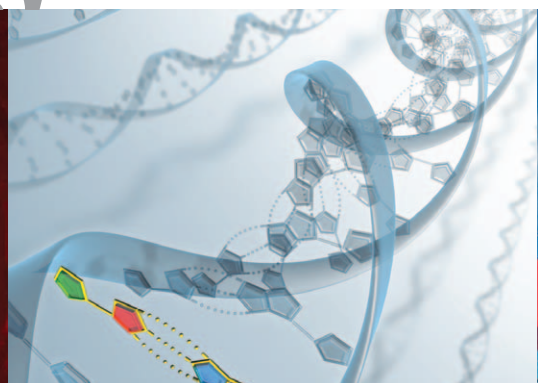
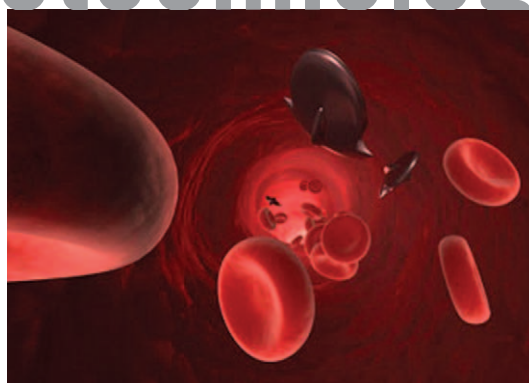
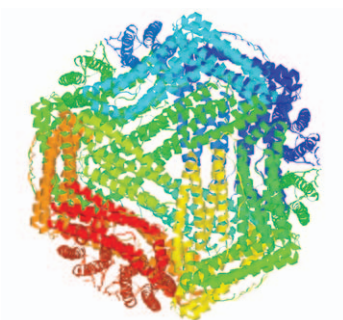


Nanotechnology



in Torino Piemonte

Northwest Italy



CENTRO ESTERO INTERNAZIONALIZZAZIONE
PIEMONTE *Agency for Investments, Export and Tourism*

Promoted by Regione Piemonte and Chambers of Commerce

A favourable environment



Facts & figures

- 4.3 million inhabitants
- 109 billion GDP (8.4% of the national total)
- 34.7 billion exports of goods and services
- 1.8 % of GDP invested in R&D (about 80% comes from the private sector)
- Over 200 public and private R&D centres, 380 laboratories, 4 universities, 6 science and technology parks
- 1st Italian Region to have established a regional agency dedicated to inward and outward investment
- 1st and unique Italian Region to have created a dedicated financial tool for attracting and supporting FDI
- 1st Italian Region for private investment in R&D
- 1st Italian Region for expenditure on innovation in the manufacturing sector
- 1st Italian Region in terms of capacity for collaboration between universities and industries
- Torino, 1st Italian city in terms of FDI inflows
- Torino, second centre in Italy for venture capital operations
- Torino host city of Euroscience Open Forum – ESOF 2010

A leader in innovation

Piemonte has been a hub for major technical innovations from the electric engine in the 19th century, to the MP3 file format in the software industry, and the common rail for diesel engines in the automotive industry. In recent decades, Piemonte, traditionally the Italian centre of the automotive industry, has diversified its own economic structure, directing itself more and more toward sectors tied to the economy of knowledge. It focuses on R&D activities and invests in strategic sectors: automotive, robotics, ICT, life sciences, design, energy, environmental technologies, aerospace, logistics, pharmaceuticals, food industry and healthcare. New technologies are developed with the backing of major companies, as well as small and medium-sized enterprises. The strong industrial vocation of the region remains the rich soil from which innovation keeps springing up and growing.

