

## PIEDMONT REGION (IT)<sup>1</sup>

### Features of the Piedmont Region

Location	North West Italy	
Surface area	25,399 km <sup>2</sup>	
Inhabitants (al 31/12/2010)	4.457.335	
Population density	175,49 ab./Kmq	
Regional capital	Torino	
Provinces	Alessandria, Asti, Biella, Cuneo, Novara, Torino, Verbano-Cusio-Ossola, Vercelli	

### Research and Innovation in Piedmont

Investment in RTD in % of GDP (Istat, 2008)	<b>1,9</b> (first region in Italy for this)
% private investment in RTD (as a percentage of total investment)	<b>78.6</b>
Number of workers	<b>18,281</b>
Number of university researchers (Miur, 2010)	<b>1.418</b>
Number of European patents filed with the EPO (Eurostat, 2007)	<b>436</b>
Research centres – public and private (Local committee Torino-Canavese, Unicredit Group, Unione Industriale Torino, 2006)	<b>63 private</b> <b>317 public</b>
Graduates in technological or scientific subjects per 1.000 inhabitants aged 20-29 (Istat, 2008)	<b>14,0</b>

<sup>1</sup> Taken from “Piedmont regional service on Cordis”

## Introduction

Piedmont is a region located in the heart of Europe and represents, for many regions of the northern Alps, a natural link with the Mediterranean Sea and with the ports of the neighboring Liguria region. Due to a highly developed regional transport system, which includes over 1,000 km of motorway, 2,000 km of railway and two international airports, Piedmont is easily accessible and well-suited to play the role of key connecting hub within the scope of the Trans-European Networks (TEN). Piedmont is one of the greatest Italian regions with a surface area of 25,399 km<sup>2</sup>, approximately 43% of which is mountainous.

The capacity to innovate and to progress in the research activities (RTD) are the region's strong points. Indeed Piedmont is the region in Italy who spends more in RTD and it exceeds the national average which is around 1.1%. It is also well positioned even compared with other European areas. In Italy, Piedmont is also in first place concerning the percentage of expenditure on innovation in the manufacturing sector.

Piedmont and its capital Turin have a long tradition of innovation and have high growth potential for the future. Since the early Nineties indeed, Piedmont has been a centre for **avant-garde entrepreneurial practices** on the domestic front and, over time, has won large slices of the international market. *FIAT*, the leading Italian car manufacture and *Olivetti*, which under the leadership of Adriano Olivetti developed the first electronic computer, are two emblematic examples of that.



Turin was the first city to broadcast radio and television programmes and moreover the Italian cinematographic industry was born in Piedmont. Piedmont's creativity has continued to flourish over time. Today two of the major car design brands have their headquarters in Piedmont: *Giugiaro* and *Pininfarina*.

In its path of development, Piedmont, a region renowned for the size of its automotive industry, has turned towards **diversification** with an increasing determination, investing more and more in sectors linked to the knowledge economy. Today, in addition to the automotive industry, which also continues to be one of the region's driving sectors, there are other strategic sectors such as robotics, ICT, renewable energies, environmental technologies, design, aerospace, life sciences, pharmaceuticals and health, logistics.

Piedmont is one of the most dynamic regions in the industrial field, but also in the business sector thanks to its big entrepreneurial tradition and the strong exchanging relationships with neighboring regions. In Piedmont there are **over 468 thousands active companies**, 4.3 million inhabitants and almost two million employees, thanks to which it produces a Gross Domestic Product (GDP, estimates for 2009) of over EUR 121 billion, which makes it one of the top regions in the country. Concerning exchanges in the **international context**, characterized by different speeds of growth, Piedmont exports to the tune of EUR 34.5 billion and this data is growing steadily.

There are two other fundamental factors which guarantee Piedmont high performances in Research and Technological Development: the universities and the financial system. The **four Piedmont universities**, three of which are state-owned and one privately-owned, initiated feverish activities in terms of cooperation with the industrial sector and are able to conduct research activities on behalf of the enterprise system, as well as they give to their students the chance to attend excellent training courses and postgraduate paths. Every year 20,000 students graduate in Piedmont universities.

The **financial and insurance system** is well represented in the region with Unicredit and Intesa San Paolo and there are also numerous top venture capitals. The two main banking foundations (Compagnia di San Paolo and Fondazione CRT) play an active role in the region's economic development by supporting important social, economic and cultural initiatives.

Over the last few years, Piedmont has become a region with high touristic attraction potential and the [2006 Winter Olympic games](#) certainly acted as a catalyst in terms of the growth recorded by the region. In 2005, the number of overnight stays for the first time exceeded 10 million threshold (+ 9.3% on 2004).

