

ITALY

38th Annual J.P. Morgan HEALTHCARE CONFERENCE

January 13 - 16, 2020 | San Francisco, California



BUSINESS OPPORTUNITIES IN ITALIAN LIFE SCIENCES

SELECTED COMPANIES AND CLUSTERS



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LIFE SCIENCES IN ITALY: FACTS & FIGURES

- 1.** With a production value of € 32 bn in 2018, pharmaceutical companies in Italy have a role of leadership in the EU, also thanks to the quality of the supply and service chain.
- 2.** Largest pharma export growth in Europe: from 2008 to 2018 +117% (vs +58% big EU Countries average). In 2019 export continued to grow considerably by +29%.
- 3.** € 1.7 bn pharma R&D investments, grown by 35% over the last 5 years (vs +20% the European average), with an ever increasing synergy between companies and public bodies.
- 4.** € 700 m invested yearly in clinical trials by pharma companies, rising to € 1 bn if we include medical devices companies.
- 5.** 66,500 highly qualified employees (90% with secondary school certification or university degree) in the pharmaceutical industry, +8.6% over the last 5 years. A skilled and flexible workforce is considered a crucial factor by foreign companies who have already located in Italy.
- 6.** Top destination for life sciences FDIs in Europe: 60% of pharma companies based in Italy are foreign-owned companies.
- 7.** Vibrant pharma national industry, doubling its export value over the last 10 years.
- 8.** Robust medical devices sector, accounting for over 3,800 companies and hosting the “Mirandola district”, one of the top biomedical clusters in the world.
- 9.** 3 out of 14 advanced therapy medicinal products authorized for the EU market are the result of Italian R&D.
- 10.** Therapeutic pipeline of more than 300 biotech projects, of which 90 in clinical development.
- 11.** World-class R&D in a wide range of areas, including vaccines, oncology, neurological and degenerative diseases, immunology, rare diseases, plasma derivatives, respiratory and cardiovascular diseases.
- 12.** World-renowned National Healthcare System with universal coverage, including a broad variety of excellent institutes as potential partners (the overall healthcare sector accounts for 11% GDP).

**Provided By Farmindustria and Assobiotech/Federchimica*

INVESTMENT OPPORTUNITIES





ALTHEIA SCIENCE S.R.L.

AREA OF ACTIVITY

Medical research

FOUNDATION

01/12/17

COMPANY SIZE

Turnover

Less than 75.000 Euro

Employees

From 3 to 9 employees

INFO

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Description

Altheia Science develops a gene therapy-based approach in Type I diabetes and multiple sclerosis that aims at reverting the root cause of the disease, by ex vivo lentiviral vector-transducing autologous hematopoietic stem and progenitor cells (HSPC) to reconstitute PD-L1 expression. Re-inoculation of modified HPSC should entail the establishment of a correct balance in controlling immune responses, by promoting a tolerogenic effect triggering the PD-1/PD-L1 axis with the result to exhaust auto-reactive T lymphocytes effector capabilities, thus preventing auto-immune reactions against self-antigens. The approach has the potential to be transformative in the management of autoimmune diseases.

Products

- **ImmunoStem for MS** - *Stage of Development: preclinical*
- **ImmunoStem for T1D** - *Stage of Development: preclinical*

Technology and Patents

Altheia Science has an exclusive license from the Children's Medical Center Corporation (CMCC) of 3 patent families for the treatment and prevention of autoimmune diseases and cancer, including PD-L1 expressing hematopoietic stem cells and uses, Composition and methods for treating diseases and disorders of the central nervous system (non-exclusive), and The discovery of the miRNAs network controlling PD- L1 expression.

Patent Office and filing dates:

US 16/215,932 - filing date 11 December 2018

PCT/US2016/043053, filing date 20 July 2016

PCT/US2017/056774, filing date 16 October 2017

Key Opportunities

Preferred Partner: Finance

Altheia Science, exploiting the scientific and management expertise of the company, intends to promote the product development at international level, not only in Italy but also in Europe and in the USA. Product development includes the execution of IND-enabling studies focused on the demonstration of a favorable benefit/risk ratio, on safety and on the design of appropriate clinical development plans. Finance partners in the USA would favor the enablement of this process.

Other Opportunities

Additional opportunities come from the establishment of partnerships with other Companies in the field to exchange technologies and foster the execution of Altheia Science programs.

AREA OF ACTIVITY

Laboratory equipment, reagents, software

FOUNDATION

18/12/13

COMPANY SIZE

Turnover

Less than 75.000 Euro

Employees

From 10 to 19 employees

INFO

HEADQUARTER

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Description

Cellply is a medtech company that develops the first system for functional precision medicine automating the ex-vivo analysis of patients' tumor cell response to cancer treatments in the clinical setting

Products

- **Cellply Mark I platform** - *Stage of Development: BETA developed. Ongoing industrialization with multinational contract manufacturer.*
- **Blood cancer test kits** - *Stage of Development: Clinical proof completed on leukemia, ongoing clinical tests on hematologic cancers.*
- **Immunotherapy profiling kits** - Proof of concept developed, patent pending, seeking collaborations with pharma developing immunotherapy (antibodies and cell therapy)

First target market: about 1.3 million patients with hematologic cancers and selected advanced solid cancers, treated with targeted drugs and immunotherapies. Go-to-market: partnerships with biopharmaceutical companies and cancer institutes for development of Companion Diagnostics programs.

Technology and Patents

Our core technology combines a microfluidic system which can generate thousands of micro-tumors from a single patient, automating sample processing and analysis, with image analysis and pattern recognition methods allowing to select micro-tumors that better mimic in-vivo drug action. The technology enables the analysis of the efficacy of a wide range of drugs, from targeted therapies to immunotherapies, on primary tumor samples promptly analyzed in the clinical setting after sample collection. Cellply has developed 7 international patent families, 4 of which have been granted in several countries.

Key Opportunities

Preferred Partner: Finance

We are seeking financial partners for a Series A equity investment round and partnerships with biopharmaceutical companies for co-development of novel applications and companion diagnostics programs.

Other Opportunities

We are interested in scientific and clinical collaborations involving leading cancer institutes and hospitals for joint translational research projects.

AREA OF ACTIVITY

Liquid Biopsy, Diagnostic IVD

FOUNDATION

26/06/11

COMPANY SIZE**Turnover**

From 250.000 to 750.000 Euro

Employees

From 20 to 49 employees

INFO**HEADQUARTER**

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**Description**

The company is active in the area of Liquid Biopsy in cancer and is now at commercial stage, launching its proprietary and innovative solutions on the market. Exosomics' distinguishing factor is the capability to selectively isolate tumor-derived exosomes (and EVs) through proprietary affinity methods, thus enriching for tumor-derived biomarkers (proteins, DNA and RNA) and therefore significantly improving molecular diagnostics as well as enabling early pan-cancer screening. Exosomics is ISO9001 and ISO13485 certified, GCLP accredited, and provides services and products to Academic groups and Biotech/Pharma Companies worldwide. Exosomics has attracted investors from Europe and North America, such as Lonza, Agilent and others.

Products

- **SeleCTEV** - Stage of Development: Marketable
- **SoRTEV** - Stage of Development: Marketable
- **ExoRef** - Stage of Development: Marketable
- **LB-SeleCTEV-EGFR** - Stage of Development: Marketable
- **Cancer rEveal** - Stage of Development: Analytical validation

Technology and Patents

Exosomics' distinguishing factor is the capability to selectively isolate tumor-derived exosomes through proprietary affinity methods, thus enriching for tumor-derived biomarkers (proteins, DNA and RNA) enabling better liquid biopsy and pan-cancer screening approaches. Exosomics holds a number of patents in this field.

Key Opportunities

Preferred Partner: Finance
Exosomics is looking for investors for a Series A round to reach regulatory approval and internationalization of its business.

Other Opportunities

Partnering with Pharma for cDx development.

AREA OF ACTIVITY

Biomaterials

FOUNDATION

17/10/02

COMPANY SIZE

Turnover

From 5 to 15 million Euro

Employees

From 20 to 49 employees

INFO

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Description

Finceramica develops, produces and markets innovative medical devices for the regeneration of skeletal tissues. It is a high-tech, dynamic, product development-oriented enterprise with a solid R&D story on bioceramics and composites biomaterials and a versatile technology platform.

The company product portfolio includes:

- biomimetic bone regenerators for orthopaedic, maxillofacial and spinal surgery;
- bioceramic, patient specific implants for large cranioplasty;
- biomimetic, composite, osteochondral regeneration devices for joint preservation Finceramica is also engaged in several cutting edge R&D projects, including the development of bioceramic nanocarriers for drug delivery.

Technology and Patents

Finceramica patented technology platform is based on biomimetic, nanostructured and intelligent biomaterials that not only restore bony or osteochondral defect, but also promote tissue regeneration or can be used as carriers drug delivery. The Company IP rights, a total of 10 patent families, span between unique bioceramic synthesis and processing methods, innovative processing techniques of ceramic-biopolymer composites, specific medical devices structures and dedicated surgical instruments.

Key Opportunities

Preferred Partner: Finance

Financial/Industrial partners co-funding a US-EU pivotal clinical study to obtain FDA approval (PMA process) of an innovative joint preservation product for early osteoarthritis.

Other Opportunities

Industrial partners for distributing a cranioplasty device in the US.



GENECHRON S.R.L.

AREA OF ACTIVITY

Proteomics, metabolomics, nutrigenomics

FOUNDATION

30/06/16

COMPANY SIZE

Turnover

From 75.000 to 250.000 Euro

Employees

From 3 to 9 employees

INFO

HEADQUARTER

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Description

Genechron Srl provides products and services in the field of Medical Genetics Diagnostics. The company focuses its activities in the field of molecular biomarkers in various clinical fields. These tests can also be developed in GLP standards and utilized in clinical trials. Furthermore the company delivers Medical Genetics services in the Italian market thanks to its authorized Laboratory.

Products

- **Hanemir biomarker** - *Stage of Development: Analytical Validation*
- **DILI Biomarker** - *Stage of Development: Analytical Validation*
- **MPT Test** - *Stage of Development: Clinical Validation*
- **DMD biomarkers** - *Market*

Target Market: Genechron is developing diagnostic tests for liver diseases and for the relapse of Head & Neck cancer. In Italy Genechron has an internal sales force that will be further strengthened with external agents, while abroad exclusive distributors will be identified.

Technology and Patents

Exclusive licence of the patent on miRNAs as biomarkers for Duchenne Muscular Dystrophy, DMD, filed by the University of Rome "La Sapienza" (date of filing: 25.05.2009); IQ 2020 filing patent on the absolute quantification method of miRNAs; IQ 2020 filing of a patent on miRNAs as biomarkers of the relapse of Head & Neck Tumor on blood and saliva; IIQ 2020 filing of a patent on miRNAs as biomarkers for DILI.

Patent Office and filing dates:
EP2258863_A1 - 25.05.2009

Key Opportunities

Preferred Partner: Finance
Investment partner for the development of the business plan of the company.

Other Opportunities

R&D partners for the company biomarkers pipeline development.

AREA OF ACTIVITY

Biotech

FOUNDATION

24/07/14

COMPANY SIZE**Turnover**

Less than 75.000 Euro

Employees

From 3 to 9 employees

INFO**HEADQUARTER**

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**Description**

Genenta (www.genenta.com) has developed an ex-vivo gene transfer strategy into autologous hematopoietic stem/progenitor cells (HSPCs) to delivery immunomodulatory molecules directly via tumor-infiltrating monocytes/macrophages (Tie2 Expressing Monocytes - TEMs). Genenta's proprietary product is Temferon™.