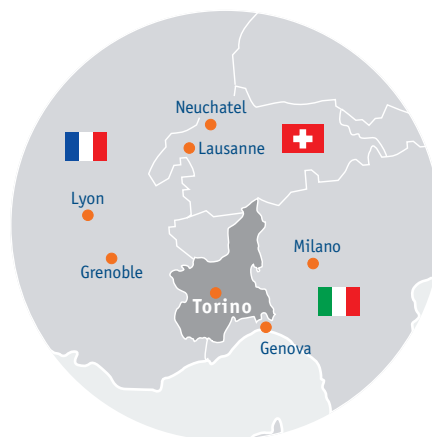
Strong commitment to R&D

The Region invests 1.8% of its GDP in innovation, more than triple the Italian average, like the most highly developed areas in Europe. Piemonte is the Italian region with the highest share of private R&D expenditure, and also leads in Italy in terms of patents registered at the European Patent Office.

Skilled personnel

Three major universities (Università di Torino, Università del Piemonte Orientale, Politecnico di Torino) and an extensive network of postgraduate schools provide a steady stream of highly motivated and skilled young people.

At the centre of a thriving network of excellence in nanotechnology



Torino and Piemonte are located right in the centre of an area with international capabilities in micro and nanotechnology, linked to major education and research centres in Italy, France and Switzerland.

The Italian Venture Capital Hub

Based in Torino in the I3P incubator (www.i3p.it), the Venture Capital Hub is made up of six international funds (TLCom Capital LLP, Doughty Hanson &co Technology Limited, Intel Capital, 360° Capital Partner, Jupiter Venture, Sofinnova Partners) and eight Italian ones, which cover all market segments of venture capital, from angel investing to early and late stage funding with resources for over a billion euro.



Piemonte Agency is the unique, free reference point for companies wishing to locate in Piemonte. The inward investment team can advise you on every aspect of starting and running a business in Piemonte, providing assistance at every stage of the project.

The team also supports foreign companies which have already invested in Piemonte, in order to facilitate operations and development in the region.

How we can help

- **assessment and information phase**
 - specific economic and market data
 - legal / labour / tax
 - incentives, grants, fiscal bonuses
 - economic and industrial climate, competencies, know-how and key sectors
 - real estate
- **start-up and assistance**
 - advice on how to set up a legal entity in Italy
 - site selection for production, services and R&D activities
 - selection of grants and incentives for investment, R&D, training
 - introduction to local and regional institutions, science and technology parks, R&D networks, innovation hubs
 - links to universities and centres of excellence
 - pre-feasibility studies
 - Regional Investment Contract

Our services are free, responsive, tailored to your needs and totally confidential. We can provide assistance at every stage of the project.

For a confidential discussion about the ways we can help you, please contact:
investment@centroestero.org



Areas of specialization



The convergence of nanoscale research with other sciences such as biology, chemistry and physics that link up with engineering, creates vast opportunities to enhance performance. In Piemonte, industry can benefit from a favourable environment, that combines technology, materials and characterisation know-how with the capacity to develop new applications.

Technology transfer

The six science and technology parks together with the business incubators contribute to the technology transfer system in Piemonte. In particular, the Bioindustry Park (www.bioindustrypark.it) promotes and develops biotechnology research; the Environment Park (www.envipark.com), doing research in the field of renewable energy, is the seat of Clean NT Lab (www.cleanntlab.com) which conducts experiments on innovative coatings, and Tecnogranda (www.tecnogranda.it) develops technologies regarding the production, characterisation and pre-industrialisation in its own Nanolab.

Agriculture and Food science and engineering

New nanomaterials, sensors and surface treatments for quality, safety and traceability are the main topics.

Ferrero (www.ferrero.it), Lavazza (www.lavazza.it)

Textiles

Innovative technologies in materials, surface and chemicals are the base of textile industry renaissance.

Biella Textile District (www.tessileesalute.it), Stabilimenti Tecnici Ozella (www.ozella.it)

Nanomaterials and Chemicals

The local excellence is related to production and application of nanostructured materials and chemicals.

Acetati (www.gruppomg.com), Bialetti (www.bialetti.it), Basf Coatings (www.basf-coatings.com), Buzzi Unicem (www.buzziunicem.it), Elettrovava (www.elettrovava.com), Evonik Novara Technology (www.novaratechnology.com), MEMC Electronic Materials (www.memc.com), Radicichimica (www.radicigroup.com)

MEMS/NEMS, IT and Electronics

Several actors carry out research to improve the availability of micro and nano-components and devices; the areas of nanotechnology incorporate IT and Electronics.

