

***Locating and Funding Italy's
Early Stage Biotech
Companies and Spin-offs***
***an overview of Italian excellences in red
biotech***

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Disclaimer

The organizations herewith portrayed were selected by the Italian Trade Commission in NY and do not intend to be an exhaustive list of biotech entities in Italy. Moreover, whilst every effort has been made to ensure that the information contained in this document is accurate, the Trade Commission is not liable for any errors or omissions contained in any part of this report.

Executive Summary

The Italian biotechnology sector has made huge strides in the last few years, growing at rapid pace and currently generating an overall €16.3 (\$23.9) billion in yearly revenues, of which €6.3 (\$9.2) come from strict biotech sales. It comprises **260 companies**- of which more than 190 are focused on the health care segment- whose R&D spending reached €1.5 (\$2.2) billion in 2008. The largest number of firms (at least 40) are focused on **Oncology**, a field in which Italy is ranked second only to the United States. Other fields such as **Vaccines, Gene Therapy, Neurosciences and Cardiovascular Diseases** have also been a longtime focus of leading-edge applied medical research. In terms of size, 75% of Italian companies are considered small enterprises, possessing fewer than 50 employees and having less than €10 million in annual sales. Italian biotech companies are also proving to be exceptionally strong in product development, with 136 compounds in clinical trials and 73 at the preclinical phase by the end of 2008. Of these products in trials 38% belong to the area of antineoplastics and immune modulators, 12% to CNS, and 7% to cardiovascular diseases and dermatology, while 40 of them have received “orphan drug designation” (7 from EMEA, 2 from FDA and 31 from both EMEA and FDA). In addition, approximately 49 compounds are in the discovery phase.

This report hopes to acquaint potential investors with a spectrum of Italian locations where early stage companies are currently active or are forming. To that end, it will provide a brief analysis of the main science parks, research centers, universities and incubators in Italy which host researchers, ideas, business plans and which could therefore be the target of a careful investigation by potential investors. In fact, an important source of start-ups and new business in the Life Sciences is the extensive network of **Science Parks and Business Incubators**, which, thanks to the dynamic interaction among companies, research, finance and the local governments, has contributed to the creation of a growth oriented business environment. In addition, **several public and private Research Institutes** are present throughout the country, highly specialized in molecular technologies, biomedical technologies, neurosciences, cell biology, molecular immunology, molecular genetics, oncology, gene therapy. At least 95 companies out of 260 are located in these types of infrastructures. Also, several of the universities and institutes listed in this document have incubators or tech transfer capabilities and in 2008 they generated 44 spin-offs. Investors can find several start-ups and early stage companies inside these environments, and explore co-investment opportunities with existing financial backers.

The **high quality of the research** occurring in these infrastructures and the **strength of Italy’s scientific community** is well known. The Aspen Institute Italia, which recently carried out an analysis measuring the strength of Italian biomedical research vis-à-vis the one conducted in France, the UK and Germany (measured by Italian publications’ share of total output, growth rate and relative degree of specialization), found that Italy is a leader in most areas (particularly Oncology, Endocrinology, Gastroenterology, Urology, Pharmaceuticals) and is behind in Genomics and post-Genomics.

To provide a glimpse of Italy’s vibrant biotech entrepreneurial community this report will include brief profiles for a dozen early stage biotech companies, whose delegates presented at the most recent edition of the conference BioInItaly.

As a testament to the growing partnership between the scientific and entrepreneurial communities of Italy and the US, a selection of the most recent and relevant examples (**“success stories”**) of alliances, collaboration agreements and investments between Italian life sciences companies or Universities and American counterparts will be provided.

This report will also furnish a selected list of **venture capitalists** in Italy. The country is still experiencing a significant lack of VC activity and the industry is rather immature compared to several European neighbors. However, there are several active VC funds, both private and public or a combination thereof, with which prospective foreign players could co-invest in early stage companies. Included in the list will also be the Italian Business Angels Association and The Italian Venture Capital and Private Equity Association (AIFI), whose members follow and fund entrepreneurs and could therefore serve as insightful local partners for foreign investors.

Examples of some additional **sources of funding** will also be furnished. For example, **banking foundations**, a traditional source of funding for education and science in Italy, have started to actively back the biotech industry through several initiatives. Furthermore, some regions most notably Lombardy, Emilia Romagna, Sardinia and Tuscany, have started **local private equity funds** dedicated to the support of young and innovative companies.

Some information on the current programs administered by the Italian government to support the Life Sciences will also be included, such as its current flagship program ***Industria 2015*** aimed at increasing the competitiveness of Italy's industrial system in several strategic areas, one of which is the Biotech Sector. Within *Industria 2015*, for the period of 2007-2009 the government has allocated €150 million (\$220) to the Life Sciences alone, while the strategic plan for this sector, aimed at defining themes and priorities to be addressed, is currently being finalized.

The report will outline the current government regime concerning **Intellectual Property rights** in the Life Sciences, which is covered by Law N. 78 of February 2006. As a founder member of the European Union, Italy is at the forefront of European IP Rights developments and has some of the most modern and up-to-date IP practices in the world.

Finally, the report will conclude with a list of upcoming **events** featuring Italian Life Science companies, which present a great opportunity to meet Italian biotech researchers and entrepreneurs, as well as current investors.

Science Parks & Research Infrastructures

As outlined in the summary, an important source of start-ups and new business in the Life Sciences is the extensive network of **Science Parks, Business Incubators**, and **several Public and Private Research Institutes**, which are highly specialized in molecular technologies, biomedical technologies, neurosciences, cell biology, molecular immunology, molecular genetics, oncology, gene therapy. At least 95 companies out of 260 are located in these types of infrastructures. In addition, several of the universities and institutes listed in this document have incubators or tech transfer capabilities, fostering therefore many spin-offs (44 in in 2008). Italy has more than 40 universities with dedicated biotechnology courses.

The main biotech clusters are located in the regions of Northern Italian regions of Lombardy, Piedmont, Tuscany but other regions are gaining prominence and reaching critical mass, such as Lazio, Sardegna, Campania, Friuli and Emilia Romagna.

Science Parks and Business Incubators

Start-ups and new business initiatives can count on a network of 40 science parks and business incubators, which are comprised of companies, venture capitalists, universities, laboratories and research centers and offer a wide range of services. Among the most important Science Parks focusing on red biotech are the **San Raffaele Biomedical Science Park** (Milan), **Canavese BioIndustry Park** (Turin), **Area Science Park** (Trieste), **Toscana Life Sciences** (Siena).

Italy's Life Science Parks



Park	Region/City	Projects / Research Lines:
Technapoli Consortium is a Science and Technology Park located in the Naples area charged with organizing and integrating activities to make industrial and scientific processes more innovative. http://www.technapoli.it/	Campania Naples	Pharmaceuticals, Medical Devices, Biotechnology, biomaterials, bioinformatics
AREA Science Park is one of the main multisectoral science parks in Europe with institutions and centers of excellence in the fields of Biotechnology, Diagnostics, Chemicals, and Biochemical, Biomedical Technology. The park also hosts the Technology District of Molecular Biomedicine which is an innovative system that aims to strengthen research, protect IP rights, create innovative enterprises and attract leading companies, and focuses its activities on Genomics, Bio-nanotechnologies, Molecular Imaging and Bioinformatics. www.area.trieste.it	Friuli Venezia-Giulia Trieste	Biotechnology, Diagnostics, Chemicals, and Biochemical, Biomedical Technology.
The Lazio Bioscience Technology District was created in 2008 by Filas (Finanziaria Laziale di Sviluppo), the Lazio Region, the Ministry of University and Research and the Ministry for Economic Development, to promote technical and scientific collaboration between industry and research, strengthen the competitiveness and visibility of the bioscience sector at the international level and spur the qualitative and quantitative growth of enterprises and know-how. http://www.filas.eu/Page.aspx?IDPage=182	Lazio Rome	Pharmaceuticals, Medical Devices, Biotechnology, Nano-science and Nano-technology for the health sector, Food science for the health sector, ICT for biomedicine and health services.
San Raffaele Bioscience Medical Park (Fondazione Parco Biomedico San Raffaele) is a public-private partnership with over 3,000 sqm (32,000 sqft) of laboratories and counts on a broad network of research clinics. The main research areas for the companies and research groups in the park are stem cells, oncology, leukemia, immunology, molecular cardiology, skeletal regeneration, cell therapy, biomedical quality control. http://www.scienceparkrome.eu	Lazio Rome	Diabetology and molecular endocrinology, Hematopoiesis and leukemogenesis, Immunology, Molecular cardiology, Molecular medicine, Skeletal diseases, Stem cells, Stem cells and muscular dystrophies, Tumor epigenetics, Viral vectors and gene therapy
BioCity Winch BioCity-Winch is a project for research and experimentation in the biotechnology sector presently under development within the Science Park in Bresso, Milan. The Zambon Group, CTI Europe, Nicox and Newron are already located there.	Lombardy Bresso	
Insubrias BioPark backed by The Foundation Istituto Insubrico di Ricerca per la Vita (FIIRV), Insubrias BioPark is a science park and bio-incubator in the Italian biotech sector, located in Gerenzano, in the province of Varese. The Park has a total surface of 52,000 square meters, of which 15,000 are occupied by offices and laboratories, equipped with the most advanced technologies in the bio-medical sector. http://www.ricercaeravita.it	Lombardy Gerenzano	Anti-Cancer & Coeliac Disease Project
Parco Tecnologico Padano Gathering together University, private research labs, an enterprise incubator and a business park, Parco Tecnologico Padano (PTP) represents the most important Ag-biotech cluster in Italy. Within the PTP, research activities are performed by a specific division (CERSA, Agro-food Research Center) whose mission is to carry out innovative research on the genomics and genetic diversity of traits related to crop and livestock production and traceability of derived products. Ongoing research projects are focused on: Molecular breeding, Pathogen resistance, Food safety, Biodiversity, Traceability. http://en.tecnoparco.org	Lombardy Lodi	Development of algorithms and software for statistical and bioinformatic analysis of genetic data; livestock genotyping DNA polymorphism analyses; provide genetical and molecular tools to improve plant breeding; produce applications in the field of genomics and functional genomics applied to plant.
Business Accelerator (Filarete Foundation) is a bioscience research Park managed by the Filarete Foundation, an organization started by the Bank Intesa San Paolo, Cariplo Foundation and the University of Milan as a public-private project to create, host and nurture high-tech entrepreneurial initiatives in the field of biopharmacology and biomedicine. It began operating in 2008 and it extends over 6,000 sqm. The foundation funds research in the area of proteomics, genomics and bioinformatics, molecular imaging and polymeric materials for human therapy. www.fondazionefilarete.com	Lombardy Milan	Cell Model Systems, Animal Model Systems, Genetic Engineering of Model Plant Systems and Crops, Micro and nano-fabrication, Polymer Therapeutics, Molecular and Cellular Imaging, Proteomics, Genomics & Bioinformatics, Pharmacology
San Raffaele Biomedical Science Park is one of Europe's largest Science Parks, entirely devoted to biomedical and biotechnology research. It includes: the biggest Italian private hospital; the first ranking Italian biomedical research institute with 500 scientists; Università Vita-Salute, a private University; 8 biotech and pharmaceutical companies; 2 research funding charities. http://www.spr.it	Lombardy Milan	Cancer Immunotherapy, genetics and Gene therapy, Molecular and Cellular Pathology, Neuroscience and Stem Cells, AIDS and infectious diseases, biomedical technologies.
Canavese Bioindustry Park This Science & Technology Park located in Canavese (near Turin) promotes and develops biotechnological research hosting enterprises who want to set up research and pilot production in the chemical, pharmaceutical, diagnostic, veterinary, food, cosmetic, bioengineering and information science fields. Spaces are still available for start-up, spin off and existing companies in the above-mentioned fields. The incubator "Discovery", the most important life science base initiative for the creation of new companies in Piedmont, is also in the park. http://www.bioindustryPark.eu	Piedmont Turin	Molecular Biology, Proteomics and Functional Proteomics, Chemicals, Bioinformatics, Theoretical and Computational biophysics
The Science and Technology Park of Sardinia. This center created and managed by Sardegna Ricerche, the local Government Agency for innovation is a network of state-of-the-art infrastructures for the location of innovative enterprises and R&D activities, which provides a range of services promoting innovation, research and technological development. The park promotes applied research in diversified technological branches, namely ICT, Bio-informatics, Biomedicine, and Industrial Biotechnologies. It assists enterprises and research centers source financing, while also promoting R&D activities at the international level, with the aim of attracting new investments in Sardinia and promoting scientific-technological collaborations. There are currently 35 biotech companies in the park. www.sardegnericerche.it	Sardinia Cagliari	Biomedical biotechnology for diagnosis and drug discovery & development; Bioinformatics; ICTs for medicine. Bioinformatics and computational biomedicine lab; Genotyping, molecular diagnostics and pharmacogenetics lab; Biotechnology applied to biomedicine lab; GLP-certified preclinical pharmacology lab; Bioactive molecule modelling and screening lab.
Polo Sant'Anna Valdera set up in 2002 as a unit of Scuola Superiore Sant'Anna to support the growth and development of innovative firms in many sectors, including Biomedical and Biotech, this Park is managed by Pont-Tech, a consortium for Industrial Research and Technology Transfer resulting from a joint initiative of public and private entities, industrial companies, banks and universities. The mission of Pont-Tech is to promote research activities and technology transfer from research towards industrial application. http://www.pont-tech.it	Tuscany Pontedera	Biotechnology
Toscana Life Sciences (Siena Science Park) is a new science park in Siena dedicated to applied research in the Life Science Sector. The main aim is to offer equipped buildings, services and financing opportunities, spurring the development of new biotech companies focused on pharmaceutical, biotech, diagnostic and innovative biomedical technologies. It began in 2005 and currently hosts 18 companies. http://www.toscanalifesciences.org	Tuscany Siena	microbiology, immunology, molecular biology and cell biology, bioinformatics, computational chemistry, small drug design and discovery. Major platforms currently available are : Computational biology, Computational chemistry, Confocal microscopy, DNA synthesis & sequencing, Flow Cytometry, Genomics, Highthroughput screening, Mass Spectrometry, NMR spectrometry, Peptide chemistry, Proteomics, Small molecule drug design & synthesis, Vaccines production, Vaccines research & development,
Vega Venice Gateway for Science and Technologies is the Venice City of Technology and Innovation, linking Universities, Centres of Excellence and the manufacturing sector in order to sharpen the competitive edge of the companies in the national and international markets. Vega is the first scientific-technology park in Italy, with 200 companies and over 2000 people employed. www.vegapark.net	Veneto Venice	Industrial microbiology; Nanobiotechnologies; Biosensors for the monitoring of human and animal health, food quality and the environment; Bioinformatics; Bioelectronics; Downstream, separation and purification of metabolites;