The targeted expression of the immunomodulatory molecule in TEMs is achieved combining a transcriptional and post-transcriptional microRNA-mediated control. Thanks to these mechanisms, TEMs become capable of expressing the immunomodulatory molecule interferon-alpha (IFN-α) in the tumor microenvironment.

TEMs are endowed with a pro-angiogenic activity and are spontaneously and actively recruited by developing tumors to sustain their growth. Thanks to the immune-gene transfer, TEMs become the tool for the local delivery of the immunomodulatory molecule. In preclinical models, the local IFN-α release triggered both a direct (anti-angiogenic, pro-apoptotic) and an indirect anti-tumor effect (immune response).

In contrast to antigen-restricted Chimeric Antigen Receptor T cells (CAR-T), Temferon™ is not restricted to pre-selected tumor antigens nor type and may reach not only hematologic disorders but more importantly, also solid tumors. In addition, its immune-modulatory functions may trigger a long-lasting immune response towards multiple tumor antigens.

As a result, Temferon™ should be able to break the tumor immune tolerance by reprogramming the tumor immune microenvironment.

Temferon is under investigation in two Phase I/II clinical trials in early relapse Multiple Myeloma patients after front line therapy and newly diagnosed Glioblastoma Multiforme patients.

Genenta's headquarter is in Milan (Italy) with an office in Alexandria Center's LaunchLabs, New York (NY, USA). The Company is part of Assobiotech, Italia StartUp, and ELITE (London Stock Exchange Group). Co-founders: Pierluigi Paracchi, Ospedale San Raffaele (OSR), Prof. Luigi Naldini (Director SR-TIGET, San Raffaele Telethon Institute for Gene Therapy), and Dr. Bernhard Gentner (Hematologist and Physician-Scientist at OSR and SR-TIGET). Dr. Carlo Russo, MD serves as CMO & Head of Development. Genenta raised more than €30M in three different rounds of financing.

Products

- **Temferon™** - *Stage of Development: Clinical Stage Phase 1/2*

Key Opportunities

Preferred Partner: Finance

Crossovers Fund and big biotech/pharma companies.

AREA OF ACTIVITY

Software as Medical Device, A.I.,
Bioinformatics, Big data analytics

FOUNDATION

07/03/17

COMPANY SIZE

Turnover

Less than 75.000 Euro

Employees

From 3 to 9 employees

INFO

HEADQUARTER

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Description

Precision Medicine Solution in cloud to diagnose and treat rare genetic diseases.

The GenomeUp's solution is distributed as Software as Medical Device to support the clinical decision.

Products

• **GenomeUp - Stage of Development: MVP; CE-Mark process ongoing**

Target Market: Hospitals and Laboratories focused on rare genetic diseases.

Technology and Patents

GenomeUp is a biotech startup that developed a platform (SaMD - Software as Medical Device) for precision medicine on rare genetic diseases. GenomeUp is focused on enabling doctors and clinical institutions to accurately and timely diagnose and treat patients affected by rare genetic diseases. By leveraging proprietary A.I., GenomeUp analyzes the patient's DNA, symptoms and drugs treatment to identify specific genes or sequences related to a specific disease and provides a complete, and holistic clinical report screening over 28 million scientific papers.

Key Opportunities

Preferred Partner: Finance and Industry.

GenomeUp is looking for new investors as VC and Strategic investors.

Other Opportunities

R&D partners to develop new Medical Genetic Diagnostic pipeline;

R&D partners for Clinical Trials.



GREENBONE ORTHO S.R.L.

AREA OF ACTIVITY

Medical devices

FOUNDATION

18/03/19

COMPANY SIZE

Turnover

Less than 75.000 Euro

Employees

From 10 to 19 employees

INFO

HEADQUARTER

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Description

GreenBone brings a CE-marked, regenerative biomimetic and bioactive bone substitute, inspired by nature, for bone defects surgically created or resulting from trauma (extremities and pelvis). Suitable also for large bone loss in different sizes and shapes.

Future development in bone infection, bone cancer, spine fusion.

Products

• **Greenbone bone substitute** - *Stage of Development: CCE-mark granted, clinical studies ongoing, growth and expansion.*

Technology and Patents

GreenBone is a new CE-marked biomimetic and bioactive regenerative bone substitute with two international clinical studies ongoing in large bone defect (pelvis and extremities). FDA submission 1Q20. Engineered to reflect bone in its anatomy and composition, our manufacturing process transforms rattan-wood to bone-like chemical composition while—crucially—preserving its architecture that mimics human bone. GreenBone scaffold is endowed with osseointegration, osteoconduction and osteoinduction properties together with high mechanical performance. Robust evidence of safety and regenerative properties. Different sizes and shapes developed also for large bone defect. The company has raised 11.4€ million (13\$ million) investments since 2015. GreenBone bone substitute as a short path to market with forecasted European and US peak sales of >\$500 million. Future development in bone infection, bone cancer, spine fusion. Growth strategy under implementation. Greenbone is a patented technology (WO 2012/063201, WO 2017/021894).

Key Opportunities

Preferred Partner: Finance (VC), medtech and orthopedic market leader in orthopaedic, traumatology, spine surgery and other bone reconstructive fields.

Other Opportunities

Industrial connection with strategic players market leaders in orthopaedic, traumatology, spine surgery and other bone reconstructive fields.

AREA OF ACTIVITY

eHealth, mHealth, telemedicine

FOUNDATION

18/05/18

COMPANY SIZE**Turnover**

From 75.000 to 250.000 Euro

Employees

From 3 to 9 employees

INFO**HEADQUARTER**

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Description

HappySalus is an advanced activity tracker that reads wearables or medical devices and is designed for maximum simplicity: check your data on the dashboard, take note of the operation alerts and work with your tips. HappySalus flows seamlessly walking, running, sleeping, swimming and much more, as well as functions connected to the GPS to map your route. It synchronizes with the HappyMarket app so you can view products and services designed for you and to improve your lifestyle over time.

Products

- **HappySalus** - *Stage of Development: advanced. already released for the italian market.*
- **HappyDoctor / HappyPatient Line** - *Stage of Development: Beta 1 - test.*

Target Market: Mass Market.

Technology and Patents

Physiological parameters monitoring operated by medical devices or wearable is included in an intuitive APP for smartphones and tablets (Android and IOS). Monitored data includes: heart and respiratory rate, blood pressure, oxygen saturation, sleep quality, body mass index, calories consumed, biochemical blood parameters and much more. Big data analysis are based on the notes of our Scientific Committee. Healthia developed specific algorithms using open source technologies and a standard cloud approach to services and bigdata storage and analysis. Healthia aim to introduce in the market new devices and tools to improve wellbeing for everybody. Healthia has an utility patent.

Patent Office and filing dates:

our pending request for utility patent is 202017- 000085148

Key Opportunities

Preferred Partner: Finance

We are looking for a strong financing partner able to help Healthia to approach the American market in the best possible way.

Other Opportunities

Healthia also aims to contact other companies operating in the e-health field to create opportunities for the european market.



LIFESEEDER S.P.A.

AREA OF ACTIVITY

Life sciences related activities

FOUNDATION

06/11/17

COMPANY SIZE

Turnover

Less than 75.000 Euro

Employees

Less than 3 employees

INFO

HEADQUARTER

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Description

LifeSeeder is the first Italian equity crowdfunding platform specialized on Life Sciences. It was founded by the Health Cluster of Lazio C.H.I.CO. and leading stakeholders in Life Sciences business. Thanks to its nation and international network, LifeSeeder attracts highly innovative startups, SME's, university and research center of excellence spin-offs. In order to access to the investment process, every enterprise needs to pass the validation based on a four step evaluation (scientific, legal, innovation and market) entrusted to leading partners. LifeSeeder aims to grow innovation by connecting the world of public and private research with corporates and private finance.

Key Opportunities

Preferred Partner: Finance

Business opportunity to invest in innovative projects of Italian companies focused on Life Sciences. There are many great opportunities to get financial incentives in Lazio Region thanks the C.H.I.CO. Cluster, a leading role in building relationships between all the actors in this field - entrepreneurs, researchers, clinicians, policy makers and people involved in finance and education. Presence of important industrial and multinational groups with their own R&D centers and incentives for corporate investments and Start-ups. The mission of cluster is to maximize the global competitiveness of the Cluster members promoting cooperation for innovative projects in order to create new products and services and thus ensure sustainable economic growth.



AREA OF ACTIVITY

Manufacturing & process engineering

FOUNDATION

15/04/16

COMPANY SIZE

Turnover

Less than 75.000 Euro

Employees

From 10 to 19 employees

INFO

HEADQUARTER

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Description

Multiply Labs develops robotic manufacturing systems that realize personalized therapies on-demand.

Technology and Patents

Two approved US patents: multi-compartment capsules and robotic powder deposition system. 3 more US patents are pending.

Patent Office and filing dates:

USPTO. US20180015044A1: approved on 10-29-2019. US9845167B1: approved on 12-19-2019.

Key Opportunities

Preferred Partner: Finance / Industry

We are looking for industrial partners to bring our technology to Italy/Europe.

Other Opportunities

We're also working with co-development partners to bring to the market new personalized combination drugs.





NMS GROUP S.P.A.

AREA OF ACTIVITY

Biotech

FOUNDATION

01/01/04

COMPANY SIZE

Turnover

More than 50 million Euro

Employees

From 100 to 499 employees

INFO

HEADQUARTER

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Description

The mission of NMS Group is to discover and develop new molecules and therapeutic strategies, contributing to shape the future of cancer care. Thanks to its unique fully integrated R&D chain, the Group is also committed in offering high quality pre-clinical, clinical and production services at a global level. The vast scientific heritage of internal skills, technology and experience represents our excellence and the basis for achieving our goals with continuous commitment and enthusiasm.

Technology and Patents

The generation and management of its intellectual property represent relevant value drivers for Nerviano Medical Sciences. A core asset of a proprietary portfolio of more than 80 patent cases (totaling about 1400 active patents and patent applications) extensively covers, among others, novel and potent anticancer agents, low-molecular weight kinase inhibitors and innovative technologies. This portfolio is maintained by a dedicated in-house group of professionals and it is continuously enriched by filing new patent applications every year.

Key Opportunities

Preferred Partner: Finance

NMS Group is looking for different kind of partnerships. R&D and product development partnerships are traditionally the way the Group create and develop blockbuster technologies and molecules. Financial partnerships are currently one of our main goals, since the listing is one of our priority target for the next couple of years.

Other Opportunities

Nerviano Medical Sciences is focused on the discovery and early development of oncology drugs. Our business model is to partner our drugs at late preclinical or early clinical stage for full development and commercialization. An experienced and lean management team leads a highly skilled staff of professionals with international experience and a broad range of expertise in R&D, combining the flexibility of a biotech with the quality standards of a big pharma.