Avago Technologies (www.avagotech.com), Fiat Group Research Center (www.crf.it), Inpeco (www.inpeco.com), Microla Optoelectronics (www.micro-la.com), Narvalus (www.narvalusbiotech.com), Ribes Technologie (www.grupporibes.it), Vishay Semiconductors Italia (www.vishay.com)

Bio-(micro) nanotechnologies and processes

Areas of interest are lab-on-chip, sensors for diagnostic, drug delivery systems, biocompatible materials.

Apavadis (www.apavadis.com), Gipharma (www.gipharma.it), Grinp (www.grinp.com), Istituto di Ricerche Biomediche "Antoine Marxer"-RBM, Nanovector (www.nanovector.it), Sorin Group (www.sorin.com)

Energy, Environment, Aeronautics/Space

Innovative and alternative sources (hydrogen, solar cells, biomasses, ...), environment monitoring and renewing of industrial processes. Aeronautics and the space industry are benefiting from micro and nanotechnologies.

Avio (www.aviogroup.com), Thales Alenia Space (www.thalesgroup.com)

ILO Piemonte - Industrial Liaison Office

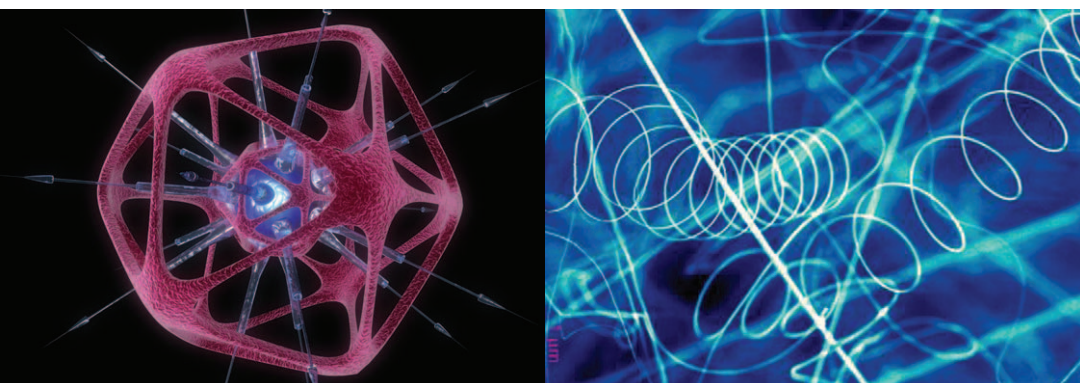
www.ilopiemonte.it

ILO Piemonte stems from a synergy project between Piemonte's universities for the transfer of technology and knowledge between academic research centres and businesses. It has the objective of fostering high potential projects, to make the best use of the research results and help to transfer them, facilitating the encounter between companies' demand for innovation and what the academic world can offer, supporting the growth in competitiveness of firms operating in the region.

Politecnico Business Research Centre

www.research.business.polito.it

The BRC, within the Polis Campus, is dedicated to cooperation in research and education between the Politecnico di Torino and industries. Spaces for offices, laboratories and industry facilities are available for this aim.



Academic know-how in nanotechnology

Piemonte's universities and research centres are recognised worldwide for their top quality research by international journals and publications.

Politecnico di Torino

www.polito.it

In the field of microsystems, biomedical applications of micro/nanotechnology, and of nanostructured materials and chemical applications of nanotechnology, the departments of Materials Science, Physics and Electronics offer the synergy of interdisciplinary competencies ideal to foster research. A Master's Degree in Micro and Nanotechnologies for Integrated Systems (www.master-nanotech.com) is active in collaboration with the École Polytechnique Fédérale de Lausanne in Switzerland and the French Institut National Polytechnique de Grenoble together with Minatec. The Politecnico has about 800 research contracts with public institutions and industries per year and an annual budget for research of € 35 million.