Research Institutes and Universities

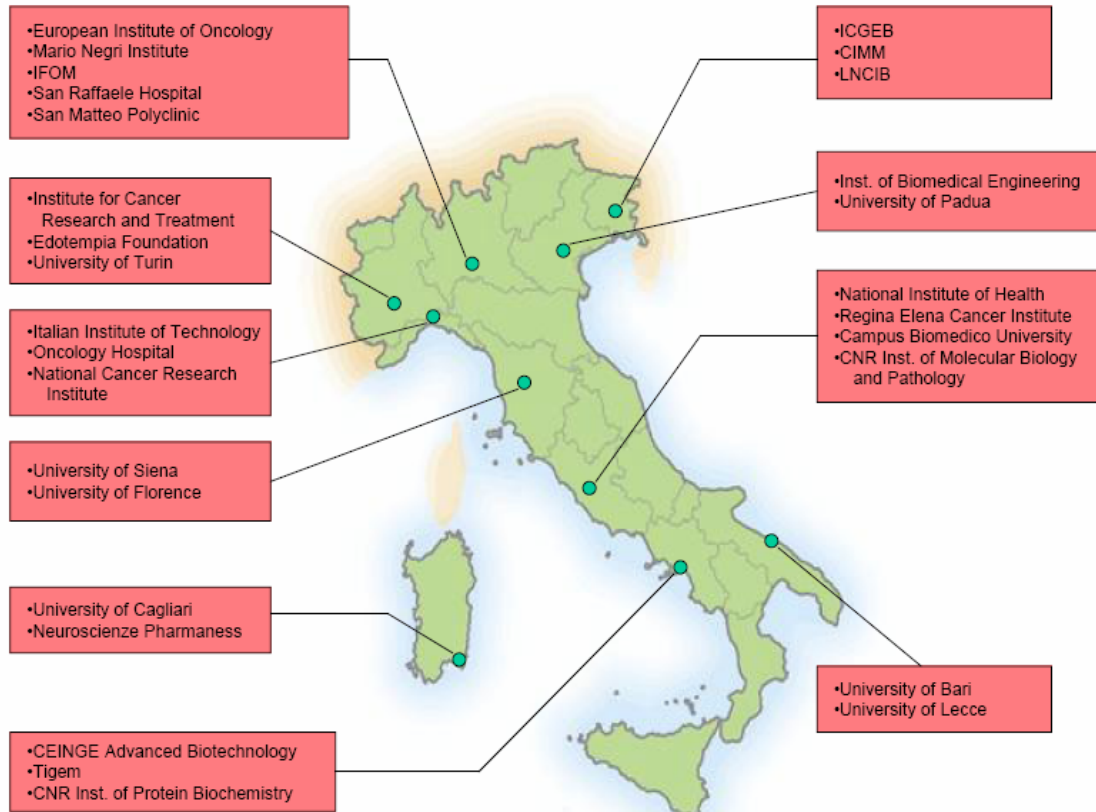
Life Science research is underpinned by an extensive network of Research infrastructures. There are numerous specialized university degrees courses, committed research centers, as well as both public and private institutes like those of the **National Research Council (CNR)** and the **National Agency for Energy and the Environment** operating throughout the country. There are also several working hospitals, such as the Scientific Institutes for Research, Hospitalization and Health Care (IRCCS), as well as private centers such as the Mario Negri Institute for pharmacological research, which all make invaluable contributions to research and innovation.

The National Research Council (CNR) is Italy's major governmental organization for research and development, employing more than 8,000 people across Italy. Its annual budget is about €1 billion, half of which is assigned by the National Government and half is obtained through competition-based grant programs or projects reflecting research collaboration and partnerships with companies and public and private sector organizations. The CNR integrates its activities through an interdisciplinary structure made up of 11 National Departments, networks of Institutes and researchers brought together to focus on important major scientific problems and is continuously seeking cooperation for: development of new projects (R&D), Technology Transfer or Production license, Joint Creation of an enterprise or consortium, Development of new products. Its **Department of Life Sciences (CNR-DLS)** groups researchers working in 15 Institutes, most notably the Institute of Biomembrane and Bioenergetics (IBBE), the Institute of Protein Biochemistry (IBP), the Institute of Molecular Biology and Pathology (IBPM), the Institute of Endocrinology & Experimental Oncology "Gaetano Salvatore" (IEOS), the Institute of Genetics and Biophysics "Adriano Buzzati Traverso" (IGB), the Institute of Genetics of Populations (IGP). The CNR-DLS is active in a range of studies on the fundamental mechanisms governing living organisms and organized into six major thematic networks: Function, regulation, and evolution of eukaryotic genomes; Structure, function and design of proteins, nucleic acids and their supramolecular complexes; Molecular mechanisms and signaling in the control of cell proliferation, differentiation and death; Animal models in physiopathology and behaviour; Biodiversity and mechanisms of adaptation to stress; Bioinformatics and Computational Biology. An innovative service offered by the CNR Department of Life Sciences is the Stem Cell Fate Lab (SCF Lab), which aims at identifying specific factors (molecules / genes / signaling pathways) controlling the balance between self-renewal and differentiation of ES cells through the application of cell-based high throughput screening (HTS) methodologies. <http://life.cnr.it/>

Among other top public and private center there are the **San Raffaele Institute Hospital** in **Milan**, the **National Institute of Health** in **Rome**, the **Italian Institute of Technology** in **Genoa**, the **European Institute of Oncology** in **Milan**, the **Regina Elena Cancer Institute** in **Rome**.

Another important and recently created center, in the form of a foundation, is the **European Center for Nanomedicine (CEN)**, whose president and founding member is Mr Adriano De Maio, a leading expert and pioneer in the field of innovation management and project management in Italy. The CEN is based in **Milan** and draws on the collaboration with a wide-ranging network of institutes, hospitals and companies. Among the several entities involved are the University of Milan, Pavia University, the Polytechnic of Milan, the Polytechnic of Turin, the European Institute of Oncology, the Foundation of the Polytechnic of Milan (a hospital), the Institute for Molecular Oncology Foundation and private companies like the large multinational STMicroelectronics and the small-sized biotech firm Genextra.