AREA OF ACTIVITY

Medical devices

FOUNDATION

31/07/14

COMPANY SIZE

Turnover

Less than 75.000 Euro

Employees

From 10 to 19 employees

INFO

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Description

Silk Biomaterials is a regenerative medicine startup founded in 2014 by four life sciences professionals. It raised a €7M Series A round in early 2016, following the investment of €485k by some business angels in 2015. The proprietary technology platform is based on pure silk fibroin and targets a wide range of clinical needs, from regenerative medicine (vascular grafts, nerve guides, rotator cuff repair, etc.) to drug release applications (bladder cancer). The first application – nerve repair – has already received IRB approval and patient recruitment began at the beginning of 2019. The company is preparing for a 510(k) submission.

Products

- **SilkBridge** is our first device to enter the clinic. It's a biocompatible silk fibroin based scaffold, which recruits the patients' own cells to remodel or regenerate the nerve, without pre-seeding of the scaffold nor biological/chemical treatments. SilkBridge consists of a silk fibroin scaffold with a hybrid electrospun-textile structure in which electrospun (ES) layers, in the inner and outer parts of the device, are coupled to the textile (TEX) layer, in the middle. This configuration allows the body's natural healing process to repair the nerve while its tube shape isolates and protects the injured nerves during the healing process. SilkBridge is intended to repair peripheral nerve discontinuities where gap closure can be achieved by flexion of the extremity.

Technology and Patents

The current product portfolio is tilted towards creating positive value for each clinical need, at different time points. The R&D focus is also dedicated to reducing regulatory risks and speeding up the approval process both in Europe and in the US. Silk Biomaterials already engaged with the FDA, through the Pre-Submission program. Long-term preclinical studies are currently ongoing for the vascular graft application and we are ready to confirm in GLP settings the proof of concept already obtained in the orthobiologic area.

Key Opportunities

Preferred Partner: Finance

Silk Biomaterials is targeting a Series B round at the end of 2020, to complete the clinical development of the current pipeline and pre-industrialized its manufacturing process in GMP for the main applications (vascular & nerve). By the end of 2021, results from our clinical studies will support market entry of some of our products in the US – via the 510(k) route – and Europe. Current shareholders (the VC fund Principia and business angels) will seek participation in the Series B.

Other Opportunities

R&D and licensing

AREA OF ACTIVITY

Diagnostic IVD

FOUNDATION

05/05/04

COMPANY SIZE

Turnover

From 250.000 to 750.000 Euro

Employees

From 20 to 49 employees

INFO

HEADQUARTER

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KEY CONTACT

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Description

Tethis is developing a platform based on its proprietary nanotechnology for liquid biopsy applications. Its functionalized slides allow an efficient enrichment free approach to circulating tumor cells capture, detection and characterization. The platform is proving reliable, reproducible and cost effective in detecting cancer from a blood draw since its earliest stages, opening up a wide range of applications in cancer diagnostics.

Products

- **SBS-CTC** - *Stage of Development: clinical trials ongoing.*

Technology and Patents

Tethis' platform is built around its core technological component, i.e. the nanofunctionalized SBS slide, with internal production capabilities. The methodology for its application in liquid biopsy is currently patent pending.

Patent Office and filing dates:

Application n. IT20170085439 - 25/07/2037

Application n. PCT/IB2018/055456 - 25/07/2037

Publication n. WO2019/021150

Key Opportunities

Preferred Partner: Finance

Assessing possible strategic partnership with LDT providers active in the liquid biopsy field.

Other Opportunities

To seek for potential investors.



VAXXIT S.R.L.

AREA OF ACTIVITY

Vaccines

FOUNDATION

06/07/12

COMPANY SIZE

Turnover

Less than 75.000 Euro

Employees

Less than 3 employees

INFO

HEADQUARTER

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Rome (RM)
Italy
www.vaxxit.com

KEY CONTACT

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Description

Italian pharmaceutical company specialized in development, production, commercialization and marketing of drugs, dietary supplements and medical devices in gastroenterology, gynecology, urology, general healthcare.

Products

- **The Tat vaccine for therapy of HIV+ people on HIV drug treatment** - *Stage of Development: Phase III-ready; 2 phase II studies completed in Italy and South Africa.*
- **Treatment of Kaposi's Sarcoma** - *Stage of Development: Phase II study completed.*
- **Treatment of cancer of the cervix** - *Stage of Development: Preclinical animal PoC studies completed.*
- **Tat+Env combination vaccine for prevention of HIV infection** - *Stage of Development: Pre-clinical monkey studies and 2 phase I studies completed.*
- **HSV vector vaccines against Herpes, Tuberculosis and other intracellular pathogens** - *Stage of Development: Preclinical animal PoC studies.*

Target Market: The target market of the Tat vaccine is large: the HIV therapy market, a \$25+ billion market dominated by few HIV drug makers. Vaxxit aims to treat all HIV infected to date (40 million) and the 2 million newly infected every year.

Technology and Patents

VAXXIT owns patents issued in USA, FR, DE, IT, UK and South Africa to the therapeutic use of the Tat vaccine. When administered to patients with HIV infection, or who are otherwise immunocompromised, the Tat vaccine is capable of restoring immune functions while reducing HIV DNA in virus reservoirs.

Patent Office and filing dates:

PCT WO2011113618 (A1) and national phases granted in USA, FR, DE, IT, UK and South Africa.

Key Opportunities

Preferred Partner: Finance

VAXXIT is seeking finance and/or industry partners to fund its clinical trial programme to register and license the Tat vaccine in patent-protected markets. The clinical trial costs are estimated at €5 million for a therapy interruption study in Italy and €15-€20 million for phase III studies in South Africa.

Other Opportunities

This project aims to bring the first HIV vaccine to 40 million people living with this deadly virus. The Tat vaccine is only the lead product of a rich pipeline of clinical and pre-clinical stage products for HIV and other diseases, including cancer.



WISE S.R.L.

AREA OF ACTIVITY

Medical devices

FOUNDATION

09/02/11

COMPANY SIZE

Turnover

Less than 75.000 Euro

Employees

From 10 to 19 employees

INFO

HEADQUARTER

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Description

WISE is a clinical stage medical device company developing a genuinely new generation of Neuromonitoring and Neuromodulation electrodes by means of its proprietary SCBI technology. WISE's electrodes are highly ergonomic, conformable, soft and thin, thus allowing great adhesion, minimal invasiveness and excellent adaptability on neural tissues. Currently, WISE is clinically validating its WCS electrodes for electrophysiological brain monitoring and completing the development of the WISE SCS EXPERT lead, the first Multi-column SCS Paddle lead that can be implanted percutaneously by a Pain Therapist.

Products

- **WISE Cortical Strip (WCS)** - *Stage of Development: Clinical Trial - CE & FDA approval in 2020*

- **SCS EXPERT lead** - *Stage of Development: Advance prototyping*

Target Market: The global neuromodulation market, valued at €4.3B in 2018, is projected to reach €6B by 2022 at a CAGR of 10%. The SCS EXPERT leads belong to the largest segment of this market, the SCS, which absorbs 59% of market share. The leads alone account for 15% of the SCS market, i.e. \$500M by 2022.

Technology and Patents

WISE's SCBI technology consists in embedding metal nanoparticles inside a preformed polymer base in order to form a conductive metal-polymer skin on its surface. The electrodes obtained with this technique are strongly attached to the polymer, resist without electrical failure to extensive deformations of the polymer, as bending and stretching, and have very good performances in terms of biocompatibility. The key technologies developed by WISE are protected by 4 patent families. The core patent covering the SCBI technology (WO2011121017) is granted in Europe, USA, Canada, Japan, Korea and Israel.

Patent Office and filing dates:

WO2011121017 - 30/03/2010: Granted in EU, USA, Korea, Japan, Israel, Canada

WO2013083624 - 05/12/2012: Granted in EU, USA, Japan, Israel

WO2017203441 - 24/05/2016: Granted in Italy &

EU / Pending in USA, Korea, Japan, Israel, Canada

ITA 102019000005268 - 05/04/2019: Pending in Italy / PCT in 2020

Key Opportunities

Preferred Partner: Finance

WISE is raising a €15M (\$16.5M) Series C round that will allow the company to achieve FDA clearance and market launch of the SCS EXPERT lead entering into the \$4.3B Neuromodulation Market and triggering the company EXIT. Current investors committed +30% of the round. WISE is looking for a new investor with strong experience in the Medical Device and Neuro sectors to lead the round.

STRATEGIC PARTNERSHIPS





A. MENARINI INDUSTRIE FARMACEUTICHE RIUNITE S.R.L.

AREA OF ACTIVITY

Pharmaceutics

FOUNDATION

01/01/1886

COMPANY SIZE

Turnover

More than 50 million Euro

Employees

More than 499 employees

INFO

HEADQUARTER

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Corporate Director Licensing & Business

Development

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Description

The Menarini Group is one of Europe's 15 leading pharmaceutical companies, headquartered in Florence (Italy) with more than 17,000 employees generating a turnover of \$ 4 billion in 2018. The focus of the privately-owned company is researching, developing, manufacturing and marketing medications of high therapeutic value for patients. It is committed in these key areas: oncology, anti-infectives, pain, respiratory and cardiovascular. Menarini's research activities are carried out throughout its 6 fully-integrated R&D centers in Europe and Singapore in addition to 16 manufacturing plants throughout the globe.

Technology and Patents

Menarini Research is in charge of all the Group's R&D activities: from the initial phases of a new project up to drug registration. The Biotechnology Centre, Menarini Biotech, and the Menarini Research and Development Centre guarantee the continuous development of target therapies and define new innovative approaches to research. Menarini is investing in major medical research projects that cover the following therapeutics areas:

- Cancer (solid tumors and blood cancer and support therapies)
- Anti-infectives
- Analgesia

Key Opportunities

Preferred Partner: Industry

Small/ Mid-sized companies not present in Europe and Asia, willing to partner their projects.



ACT OPERATIONS RESEARCH IT S.R.L.

AREA OF ACTIVITY

Life sciences related activities

FOUNDATION

01/01/96

COMPANY SIZE

Turnover

From 750.000 to 2.5 million Euro

Employees

From 20 to 49 employees

INFO

HEADQUARTER

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Stefano Barricella

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Description

ACT Operations Research (ACT OR) is a math-technology company. ACT OR supports crucial business decisions by advanced analytics (optimization models, simulators, AI, and predictive models). After developing know-how, references, and technology, ACT OR is now working to grow internationally, willing to lever the emerging market of the Advanced Analytics, Artificial intelligence, and robotics. ACT OR is looking for investors interested and experienced in IT markets, able to facilitate the growth in US, Canada, UK, and China markets. ACT OR is also Spin-off of the Sapienza University (Rome).

Products

• ModiaG - Stage of Development: Platform For Early And Non-Invasive Diagnostics Of Neurodegenerative Diseases

Target Market: The aim of the project is to create a technological platform for the early and non-invasive diagnosis of neurodegenerative diseases. The platform will make use of mathematical models to support decisions and through the integrated analysis of innovative clinical, instrumental and biomarker data.

Key Opportunities

Preferred Partner: R&D

ACT OR, presenting the characteristics of a start-up, from the innovation perspective, is a low-risk and high potential opportunity for investors willing to lever the emerging market of the Advanced analytics, Artificial intelligence, and robotics. ACT OR is looking for investors interested and experienced on IT markets, able to facilitate the growth in US, Canada, UK, and China markets. The final goal is to be listed on the SME stock exchanges market.

AREA OF ACTIVITY

Pharmaceutics

FOUNDATION

01/01/48

COMPANY SIZE

Turnover

More than 50 million Euro

Employees

More than 499 employees

INFO

HEADQUARTER

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KEY CONTACT

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Elisa Candeloro

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Description

Alfasigma is a Italy based multinational company with Headquarters in Bologna.

