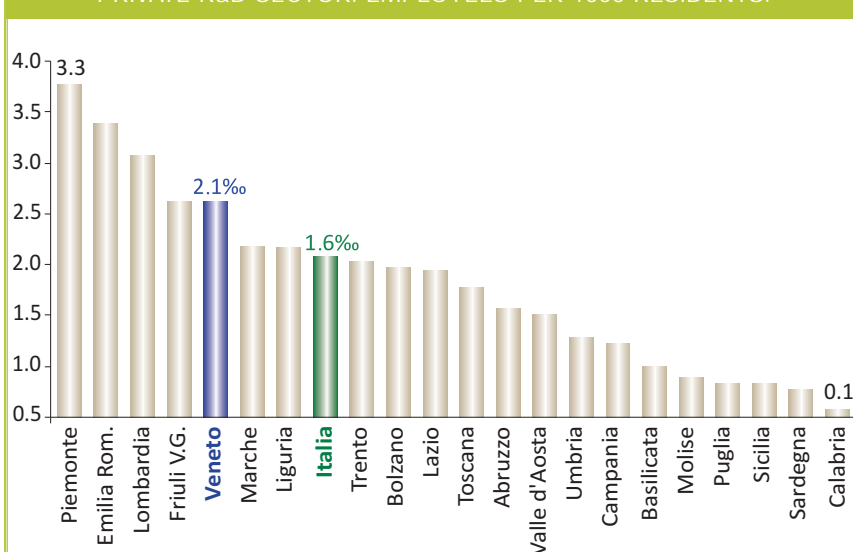
R&D SPENDING (millions of euro) 2007 AND 2007/06 PERCENTAGE VARIATION



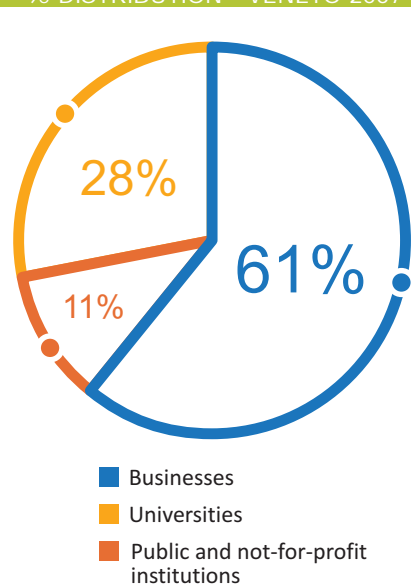
R&D SPENDING BY SECTOR: % DISTRIBUTION - VENETO 2007



PRIVATE R&D SECTOR: EMPLOYEES PER 1000 RESIDENTS.



R&D EMPLOYEES BY SECTOR: % DISTRIBUTION - VENETO 2007



Patents are a useful indicator for innovation economists to gauge the level of technology competitiveness and innovation. Although literature states that no more than 50% of patented inventions are put onto the market and that not all inventions are patented, patenting is nevertheless an important, if not the only, tool that enables the results of research to be measured. In 2008, Veneto applied

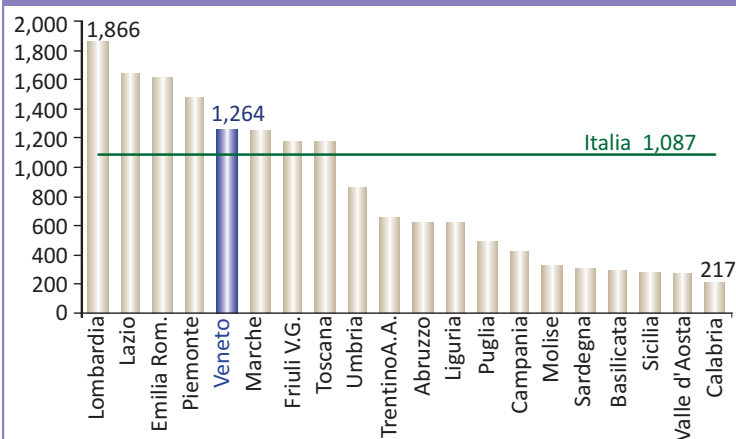
## INNOVATION IN VENETO

for 6,143 patents, which is 9.4% of the national total, making it Italy's fifth ranking region for the depositing of patents. In 2008, 1,264 patents were deposited per one million residents, compared to 1,087 at national level; 13.3 patents were deposited per 1000 businesses (12.2 in Italy). Veneto is Italy's third leading region for the depositing of patents at the European Patent Office (EPO). According to a 2009 MET report on Veneto, in the last three years Veneto businesses distinguished themselves on a national

level for their innovation: one-quarter of all Veneto businesses developed new products or processes, or ones that greatly improved the existing situation. Figures for an ISTAT report reveal that R&D spending, in the strictest sense of the term, is concentrated in large businesses. However, if we also look at innovation, the situation is one where small and micro businesses also make a major contribution to the positive performance of the regional system. Although more than half of large businesses declared that they introduced some type of innovation in the three years between 2007–2009, it should also be noted that so did one-quarter of micro businesses and almost one-third of small businesses.