Università di Torino

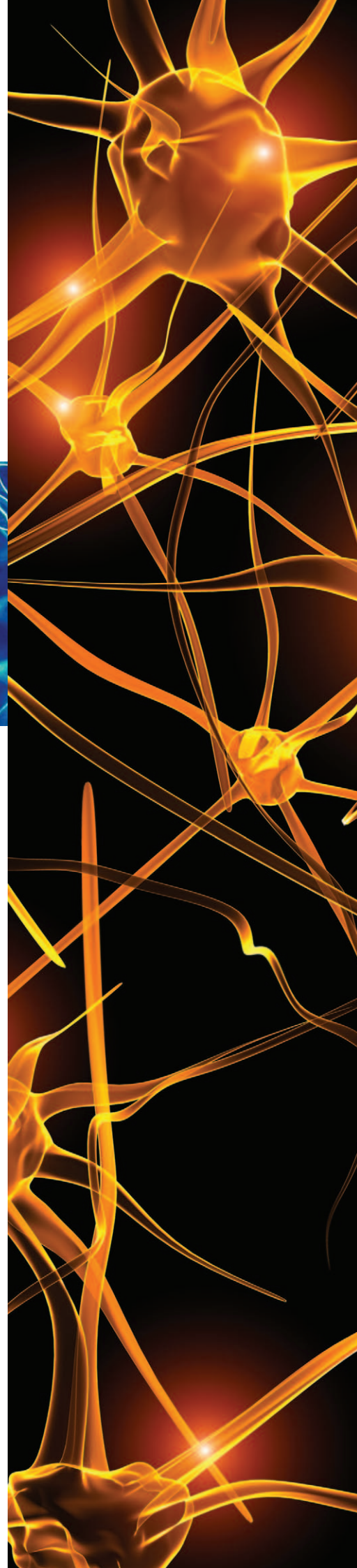
www.unito.it

The Department of Inorganic, Physical and Material Chemistry promotes and coordinates research in the field of chemical sciences, especially in those sectors covering the study of structures and properties of inorganic compounds and materials. Several departments are involved in research subjects related to nanoscience.

Università del Piemonte Orientale "Amedeo Avogadro"

www.unipmn.it

Materials science and solid state chemistry are developed in the Department of Science and Advanced Technology-DISTA (<http://dista.unipmn.it>). A permanent staff of professors and researchers along with PhD students and post-docs works on nanostructured materials suitable for light emission, sensors, catalysts, nanocomposite polymers, superconductors and magnetic solids.





Nanotechnology research centres

The engine of micro and nanotechnology researches is in university departments, but also many labs in Piemonte operate with principal focus on these topics.

CHILAB - Materials and Microsystems Laboratory

www.polito.it/micronanotech

Managed by the Politecnico di Torino, the Chilab works on the design and production of silicon and polymer-based microsystems and nanosystems, fundamental research in material science, processes for micro and nanotechnology, technology transfer and education. With more than 50 researchers the laboratory combines both technological and fundamental competencies for the study of materials, processes and design of devices, circuits and systems for the manufacturing of microsensors, MEMS and NEMS.

LATEMAR - Laboratorio di Tecnologie Elettrobiochimiche Miniaturizzate per l'Analisi e la Ricerca

www.latemar.polito.it

Coordinated by Chilab, the Latemar has the mission to combine micro and nanotechnologies with genomic, proteomic and biotech applications to produce innovative materials, devices and characterization techniques. It focuses on the development of advanced devices for diagnostics and therapeutics in the biomedical, pharmacological and food fields, in particular for DNA, RNA, proteins, molecular and cells analysis.

NIS - Nanostructured Interfaces and Surfaces

www.nis.unito.it

Nis offers a multidisciplinary laboratory equipped with the most advanced techniques in microscopy and spectroscopy. It focuses on nanostructured interfaces and surfaces that strongly influence the materials' final properties.