Alfasigma is a research based, integrated pharmaceutical company with more than 2,800 employees WW, 16 owned subsidiaries (covering 3 continents) and authorized distributors in more than 70 countries.

Through its R&D, manufacturing and commercial units, Alfasigma markets prescription, OTC drugs and medical foods.

In 2018 Alfasigma had a turnover of €1.1Bn, 40% of which is made of four internally developed molecules.

One of these molecules, Rifaximin- α (XifaxanR, NormixR and other TM) an Intestine targeted, non-absorbable antibiotic, had 2018 in-market sales of 1.6Bn WW.

Key Opportunities

Preferred Partner: Industry



ANGELINI PHARMA S.P.A.

AREA OF ACTIVITY

Pharmaceutics

FOUNDATION

20/12/19

COMPANY SIZE

Turnover

More than 50 million Euro

Employees

More than 499 employees

INFO

HEADQUARTER

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KEY CONTACT

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Description

Angelini Pharma is a leader in healthcare, with particular strength and expertise in the fields of mental health, pain and inflammation and paediatrics. It aims to help patients, physicians and caregivers in the fight against diseases. The company is also a leading player in the Consumer Health segment, with highly successful OTC brands in Italy and abroad. Angelini products are marketed in about 70 countries. The company operates directly in 15 countries employing about 3,000 people, and commercializes its products in more than 50 countries through strategic alliances with leading international pharmaceutical groups.

Key Opportunities

Preferred Partner: Industry

Networking & partnership



AREA OF ACTIVITY

Life sciences related activities

FOUNDATION

10/02/11

COMPANY SIZE

Turnover

From 750.000 to 2.5 million Euro

Employees

From 10 to 19 employees

INFO

HEADQUARTER

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Description

Biotechnomed is a LLC Consortium managing the Calabrian Cluster of Innovation for Life Sciences. It delivers services to companies in the healthcare, life science and biotech areas: rapid prototyping of new devices, R&D services, IP services, hosting and training services.

Technology and Patents

1. A MiRNA sequence to be used in screening tests for lung injury with any biological fluid
 2. A new peptide for anti-tumor treatments
- Patent Office and filing dates:
1. Italian Patent Office (UIBM) n.102017000034619
date 29/03/2017 (date of grant 26/07/2019), then filed as PCT to WIPO, app.n. PCT/IB2018/052176, date 29/03/2018, pub. n. WO/2018/178917 A1, with ISR and written opinion
 2. Italian Patent Office (UIBM) n. 102018000003470, date 13/03/ 2018 (pending)

Key Opportunities

Preferred Partner: Industry

We are seeking for industrial partners interested in acquiring (licensing) and industrializing our patented solutions

1. Breathless: exclusive licensee 1,5M\$/5 years
+ 3% royalties
2. Peptide: exclusive licensee 2,0M\$/5 years
+ 2% royalties

Other Opportunities

We have other projects available, already prototyped, patented and tested:

Wearable device (bracelet) for automatic analysis of tremor (discriminate PD from benign tremor) Wearable device (earclip) for automatic detection of sleep apnea and other sleep disorders. We are looking for industrial partners interested in acquiring the Intellectual Property and industrializing the solutions.



BIOUNIVERSA S.R.L.

AREA OF ACTIVITY

Biotech

FOUNDATION

26/06/09

COMPANY SIZE

Turnover

From 250.000 to 750.000 Euro

Employees

Less than 3 employees

INFO

HEADQUARTER

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Maria Pilar Caballero

Executive Assistant

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Description

Biouniversa has discovered that the inhibition of BAG3 protein stimulates the immune system to attack the tumor, and in particular pancreatic adenocarcinoma. From this was born the production of an antibody for therapeutic use for oncological and non-oncological diseases.

Key Opportunities

Preferred Partner: R&D





BRACCO S.P.A.

AREA OF ACTIVITY

Diagnostics - Equipment and accessories

FOUNDATION

20/06/27

COMPANY SIZE

Turnover

More than 50 million Euro

Employees

More than 499 employees

INFO

HEADQUARTER

Via Egidio Folli, 50

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Italy

www.corporate.bracco.com/gb-en

KEY CONTACT

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Fabrizio Grillo

General Affairs and International Relations

Director

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Description

Bracco is an international Group active in the healthcare sector and leader in the diagnostic imaging. It has around 3,450 employees and annual total consolidated revenues of around 1,3 billion euros, of which 87% from international sales.

Products

The Group's main products are contrast agents, medical substances used to improve the diagnostic accuracy of biomedical imaging and the care of patients affected by diseases of varying type and severity. Target Market: Diagnostic imaging

Technology and Patents

In the Research and Development area, the company invests approximately 10% of reference turnover in the imaging diagnostics and medical devices sectors and has a portfolio comprising over 1,800 patents.

Key Opportunities

Preferred Partner: R&D

Other solutions in diagnostics

Other Opportunities

As key stakeholder of the Italian Life Sciences field, we would like to meet other top clusters on Artificial Intelligence, technology transfer, open innovation and other related topics.



CHIESI FARMACEUTICI S.P.A.

AREA OF ACTIVITY

Pharmaceutics

FOUNDATION

09/03/85

COMPANY SIZE

Turnover

More than 50 million Euro

Employees

More than 499 employees

INFO

HEADQUARTER

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Description

Based in Parma, Italy, Chiesi is an international research-focused Healthcare Group, with 85 years of experience in the pharmaceutical industry, present in 28 countries. Chiesi researches, develops and markets innovative drugs in the respiratory therapeutics, specialist medicine and rare disease areas. Its R&D organisation is headquartered in Parma (Italy), and integrated with 5 other key R&D groups in France, the USA, the UK, and Sweden to advance Chiesi's pre-clinical, clinical and registration programmes. Chiesi employs more than 5,700 people.

Technology and Patents

Chiesi's products are chemical and biological drugs, most of which require a medical prescription, and are mainly designed for primary care (General Practitioners), particularly in the respiratory sector where the Group has several leading products, and in special care, notably in neonatology, where the company is a world market leader. The Group has developed the technological platforms Modulite® (a pressurised metered-dose inhaler) and NEXThaler® (dry powder inhaler) for the administration of respiratory drugs.

Key Opportunities

Preferred Partner: Industry and R&D

Other Opportunities

Business Development opportunities





Dompé

DOMPÉ FARMACEUTICI S.P.A.

AREA OF ACTIVITY

Pharmaceutics

FOUNDATION

01/01/40

COMPANY SIZE

Turnover

More than 50 million Euro

Employees

More than 499 employees

INFO

HEADQUARTER

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Description

Dompé is one of the leading Italian biopharmaceutical Companies. Dompé is committed to the development of innovative therapeutic solutions for the treatment of rare diseases with a high need for care. The main production center is in Italy (L'Aquila) and is aimed at synthetic drugs and biotech. In 2018 Dompé sold about 60 million packs. The Company has also branches in the United States (San Francisco and Boston), Europe and China.

Technology and Patents

In 2017, the Dompé complex in Aquila became the first in the world to start manufacturing a Nerve Growth Factor based biotechnological product, the protein that led to Professor Montalcini being awarded the Nobel Prize. The high level of innovation of the biotechnological principle developed by Dompé has also been ratified by the Food and Drug Administration in the USA, which has granted this new therapy for a rare disease of the cornea (that to date has been an orphan disease), priority procedure (Fast Track) and status of Breakthrough Therapy Designation and Priority Review. In July 2017 the EMA in Europe and in August 2018 the FDA in the USA authorized the marketing of the drug.

Patent Office and filing dates:

Oxervate - Marketing Authorization: 06/07/2017

EU number: EU/1/17/1197

Key Opportunities

Preferred Partner: Distribution/Trade

Distribution of innovative medicinal products

Other Opportunities

Research and Development of new therapeutic solutions.

AREA OF ACTIVITY

Pharmaceutics

FOUNDATION

01/01/95

COMPANY SIZE

Turnover

More than 50 million Euro

Employees

More than 499 employees

INFO

HEADQUARTER

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Description

Headquartered in Italy with two sites, the Company offers a full range of manufacturing and packaging services for its worldwide clients. Through its highly advanced R&D labs and pilot scale facilities, Doppel can provide with customized product and process development services, including manufacturing of IMP batches, clinical labelling, regulatory support and CTD drafting services. Our productions capabilities consist of solids, semi-solids, sterile products, injectables, liquid and spray formulations for oral and non-oral administration in single or multiple dose containers. Doppel also possesses the facilities and capabilities to work with highly potent actives and formulations.

Key Opportunities

Preferred Partner: Industry



AREA OF ACTIVITY

CDMO

FOUNDATION

01/12/57

COMPANY SIZE

Turnover

More than 50 million euro

Employees

More than 499 employees

INFO

HEADQUARTER

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Description

F.I.S. – Fabbrica Italiana Sintetici S.p.A. is a leading CDMO specialized in small molecule development and manufacturing for pharma market since 1957. The remit of F.I.S. is to develop and produce pharmaceutical active ingredients applying the basis of Safety, Quality and Sustainability principles.

Target Market: Diagnostic imaging

Technology and Patents

- R&D of 250 Employees
- Dedicated Unit for New API Generic Launch
- Dedicated Suite for Veterinary APIs
- Dedicated Production Units for Steroids, Oncology and HiPo (OEB5)
- 4 Manufacturing Sites (3500Mc3 reactor capacity, GMP, FDA approved)
- API Sterile Manufacturing
- Fluorination Suite
- Wide Technological platform
- High-pressure hydrogenation up to 40bar
- Reductions Palladium-catalyzed coupling
- Cryogenic chemistry - 80°C and below
- Enantioselective synthesis
- Phosgenation via diphosgene generated in-house
- Biocatalytic processes
- Flow chemistry
- Peptide

Patent Office and filing dates:

Non-limiting ex.:

1. USPTO – 08/03/2012; EPO – 04/04/2012; USPTO – 14/05/2012; USPTO – 18/02/2015
2. EPO – 28/10/2014; USPTO – 26/10/2015; USPTO – 22/04/2016; EPO – 22/04/2016
3. EPO – 05/10/2016
4. USPTO – 15/06/2010; EPO – 15/06/2010; USPTO – 29/07/2015; EPO – 11/07/2016

Key Opportunities

Preferred Partner: R&D, External Manufacturing, CDMO
Potential partnership with pharmaceutical players for large transformational outsourcing and Innovative projects.

Other Opportunities

Collaboration with other complementary CDMO or Start-up.

AREA OF ACTIVITY

Chemical & APIs

FOUNDATION

01/01/50

COMPANY SIZE

Turnover

More than 50 million Euro

Employees

More than 499 employees

INFO

HEADQUARTER

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Gianmarco Negrisoli

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Description

FLAMMA is a CDMO with Headquarters near Milan, Italy. As a fully integrated CDMO, we can leverage our 100% self-owned, self-managed facilities, in Italy, China and the USA to deliver a stable, reliable & integrated supply chain. We specialize in the cGMP manufacturing of APIs, NCEs, RSMs & Advanced Intermediates. With expertise in high value chiral materials (specifically amino acid related materials), we provide solutions to customers who not only have need for chiral materials but also those who have other requirements with a various type of chemistries. Flamma provides early stage pre-clinical development of small molecules (g-kg) as well as large-scale commercial manufacturing (MT).