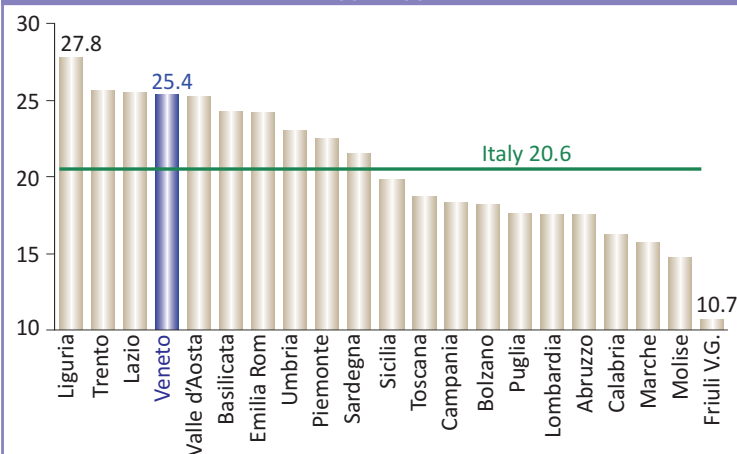
A closer look at the innovation introduced in the last three years shows that the majority involved innovation within management, organisation and commerce, as well as secondary-type innovation, i.e. improvement of already existing products or processes, rather than the introduction of new ones. About 20% of Veneto businesses declared that they had introduced organisational innovation compared with a national figure of about 14.9%.

### PATENTS DEPOSITED IN ITALY PER ONE MILLION RESIDENTS



Fonte: Elaborazioni Regione Veneto - Direzione Sistema Statistico Regionale su dati Istat e Tagliacarne

### % OF BUSINESSES THAT INTRODUCED INNOVATION 2007–2009



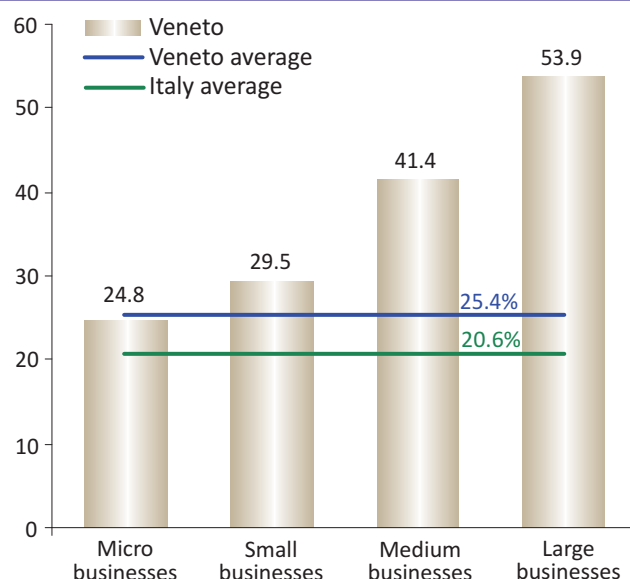
### % OF BUSINESSES BY TYPE OF INNOVATION INTRODUCED (\*) - 2007–2009

	Veneto	Italy
Introduced a new product	6.8	7.0
Introduced a new production process	8.0	7.3
Improved a production process	8.2	6.8
Improved a product	10.3	8.6
Organisational, management and/or commercial innovation	20.0	14.9

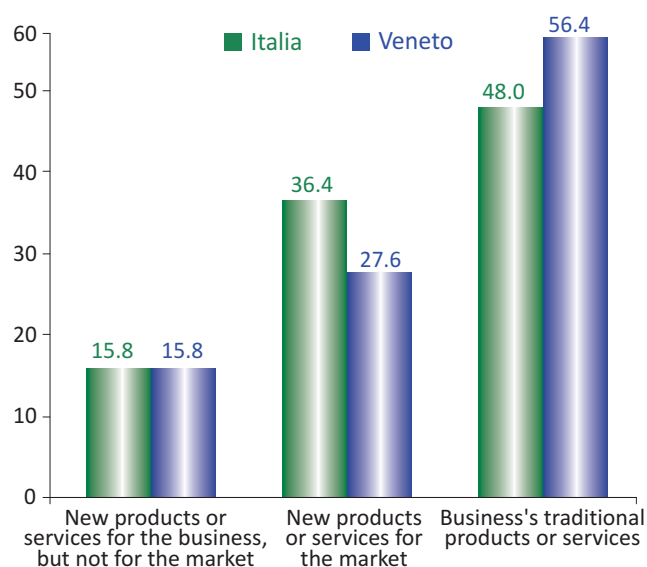
(\*) Multiple answers possible

Source: processing by Regione Veneto - Direzione Sistema Statistico Regionale on Istat, Tagliacarne and MET data