Selected Institutes and Research Centers



Institute / Research Center	Region/City	Projects / Research Lines:
Telethon Institute of Genetics and Medicine (TIGEM) since its inception in 1994 TIGEM has been a point of reference in Italy and internationally for research on genetic diseases and developing new technologies in functional genomics and gene therapy. The Institute currently hosts 13 independent research groups with over 170 members including graduate students, postdoctoral fellows, technicians and administration. http://www.tigem.it/	Campania Naples	Developmental Disorders (DD); Inherited Eye Diseases (IED); Inborn Errors of Metabolism (EM); Functional Genomics and Systems Biology (FGSB)
CNR (National Research Council) Adriano Buzzati Traverso Institute of Genetics and Biophysics The Institute was founded in 1962 by Adriano Buzzati-Traverso and currently has 47 Scientists and 50 administrative and technical staff. The research groups host approximately 150 research trainees (undergraduate and graduate students, and post-docs). Research activities are focused on human diseases, genetics, developmental and stem cell biology as well as biotechnology for environment and agriculture. http://www.igb.cnr.it/	Campania Naples	molecular Biology, Genetics, Genetics. Biotechnology and Biophysics with a particular focus on the functional and structural characterization of human, murine and other animal genomes.
CNR (National Research Council) Institute of Protein Biochemistry it is the largest CNR institute engaged in the study of proteins and enzymes using the latest technology and interdisciplinary approaches in microbiology, biochemicals, genetics, biophysics, and molecular, cellular and structural biology. http://www.ibp.cnr.it	Campania Naples	study of biochemical, genetic and physiological mechanism of organism when adapting to extreme life condition; microbiology; regulating gene expressions; immunology and molecular recognition; biocompatibility and biodegradability
CNR (National Research Council) Institute of Biostructure and Bioimaging it was set up in 2002 to pursue an interdisciplinary approach to biochemical and biostructural technologies, biochemical technologies used in diagnostic imaging, and diagnostic technologies for imaging and radiotherapy. http://www.ibb.cnr.it	Campania Naples	design, synthesis, expression and structural characterization of biomolecular systems, in both solid and solutions, involving peptides and proteins and developing new diagnostics products.
CEINGE Advanced Biotechnology CEINGE - Biotechnologie Avanzate is a non-profit consortium that deals with advanced biotechnologies and their possible applications. Founded in 1983, its partners are the Campania Region, the University of Naples "Federico II", the Naples Provincial Authority, the Naples Chamber of Commerce, and the Naples Municipality. www.ceinge.unina.it	Campania Naples	Molecular basis of hereditary diseases; Molecular basis and therapy of the leukaemias; Bioinformatics; Genetics applied to medical problems; Molecular oncology and tumor genetics; Developmental genetics; Neurosciences; Proteomics and clinical proteomics
International Center for Genetic Engineering and Biotechnology (ICGEB) has an international network of centers of excellence for research and high level training in the fields of Biotechnology and Genetics and boasts 200 researchers. http://www.icgeb.trieste.it	Friuli Trieste	Molecular and Proteomic Biology as applied to the DNA metabolism; Human Parasitology as applied to transcription of HIV-1; Bacteriology and gene expressionism; Immunology processes; Molecular pathologies; applied virology focusing on human papilloma.
Center for Molecular Biomedicine (CBM) located inside the Area Science Park, CBM is a public-private consortium which carries out research and advanced training in the field of molecular biomedicine. CBM act as a bridge between public research and industry in the sector of "personalized medicine". CBM manages a network of science centers, companies, governmental bodies, development agencies and financial partners in order to stimulate and accelerate the process that transforms a "scientific idea" into a "product" (a drug, a new therapy, new diagnostic systems). www.cbm.fvg.it	Friuli Trieste	Bioinformatics; Drug delivery & Medical Devices; Genomics; Optical Imaging; Nanomedicine; Proteomics; NMR metabolomics
Basic Research and Integrative Neuroscience (BRAIN) is an interdepartmental center at the University of Trieste, which groups together interdisciplinary skills in the neuroscience field. The center covers integrated study projects aimed at providing a composite picture of various biomedical issues. http://www2.units.it/~brain	Friuli Trieste	Stem cells analysis; Cerebral ageing; Neuronal typing; Cerebral visualization using fMRI; Pre-natal cerebral learning.
Inter-departmental Center for Molecular medicine University of Trieste (CIMM) the center comprises 32 research groups, hosting over 300 researchers. http://www.univ.trieste.it	Friuli Trieste	Oncology, Infectious, Metabolic, Nutritional, Immune system, genetic, Neurological, cardiovascular and reproductive diseases, nanobiotechnology.
National Laboratory for the Inter-University Biotechnology Consortium (LNCIB) is the focal point and catalyst for biotechnology research in Italy in collaboration with its university partners: it's active in the production of Full Length cDNA clones characterized by sequencers with 96 capillaries ABI PRISM 3700. The cDNA micro array platform is used for the study of human colon and ovarian tumors. http://www.lncib.it/	Friuli Trieste	genomics, Bioinformatics, Immunology, Oncology
Regina Elena Cancer Institute Italy's second institute for number of clinical trials, the center focuses on frequently occurring, high social impact Tumor Pathology www.ifo.it	Lazio Rome	Epidemiology, causes of tumors, neoplastic transformation and progression and experimental therapies; oncogeny; tumor suppressive gene; gene therapy; immunology; biomolecular and instrumental diagnostics; epidemiology and early diagnostics.
CNR - National Research Council - Department of Life Sciences The Department of Life Sciences (DLS) embraces a range of research on the fundamental mechanisms governing living organisms. DLS supports research on the human and model genomes and on all aspects of genetics, basic biochemistry and cell biology related to health and disease, including the translation of knowledge into health policy and practice, and the societal implications of genetic discoveries. http://life.cnr.it	Lazio Rome	Integrating the Physical and Applied Sciences into Health Research, Proteomics and Bioinformatics; From Genes to Genomic Medicine (including Clinical Genetics Research); Population Genetics, Genetic Epidemiology and Complex Diseases; Health Services for Genetic Diseases - CNR is seeking cooperation for: development of new projects (R&D), Technology Transfer or Production license, Joint Creation of an enterprise or consortium, Development of new products.
CNR (National Research Council) Institute of Cell Biology The 'Istituto di Biologia Cellulare' (IBC: Institute of Cell Biology) was established in Rome by Consiglio Nazionale delle Ricerche (CNR: Italian National Research Council) in 1969. The Institute's first director was the 1986 Nobel Prize winner Prof. Rita Levi-Montalcini. http://www.cnr.it/istituti/DatiGeneralI_eng.html?cds=011	Lazio Rome	Functional genomics and molecular medicine; Molecular systems of signal transduction; The world of RNA; Molecular aspects of parasite-host relationships in tropical diseases; Construction and phenotypic analysis of mutant strains and phenocopies, as in vivo models of human diseases; Cryo-conservation, rederivation, distribution of mutant strains
CNR (National Research Council) Institute of Molecular Biology and Pathology Founded in 2003 from the merger of three National Research Council centers located at the University of Rome "La Sapienza", namely the C.S Acidi Nucleici, Biologia Molecolare and Genetica Evoluzionistica, with a Unit of the former Institute of Biomedical Technologies (ITBM). It currently has about 50 researchers. http://www.ibpm.cnr.it	Lazio Rome	Structural biology and macromolecular recognition; Structure-function relationships of proteins and nucleic acids; Regulation of gene expression; Genetic and molecular analysis of cell division; Mechanisms of cellular proliferation, differentiation and cell damage control; Human genetic variability: evolutionary and epidemiologic aspects.
Campus Bio-medico University The university's faculty of Medicine and Faculty of Engineering offer degree courses in medicine, and offers phd program in neuroscience, endocrinology, transplant disorder and infant molecular pathology. Other department cover cellular biotechnology, hematology, genetics and molecular biology http://www.unicampus.it	Lazio Rome	ICT for medicine; neurosciences; physiopathology of metabolism and nutrition; oncology; physiopathology of aging; mathematical models in medicine

Institute / Research Center	Region/City	Projects / Research Lines:
National Institute of Health (Istituto Superiore di Sanita') It is the leading technical and scientific public body of the Italian National Health Service. Its activities include research, control, training and consultation in the interest of public health protection. The Institute is also involved in several major clinical trials, which are frequently conducted in cooperation with the Scientific Institutes for Research and Care (IRCCS) network and Hospitals. www.iss.it	Lazio Rome	research in a wide variety of fields from molecular and genetic research to population-based studies of risk factors for disease and disability.
Italian Institute of Technology The Institute was established jointly in 2003 by the Italian Ministry of Education, Universities and Research and the Ministry of Economy and Finance to promote excellence in basic and applied research and to contribute to the economic development of Italy. The research is carried out in highly innovative scientific fields, and their contents are widely applicable in multiple areas, from medicine to industry, from computer science to robotics, to life sciences and nanobiotechnology. http://www.iit.it/en/home.html	Liguria Genova	Drugs discovery (Alzheimer's Disease, Neuropathic Pain, and Inflammation); Nanobiotechnologies; Neurosciences and Brain technologies (Cellular Neurophysiology; Molecular Neurobiology; Neurotechnologies); Neurosciences and Cognitive Systems.
European Oncology Institute is a comprehensive cancer center opened in 1994 with research laboratories, clinical facilities, offering the most modern treatments and diagnostics services, with a commitment to research, clinical trials, cancer prevention. www.ieo.it	Lombardy Milan	the basic mechanisms regulating cell proliferation and differentiation (cell cycle: signal transduction); molecular mechanisms of tumorigenesis (genomic instability; chromatin alterations); tumor biology (stem cells; angiogenesis; tumor immunology); tumor models; functional and structural genomics; and bio-informatics.
IRCCS National Cancer Institute Foundation established in 1925 it is now a comprehensive cancer center devoted to basic, translational and clinical research and cancer treatment. www.istitutotoriomi.it	Lombardy Milan	Approaches for the inhibition of human telomerase activity by synthetic oligonucleotides (peptide nucleic acids, ribozymes); Generation of antibody molecules through antibody engineering; Recombinant antibodies for cancer therapy; Validation of a molecular taxonomy of cancer
Institute for Molecular Oncology Foundation is a top rated research institute for the study of tumor formation and development. With its powerful technological infrastructure, IFOM intends to become an "open channel" for the transfer of biotech information from the academic to the industrial world. www.ifom-firc.it	Lombardy Milan	Cell Cycle Regulation; Signal Transduction; Cancer Genetics; Cancer Immunology; Angiogenesis and Structural Biology
Mario Negri Institute for Pharmacological Research non-profit biomedical research organization founded in 1961, working in close collaboration with Italy most important national institutes, foreign universities and international organizations and focusing on fight against cancer, and nervous system and mental diseases, cardiovascular and kidney diseases, rare diseases. www.marionegri.it	Lombardy Milan	Biomedical Engineering; Cardiovascular Research; Environmental Health Sciences; Epidemiology; Molecular Biochemistry and Pharmacology; Molecular Medicine; Neuroscience; Oncology; Public Health; Renal Medicine; Rare Diseases Documentation and Research Vascular Biology
University of Milano Bicocca was the first university to run a biotechnology degree program. The university offers degrees in Biotechnology, Bioinformatics, Industrial Biotechnology, Molecular immunopathology, bioinformatics, Biocommunications. www.unimib.it	Lombardy Milan	Biophysics; Bioprocesses and Biofermentations; Cardiac cellular pathophysiology and pharmacology; Cell cycle and apoptosis, Gene expression, Genetic engineering and enzyme protein engineering; Cell cycle and damage response; Cell signaling; Ecobiology; Gene Expression; Genetic engineering and enzyme protein engineering; structure-function relationships in proteins; Molecular and cellular immunology; Molecular Genetics of Development and Cell Differentiation; Neurophysiology, Neuroscience, Cell Physiology; Organic and Biomolecular Chemistry Organic, Bioorganic and Medicinal Chemistry; Plant biology; Process modeling and biocomputing; protein chemistry and enzymology; Functional genomics; Tissue Engineering
San Raffaele Institute established in 1971 and representing one of the first examples of a fully independent private hospital in Italy, the San Raffaele Institute is relentlessly pursuing its three interrelated lines of clinics, research and education. Shortly after its foundation San Raffaele was granted the status of IRCCS (Research Hospital), which favored its development as a site for clinical research, originally specialized in diabetes and metabolic disorders. www.sanraffaele.org	Lombardy Milan	gene therapy and stem cells therapy; study and development of systems for stem cells identification, amplification and utilization; immune response study and modulation; development of pharmacological and vaccinal approaches to prevent and cure emerging and re-emerging disease; experimental and clinical development of new technologies for advanced molecular and computerized diagnosis; pharmacogenomics and predictive medicine; molecular imaging; functional genomics and proteomics; creation of animal models for human disease; inflammatory response study and modulation.
University of Milan the university has over 1,200 researchers in the Life Sciences and three department carryin gout research projects: Department of Biology and Genetic for Medical Sciences, Department of Biology, Department of Food and Microbiological www.unimi.it	Lombardy Milan	Industrial and environmental biotechnology; biotechnology and molecular bioinformatics; biotechnology for industry and the environment; functional genomics and bioinformatics.
IRCCS Multimedica The MultiMedica Group currently consists of 3 hospitals, 2 outpatient ambulatory centers and a Laboratory medicine center located within its Science and Technology Pole. A growing research area has been developed to sustain and promote clinical and basic research projects aiming to prevent, alleviate diseases or treat patients www.multimedica.it	Lombardy Milan	Stem cells in cardiovascular diseases; Molecular mechanisms of myocardial contractility in the normal and failing heart; Surgical treatment of chronic pulmonary hypertension; Heart failure surgery; Peripheral vascular disease and critical limb ischemia; association between cardiovascular risk factor and peripheral arterial disease and early diagnosis of ischemic and dilative cardiomyopathy; diabetic foot care; Cerebral ageing; Critical chronic ischemia of lower limbs ; carotid atherosclerosis and cognitive abilities; genetic disorders, hypertension and peripheral arterial diseases; Mechanism and Pathophysiology of atrial tachycardia, in particular Atrial Flutter and Atrial Fibrillation. New Insights in Inflammation and Atrial Fibrillation; Sympathetic nervous system control over the coronary circle. The no-reflow phenomenon after coronary angioplasty. Endothelial function in coronary diseases. Role of proendothelial cells and proinflammatory cytokines in coronary angioplasty (PCI). Antiangiogenesis and chemoprevention
European Center for Nanomedicine (CEN) CEN is a foundation created in 2009 which draws on the collaboration with a wide-ranging network of institutes, hospitals and companies. Among the several entities involved are the University of Milan, Pavia University, the Polytechnic of Milan, the Polytechnic of Turin, the European Institute of Oncology, the Foundation of the Polytechnic of Milan (a hospital) and private companies like the large multinational STMicroelectronics and the small-sized biotech firm Genextra.	Lombardy Milan	Nanomedicine
San Matteo Polyclinic located in Pavia, the polyclinic is one of Italy's best qualified Institute for research, hospitalization and health care, with 1000 yearly publications and over 50 departments, institutes and centers. http://www.sanmatteo.org	Lombardy Pavia	Biology of Tumors; cerebral Ischaemia, Neurotraumatology, neurotransplantation; neuroncology; spinal pathology; Infant Tumors; malformation; neuroendoscopy.
Edo Tempia Foundation a non-profit institution which focuses on the study of gene expression in tumoral tissues. The pharmacogenomics research lab is based on the availability of state of the art microarrays technology, and activities are ongoing both for the use of microarrays techniques in preclinical studies and for the study of molecular profile of tumours in order to improve diagnosis. http://www.fondoedotempia.it/index.php	Piedmont Biella	oncology (prostate, melanoma, breast), gene expression