Products

- **cGMP Melatonin** - *Stage of Development: Completed. We provide the only cGMP melatonin in the world and opportunities abound for this*
- **Nutraceuticals** - *Stage of Development: Various stages*

Target Market: Flamma can help move into pharma, biotech, nutraceuticals, cosmetics, and dietary supplements with a variety of options.

Technology and Patents

FLAMMA has particular expertise with high value chiral molecules. Thus, if you have the need for any amino acids or peptides in your small molecule drug candidates, you should be working with FLAMMA. FLAMMA is one of a select few CDMOs that is fully integrated with 100% ownership of all its sites in Italy, China, and the USA. This makes for a more stable supply chain.

Key Opportunities

Preferred Partner: R&D

FLAMMA is looking to help move molecules to patients faster. We can do this by working with small and virtual pharma/biotech companies that wish to decrease the time to market. We can accomplish this by a partnership that allows FLAMMA to use its facilities to provide a stable, integrated supply chain. PE and VC companies should work with FLAMMA.

Other Opportunities

Placing small molecules at the right time & in the right place can save time & money especially when you are trying to get them into the clinic quickly.

AREA OF ACTIVITY

Life sciences related activities

FOUNDATION

19/09/03

COMPANY SIZE

Turnover

From 75.000 to 250.000 Euro

Employees

From 3 to 9 employees

INFO

HEADQUARTER

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Description

Investment Company for R&D Projects in life science.

Key Opportunities

Preferred Partner: Finance & Industry

Looking for projects to invest in and financial/strategic partners to develop portfolio companies.



AREA OF ACTIVITY

Biotech

FOUNDATION

23/06/08

COMPANY SIZE**Turnover**

From 750.000 to 2.5 million Euro

Employees

From 50 to 99 employees

INFO**HEADQUARTER**

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www.holostem.com

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Consuelo Collu

Finance, Accounting
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Description

Holostem is the first biotechnological company entirely devoted to development, manufacture, registration and distribution of Advanced Therapies Medicinal Products (ATMPs) based on cultures of epithelial stem cells both for cell and gene therapy.

Technology and Patents

Holostem Terapie Avanzate manages a GMP facility authorized (AIFA decree n. aM – 169/2014) to manufacture Advanced Therapy Medicinal Products for commercial use and for clinical trials. The GMP facility, located into the Centre for Regenerative Medicine “Stefano Ferrari” of the University of Modena and Reggio Emilia, has 17 independent BL2 rooms fully equipped for cell culture, quality controls and common culture media and reagent preparation. The GMP facility contains also a machinery for automated quantitative immunohistochemistry and in situ hybridization, terminals for control and monitoring system and is equipped for histology, immunofluorescence and X-ray cell irradiation.

Patent Office and filing dates:

US Patent 6,610,538, 26 Aug 2003

EP Patent 1451302, 28 May 2008

IT Patent 102016000057066, 1 Jun 2016

Application n. US16/304,418 and EP17727187.1, 29 May 2017

Application n. PCT/EP2018/071736 10 Aug 2018

Application n. PCT/EP2018/075186 18 Sep 2018

Key Opportunities

Preferred Partner: Finance (VC) & Industry
Crossovers Fund and big biotech/pharma companies.

Other Opportunities

Distribution and trade.

AREA OF ACTIVITY

Life sciences related activities

FOUNDATION

06/11/17

COMPANY SIZE

Turnover

More than 50 million Euro

Employees

More than 499 employees

INFO

HEADQUARTER

A.Holding, Inc - Headquarters Durham
4820 Emperor Blvd - North Carolina
USA
www.iqvia.com

KEY CONTACT

Daniela Sica

Emerging Biopharma Director
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Description

IQVIA, the Human Data Science Company, committed to providing solutions that enable healthcare companies to innovate with confidence, maximize opportunities and, ultimately, drive healthcare forward. We do this via breakthroughs in insights, technology, analytics and human intelligence that bring the advances in data science together with the possibilities of human science.

Key Opportunities

Preferred Partner: Industry

We are looking for new contacts with biotech companies, start-ups, willing to enter the Italian market. We can offer full support from molecule to market: asset evaluation, clinical and regulatory support.

Other Opportunities

New contacts with venture capitals in order to create a partnership to enhance the start-ups development.



M2TEST S.R.L.

AREA OF ACTIVITY

Software, ICT applications, system integration

FOUNDATION

06/10/16

COMPANY SIZE

Turnover

Less than 75.000 Euro

Employees

Less than 3 employees

INFO

HEADQUARTER

Via Padriciano, 99
Area Science Park
Trieste (TS)
Italy
www.m2test.it

KEY CONTACT

Alessandra Nicolosi

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Francesca Cosmi

Inventor
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Description

M2TEST provides a new service for a more accurate assessment of the patients' bone fracture risk. Our product, BES TEST, is an innovative test that assesses bone quality from a virtual biopsy of the patient. It is provided to healthcare specialists as SAAS (software as a service). It is based on a client-server architecture with cloud computing, which separates the imaging software from the one dedicated to computing and response generation. BES TEST is the next generation for osteoporosis diagnosis.

Products

- **Bes Test - Bone Elastic Structure Test - Stage of Development:** *already on the market*
- **Bes Test and Oncology - Stage of Development:** *Clinical Validation*

Target Market: We are currently in the Italian market. 25 B is the annual cost to cover a post-fracture recovery. In USA, Our market is around 250M with an increase in the next few years of 10% due to the increase in life expectancy.

Technology and Patents

From the 3D models used in research activities to simulate the behavior of engineering and biological structures, the BES TEST is a test which virtually simulates the application of compressive loads on the reconstructions of the trabecular architecture obtained from planar digital radiograms of the patient. BES TEST is a recently introduced analysis that can be used to quantify the quality of bone micro-architecture. BES TEST can diagnose also those patients that are currently not identified as being at risk of osteoporosis fractures by the densitometry exam (the current standard for the diagnosis of osteoporosis). We have an USA Patent and Italian patent application. Patent Office and filing dates:
USA patent (7,386, 154B2, general method)

Key Opportunities

Preferred Partner: R&D

We are looking for a university or a hospital to make the necessary validations to obtain the FDA (in Europe there are already scientific validations). In addition, working as SaaS, our software can also be applied to oncology and other profitable opportunities.

Other Opportunities

Pre Seed Fund Raise.



MA PROVIDER S.R.L.

AREA OF ACTIVITY

Life sciences related activities

FOUNDATION

09/09/10

COMPANY SIZE

Turnover

From 2.5 to 5 million Euro

Employees

From 20 to 49 employees

INFO

HEADQUARTER

Via Vincenzo Monti, 3
Milan (MI)
Italy
www.maprovider.com

KEY CONTACT

Elena Paola Lanati

Managing Director and Owner
lanati@maprovider.com

Alberto Vincere

Art Director
vincere@maprovider.com

Description

Consultancy company focused on market access and public affairs. involvement in due diligence process. creator of ATMP Forum in Italy.

Key Opportunities

Preferred Partner: Industry

Funding of ATMP and innovation medical device launch projects.

Other Opportunities

Investor on newco.



MATERIA
MEDICA
PROCESSING

MATERIA MEDICA PROCESSING S.R.L.

AREA OF ACTIVITY

Nutraceuticals, probiotics, functional food, cosmeceuticals

FOUNDATION

16/01/18

COMPANY SIZE

Turnover

From 75.000 to 250.000 Euro

Employees

From 3 to 9 employees

INFO

HEADQUARTER

Via N. Copernico, 19
Bolzano (BZ)
Italy

www.materiamedicaprocessing.eu

KEY CONTACT

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CEO

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Giovanni Isoldi

COO

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Description

Materia Medica Processing specializes in the production of fully compliant high quality broad spectrum THC-free CBD. Produced in Italy, our quality starts at the seed with personally sourced and selected non-GMO Italian hemp. We are dedicated to a purification process that respects the phytochemical profile of the hemp plant, delivering a high concentration of CBD with a full array of terpenes and non-psychoactive CBD — selected to enhance the plant's natural benefits. Pure, potent and consistent broad spectrum CBD for the European market.

Key Opportunities

Preferred Partner: Distribution/Trade

Other Opportunities

We are always looking for distribution partners.

AREA OF ACTIVITY

Pharmaceutics

FOUNDATION

16/10/76

COMPANY SIZE

Turnover

More than 50 million Euro

Employees

From 100 to 499 employees

INFO

HEADQUARTER

S.S. 67 Loc. Granatieri
Scandicci (FI)
Italy
www.moltenifarma.it

KEY CONTACT

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Caroline Sanner

Assistant
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Description

Molteni is a privately held specialty pharmaceutical company leader in the treatment of addiction and moderate to severe pain. Leveraging its unique expertise of the controlled substance market, Molteni is committed to search and develop effective and safe new solutions to safeguard patients' quality of life and care.

Key Opportunities

Preferred Partner: Distribution/Trade
Merge & Acquisition





NUBENTECH S.R.L.

AREA OF ACTIVITY

eHealth, mHealth, telemedicine

FOUNDATION

06/03/18

COMPANY SIZE

Turnover

Less than 75.000 Euro

Employees

Less than 3 employees

INFO

HEADQUARTER

Via Nazionale Adriatica, 216
Roseto degli Abruzzi (TE)
Italy
www.morphogram.com

KEY CONTACT

Andrea De Cristofaro

CEO

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Description

Morphogram is a mobile health application that analyzes your lifestyle, body composition and risk factors with 3 body circumferences (waist, abdomen, hip) that can be taken with a common measuring tape. Moreover, Morphogram will show to the user customized ads of health service providers (nutritionists, pharmacies, clinics, insurance) according to their preferences and analysis result and allow to pay and book the service via app.

Products

- **Morphogram - Stage of Development: Beta version on market (TRL 4)**

Technology and Patents

Morphogram is based on self developed algorithms to calculate lean mass, fat mass, abdominal volume and body types. Software and method are registered at SIAE and the brand Morphogram is registered too.

Patent Office and filing dates:

No patent applicable on software

Key Opportunities

Preferred Partner: Distribution/Trade

We are looking for a commercial partner that can sell Morphogram in US. Our potential partner can be a medical clinic or institution, pharmacy network, wearable device and mobile health developers

Other Opportunities

We are looking for fundings and/or a partner for personal data storage and Gdpr compliance.



OLON S.P.A.

AREA OF ACTIVITY

Chemical & APIs

FOUNDATION

02/01/98

COMPANY SIZE

Turnover

More than 50 million Euro

Employees

More than 499 employees

INFO

HEADQUARTER

Strada Rivoltana km 6/7
Rodano (MI)
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KEY CONTACT

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Marco Candiani

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Description

Olon is an Italian company world leader in the Active Pharmaceutical Ingredients (APIs) production, using synthetic and biological processes for Generic market as well as in Contract Development and Manufacturing (CDMO). Headquartered in Rodano (Italy), Olon has 11 manufacturing facilities – 8 located in Italy, 1 in Spain, 1 in USA and 1 in India, all compliant with international requirements, and 3 branch offices (China; Germany; USA). Olon offers complete integrated packages and services to support the full development of APIs based on strong knowledge in both, Chemical and Biological processes, in a full cGMPs environment including a complete regulatory coverage.