### PERCENTAGE OF BUSINESSES THAT INTRODUCED INNOVATION BY CLASS SIZE. VENETO - 2007–2009



### % OF TURNOVER ATTRIBUTABLE TO INNOVATIVE PRODUCTS INTRODUCED BY TYPE - 2008



# STATISTICHE *Flash*

The most innovative businesses are to be found in the following sectors: transport, mechanical, chemicals, rubber and plastics, and business services. Particularly high values, when compared to the regional average, are seen in the innovation of main products in the textile, metal and electrical appliances sectors; as regards secondary product-innovation, the wood and furniture sector stands out,

## TYPES OF INNOVATION AND REASONS

while the transport sector stands out for its organisational innovation. The food sector has relatively low values when compared to the regional average. Businesses innovate for a range of reasons, but they are often difficult to classify. There are two main explanations: businesses innovate in order to increase their turnover and to develop and transform the technology of their products and production processes, which is

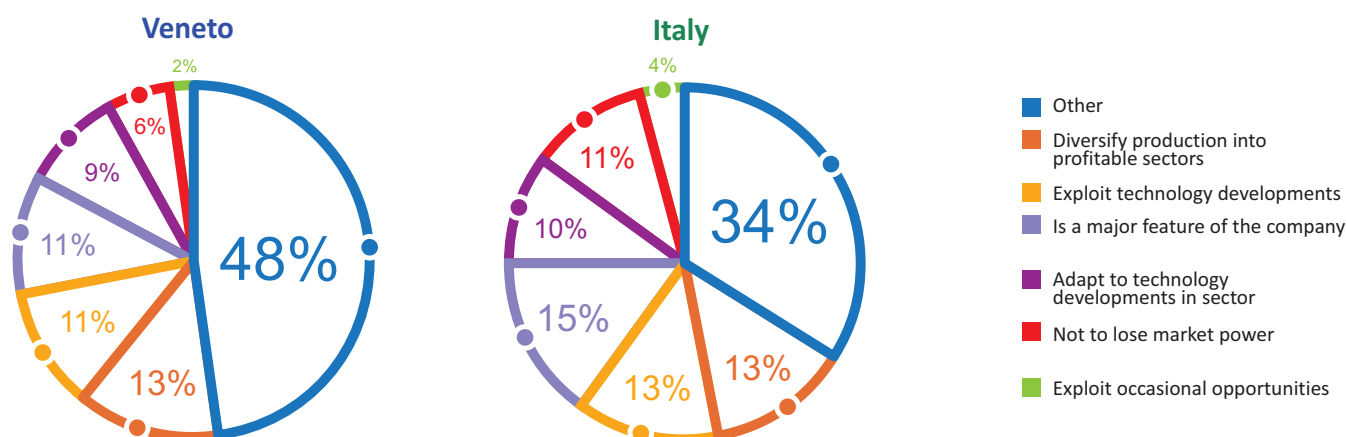
implicitly linked to the dynamics of research. It is worth noting that 13% of businesses innovate to diversify production into profitable segments, 11% to exploit progress in technology, while 11% consider innovation one of the keys to remaining on the market.

PERCENTAGE OF BUSINESSES BY TYPE OF INNOVATION INTRODUCED (\*)  
VENETO - 2007-2009

Sector	Primary product-innovation	Secondary product-innovation	Primary process-innovation	Secondary process-innovation	Organisational, management and/or commercial innovation	No innovation introduced
Food	7.4	5.9	5.4	4.9	7.4	85.9
Textiles, tanning	10.3	8.7	8.8	10.9	15.6	76.8
Wood, furniture	9.8	12.6	7.3	7.7	17.5	76.5
Pulp, paper	4.3	9.0	4.9	7.4	18.0	78.8
Rubber, plastics	11.6	14.0	9.4	16.7	20.8	67.6
Metals	10.1	8.0	7.0	11.3	13.0	80.3
Vehicles	3.5	16.4	16.5	18.0	32.0	63.8
Mechanical	8.6	13.3	11.9	14.0	27.6	64.3
Electrical appliances	9.7	11.6	6.1	10.5	20.3	74.2
Other industries	8.5	9.4	8.5	8.2	12.0	83.0
Transport	1.6	6.6	7.0	5.0	21.8	75.9
Business services	6.2	11.4	8.3	7.5	22.4	72.4
<b>Total</b>	<b>6.8</b>	<b>10.3</b>	<b>8.0</b>	<b>8.2</b>	<b>20.0</b>	<b>74.6</b>

(\*) Multiple answers possible

PERCENTAGE OF BUSINESSES THAT INTRODUCED INNOVATION BY REASON  
VENETO AND ITALY - 2009



Source: processing by Regione Veneto - Direzione Sistema Statistico Regionale on MET data



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