Institute / Research Center	Region/City	Projects / Research Lines:
Institute for Cancer Research and Treatment private non-profit institution which focuses on cancer by providing optimal diagnostic and therapeutic services. It hosts 2 divisions and 4 laboratories with clinical facilities and over 100 international researchers. IRCC houses one of the five Italian Centers for Advanced Scientific Research established in 1997 by the G. Armenise - Harvard Foundation, devoted to the study of signal transduction in normal and cancer cells. www.ircc.it	Piedmont Candiolo	Molecular Angiogenesis; Molecular Oncology; Immunology; Oncogenomics
Tera Foundation for Oncological Handrontherapy Tera is a non-profit institution created in 1992, which develops radiotherapy techniques based on the use of hadron particles, and applications of physics and informatics to medicine and biology. www.tera.it	Piedmont Novara	oncological handrontherapy
CNR (National Research Council) Turin The National Research Council in Turin offers a set of R&D laboratories with over 160 researchers, specialising mainly in phytovirology, proteomics and agro-food, immunogenetics and oncology, mycology. www.area.to.cnr.it	Piedmont Turin	phytovirology, proteomics and agro-food, immunogenetics and oncology, mycology.
University of Torino (Molecular Biotechnology Center) This center at the University of Turin was founded in 2006 and brings together research labs, lecture rooms and start-ups, while facilitating an interdisciplinary approach to biomedical research. Moreover, out of the University's 55 departments, 20 are in the Life Sciences, among which are neurosciences, oncology, biomedical science and human oncology www.biotechnologie.unito.it	Piedmont Turin	cardiomyocyte hypertrophy; inflammation control; regulation of cell proliferation and metastasis spreading; bioinformatics;
University of Bari With departments in Biotechnology; Biochemistry and Molecular Biology; Biochimica Medica, Biologia Medica e Fisica Medica, Genetics and Microbiology, Biomedical Sciences and Human Oncology, Internal Medicine and Public Medicine: the University has a solid science foundation http://www.biotech.uniba.it/	Puglia Bari	Biotechnology for innovation in processes and products, biotechnology for agricultural production and foodstuffs; Biopharmaceuticals; Biotechnology and food plants; Industrial and environmental biotechnology; medical biotechnology and molecular medicine.
University of Lecce with 28,000 students this university offers a broad based science curriculum, and a degree in biotechnology. http://www.biotechnologie.unile.it	Puglia Lecce	Pharmaceutical, agro-industry
University of Cagliari 20 of the university's 54 departments and centers are dedicated to biotechnology. The biggest contributors to the Life Sciences are the Departments of Biochemistry, and Human Physiology, Hygiene and Public Health, Biomedical and Biotechnology Sciences, Cytomorphology, Applied Biosystems Sciences, chemical sciences. www.unica.it/~biotecnol/	Sardinia Cagliari	Cytogenetics, Human Genome, Hematology, Metabolic Diseases, Molecular Genetics, Gene Expression, Biology and Immunology of Transplantation, Statistical Genetics
Biotecne This consortium for Biotech R&D carries out scientific research, education and technological mediation with a strong focus on Biotechnology. It promotes the diffusion, publication and utilization of results even through the creation of specialized centers that manage the transfer of innovation. http://www.biotecne.com/	Sardinia Cagliari	Expression of heterologous genes in fungi lieviformi of biotechnological interest; Production of monoclonal antibodies in bacteria; Production of recombinant monoclonal antibodies for diagnostic and drug use; Molecular probes for identification of Salmonella abortusovis; Diagnostic probes for antibiotic resistance
Neuroscienze Pharmaness is one of the most important Italian non-profit Research Centers focusing on pharmacology and biotechnology. It holds a leader position in the Biomedicine District of Sardinia and it works in close collaboration with prestigious Universities, research institutes and private organizations located in Italy and in other countries. PharmaNess was founded in 1996 as a spin-off of the University of Cagliari and at present 75% of its shares are owned by private equity, while the University of Cagliari and the National Research Council (CNR) own the remaining 25%. http://www.pharmaness.it/code/index	Sardinia Pula	New antipsychotic compounds with atypical profile; Development of innovative animal models; New anti-obesity compounds; New analgesic compounds; Development of natural extracts with pharmacological activity; Innovative pharmaceutical formulations; Development of genetic platforms for population screening and molecular diagnosis.
University of Florence established in 1924, the University now boasts 70 departments and 10 centers of excellence, and is now a top research facility in Science, Technology, Humanity disciplines. http://www.biotechnologie.unifi.it/	Tuscany Florence	Biotechnology, Pharmacology, Biomedical
CNR (National Research Council) Pisa focusing on fields such as Life Sciences, Medicine, Neurosciences and Technoscience, this CNR hosts 15 research institutes and counts over 700 employees and a similar number of students employed as research associates. http://www.area.pi.cnr.it/	Tuscany Pisa	Biomedical Technologies (Study of molecules related to IL-18 in auto-immunity; Modulation of macrophage polarization; Immunotoxicity studies on nanoparticles; Identification of regulatory genes that control the stem cells of multiple cellular systems; Study and development potential of adult somatic stem cells); Neuroscience (neuro-glial physiology, neuropathologies and stress; Muscle Physiopathology: development and regeneration of nervous system)
Sant'Anna School of Advanced Studies The Scuola Superiore Sant'Anna di Pisa is a public university institute working in the field of applied sciences, boasting several laboratories and research facilities. Research centers focus on broad life sciences disciplines. www.sssup.it/	Tuscany Pisa	(Lab of Physiological Genomics) mechanisms underlying vascular control in the fetus and the newborn in the period immediately following birth; placental vasculature and the control of coronary microcirculation in the adult; the central mechanism of fever. (Plant Biochemistry and Biotechnology)
University of Siena it has long had a tradition in biotech-oriented education, owing to its location within a cluster of numerous Biotech and Biopharmaceutical companies. Almost 40% of students enrolled at the University chose degree courses in biotechnology or related sectors (pharmacology, chemistry) http://www.unisi.it	Tuscany Siena	Biotechnology, Pharmacology
CNR (National Research Council) Institute of Biomedical Engineering with about 30 researchers this CNR focuses on bioengineering and is also the coordinating entity of the "Biotech Actions", an effort by the region of Veneto to promote biotechnologies. http://www.isib.cnr.it/	Veneto Padova	Neuroengineering and Communication Disorders; Methods and Mathematical Models for Clinical Research on Metabolism, Diabetes and its Complications; Modeling of Complex and Uncertain Systems; Instrumentation for Advanced Diagnostics and Clinical Applications;

Early stage BIOTECH companies in Italy

More and more young Italian companies engaged in research and development of drugs and new diagnostic tools are in search of funding. The companies are spin offs of university labs or new, innovative companies in the initial phases of development and in search of financial resources to support their growth.

While it is not easy to estimate a number of active early stage red biotech companies, a few examples of these companies provided here offer a glimpse of Italy's vibrant entrepreneurial activity. Hence, the list certainly does not intend to be exhaustive. The following 12 companies had the opportunity to present to representatives of investment groups and managers of large companies, foreigners and Italians in **May of 2009 at BioItaly**, an event organized by Assobiotech, the National Association for the development of biotechnology, and Innovhub, innovation center for the Chamber of Commerce of Milan.