The Scientific American magazine dedicated a special edition to Piedmont which describes the main regional research players and the region's strong points. To consult the publication [click here](#).

## Research and technological development in Piedmont

Research is one of a region's main innovation drivers. The latest available data (source: Istituto nazionale di statistica) confirms that Piedmont, with 18,281 research workers and expenditure as a percentage of GDP of 1.8 percentage points, is in second place out of all the Italian regions.



A large percentage of research spending in Italy – both public and private – is concentrated in the centre and north of the country and Piedmont is one of the Italian regions with the highest expenditure in Research and Development. As part of the ["Europe 2020"](#) strategy, developed by the European Commission and adopted last June 2010 to kick-start the EU economy in the next decade, the target set for Italy by the National Reform Programme for total spending in R&D was to reach 1.53% of GDP by 2020. However Piedmont got this result already in 2008 with a percentage of 1.8 (reference ["Rapporto annuale. La situazione del Paese nel 2010"](#), Istat).

Other data confirm that Piedmont is the leading Italian region in R&D field:

- companies expenditure in R&D: 1.42% of GDP, on a national average of 0.65%
- number of workers in R&D: 6.2 per 1000 inhabitants, on a national average of 4.0
- number of patents registered: 137.6 patents per million inhabitants, on a national average of 83.6

(reference ["Noi Italia. 100 statistiche per capire il Paese in cui viviamo"](#), Istat).

Piedmont can demonstrate its ability to express its know-how high-potential for research and productive field thanks to a strengthened system of public institutions, universities, research organisations (public, private and mixed), CNR research institutes, professional associations, higher training centres, AFAM (Higher Artistic and Musical Training Institutes), private foundations and a close network of enterprises. Moreover in terms of policy structures encouraging and developing initiatives with a high research- oriented products content, Piedmont has:

- 12 Regional Innovation Clusters, industrial policy tools to support the competitiveness of SMEs.
- 6 Science and Technology Parks to pick up and collect the needs of companies in terms of scientific research at a local level, and to facilitate the transfer of technology. They are specialised in the following fields: environment, bio industry, energy, ICT, multimedia, food farming.
- 3 technology Platforms operating in food farming, aerospace and biotechnologies sectors, with the aim at financing programmes, industrial research big projects and pre-competitive development projects of great strategic interest for the region.
- 6 business incubators, as initiatives of universities or research centres;
- a technology district in the ICT field (Torino Wireless Foundation) and a Promoting Committee of the Aerospace District in Piedmont.

Piedmont Region is also partner of several european networks: [NEREUS](#), [ERRIN](#), [ERIS@](#) and [ENOLL](#) are only a few of the specialist networks in which Piedmont Region is involved in the field of research and innovation. Piedmont keeps exchange of best practices, experiences and the experimentation of innovative ideas in the field of intervention to foster research and innovation, thanks to projects financed by the European Framework Programme of Research and Technological Development and by European territorial cooperation programmes.

## R&D in Piedmont

### Regional policies to support Research

Following the constitutional reform of 2001, the Italian regional authorities have the concurrent legislative competence for "scientific and technological research and support to innovation for manufacturing sectors" (Constitutional law 3 of October 18th, 2001).

Piedmont regional government adopted [Regional law 4/2006 "Regional system for research and innovation"](#), aimed at improving and financing in a better way the scientific research and the knowledge system present in the regional environment. Since the law has been enacted, together with the annexed programming and implementation documents (the "[General intervention lines](#)" and the "[Three-years Research Programme](#)"), the coordination between the companies' system and the several public institutions has been improved, in particular concerning the promotion of research.



The "General intervention lines" and the "Three-years Research Programme" represent the two main programming tools of the regional measures linked to the Regional Law 4/2006, together with the strategic framework drawn from the [Competitiveness Regional Plan 2011-2015](#), the [Multi-year programme of intervention for manufacturing activities 2011-2015](#) and the Protocol agreement signed by Regione Piemonte and the Ministry of Education, Universities and Research. This agreement has been signed in July 2011 and made available 40 million Euro of state funds, in addition to 50 million Euro of regional funds to finance measures developing policies supporting research, and strengthening and improving the competitiveness of Piedmont's universities. The three-years Protocol agreement will be implemented by specific Programme Agreements which will be signed by the interested parties and will coordinate the actions agreed, defining the timetable and establishing the resources necessary to implement the action.

These funds will be added to the funds allocated by the Competitiveness Regional Plan, which has a total budget of 500 million Euro – made up EU structural funds and regional resources – and it budgets 200 million Euro for research, higher education and innovation.

Through these tools, the Piedmont authorities will be able to facilitate innovative processes in the key sectors of the economy and society, stimulating new business opportunities for the entrepreneurial sector and providing to Piedmont's system good tools to face up to the international competitiveness challenges.