Proplast - Centre for Plastics Engineering

www.cdcmp.it

The Centre is promoted by the Politecnico di Torino and the Proplast Consortium (www.proplast.it) of over 90 companies, many of which operate worldwide, and 12 universities, including the Università del Piemonte Orientale "Amedeo Avogadro". Proplast, based in Alessandria, has significant experience in the investigation of nanocomposites.

INRIM - National Institute of Metrological Research

www.inrim.it

The Institute, with 280 researchers, conducts research activities in measurement science, materials science and innovative technologies. In addition to physical and engineering metrology, its main R&D areas are in fundamental physical constants, materials, metrology for chemistry, nanotechnology, innovation, quantum information and artificial vision.

ISTEC - Istituto di Scienza e Tecnologia dei Materiali Ceramici

www.istec.cnr.it

Istec is the Institute of the National Research Council (CNR) that conducts research to develop advanced ceramic materials with nanometric microstructure, both monophasic and composite.

Human Genetics Foundation

www.hugef.org

Created in 2007 by the Compagnia di San Paolo (www.compagnia.torino.it), the Università di Torino (www.unito.it) and the Politecnico di Torino (www.polito.it), the Foundation aims to support research of excellence and post-graduate training in the field of human genetics, genomics and proteomics.

Innovation Hubs in Piemonte

Piemonte Region supports with dedicated financial measures the Innovation Hubs, constituted by groups of companies active within a specific sector and their own managing authority. With the creation of the Innovation Hubs, the Region aims to foster the development of the companies' research and innovation activities through the interaction and the exchange of knowledge and experience, improving the existing potentialities, promoting internationalisation and fostering the attraction of productive investments in Piemonte.

Technology sectors and reference areas



- agrifood
- biotechnology and biomedical
- ◆ sustainable chemistry
- ▲ mechatronics, advanced production systems, digital creativity and multimedia
- renewable energy, energy saving and sustainability
- information communication technology
- ◇ textiles

Resources available for new investments in industry, research and services

The Regional Investment Contract

The RIC is an innovative financial tool managed by Piemonte Agency, aimed to encourage the arrival and development in Piemonte of investments in industry, services and research from abroad.

Beneficiaries: small, medium and large companies wishing to locate an operating unit in Piemonte.

Sectors: production of innovative goods and services, renewable energy.

Initiatives: creation of new production or service facilities and headquarters, restructuring or conversion of an existing production plant or re-activation of inactive plants or facilities, creation of R&D centres, competency and design centres, laboratories; development of research projects.

Guarantees: rapidity and certainty of timing for administrative procedures, investment support with grants or soft loans, the commitment of the local authorities, universities and research bodies involved for the creation of infrastructures, the running of research activities in cooperation with the company, assistance in all stages of the project.

For further information about the Regional Investment Contract, please contact Piemonte Agency: investment.contract@centroestero.org

Incentives and grants

Resources are also available within the EU and regional financial framework 2007-2013

- POR (Regional Operational Programme) 2007-2013: over half the funds are dedicated to R&D and innovation (Innovation Hubs, Technology Platforms, R&D projects etc.) with a focus on renewable energy
- Regional Law number 4/2006: aimed to support SMEs' R&D and innovation programmes (public-private partnerships, collaboration with Universities, Science and Technology Parks, Innovation Hubs, converging technologies etc.)
- Regional Law number 34/2004: aimed to support R&D and innovation especially for collaborative research, technology platforms and internationalisation

For further information on incentives and grants in Piemonte, please contact Piemonte Agency: investment@centroestero.org

Centro Estero per l'Internazionalizzazione Piemonte Agency for Investments, Export and Tourism

Piemonte Agency is the first Italian agency dedicated to internationalisation that brings together institutional development actors, public and private business associations, the academic and research worlds. Piemonte Agency focuses chiefly on attracting foreign direct investment, increasing the presence of local companies and their competitiveness on international markets, and promoting the region's tourist offer and products worldwide. Piemonte Agency is the unique, free reference point for companies wishing to locate in Piemonte.

Promoting members



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