Early stage BIOTECH companies	Region/City	Projects / Lines:
Biogenera founded by 2 university of Bologna researchers Biogenera deals with R&D of new therapies for children affected by cancer www.biogenera.org	Emilia Romagna Bologna	pediatric oncology
Pharmeste a private biopharmaceutical company focusing on the discovery and development of Transient Receptor Potential (TRP) channel therapeutics for the treatment of neuropathic pain, overactive bladder and other TRP-mediated diseases. www.pharmeste.com	Emilia Romagna Ferrara	PharmEste has its first clinical drug candidate, PHE377, in Phase I clinical studies for the treatment of neuropathic pain, a second generation of TRPV1 antagonists under lead optimization stage and a discovery program on other Transient Receptor Potential (TRPs).
MBS a spin off of University of Rome 3, whose mission is to commercialize its analytical kits that allow the microbiological composition of water and food. www.emmeblesse.net	Lazio Rome	seeking to market its HACCP&WATER Easy test, a device for carrying out fast, easy and cheap microbiological analysis of food and environment.
TOP a University of Milan spin-off specialized in the generation of vectors, cells and animals for bioluminescence, PET (Positron Emission Tomography), NMR (Nuclear Magnetic Resonance) www.top-mice.com	Lombardy Lodi	generation of novel reporter mice to be utilized for preclinical screening of anti-neoplastic drugs
Biotrack a University of Milan 2005 spin-off which developed many methods of combining pre-fractionation and mass spectrometry techniques to explore the proteome of biological material and develop new products http://www.biotrack.it/	Lombardy Lodi	Innovative proteomic approach to in vitro screening: Develops novel cell-based analysis systems based on new proteomic technologies for identification of cellular specific markers for testing the drugs bioactivity and toxicity.
Nexthera Biosciences biopharmaceutical start-up focusing on the discovery and development of new anti-infective drugs www.nexthera.com	Lombardy Milano	portfolio includes two advanced assets: NAI-107, a new compound (in preclinical phase) active against multi-drug resistant Gram positive pathogens by a novel mechanism of action, with proven efficacy in relevant animal models; NAI-acne is a new compound targeting the topical treatment of mild-moderate acne, endowed with a unique microbiological profile, which has already been tested in phase 1 and can be moved into clinical development.
EOS a biopharmaceutical company, started in 2006, committed to the development of novel medicines for the treatment of cancer through the correct application of the translational medicine approach. www.eosmilano.com	Lombardy Milano	characterize the pharmacological, pharmacokinetic and safety profile of E-3810 - a new multi-targeted tyrosine kinase inhibitor with potent anti-angiogenic and antitumour activities - and to develop it at least to early clinical evaluation (POC in humans).
Diesse Ricerche an R&D spin off of Diesse, an Italian leading producer of specialized diagnostic systems and reagents. www.diesse.it	Lombardy Milano	invention and patent of a revolutionary system for VES analysis, able to reduce by more than 50% the timing of analysis and to eliminate the risks of infections. Diversified Products: serology and microbiology ("Seramat" and "Robobact"); parametric processor for infectious diseases (Chorus); fully automated system for the VES test (Ves - Cube)
Genovax a 2008 spin off of the University of Genova seeking to set a new generation of vaccines against chronic diseases. www.genovax.com	Piemonte Ivrea	Company explores the potential of tolerogenic vaccination and the setting of new formulations of vaccines against cancer based on the activation of effector immunity and down-modulation of regulatory/suppressor functions. Genovax has a pipeline of 2 active projects: GX 101 (Lupus) - GX 301 (renal and prostate cancers) and is starting GX201, generation of a Fc-IL10R Chimera for the treatment of cancer.
Galileo Oncologics originating from Abiogen Pharma, a well established Italian pharma company, EOS is a biotechnology company with a full pipeline of anti-neoplastic projects at different stages of development, ranging from the preclinical stage to Phase II clinical testing. www.abiogen.it	Tuscany Pisa	The projects involve both cellular and immune therapy, through treatment with immunotoxins and monoclonal antibodies. The projects, in order of their developmental status are: 1) TALL-104: in Phase II; 2) Immunotoxins (IT): Phase I complete, Phase II awaits completion process development; for large scale production; 3) cUV3: ready for process development; 4) Tetravalent monoclonal antibodies: late preclinical research.
Toscana Biomarkers Incorporated in 2007 and promoted by university professors, the company is dedicated to the discovery of new diagnostic/prognostic tests for autoimmune diseases. http://www.toscanabiomarkers.com	Tuscany Siena	discovery and validation of new modified peptides as synthetic probes to be used in the identification in sera of specific autoantibodies, as biomarkers of autoimmune diseases.

Molteni Therapeutics a specialty pharmaceutical company, constituted in 2006 as spin off of Molteni Farmaceutici, focusing on the discovery and development of novel antibacterial and antifungal therapeutics
www.moltenifarma.it

Tuscany
 Siena

development of small molecule drugs that utilize Photo Dynamics Therapy technology, targeting bacterial, fungal, and drugs resistant infections

It is possible to **DOWNLOAD EACH COMPANY'S PP PRESENTATION:**

<http://www.assobiotec.it/assobiotec/homeUK.nsf>

- EVENTS (right side of the screen)
- **BIOINITALY 2009: WHERE ITALIAN BIOTECH COMPANIES MEET INTERNATIONAL INVESTORS** - Pdf Presentations

Numerous other early stage companies can be identified by referring to other sources.

For example, a list of **University spin-offs** searchable by University and soon by sector, is accessible on the website of **NETVAL – Network per la Valorizzazione della Ricerca Universitaria**, the association of Italian public universities (representing almost 50% of the total) whose goal is to enhance the value of its members' research activities by working with tech-transfer offices and developing collaborations with industry www.netval.it. Out of the roughly 600 spin offs generated by Italian public universities and research centers over the last 8 years that were identified by NETVAL, approximately 90 (15% of the total) belong to the Life Sciences sector. A quick search on the association's website reveals some examples, such as **BiosiLab**, a 2004 spin off of the **University of Padova**, which creates and sells highly automated micro-laboratory on chips in order to obtain an high throughput and quality research in cellular experiments (siRNA, gene expression, etc.); **Blue Print Biotech**, a 2006 biopharmaceutical spin off of **University of Milano Bicocca**, dedicated to neurodegenerative diseases; **Biosuma**, a 2006 spin off of **University of Siena**, which develops innovative materials for biomedical use; **Medicad**, a spin off of the **University of Palermo**, which develops CAD solutions for medical imaging. A complete and customized list of university spin offs by sector can also be received upon request by contacting: segreteria@netval.it.

In addition, it is possible to request the list of start ups finalists from the organizers of the **National Prize for Innovation - Premio Nazionale dell'Innovazione (PNI)**, which is the competition that every year gathers the winners of the Italian "Start Cups" - the business plan competitions organized by the universities taking part to the "PNI". The PNI is the grand final among the top 3 winners of each of the seventeen local contests for the best high-tech entrepreneurial ideas. The list can be requested by writing to info@pnicube.it. www.pni.it

Success Stories Italy-Usa

It is interesting to highlight a selection of the most recent and relevant examples of alliances, collaboration agreements and investments between Italian life sciences companies or Universities and American counterparts, which attest to a prosperous and burgeoning partnership between the scientific and entrepreneurial communities of the 2 countries.

- **Genentech**, initially assisted by Italian Trade Commission of Los Angeles office, signed in 2008 an agreement with Nerviano Medical Sciences, the largest pharmaceutical R&D facility in Italy and one of the leading oncology-focused and integrated discovery companies in Europe, to collaborate in the discovery of small molecule inhibitors which may be developed as anticancer agents.
- Italian company **Bracco Imaging** and **Marillion Pharmaceuticals** have entered in 2008 into a license agreement granting Marillion exclusive rights to complete clinical development and to commercialize Bracco's targeted radiotherapeutic ¹⁷⁷Lu-AMBA for the treatment of hormone-resistant prostate and advanced metastatic breast cancers.
- **GALILEO ONCOLOGICS**, a company established in 2008 and originating from Abiogen Pharma S.p.A, with anti-neoplastic projects at different stages of development, has existing research partnerships with the **University of Texas Southwestern Medical School** and the **Wistar Institute in Philadelphia**.
- The science park **Insubrias Biopark in Gerenzano** (in the region of Lombardy) signed an agreement in 2009 with **Texas University** to study possible cures of tuberculosis and malaria, pathologies which have registered an increase in resistance cases. Texas University has acquired a copy of all of the 166.000 biological extracts of Insubrias Park's Foundation.
- Milan-based **Bio3Research** and US companies **Syngen** and **Protelix** have entered into an agreement to collaborate on R&D involving mimic-antibodies that could potentially be used to help fight heart disease. The goal is to discover and develop more effective and cheaper protein drug antagonists focused on HMGB1, a biological target identified as a primary factor contributing to several cardiovascular disorders.
- A team led by Professor Saverio Minucci of the **Institute of Molecular Oncology / European Institute of Oncology in Milan**, in collaboration with **J Craig Venture Institute** in Maryland and **Sangamo Biosciences** in Virginia, has developed a new epigenetic screening technology that improves molecular-based disease diagnosis. The technology employs high-throughput DNA sequencing that enables doctor to determine patient's epigenetic profile in 3-4 days.
- The **Area Science Park** in Trieste and the **Case Western Reserve University of Cleveland** have entered into a partnership agreement in 2008 aimed at identifying common research activities capable of stimulating the development of both institutions; supporting and facilitating opportunities for technology transfer on the respective markets; promoting the program which allows Italian and American researchers to work in both institutions; sharing skills and experiences relating to the creation, development and management of scientific parks.
- **Biocell Center**, the first company to preserve stem cells extracted from amniotic fluid, headquartered in Busto Arsizio and Milan, has evolved into a group of companies that operate worldwide in such fields as Infertility, Gynecology, Andrology and Neonatology. Recently, it opened a center in Boston, which has already developed an agreement with Harvard University to use stem cells from amniotic fluid to cure retinitis-pigmentosa.

- **Genzyme**, present in Italy since 1993, has recently strengthened its presence in Modena, by expanding its R&D staff there from 100 to 130, as a result of the transfer of part of the development activities of new drugs whose rights the company recently acquired from Bayer.

And also:

- **Microsoft**, in collaboration with the Italian Government, the University of Trento and the Province of Trento created the **Centre for Computational and Systems Biology at the University of Trento**, a cutting edge Science and Technology centre in Trento seeking to increase the understanding of fundamental biological processes at system level by using programming language theory to design new conceptual tools.
- **Tristar Technology Group**, a US biotech company specialized in cryopreserved and stabilized biologic material, signed a cooperation 5-year agreement in 2007 with the **Mediterranean Oncology Institute of Catania (IOM)**. The agreement aims at scientific cooperation for oncology projects.
- **Immunicon** signed an agreement with **Molmed SpA**, an Italian biotech company operating in research, production and development of new gene therapies. The aim of the agreement is the development of a biomarker for endothelial tumour cells.
- The **University of Pittsburgh Medical Center (UPMC)** has created a \$398 million **Biomedical Research and Biotechnology Center near Palermo** by 2010, in partnership with the Italian government, the region of Sicily and Italy's National Research Council. The UPMC and the University of Pittsburgh School of Medicine are also creating a new medical simulation center in Palermo, Italy, at UPMC's transplant facility there, to be based at the Mediterranean Institute for Transplant and High Specialization Therapies (Istituto Mediterraneo per i Trapianti e Terapie ad Alta Specializzazione).
- **Bristol-Myers Squibb Company** announced in 2006 an agreement with **Nerviano Medical Sciences** according to which Nerviano will identify and conduct early stage development of active compounds against new oncology targets provided by Bristol-Myers Squibb. Terms of this collaboration include the potential for up to \$150 million in clinical and regulatory milestones in addition to royalty payments for each successful research program.
- **Schering-Plough Research Institute (SPRI)**, the human pharmaceutical research unit of Schering-Plough Corporation, established a research center within the San Raffaele Science Park in Milan.