### **The new research strategy of Piedmont Region**

The new strategy of Piedmont Region highlights the public authorities' important role to support innovation but also the need to renew and complete the portfolio of available tools.



In Piedmont there are already several **Technological Platforms** already operating in the territory, such as the aerospace platform, for which consolidation and development measures have been scheduled, and soon other platforms will join them to support the territory's manufacturing vocation:

- **Automotive:** aim at identify shared technological trajectories which will absorb industrial and academic interests in new generation engines (electrical, hybrid, etc.), to integrate design and ICT technologies for the car of the future, to develop new bio-compatible fuels, and to create infrastructure and intelligent logistics systems for the mobility of goods and passengers;
- **Smart manufacturing:** the application of ICT technologies to the optimisation of manufacturing processes, to process control systems, to advanced robotics, and to prototyping and simulation;
- **Nanotechnologies:** for research activities to develop transversal general purpose technologies in the field of materials, and smart & clean manufacturing;
- **Internet of Things,** a transversal, general purpose platform for other platforms which focuses on the prototyping, manufacture and use of advanced sensor systems applied to manufacturing environments.

The introduction of **Innovative Public Procurement** programmes – as instrument of economic policy – could raise the quality and innovative nature of private offers compared to public contracts for the supply of products and services and stimulate the innovative and competitive capability of the entrepreneurial system in Piedmont. These measures may find application in two areas: *Green Public Procurement* and *Pre-commercial Public Procurement of Innovation*.

The promotion of **Living Labs** is important: they are research and experimentation centres set up in real contexts that offer an opportunity for comparison, collaboration and growth for the developers of technology/innovation and the related end users, is more experimental and starts from two theoretical areas: *Smart & Clean Technologies* and *Social Innovation*.

Initiatives to support companies that intend to develop or acquire innovations in the field of the energy efficiency of new buildings, to support new forms of technological and creative enterprise and to support the realisation of a centre of competence in the field of **energy-environmental innovation**.

The pervasive and widespread use of ICT to develop the various measures in the programme is supported by the "Strategic ICT Plan", whose goal is to develop smart & clean technologies and to create a **Smart Piedmont**, transforming the region into a laboratory of innovative and smart solutions.

Piedmont will launch initiatives to improve the universities' formative offer designed to support the development of professional and managerial skills, in particular concerning the following fields: automotive, aerospace, energy, nanotechnology, biotechnology and smart & clean manufacturing sectors.

## The business network

### Enterprise dynamics

The Piedmont and national entrepreneurial fabric has recently been enhanced by new companies and new entrepreneurs. There are two main factors that have fostered the re-launch of enterprise creation: simplification of the procedures required to launch new enterprise activities and greater flexibility in the world of work. In Piedmont, however, just as in Italy, the positive balance of enterprise creation is accompanied by the diminutive nature of the companies created which are encountering significant difficulties when it comes to growing within a global market context. To buck this trend and support those companies not achieving sufficient critical mass to invest adequate resources in R&D or to plan effective internationalisation strategies, there is a particularly ingrained process of aggregation in industrial centres, a process supported by national policies on the subject of research and innovation.



A strategic player when it comes to supporting enterprises is [Unioncamere Piemonte](#) which plays the central role of business facilitator and ad hoc service supplier: sector studies, innovation and technological transfer, match making with research and development centres. Its mission is promoting and developing initiatives to boost economy and production of the regional territory, guaranteeing support and coordination to the associated chambers' activities

Out of over 469 thousand companies active in Piedmont, 29% operate within the commerce and tourism sector, 24% in service sectors, 15% in construction and 12% in industry

### **Direct foreign investment**

Direct Foreign Investment (IDE) coming in represents a real litmus test of a region's competitiveness. Multinationals do, in fact, select their location for its favorable start-up conditions. IDE coming into Piedmont in 2009 was worth around EUR 6.9 million: it is the second best data in Italy for this

### **Internationalization in Piedmont**

The [Piedmont Agency for Investments, Export and Tourism](#), was set up in December 2006. It is a new consortium, whose aim is to promote the Piedmont system around the world.

The new international centre will be seeking to:

- unify the bodies that promote Piedmont-based companies,
- maintain the attraction of investments in the Piedmont region,
- boost tourism in Piedmont abroad,
- promote products and services provided by Piedmont-based companies on the global market, including the agricultural foodstuffs sector,
- enhance completely the Piedmont system in order to increase the business attraction within the region.

The "Centro estero per l'internazionalizzazione del Piedmont" dovetails perfectly with the strategy aimed at rationalizing resources and rejuvenating the system of governance already under way which has been impacting significantly on the research, innovation and promotion system abroad since the end of 2005. These are the main elements guiding the region in its process of development and economic growth.