Key Opportunities

Preferred Partner: Industry
Merge & Acquisition



PARTICIPATING
COMPANY

AREA OF ACTIVITY

Pharmaceutics

FOUNDATION

08/11/89

COMPANY SIZE

Turnover

From 250.000 to 750.000 Euro

Employees

More than 499 employees

Description

- Pharmaceuticals
- Parapharmaceuticals, cosmetics and medical device
- Food supplements
- Orphan drugs on “order to cash” basis
- OTC drugs in Italy
- Comparator sourcing for clinical trial.

Key Opportunities

Preferred Partner: Distribution/Trade.

INFO

HEADQUARTER

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www.petrone.it

KEY CONTACT

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CEO

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Barbara Carrano

Executive assistant

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+39 081 2415260



AREA OF ACTIVITY

Life sciences related activities

FOUNDATION

11/05/98

COMPANY SIZE

Turnover

From 15 to 50 million Euro

Employees

More than 499 employees

INFO

HEADQUARTER

Località Prulli, 103/c
Reggello (FI)
Italy
www.pqegroup.com

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Gilda D'Incerti

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Claudio Puglisi

Vice President and COO
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Description

PQE Group is an ISO 9001 certified technology solutions and compliance consulting services company with global capabilities deliverable throughout the entire product quality life cycle. With more than 20 offices worldwide and a full-ranged broad service portfolio, extensive experience, effective project management, and exceptional cost effectiveness, PQE's solutions are proven to be the winning combination for global corporations, as well as small and medium sized companies.

Technology and Patents

Not applicable. PQE is a consultancy Services Provider in Life Science space.

Key Opportunities

Preferred Partner: Industry

- multinational companies in life science - partnership or strategic development projects, support for IT and RA compliance
- Consulting companies - partnership for worldwide projects
- Consulting companies - joint venture or merger

Other Opportunities

- Government authorities - partnership about new guidelines and training
- International colleges - partnership on innovative projects (artificial intelligence - big data management)

AREA OF ACTIVITY

Pharmaceutics

FOUNDATION

01/05/26

COMPANY SIZE**Turnover**

More than 50 million Euro

Employees

More than 499 employees

INFO**HEADQUARTER**

Milan (MI)

Italy

www.recordati.com**KEY CONTACT****Pier Paolo Ferlenga**

Director, Licensing

ferlenga.p@recordati.com**Duccio Favara**

Director, Licensing

favara.d@recordati.com**PARTICIPATING
COMPANY****Description**

Recordati is a public, international pharmaceutical group dedicated to the research, development, manufacturing and marketing of pharmaceuticals for primary and specialty care as well as orphan drugs for the treatment of rare diseases. Headquartered in Milan, Italy, Recordati has its own commercial operations throughout geographical Europe, North America and some South American countries, Middle and Far East, Japan and Australia. Recordati has been listed on the Italian Stock Exchange since 1984 (REC.MI). Recordati, with its Specialty & Primary Care Business Unit, offers a wide range of pharmaceutical agents, both proprietary and under license, in a number of therapeutic areas. An efficient field force of medical representatives promotes these products in all European countries - including CIS countries, Turkey and North Africa - where subsidiaries have been established. The company's leading products are drugs for the treatment of hypertension and other cardiovascular disorders, treatments for the low bowel diseases, as well as treatments for disorders of the lower urinary tract. The Rare Diseases Business Unit (Recordati Rare Diseases) is dedicated to the development and commercialization of treatments for rare metabolic deficiencies of a genetic nature and endocrinology. Subsidiaries have been established all over the world. Pharmaceutical production is based mainly in Italy (Milan), France (Montluçon) Turkey (Çerkezköy), in Spain (Zaragoza) and in Tunisia (Ariana). Plants for the production of proprietary active ingredients are located in Italy (Latina) and in Ireland (Cork).

Key Opportunities

Preferred Partner: Industry

- Expand through organic development and through acquisitions of profitable businesses.
- Reinforce presence in existing key markets.
- Develop a product portfolio consistent with Recordati's strategic areas also through new product licenses.
- Develop the business dedicated to treatment of rare diseases on a worldwide basis. Recordati looks for licensing or acquisition opportunities for its territory (globally only for Rare Diseases) to strengthen its product portfolio. Late stage opportunities should fall into the following areas:
 - Urology
 - Cardiovascular
 - Gastrointestinal
 - Metabolic Diseases
 - Orphan and Rare Diseases
 - Self-medication (OTC)
 - Central Nervous System
- Selected early stage opportunities within the rare diseases can be of interest at certain conditions.

AREA OF ACTIVITY

Biotech

FOUNDATION

01/04/14

COMPANY SIZE**Turnover**

Less than 75.000 Euro

Employees

From 50 to 99 employees

INFO**HEADQUARTER**

Via Valosa di Sopra, 9
Monza (MB)
Italy
www.rottapharmbiotech.com

KEY CONTACT**Lucio Rovati**

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Federica Girolami

Director Business Development, Scientific
Liaison and Drug Safety
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**Description**

Rottapharm Biotech is an R&D company dedicated to innovative drug discovery and development. The company is the spin-off of the entire R&D operations of the former Rottapharm|Madaus pharmaceutical group, and has a track record of 19 marketed proprietary products, over 80 patent families and ~600 single patents. Rottapharm Biotech operates with a mixed discovery model that includes new chemical entities (small molecules) and new biotherapeutics (monoclonal antibodies by a proprietary technology) against innovative targets. Rottapharm Biotech's expertise in drug discovery and development includes: new target validation, development of animal models, pharmacological and pharmacokinetic characterization of new drug candidates, original formulation, and design and conduct of innovative clinical trials. The R&D expertise covers several therapeutic areas with focus on rheumatology (rheumatoid arthritis and osteoarthritis), pain and inflammation, immunomodulation and immuno-oncology, and selected oncology areas.

Key Opportunities

Preferred Partner: Industry

Seeking for out-licensing opportunities of our assets:

CR608 is a novel immunomodulator acting as an antagonist at the PGE2 receptor EP4 subtype. CR6086 is in Phase II clinical development as a DMARD for rheumatoid arthritis. Immuno-oncology has recently emerged as an additional therapeutic area for CR6086. The PGE2-EP4 axis plays a major immunosuppressive role in the tumour microenvironment, and as such it favours cancer progression. An important application is the combination of CR6086 with immune checkpoint inhibitors in patients who have advanced cancer and/or inadequate response to anti-PD-1/PD-L1 therapy in selected indications (e.g. microsatellite stable colorectal cancer).

CR4056 is a first-in-class imidazoline-2 (I2) receptor ligand with potent analgesic activity in a broad spectrum of animal models of pain. I2 ligands facilitate the noradrenergic inhibitory pain pathways with an innovative molecular mechanism, and have a marked opioid-sparing activity (synergism with opioids, delay/reversal of tolerance, decreased opioid-induced adverse effects and abuse potential). Clinical proof of concept for CR4056 as a non-opioid analgesic has been obtained in chronic pain associated with osteoarthritis (OA). Potential therapeutic indications span from nociceptive to neuropathic chronic pain and use as an opioid-sparing drug in multimodal analgesia.

CR13626 is a novel potent inhibitor of tyrosine kinases relevant to glioblastoma. CR13626 crosses efficiently the blood brain barrier and is not a substrate of multidrug efflux transporters.

CR13626 decreases the proliferation of different human glioblastoma cell lines and reduces tumour growth, eventually prolonging survival, in mouse models of glioblastoma.

OA discovery pipeline. OA is a heterogeneous disease: patients belong to different disease phenotypes. The investigation of OA phenotypes (focus on metabolic and inflammatory phenotypes) is the approach we are following at Rottapharm Biotech.



SOFAR S.P.A.

AREA OF ACTIVITY

Pharmaceutics

FOUNDATION

11/12/68

COMPANY SIZE

Turnover

More than 50 million Euro

Employees

From 100 to 499 employees

INFO

HEADQUARTER

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Italy
www.sofarfarm.it

KEY CONTACT

Andrea Biffi

CEO
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Egle Gedrimaite

Business development
Director foreign
markets
egle.gedrimaite@sofarfarm.it



Description

SOFAR S.p.A., Italian pharmaceutical company, based in Milano area, established in 1968 and up to date 100% Italian private capital company. SOFAR's core value and objective is to bring to the market unique, clinically proven products. SOFAR owns and markets high quality pharmaceuticals, dietary supplements and medical devices, leading in gastroenterology, urology, dermatology, gynecology and general healthcare. One of the core targets of SOFAR is research and development of probiotics for innovative applications. Whilst Company's main market is Italy, it is exponentially expanding into other markets, exporting its products, both through its subsidiaries (USA, Switzerland, Russia, Romania, Lithuania) as well as through partnerships in Europe, MENA, Asia, Australia, South America.

Products

- Pentacol® - Mesalazine, the leading product in Italian market and in SOFAR gastroenterology products line. Recently launched PENTACOL 1200 mg gastroresistant modified-release tablets.
- Enterolactis® - Probiotic product line based on SOFAR proprietary LP-DG™ strain, number one dietary supplement in Italy.
- Gerdoff® - innovative patented medical device for treatment of gastroesophageal reflux disease.
- Cistiflux® - Dietary supplement as aid in UTI treatment, market leader in its segment.
- Innovia™ - Innovative probiotic product recently successfully launched in USA and approaching other worldwide markets.
- Sofargen® - A product line for topical use based on Silver-Sulfadiazine. The World Health Organization has included it in the list of the 200 essential medicines.

Key Opportunities

Preferred Partner: Industry, R&D, Distribution, License

Other Opportunities

Distributors/licensees for SOFAR products.



ZAMBON S.P.A.

AREA OF ACTIVITY

Pharmaceutics

FOUNDATION

11/11/06

COMPANY SIZE

Turnover

More than 50 million Euro

Employees

More than 499 employees

INFO

HEADQUARTER

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Italy
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KEY CONTACT

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Sara Lauria

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Description

Founded in 1906, Zambon is an Italian multinational pharmaceutical company. The company is present with 20 affiliates in three different continents - Europe, America and Asia - and has production units in Italy, Switzerland, China and Brazil. Traditionally active in the therapeutic areas of coughs and colds, women's health and pain, most recently Zambon has focused its R&D on Speciality's products and healthcare solutions for the central nervous system and severe respiratory diseases. Zambon has two advanced programs for the treatment of non-cystic fibrosis bronchiectasis and for bronchiolitis obliterans syndrome, both severe respiratory diseases without current therapeutic options.

Key Opportunities

Preferred Partner: R&D
R&D projects in CNS and Respiratory.

Other Opportunities

Distribution Pharmaceutical products in US.

LIFE SCIENCES CLUSTERS

AOSTA VALLEY
APULIA
CALABRIA
EMILIA-ROMAGNA
FRIULI VENEZIA GIULIA
LAZIO
LOMBARDY
PIEDMONT
TRENTINO
TUSCANY

AOSTA VALLEY

LIFE SCIENCES

Infrastructures and connections

- 1 regional airport Corrado Gex (allows the operation to aircraft up to a maximum of 70/80 places).
- Highway: A5 linking Aosta with Turin and Milan
- Tunnel Mont Blanc: linking Aosta with France
- Tunnel Gran San Bernardo: linking Aosta with Switzerland
- 1:00 h from Aosta to Turin; 2:00 h from Aosta to Milan; 7:00 h from Aosta to Rome; 7:00 h from Aosta to Paris; 2:00 h from Aosta to Geneva

Industrial base

Following are some of the numerous companies providing business opportunities in Aosta Valley: Engineering S.p.A. (data center), STMicroelectronics LTD (semiconductors), Thermoplay S.p.A. (hot runner systems for injection molding of plastics), Eltek S.p.A. (electromechanical components), Brabant Alucast LTDt (magnesium and aluminum components), Podium advanced

technologies LTD (electric drive systems), Mavel LTD (electric engine for high speed), Honestamp LTD (molds for thermoplastic), MDM LTD (bolts and screws), GPS Standard S.p.A. (security systems). Aosta Valley is autonomous in water. C.V.A S.p.A. produces and distributes hydroelectric power from a huge catchment area consisting of weirs and dams of significant magnitude.