Venture Capital

Italy is still experiencing a significant lack of Venture Capital activity and the industry is rather immature compared to the ones in several European countries. According to Italian Venture Capital and Private Equity Association (AIFI) about 93 private equity and venture capital transactions (valued at €21 million) in 2008 in Italy concerned “high tech” companies, which was equivalent to 25% of total number deals and 4% of the total deal amount. Of the transactions within the “high tech” sector, 10 involved Biotechnology companies and 18 Medical ones. In addition, according to the consulting firm Blossom & Company, Venture Capital accounted for just 13% of the capitalization operations of biotech companies, and most of that VC funding originated from outside Italy. It is also interesting, but not surprising, to note that of the **166 international investment companies** recently surveyed by Blossom & Company, **82% declared a specialization in biotechnologies and 55% expressed an interest in evaluating investment opportunities in Italian biotech market.**

Despite this lack of domestic venture capital activity, there are a few active Italian VC funds, both private and public or a combination thereof. Such entities are well positioned to serve as local potential coinvestment partners to prospective foreign players interested in investing in Italian early stage companies. Hereafter follows a list of some of the most important VCs and related associations in Italy:

- **Eporgen Venture** - Eporgen is the first Italian company specialized in seed financing of early stage biotech initiatives and R&D projects. Eporgen is entirely funded by private non-institutional investors. It currently has in its portfolio: Noto Pharm, Bionucleon, Biopaint, Genovax, Narvalus, Spider Biotech, Target Heart and Apavadis. www.eporgen.com
- **Quantica** - Quantica SGR is an Asset Management Company specialized in closed-end funds for venture capital activities, investing in high-tech spin-offs and start-up stemming from scientific research, as well as early-stage financing. Its mission is to be the Venture Capital of Research, enhancing the connection between investors and innovation. Quantica's Principia Fund is the first Italian venture Fund promoted by experienced managers and prestigious research and university institutions. Principia Fund selects and proposes scientific innovations on the technological frontier to be transferred with profit into market-driven products. Quantica's strategy mirrors the models adopted with great success in other countries and which have promoted the development of genuine venture capital. At present, Quantica has Kee Square, Pharmeste, GreenFluff, Dialectica and NewCorTec in its portfolio. www.quanticasgr.it
- **Innogest Capital** - Innogest Capital, with its € 80 million, is currently the largest Italian Venture Capital fund in the Seed and Early Stage segment. Set up in 2005, it is recognized as a reference investor for young, high-potential companies that intend to raise capital in order to sustain their growth plans. The goal of Innogest is to invest in and encourage the success of about twenty highly entrepreneurial and young companies with very strong technology and a distinctive and unique approach to the market. Among biotech and healthcare companies in its portfolio are Silicon Biosystems, Adriacell, Erydel and Igea. www.innogest.it
- **TT Venture** - TT Venture is the first Italian closed-end fund dedicated to Technology Transfer. The fund supports the development of high-potential entrepreneurial projects within the sectors of Biomedicine, New Materials, Agro-food and Energy/Environmental Technologies. An extensive established network facilitates the deal flow and a relevant contribution is provided by the Italian Banking Foundations, a key player in the private funding for research in Italy. TT Venture invests in all phases of an entrepreneurial project – seed, start-up, and development – through the selection of investment opportunities offering a high development potential, capable entrepreneurs and a varied

disinvestment strategy. The fund will also invest in international venture capital funds in order to strengthen its network and to gain access to the latest R&D developments overseas. www.ttventure.it

- **Z Cube** – Z-Cube was founded in 2003 to support young life-science start-up and spin-off companies with novel therapeutics to address significant unmet medical needs. Z-Cube has achieved the launch of 3 start-ups based on projects with the goal to develop highly innovative medicine: PharmEste, SuppreMol GmbH and ProtAffin Biotechnologie AG. www.z-cube.it
- **Piemontech** – Piemontech, the holding company of the Torino Wireless Cluster, is a VC investor providing capital to the most promising Piedmont-based companies in the biotechnologies and biomedics sectors as well as ICT, energy and advanced mechanics. Promoted by the Torino Wireless Foundation and co-founded with I3P, Eurofidi and the Employers' Industrial Association of Turin, Piemontech supports the creation of new enterprises by acquiring Equity shares with Angel Investments, typically between €20,000 and €200,000. Among the biotech companies currently in its portfolio are: DemItalia, APAvadis. www.piemontech.it
- **Atlante Ventures** – With the goal of investing in high technology start-ups and university spin offs, Italian bank Intesa San Paolo launched this fund in May of 2009. It has an initial funding of €25 (\$36) million and a planned duration of 12 years. In its current portfolio there is Igea Spa, a biomedical company based in Modena. <http://www.sanpaolope.com/fondi-chiusi/fondo-atlante.htm>
- **Atlante Venture Mezzogiorno** – Intesa San Paolo set up this parallel fund to its Atlante Venture fund to specifically invest in companies in the southern regions of Italy. It has a funding of €25 (\$36) million, with a planned duration of 10 years, and it's subscribed by IMI Investimenti (part of Intesa San Paolo) and the Ministry of Public Administration and Innovation.

It is interesting to note that, according to the Italian Venture Capital and Private Equity Association, despite the crisis, in the last 6 months 42% of Venture Capitalists in Italy has reviewed a growing number of business plans coming from new high tech companies- with Biotechs being among the most active. Among the most recent VC transactions in the Life Sciences Atlante Ventures has invested in Igea, a biomedical company in Modena, and the Italian VC Quantica, along with Sofinnova Partners and Aescap Ventures, respectively a French and Dutch venture capital fund, have co-invested in EOS (Ethical Oncology Science), a biopharmaceutical start up from Milano and already mentioned in this document.

Associations & Agencies – there are also a number of associations and agencies that could represent a valid “entry point” in Italy as their members follow and/or fund entrepreneurs and could therefore serve as insightful local partners for foreign investors.

- **INVITALIA** – Invitalia is the government agency for inward investment promotion and enterprise development dedicated to assisting companies in all stages of the investment process, to supporting new business ventures and to enhancing local development. Its Inward Investment embodies a single and reliable national reference point for foreign investors eager to expand or to set up a new business in Italy by providing a full spectrum of services in all stages of the investment process. One of its main target sectors is the Life Sciences. www.invitalia.it
- **IBAN Association (Italian Business Angel Network Association)** – IBAN is the Association which groups an extensive network of Italian business angels, who follow many entrepreneurs and early stage companies and review several business plans. Foreign investors can develop relationships with Angels covering Life Sciences. www.iban.it

- **Italian Angels for Growth Association** – The association is a non profit organization whose purpose is to promote entrepreneurship as an engine for economic growth. Its members are entrepreneurs, managers and professionals who provide financing to early stage companies and support their development. www.italianangels.net

- **Italian Venture Capital and Private Equity Association (AIFI)** – AIFI was created in 1986, in order to promote, develop and represent institutionally the venture capital and private equity activity in Italy. The Association is an organization composed of different entities which, throughout direct investment of their own funds or through the management and advisory of independent funds (closed-end funds) are private equity and venture capital investors with the objective of purchasing, managing and divesting in unquoted companies. Full members matrix is quite heterogeneous, including as full members Italian and international banks and their subsidiaries, industrial and private investment companies, Italian closed-end funds, international closed-end funds advisory companies as well as public operators and financial institutions linked to the co-operative system. Associated members are Italian and foreign associations as well as institutions and companies interested in the development of the venture capital industry in Italy. www.aifi.it

- **PNI CUBE** – an association which groups together academic incubators and the Italian academic business plan competitions (named **Start Cups**). It was founded with the purpose of stimulating the creation of new enterprises with a high content of knowledge deriving from the university, subsequently introducing them to the market. PNIcUBE organizes on a yearly basis the **National Award for Innovation**, which is a competition where the best innovative enterprise ideas are selected, and the event Start Up of the Year, which rewards young high tech enterprise achieving the best market success. www.pnicube.it

- **Italian Technology Transfer Offices Association (NETVAL)** – An association of Italian public universities (representing almost 50% of the total) whose goal is to enhance the value of its members' research activities by working with tech-transfer offices and developing collaborations with industry. They represent a one-stop-shop for potential investors and provide a list of University spin-offs in Italy, searchable by university name (and soon by sector), on their website. www.netval.it

- **I3P Technology Incubator of the Polytechnic University of Turin** – I3P hosts start-ups with high growth potential, founded by university researchers or entrepreneurs from outside the university sphere, providing them with strategic and technical advisory services, and putting them into contact with investors, partners and customers. On a yearly basis they collect 150 new business ideas, examine 50 business plans in detail, and accept 15 new enterprises. www.i3p.it

- **Italian Venture Capital Hub** – constituted under the coordination of Torino Wireless foundation with the cooperation of Polytechnic University of Turin, the Italian Venture Capital Hub groups together sixteen venture capital funds, covering every segment of activity, from Angel Investing to Late Stage. The hub is hosted inside I3P, the incubator for innovative start up companies, located next to the Polytechnic University of Turin.

- **ASSOBIOTEC** – Part of the Italian Federation of the Chemical Industry (Federchimica), Assobiotec is the Italian Association for the Development of Biotechnology, representing companies and science & technology parks operating in Italy and involved in various biotech-related fields (pharmaceuticals, diagnostics, agro-food, fine chemicals, environment, processing industry and equipment). Its mission is to be the point of reference for Italian companies involved in R&D, production and marketing of products and services derived from biotech applications. www.assobiotec.it

Other Investment Support

Banking foundations, a traditional source of funding for education and science in Italy, have started to **actively back the biotech industry through several initiatives**. Furthermore, some regions (Lombardy, Emilia Romagna, Sardinia, Tuscany) have started local private equity funds dedicated to the support of young and innovative companies. The following are some examples.