Facts and figures

- 2 companies active in Life sciences, with 1,200 employees
- Genetics & Genomics - Bioinformatics, Big data analytics
- Biotechnologies (Pharma & Medical Devices)

R&D network

The Smart Specialization Strategy (RIS3) of the Aosta Valley identifies 3 areas target for R&D, Mountain of Excellence, Intelligent Mountain and Sustainable Mountains, subject to reciprocal cross-fertilization actions, mainly through the use of KETs (ICTs, Nano-microelectronics and bio-technologies).

In the Region there is the headquarters of the University of Valle d'Aosta and a seat of the Polytechnic of Turin, as well as research centers, such as the Astronomical Observatory, the Safe Mountain Foundation, the Institute for agriculture. Research is particularly active in biotechnology, information technology, electric mobility, land monitoring and the enhancement of cultural heritage.

Incentives and funding

The Aosta Valley is a Region in "special status" with wide legislative and administrative autonomy by which it can operate in an efficient and effective way so that entrepreneurs can interact with the public administration quickly and easily. Regional law 84/1993 supports research and development in industrial enterprises with grants with a maximum amount of € 500,000 for large companies, € 250,000 for medium-sized companies; € 125,000 for small companies. Regional law 14/2011 supports the growth of new in-



Contact info

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finanze, attività produttive e artigianato
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Fabrizio Clermont, Emanuela Dandres

novative companies with grants with a maximum amount of € 150.000. The regional financial company, Finaosta, can support the capitalization of companies.

Sites and buildings

- The Region can make available to companies many industrial sites:
- technology park Espace Aosta, with lots and buildings of different sizes;
- technology park Ilssa Viola in Pont-Saint-Martin, with lots and buildings of different sizes;
- industrial area in Châtillon of 16,660 sqm;
- industrial area in Verrès of 16,042 sqm.

Success story

Podium advanced technologies LTD.

In 2011 a small group of graduates and PhDs from Polytechnic of Turin joined forces to create an innovative engineering firm, building upon their interests and passion for motorsport, cars and applied research on hybrid and electric mobility. Podium Advanced Technologies offer a comprehensive set of services in automotive high performance development, covering conventional, hybrid and full electric powertrains, supported by a unique hands-on experience in all facets of international motorsports. In 2019, the company has 30 employees and covers an area of 6,000 sqm. For the second year in a row, Financial Times recognizes Podium Advanced Technologies among Europe's fastest growing companies.

composed of research body and enterprises. The project has available a total funding amount of 15,000,000 Euro for 5 years. The proposals presented in response to the call are being evaluated, the center will be fully operational on 1 January 2020. The operation aims to establish technology transfer and create start-up and spin-off businesses. For example, it could be possible to support the creation of businesses which would focus their activity on identification of the diagnostic bio-markers which are needed for the development of new diagnostic kits which could be used by medical analysis laboratories, hospitals, clinics and care home. We are looking for companies, start-ups or consolidated companies, which intend to establish in the Aosta Valley region to benefit from the transfer of technology from the research center, to be supported with regional incentives for research and development, which provides grants to companies. We are looking for researchers in biotechnologies or information technologies who want to come to work in a cutting-edge scientific context and in an environmental and natural context of excellence.

Business opportunity

The Aosta Valley Region is creating a research center supporting personalized, preventive and predictive medicine, on a scale appropriate to the size of Valle d'Aosta, to boost the region's research and health sector in an innovative way, implementing the specialization zones and technology transfer model set out in the Valle d'Aosta regional Research and innovation strategy for smart specialization for the period 2014/2020. The main objective is to improve health, with particular reference to various neurodegenerative and oncological diseases. The research will also focus on building the genome profiles of samples of the population in order to establish a regional bioinformatics database. The research activities are carried out by a partnership

APULIA

LIFE SCIENCES

Infrastructures and connections

- 2 international airports (Bari and Brindisi), serving over 40 international destinations
- 1 industrial cargo airport (Taranto-Grottaglie), recently adopted as a test-bed for remotely piloted aircraft and designated as the first spaceport in Italy for the development of sub-orbital flights
- 1 local airport (Foggia), with connections to Tremiti Islands
- 3 major ports: Taranto (container shipping; the 3rd largest commercial port in Italy for cargo traffic); Bari (passenger and container traffic); Brindisi (passenger traffic)
- Extensive road and railway networks, linking the region to major north-south corridors and high-speed rail network 1 logistics Interport located in Bari

Industrial base

Apulia plays a leading role in the pharmaceutical sector



REGIONE PUGLIA

Contact info

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Theresa Mulloy
Ewa Jankowska

in Italy and is one of the main regions for exports, thanks to the presence of multinational companies, including Sanofi e Merck which have located manufacturing plants and research facilities in the region. The region has also gained recognition as a center of excellence for precision medicine, with the recent creation of the national Hub for precision medicine, TecnoMED, which carries out innovative research into tumors and neurodegenerative diseases, based on nanotechnologies. Synergy between private and public research institutes aims at advancing research and encouraging the creation of local hi-tech businesses that can industrialize research results and bring patents to markets in areas such as biotechnology drugs, gene therapy, somatic cell therapy, tissue engineering, biomarkers, drug discovery and drug delivery, advanced diagnostics, bioinformatics. H-BIO - Apulian Biotech Cluster (11 public and 25 private partners) is a key player in this area and brings together the interests and activities of both regional universities and research centers and private companies operating in the fields of healthcare and biotech-drugs, focusing on 4 strategic sectors: Personalized medicine; Advanced Therapy; Molecular and advanced diagnostics; New manufacturing processes.

Facts and figures

- The regional export of pharmaceuticals and chemicals in 2017 amounted to over 1.6 billion Euros.
- Main business sector specializations:
 - Advanced Pharmaceuticals
 - Biomedical Devices
 - Advanced Diagnostics
 - ICT (Bioinformatics –Telemedicine- eHealth)
 - Cosmetics
 - Surgical and Medical Supplies

R&D network

3 major Universities (Bari, Foggia, Salento) and 1 Polytechnic University (Bari)
3 specialised Hospital Research Institutes

- IRCCS Istituto Tumori “Giovanni Paolo II” (specialised in cancer research)

- IRCCS “Casa Sollievo della Sofferenza” (specialised in genetic diseases)
- IRCCS “Saverio de Bellis” (specialised in molecular biology and degenerative diseases)
- 2 National Research Centres - National Research Council (CNR), present in Apulia with 6 research institutes, including NANOTEC – Institute of Nanotechnology which hosts TecnoMED
- National Institute for Nuclear Physics (INFN) CVBF - Biological and Pharmacological Evaluation Consortium for research and product testing.
- C.A.R.S.O. Consortium for postdoc training in biomolecular and oncological research and treatment

Incentives and funding

Regional Contract Programmes: regional grants scheme supporting business innovation and investment projects for existing companies or for new companies to be located in the region, with investment budgets falling within the range between 5 million and 100 million Euros;

Integrated Incentives Packages (PIA): regional grants scheme supporting business innovation and investment projects for existing SMEs or new ones to be set-up in the region, with investment budgets falling within the range between 1 million and 40 million Euros;

Tecnonidi: regional grants initiative which supports investments projects for innovative start-ups and SMEs, with a high-technology content aimed at introducing new products, services and/or business solutions, with investment budgets falling within the range between 25,000 and 350,000 Euros.

Sites and buildings

2 Business Incubators located in Puglia Sviluppo's premises in Modugno (BA), suitable for service industry and digital start-ups and Casarano (LE), suitable for research and manufacturing activities, offering competitive costs and 100Mbps ultrafast broadband. H BIO - Apulian Biotech Cluster based in the University of Bari.

Success story

In 2018, Gelesis, a biotechnology company based in Apulia and co-founded by PureTech Health (an advanced, clinical-stage biopharmaceutical company from Boston - USA), developing first-in-class mechanotherapeutics to treat chronic

diseases related to the gastrointestinal (GI) pathway, closed an international financing round, raising \$ 30 million of funding. The proceeds from the financing will be used to support commercial-stage manufacturing, product launch preparations, company operations, and clinical advancement of the Company's pipeline of additional product candidates for gastrointestinal disorders, including Type 2 diabetes and non-alcoholic steatohepatitis/non-alcoholic fatty liver disease (NASH/NAFLD). On April 14th Gelesis announced that the United States Food and Drug Administration (FDA) has cleared the Company's lead product candidate, PLENITY™ (G lesis100), as an aid in weight management in adults with a Body Mass Index (BMI) of 25–40 kg/m², when used in conjunction with diet and exercise.

- In 2017 the French multinational Sanofi, active in pharmaceutical sector decided to invest 6 million euros in the Brindisi plant, for the development of an industrial biotechnology project that aims to develop innovative technologies for the genetic improvement of the microorganisms and of the processes of fermentation extraction and purification of active ingredients.

Business opportunity

Apulia is an authentic and modern region which offers many advantages to potential investors and represents the ideal location for companies looking to invest in Europe, at the heart of the Mediterranean. The region is building a strong reputation as a hub for innovation thanks to the work of its more than 415 private and public entities, including universities, business and technology clusters and laboratory networks start-ups, all of which are active in research and development. The Apulia regional government stands out for its commitment to investment in research and innovation, and is focused mainly on smart technologies and providing a significant boost to hi-tech sectors. Through Puglia Sviluppo, the regional development agency, potential investors in Apulia can access a raft of incentives, as well as assistance throughout the initial setting-up phase in identifying business locations, local business and research partners and so on. Overall, Apulia is an increasingly attractive business location thanks to its strategic geographic location, the availability of a young, skilled and efficient workforce, government aid and assistance making for competitive operational costs, a well developed and highly integrated ecosystem for scientific and technological R&D.

CALABRIA

LIFE SCIENCES

Infrastructures and connections

- 3 International airports (Lamezia Terme, Reggio Calabria e Crotone)
- 4 commercial ports (Gioia Tauro, Corigliano Calabro, Vibo Valentia and Crotone)
- Main Highways: A2 – Mediterranean Motorway (Salerno-RC)
- 4:00 h from Lamezia Terme to Casablanca (Morocco)
- 3:15 h from Lamezia Terme to Frankfurt (Germany)
- 3:00 h from Lamezia Terme to London (UK)

Industrial base

Life Sciences represent an area of research well rooted at regional level, interconnected to external networks but also to regional health care. A recent survey, conducted on 35 regional research departments and research centers, puts this area first in terms of the number

of researchers working on life sciences and intercepted financing. Industrial Know-how: Medical devices, biomedical engineering, pharmaceutical and food supplements, molecular diagnostic applications, personalized medicine, computational modelling.