- **Monte dei Paschi di Siena (Tuscany)** – Scientific research is the sector in which the Monte dei Paschi di Siena Foundation (MPS) is most directly involved. In addition to providing support to various universities and earmarking almost 12 million euros in 2007 for specific third-party projects in this field, the Foundation also supports Siena Biotech, an operational arm of the MPS Foundation. Furthermore, the MPS Foundation is part of “Toscana Life Sciences,” the science and technology park taking shape in Siena, having established an operational arm BioFund, a seed-capital company, to provide support for companies in their start-up phase.
- **The Compagnia di San Paolo (Piedmont)** – The Compagnia is one of the most important foundations in Europe, which devotes one third of its budget (€150 million in 2007) to the research and education sectors. It makes grants to organizations which propose projects in line with its programmes, and, through its “operating units”, the foundation works directly in various sectors of its activities. In the biomedical field Compagnia focuses on projects linked to pathologies with important social impact, like cardiology and oncology. One of the main biotechnology projects spearheaded by the Compagnia was the establishment in Turin in 2007 of the Human Genetics Foundation, together with the University of Turin and Politecnico of Turin, which covers activities in advanced training and cutting edge research in genomics and proteomics. <http://www.compagnia.torino.it>
- **NEXT Fund (Lombardy)** – NEXT is a closed-ended fund of funds, subscribed by institutional investors, created by Regione Lombardia with the aim of developing on the territory of the region a venture capital market focused on innovation and development of new technologies. NEXT can invest both in other closed-ended venture capital funds and directly in companies in partnerships with other investors. NEXT’s direct investments focus on start-up or early stage small and medium enterprises (SMEs), located in the Lombardy region, and belonging to innovative and technological sectors. <http://www.finlombardasqr.it/on-multi/en/Home/Funds/Next.html>
- **Ingenium (Emilia Romagna)** – Launched in 2005, Ingenium is the first public-private venture capital fund for financing innovative enterprises based in the Region of Emilia Romagna. It is managed by Zernike Meta Ventures, a joint venture between the Italian META Group and the Dutch Zernike Group, and it currently has €7 (\$10.2) million under management, of which €5.3 (\$7.7) are regional public funds and €1.7 (\$2.5) are provided by the managing companies. <http://www.meta-group.com/ingenium/ilfondo.html>
- **Intesa Sanpaolo Eurodesk** – Part of the Intesa SanPaolo bank, the EuroDesk offers technical support to companies engaged in research and innovation. Its services are designed to inform companies about the content and operation of EU funding programs and assist them in the application process. Companies making use of the Intesa Sanpaolo Eurodesk can also benefit from the banking and financial services offered by Intesa Sanpaolo, in view of their participation to the calls for proposals at the European level. <http://www.intesasanpaoloeurodesk.com/tiki-index.php>
- **Filarete Investimenti (Lombardy)** – is the investment (seed and development capital) and holding company of **Filarete Foundation**, an entity founded by the University of Milano, Fondazione Cariplo and Intesa Sanpaolo and Chamber of Commerce of Milan to create, host and nurture high-tech entrepreneurial initiatives in the field of biopharmacology and biomedicine. **FilareTE Investimenti**

funds spin-offs or other start-ups connected to the research and development activities carried out in the Foundation's own Business Accelerator Infrastructure, which is strategically located in the southern part of Milan and hosts a mix of state-of the-art technological platforms and companies.
www.fondazionefilarete.com

Government Strategies, Policies, Programs & Investment

The Italian government has been increasingly committed to the development of the Italian biotech industry. It has created ad hoc organizations like the National Committee for Biosafety and Life Sciences to coordinate and support Government and Ministries in their actions aimed at fostering the biotech sector. The Ministry for University and Research (MIUR) is instrumental in the support of research in the Life Sciences. Its ongoing actions include the establishment of public-private laboratories, the creation and strengthening of high-tech districts, and the support of major research programs. Since 2005 the Ministry of University and Research has funded with over €308 million (\$452 million) at least 50 research and training projects with significant scientific-technological impact in the fields of human health and new diagnostics and biomedical applications, all areas identified as strategic in Italy's National Research Program (2005-2007).

In addition, the Ministry of Economic Development is also supporting the Biotech sector, via specific funds to support research and the *Industria 2015* program, a series of measures aimed at promoting and developing high-tech products and services. Moreover, the internationalization arm of the Ministry of Economic Development has been working to strengthen business developments in the Life Sciences at the international level, by carrying out several promotional activities abroad and helping developing bilateral cooperation in the scientific and business sectors. Finally, the European Union offers a variety of funding programs in support of research and innovation projects, indirectly via the structural funds, and directly through the Framework Program.

Hereafter is a **selected list of government funding programs, initiatives and fiscal measures** aimed at spurring research activities, including in the Life Sciences.

- **Research Incentive Fund (FAC)** – Among the most important funding programs administered by the Ministry for University and Research is the Research Incentive Fund, which was created with Legislative Decree 297/99 and supports applied research programs for the development of new products, production processes and services and to promote existing technologies.
- **Fondo per gli Investimenti della Ricerca di Base (FIRB)** – The FIRB, also administered by the MIUR, is the main instrument for funding of basic research, ie activities which aim to widen the scope of scientific and technical knowledge not linked to immediate and specific commercial and industrial objectives, with the aim of enhancing Italy's global competitiveness.
- **Fund for Scientific and Technological Research (FIRST)** – Through the FIRST, the MIUR earmarked €900 million since it was established in 2007 for research in high innovation industrial fields, which includes biotech.
- **Technological Innovation Fund** – Established by Law 46/82, the Fund seeks to finance programs in high to medium-high tech sectors, including the Life Sciences, supporting industrial research projects and the establishment of research centers or conversion and/or renovation of existing ones. A tender procedure has opened in July of 2009 to award €55 million (€35 from this Fund and €20 million from the PON Research and Competitiveness), which have been specifically earmarked to finance R&D activities and projects carried out by start-ups with less than 5 years of operations.
- **Regional Initiatives** – There are several financing opportunities available at the regional level in Italy for both investment and research, whose scope and funding amounts vary widely from region to

region and through time. Please contact the Italian Trade Commission directly to obtain information on any specific region's programs at Investments.desk@italtrade.com.

- **EUROTRANSBIO (ETB)** – EuroTransBio is a joint initiative of 11 European countries and regions (including Italy) working to support trans-national R&D private/private and private/public co-operations between companies, especially SMEs, and academic labs by coordinating their national or regional public funding programs. The goal is to allow economic and academic biotech players to share risks, costs and skills related to innovation in order to develop more efficiently new products and technologies that could reach the market in the short to medium term. Consortiums consisting of at least two SME partners from two different ETB member countries can bid for the joint calls for industry-driven trans-national R&D projects launched by the countries and regions involved. From 2004 to 2009 ETB has launched four calls and the next will open in October 2009 and close in February 2010. An entity from a non-member country can participate in the bidding consortium (at its own costs) as long as it is offering a significant technical scientific contribution and there are already at least 2 participating entities from 2 member countries; In some case it could also be included as a subcontractor and managed under the national/regional financing regulations of the eligible participant. www.eurotransbio.net
- **7th Framework Program** – The 7th Framework Program for research and technological development Program (FP7) is the European Union's primary tool for funding research for the 2007-2013 period. The Program is aimed at research centers, scientific or technological organizations, governments and companies. Any organization operating in one of the EU Member States may take part in the program, which provides a variety of grants that can cover up to 100% of eligible investment costs.

INDUSTRIA 2015

The Italian government's flagship program to increase the competitiveness of the industrial system, which includes a specific focus on biotech, is "**Industria 2015**", promoted by the Ministry of Economic Development, and launched in 2006. The strategy seeks: to take advantage of the opportunities arising from the growth of private demand of highly innovative goods; to improve the capacity of the productive system to effectively fit the new needs characterizing an advanced society; to improve the competitiveness of traditional sectors by developing new synergies between technology producers and consumer goods producers.

Among the main actions planned are the *Industrial Innovation Projects* (IIPs), which aim to stimulate and promote the development of innovative products and services in five strategic areas, namely Energy Efficiency, Sustainable Mobility, **Life Sciences and Biotechnology**, New Technologies for SME's Development, and Innovative Technologies for the Enhancement of Cultural Heritage.

Once a strategic plan is devised for each IIP and priority areas of funding are clearly defined, the Ministry will issue requests for bids through which entities can submit project proposals and be considered for funding. Proposal must: be detailed and represent innovative and technical scientific progress, while matching the technological objectives established in the strategic plan of the relevant IIP; lead to the concrete implementation of an innovative product or service prototype that has a positive impact on the industry; be the result of cooperation between research organizations and entrepreneurial companies; be competitive in economic terms.

While the Ministry has already closed the bidding processes and awarded funds for projects within 3 IIPs, the strategic plan for Life Sciences and Biotechnology is currently being finalized. The Chairman of the company Sigma-Tau, **Mr Claudio Cavazza**, a seasoned expert in biotechnologies,

who was president of Farmindustria from 1986 to 1992 and who also received accolades in the US for his R&D work in rare diseases, is the appointed Project Manager administering the Life Sciences and Biotechnology IIP.

Although the program is aimed at financing Italian companies and research centers, foreign entities are eligible to obtain funds when submitting proposals in partnership with Italian counterparts. Nonetheless, if the project is eligible to obtain funds, the amount the foreign entity will receive cannot exceed 15% of the total project amount.

For more information, visit: www.industria2015.ipi.it

Or contact: **Ing. Vincenzo Zezza – Manager of the Competence Center “Industrial Policies for enterprises”**

IPI – Istituto Promozione Industriale (Institute for Industrial Promotion)

tel. +39 06 80972 537

email: zezza@ipi.it

Fiscal Measures

Significant fiscal measures providing an important boost to biotech were contained in the Financial Law of 2008. Specifically, the law introduced tax credits equivalent to 10% of in-house research expenses and up to 40% of costs of research provided by Universities or Public Research infrastructures, with a ceiling of €50 million. The Financial Law of 2009 added to these important measures other support mechanisms, such as a **Guarantee Fund** for small and medium sized enterprises, which amounts to an insurance scheme for bank loans and capital.

Intellectual Property

In Italy, foreign companies investing in the Italian market can rely on the same legal protection of Intellectual Property Rights (IPR) granted to Italian companies. These rights extend to all the key areas, including patents, that companies are used to enjoying in their home countries. The foundations of this legal certainty rest on Italy's membership of and respect for all the leading international agreements on IPR. Italy is at the forefront of European IPR developments and has some of the most modern and up-to-date intellectual property practices in the world.

Under the Italian system, one may patent new products or processes in any technological field. One may not, however, patent methods for human or animal therapy, plant varieties or essentially biological methods for producing plants or breeding animals. The filing of an Italian patent can represent the basis for a claim in any member country of the Paris Convention within a year from the date of filing.

The technical solutions of product, process or use may be protected by a patent for industrial invention, which gives the inventor the right to prohibit third competing parties from using the invention. The invention can not be made, marketed, used or distributed if not by the patent holder or with permission. The right is granted by the Italian Patent and Trademark Office (UIBM) for a **period of twenty years** from the date of the application, at the end of which the invention becomes public domain. The collections of data or information, under certain conditions, such as databases and new plant varieties as well as biotechnological inventions which have been accepted in our country, can be protected.

The Italian legal regime concerning **IP rights in the Life Sciences** is codified in Legislative Decree n. 78 of February 2006. According to this law the following are patentable, insofar as they are new and original and can have industrial application:

- Biological materials, isolated from their natural environment or produced by means of technical processes, even if pre-existing in their natural state.
- A technical process by which biological material is produced, manufactured or used, even if pre-existing in its natural state.
- Any new application of a biological material or of a technical process previously patented.
- An invention relating to an element isolated from the human body or otherwise produced by means of a technical process, even if its structure is identical to that of a natural element, provided that its function and industrial application are specifically identified, described and specifically claimed. By technical process it is meant something only human beings are capable of putting into practice and that the nature by itself could not.
- An invention concerning plants or animals or a plant, characterized by a particular gene and not its whole genome, where their application is not limited, from a technical standpoint, to the attainment of a variety plant or animal species, and not only essentially biological processes are used for their attainment.

.As for **University Intellectual Property rights**, in Italy the ownership of the patent belongs to the researchers and not to the University, with some exceptions, such as when the research is funded by private parties or certain public entities. Under those circumstances, the parties must establish the

ownership of the patent contractually with *ad hoc* agreements. In the United States universities cannot automatically claim ownership of a researcher's federally funded invention. However, the university on the other hand has the right to ask the researcher to assign ownership of the invention to the university per agreement signed between the two parties.

The Intellectual Property Rights Desk (New York)

Given the importance of negotiating and drafting non disclosure agreements which adequately protect the interests of the parties involved, the Italian Government has dedicated ample resources in creating various agencies aimed at ensuring ancillary services in IP matters. Among those, the Ministry for Economic Development instituted a network of IPR Desks in strategically designated markets for Italian companies and investors. They are located in different countries; amongst them, there is the New York IPR Desk which covers the entire US territory. The IPR Desk of New York, situated at the Italian Trade Commission, works synergistically with the Italian Embassy in Washington, DC.

*The scope of the Desk is mainly to provide information and legal assistance, on how to protect patents and trademarks in the United States. However, there is also the intent, from a legal IPR standpoint, to **counsel on how to facilitate the co-operations between Italian companies, universities and academic labs, brewing innovation that is marketable, and their foreign counterparts.** In order to obtain this goal and to provide a broader range of legal services tailored to the specific needs of the biotechnology/life science research centers and industry at large, the NY IPR Desk has concluded a memorandum of agreement with a law office, specializing in IPR matters.*

INTELLECTUAL PROPERTY RIGHTS DESK-NEW YORK

ITALIAN TRADE COMMISSION

33 East 67th Street

New York, NY 100653-5949

Donatella Iaricci, Head of the IPR Desk

Tel +1 212 848-0317 Fax +1 212 758-1050

For more information, visit:

<http://www.sviluppoeconomico.gov.it/>; <http://www.ice.it/tutela.htm>

Or Contact: – iprdesk.newyork@sviluppoeconomico.gov.it

It is always advisable to contact law firms and patent attorneys. A list of those can be found at: www.biodirectory.it under "patents".

Events

The following is a list of upcoming events in Italy, which all provide an excellent opportunity to learn about latest developments of Italian companies and research institutes and meet their representatives.

[Business Day](#)

October 2, 2009, Trieste

Business Day is an event dedicated to entrepreneurs and managers interested in the results, technology and products from the top cutting-edge companies in the AREA Science Park, the first multi-sector Science and Technology Park in Italy and one of the largest in Europe. Among the featured companies 12 operate in the Life Sciences. The catalogue containing information on the participating companies is accessible online and it is possible to request meetings before the event on the show's website.

http://www.area.trieste.it/opencms/opencms/area/en/informa_en/news_en/2009/news_0130.html

[ResearchToBusiness \(R2B\)](#)

November 12-13, 2009- Bologna

R2B - at its fourth edition - is the first initiative in Italy aimed at fostering collaboration between advanced research and industry on a national and international level. R2B is the venue where the protagonists of research have the opportunity to present new ideas for technological innovation, research results, prototypes and applications to be marketed for businesses, R&D managers and sponsors interested in supporting technology transfer operations. Biotech is one of the event's main thematic areas.

www.rtob.it

[BIOTECH EXPO 2009](#) 1st International Event and Conference on Biotechnologies

25 - 27 November, 2009- Milan, Milan Fair Center

Biotech Expo is occurring inside CHEM-MED, a major new event dedicated to the chemical industry with a focus on sustainability, life sciences, instrumental and process analysis and laboratory technology, composite materials, coating and colors, paints, sealants and adhesives. Biotech Expo will be a qualified showcase dedicated to the four main fields of application of biotechnologies (Healthcare, Environment, Industry, Agriculture) thanks to the participation of representatives of the most prestigious biotech companies, institutions, technological poles, authorities, associations, universities, laboratories, research centers and financial companies.

http://www.chem-med.eu/en/index_btc.asp

[Premio Nazionale per l'Innovazione](#)

December 4, 2009- Perugia

The "PNI - Premio Nazionale per l'Innovazione" (National Prize for Innovation) is the competition that every year gathers the winners of the Italian "Start Cups" - the business plan competitions organized by the universities taking part to the "PNI Cube". The PNI is the grand final among the winners of the seventeen local contests for the best high-tech entrepreneurial ideas.

<http://www.pni.it/>

[BionInItaly 2010](#)

May, 2010 - Milan, Italy

This event will bring together national and international venture capital and Italian companies from all sectors of the biotechnology industry, providing a unique opportunity for investors to monitor the pulse of the dynamic biotech sector in Italy. Investors will have an opportunity to discover some of the exciting developments in the Italian biotech sector in a single meeting. Italian companies, ranging from start-ups and spin-offs to established companies, will present their new business ideas and projects in the fields of biotech and nanobiotech. Each presentation is scheduled to last 15 minutes, with 5 minutes planned for questions and answers. The projects will be selected by a committee of experts in the biotech field.

<http://www.assobiotec.it/assobiotec/homeUK.nsf>

Pharma Finance

June, 2010- Rome, Italy

Pharma Finance is an international event addressing new technologies for Life Sciences, concentrating on Biotechnology, finance, nanotechnology and innovative materials. The Lazio Region and Sviluppo Lazio S.p.A. jointly organize Pharma Finance, in collaboration with the Ministry for International Commerce, Italian Trade Commission, Filas S.p.A. and the Zangani Investor Community. It includes: an International Conference on Life Sciences, and a Permanent Exhibition Forum for B to B meetings, hosting enterprises, research institutes and financial groups to foster new international partnerships.

www.pharmafinance.net

BIOForum

October, 2010 Milan

BIOFORUM is an Italian biotech Expo-Conference, which aims at promoting the meeting between science and business through a faster innovation and the launching of new products and services. Bioforum is the expo-conference dedicated to biotechnologies where science meets business, an appointment that gathers companies, universities, institutions, research centers, startups and spin-offs and promotes the technology transfer process in the biotech sector.

<http://www.bioforum.it>

Useful Links

<p>www.assobiotec.it</p>	<p>Website of Italy's Association for the Development of Biotechnology. It is possible to subscribe to the Association's Monthly Newsletter, and download the report "Italian Biotechnology Parks" as well as presentations given by Italian biotech companies delivered at the latest edition of "BioItaly".</p>
<p>www.italianbiotech.com</p>	<p>A comprehensive directory, managed by Venture Valuation AG, providing free general contact information on over 700 among the most prominent Italian Biotech operators (companies, institutes, investors, consulting firms) searchable by business name, key words and location. More advanced searches (by therapeutic areas, products, business model etc), and more detailed information for each entity (such as info relating to products, technologies, financing rounds), are available by paying a premium subscription.</p>
<p>www.biodirectory.it</p>	<p>A directory of Italian biotech entities (companies, universities, foundations, science parks) searchable by different variables such as type of organization, location, product type and clinical trial phase. A comprehensive list of patent attorneys as well as investors is also available.</p>
<p>www.riditt.it</p>	<p>the Italian Network for Innovation and Technology Transfer to SMEs offers a database on technologies developed by Italian universities and research centers, and another on research centers, science parks and incubators, both searchable by technology type or by geographical area.</p>
<p>www.netval.it</p>	<p>A list of all University spin-offs (soon searchable by sector) and links to Universities' webpages listing patents are available on the website of the Italian Technology Transfer Offices Association. (English translation through Google toolbar).</p>
<p>www.ditt.de/atlas/it/</p>	<p>A directory of Italian Science and Technology Parks and Technology Districts, searchable by sector and services. It is managed by the Italian Trade Commission of Berlin.</p>
<p>http://www.blossomassociati.com/site/Report2009_ENG.pdf</p>	<p>An updated report offering a strategic and financial perspective on the Italian Biotech market.</p>
<p>http://www.aspeninstitute.it/aspennet/?q</p>	<p>The Italian chapter of this non-profit association conducted a study that examined excellence in the research field with a specific focus on life sciences, analyzing from an international perspective scientific publications, patents and projects carried out in the period 2001-2006.</p>
<p>www.ricercaitaliana.it</p>	<p>A resourceful and comprehensive web portal, offering detailed information on research programs, institutes and government policies in Italy. Searchable by keywords, research area, region. It can be TRANSLATED in English by using the Google Toolbar.</p>
<p>www.invitalia.it</p>	<p>Invitalia is the government agency for inward investment promotion and enterprise development dedicated to assisting companies in</p>

	<p>all stages of the investment process, to supporting new business ventures and to enhancing local development. Its Inward Investment embodies a single and reliable national reference point for foreign investors eager to expand or to set up a new business in Italy by providing a full spectrum of services in all stages of the investment process. Its website contains useful guides on investing in Italy, as well as information on investment opportunities in its target sectors, including the Life Sciences.</p>
<p>www.biotechitaly.com</p>	<p>The Italian Trade Commission's site dedicated to the Life Science, currently under development.</p>

*The **Italian Trade Commission** is the government agency responsible for the promotion of trade, business opportunities, and industrial cooperation between Italian and foreign companies, as well as the attraction of foreign direct investment into Italy. Its promotional activities are financed both by government funds, provided by the Italian Ministry for Economic Development, and by private contributions by companies that benefit from its activities and services. These include the exchange of information, assistance in marketing planning, promotion, multilateral cooperation, and training.*

The Italian Trade Commission's operates through 115 branch offices in 86 countries. In the Unites States the Italian Trade Commission is present in New York, Los Angeles, Chicago, Atlanta, Houston and Miami. The Trade Commission offices in the US are deeply committed toward tighter economic partnership between Italy and the US and one of the goals is to encourage US companies to intensify their activities in Italy. To that end, and within the framework of its mission to promote business cooperation between Italy and the US, the New York and Los Angeles office have Investment Desks, which specifically carry out various programs aimed at positioning Italy as a desirable destination for American investment and provide first assistance to US companies wanting to locate, invest or expand their operations in Italy.

Moreover, the Trade Commission is also active in raising foreign investors' awareness of, and involvement in, the scientific and technological innovations of Italian research centers, universities and of the increasing number of spin-offs and entrepreneurial enterprises stemming from these infrastructures.

U.S. biotechnology companies and investors are encouraged to contact the Italian Trade Commission to learn what Italy has to offer in terms of products, services and investment/ collaboration opportunities. In addition, U.S. companies can find out where to meet Italian companies in the U.S. at trade shows, workshops and conferences, as well as in Italy via trade missions and other promotional activities.

For more information please contact:

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