Facts and figures

- BIOTECNOMED S.c.a.r.l., Innovation Pole for Life Sciences and Health in Calabria, characterized by:
- 14 Consortium Members (Universities, Large, Medium and Small Enterprises)
- 50 Technological Partners
- 150+ Human Resources
- 20 Laboratories (>1,000 m2)
- 12 R&D Projects
- 1 Maker Space
- 7 National and International Patents
- 4 Areas of Applied Research (Regenerative Medicine, Advanced Diagnostics, Neuromotor rehabilitation, Nutraceuticals and Functional Food)
- More than 30 M€ raised in competitive national and international calls on Life Sciences and Biotechnology

R&D network

Biotechnomed S.c.a.r.l.: The Innovation Pole for Life Sciences and Health technologies in Calabria is a research and innovation organization, capable of attracting enterprises and startup companies, as well as public and private investments in South Italy.

- Research Center on Neurosciences: located within the University of Magna Graecia, is a research center devoted to leading edge research on neurodegenerative disorders by advanced imaging techniques.
- Istituto S. Anna: a private institution specialized in neurorehabilitation.
- Marrelli Health: a private group with multidisciplinary interests in advanced dentistry and regenerative medicine.
- Mediterranean University of Reggio Calabria
- University of Calabria in Cosenza



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Incentives and funding

Wide range of incentive schemes with the maximum level of aid intensity available through the EU Local grants are available for:

- R&D projects
- Internationalization
- Innovation
- Researchers hiring and training

Sites and buildings

Industrial sites and buildings are available in many industrial areas in Reggio Calabria, Vibo Valentia, Crotona, Cosenza and Catanzaro provinces. Presence of the Innovation Pole of Health Technologies, managed by Biotechnomed, with 19 laboratories and 48 associated enterprises, providing research centers and enterprises with advanced services and facilities such as R&D services, Research services laboratories, Intellectual property, Hosting, Events and training, Maker space. (www.biotechnomed.it)

Success story

Linkverse, a company specialized in medical devices design, healthcare system integration, biomedical data management and artificial intelligence for life sciences has been recently hosted in the Innovation Pole Biotechnomed. With his very solid and experienced knowledge in Neurology, with a special focus on Dementia such as Alzheimer Disease (AD) and Parkinson Disease (PD), Multiple Sclerosis (MS) and much more, Linkverse is among the most competitive players in the field of artificial intelligence application in biomedicine. Arcon is an Italian company born from an intuition of its founders about the mechanical functionality of the classic stethoscope. Since then ARCON has been proposing innovative solutions aimed at improving the properties of classical stethoscopes, in order to have a more effective preventive diagnosis, reduce the uncertainty on first diagnosis and use the stethoscope in telemedicine and remote monitoring. The experience of the company management is based on an important training on business development. Performed at the Santa Clara University Business School (in California); in close contact with the Silicon Valley ecosystem; thanks to the prestigious Fulbright-BEST Scholarship. Since 2018, ARCON has acquired an important partner and investor: ROCKSTART DH (vertical startup accelerator on Digital Health, based in the Netherlands). Thanks to them ARCON opened a second business development office in the Netherlands (Nijmegen).

Business opportunity

Biotechnomed offers, among others, the following business opportunities in specific areas of activity (Pharma & Medical Devices, Consulting Services, Life Sciences related activities) and investment types (R&D, industrial/technological partnership, funding). Breathless - MicroRNAs as biomarkers for the diagnosis of lung diseases caused by exposure to environmental pollutants

- Business proposal: a screening method and RNA sequence for easy assessment of lung damage and working/living conditions
- Target investor: a licensee interested in acquiring an exclusive license for the exploitation of the invention OR a financial partner able to support us in developing a diagnostic kit. Alternatively, the patent could be sold to pharma companies.

μEMG – Tremor analyzer

- Business proposal: a low cost digital device for outpatient use + mobile app + (optional) web application. The analysis method can also be implemented to extend functions of classical EMG
- Target investor: licensee (annual fee+royalties%) or patent buyer

Uterine Cancer Detector (UCD)

- Business proposal: a new method and a diagnostic kit for the reliable detection of uterine cancer
- Target Investor: a licensee interested in acquiring an exclusive license for the exploitation of the invention OR a financial partner able to support us in developing a diagnostic kit. Alternatively, the patent could be sold to pharma companies.

Multifunction Assistant for little kids and the Elderly (MATE)

- Business proposal: by 2030, a quarter of the EU population will be over 65. The annual expense for services and caregiving to weaker sections is constantly increasing. MATE is addressed to weak people (elderly or kids) and to their family caregivers who need to enhance their relatives' autonomy, without the need of a professional caregiver. The improvement of compliance with therapies will dramatically reduce rehospitalization rate (about 50% of cases are due to bad adherence to therapies) and cognitive rehabilitation tasks, executed within personalized exercise programs, will thoroughly improve autonomy in elderly people, with benefits on family welfare and National Health Services.
- Target investor: a licensee interested in acquiring an exclusive license for the exploitation of the invention or a financial partner able to support us in developing a diagnostic kit. Alternatively, the patent could be sold to pharma companies

EMILIA ROMAGNA

HEALTH INDUSTRY

Infrastructures and connections

Infrastructures and connections

- 3 international airports: Bologna (the main regional hub) Parma and Rimini
- High-speed trains place the region in the most strategic position in Italy: Bologna-Milan 1:00h; Bologna-Rome 1:54h
- 7 main freight villages/intermodal terminals located in Bologna and Parma (CEPIM), Piacenza, Villa Selva (Forlì), Ravenna, Bologna S. Donato.
- 1 commercial port (Ravenna) and a regional system of fluvial ports and regional connection to all the main ports along the Adriatic and Tyrrhenian coasts.
- Main Highways from Bologna, Modena and Parma: A1 Naples-Milan; A13 Bologna-Venice; A14 Bologna-Bari; A15 Parma-La Spezia; A22 Modena-Brennero
- 96.2% of the regional companies have broadband connection (2017 – Istat, Eurostat)



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Industrial base

The health industry in Emilia-Romagna boasts excellences and strong potentials thanks to a consolidated R&D network, big pharma companies with high growth trends, a specialized medtech district and outstanding niches such as regenerative medicine and the wellness sector.

The Life Sciences ecosystem is widespread in the region with top companies, highly specialized SMEs leaders and R&D facilities in their respective sectors. The key points that push the region to the top of the world industry innovation are:

- big pharma companies with the highest R&D investment rate among Italian pharmaceutical companies and big production plants (e.g. Chiesi, Acme, Alfasigma, GSK);
- the Mirandola Biomedical District (Modena) with companies as Livanova, Gambro Baxter, Fresenius Hemocare, etc. The district is leader in the manufacture of dialysis, heart surgery, transfusion equipment, along with other top technology content products, as well of disposable plastic products for medical use;
- the Regenerative Medicine Hub with its important research centres (Bologna University, IOR, IRST), companies and startups (Holostem, Finceramica, Greenbone) along with several advanced biomaterial centres (ISTEC, CNR, ..);
- the Big Data Foundation in charge of deploying the fifth biggest computing centre of the world and transform the Emilia-Romagna in the Data Valley. The Bologna Technopole for Big Data and Artificial Intelligence, with its 270 petaflops, calls for an investment of over 350M of euro;
- packaging machinery/solutions for pharmaceuticals and biomedical products (e.g. IMA, Marchesini, Marposs) and machinery, equipment and gears manufacturers for electromedical devices as well as measuring, checking and surveying instruments (e.g. Cefla, GVS, Bellco);
- leading centres for the production of prostheses and rehabilitation equipment in Budrio (e.g. Inail centre);
- the Wellness Valley in the Romagna area, with excellences as Technogym and a widespread presence of spas, thermal centres sport facilities, boosting the health and wellness tourism of the Rimini area.

The regional companies are particularly receptive to the innovations of the Industry 4.0.

Facts and figures

- 500+ medtech companies
- 100+ biotech companies
- 16 pharmaceutical manufacturing plants
- 73 hospitals and clinics
- 3 cell factories
- 100+ startups born in the last 5 years
- Top region in Italy for quality and attractiveness of the healthcare system
- EMPLOYEES: 137,816 (2015, Istat-Asia)
- LOCAL UNITS: 44,852 (2015, Istat-Asia)
- TURNOVER: 10.7 billion euro (Aida – 2017)
- EXPORT: 3.06 billion Euro (2018, Istat – Coeweb)

INNOVATION POLICY FOR THE HEALTH SECTOR

With the SMART SPECIALIZATION STRATEGY (S3) the Region reached the following results:

- 347 financed projects
- 158 million of total investments
- 99 million euro of incentives
- 397 patents
- 292 new researchers

UNIVERSITY AND TRAINING

- 4 Universities (Bologna, Modena and Reggio Emilia, Ferrara, Parma) with degree courses in life sciences
- Higher Technical Institute for Health Technologies in the Mirandola District

FOREIGN INVESTMENTS

- In the last years, foreign investors have undertaken more than 50 M&A big operations.
- Coming mainly from Western Europe and USA it's possible to mention Medtronic, Sorin Group, B.Braun Avitum, Gambro Dasco, Actelion, GSK, Baxter, Fresenius, Bellco, OttoBock, Trilantic Europe, Mallinckrodt, Helsinn.

INTERNATIONAL TRADE FAIRS

9 international exhibitions in Emilia-Romagna are directly related to the health and wellbeing sector

- Exposanità (Healthcare)
- Cosmoprof (Cosmetics)
- Cosmofarma (Pharmacy sector)

- Sana (Organic products)
- Pharmintech (Pharma machinery)
- RiminiWellness (Sport, Wellness)
- Expodental (Dental sector)
- HANDImatica (Assistive technologies)
- Naturalexpo (Wellbeing)

R&D network

Emilia-Romagna is one of the Italian regions with the highest proportion of R&D personnel per 1,000 inhabitants (7.2% in 2015 while Italian average is 4.3%). There are over 37,000 employees in R&D sectors, 96 research facilities in the High Technology Regional Network (HTN), while total investment in R&D amounted to about 3 million Euros.

The Emilia-Romagna regional authority considers the Health and Wellness sector to be one of the key sectors for the development of adequate innovation policies to maintain the highest standards and bring together important social and economic repercussions for the territory regional.

The Clust-ER Health and Wellbeing is an association recognized by the Region, consisting of large companies, SMEs, laboratories of the HTN, research centers, health facilities and training institutions that share skills, ideas and resources to support the regional competitiveness of the Health and Wellness Industries. The Region has identified Clust-ER as a key player in the innovation ecosystem capable of multiplying the opportunities for territorial development through the collaborative and participatory approach of its members.

Incentives and funding

There are many great opportunities to get financial incentives in Emilia-Romagna, especially to establish a company or a production plant, set up a research lab (infrastructure) or to realize R&D projects, also through a combination of regional and national instruments.

From 2014 to 2020 the Regional Authority financed 347 projects in the health & wellness sector, providing 99 million euro of incentives (on 175 million of total investments), hiring 292 new researchers, helping the establishment of 20 new companies.

The Regional Law for the Promotion of Investments (n.14/2014) provides incentives and facilitation for businesses investing in Emilia-Romagna. The "Agreement for the Settlement and Development of the Enterprises" is the main tool provided by the law to develop programmes aimed to foster new employment and innovation. It has to be signed by the Regional Government, the investor, local

EMILIA ROMAGNA

HEALTH INDUSTRY

bodies and other stakeholders involved, and binds these parties. The Regional government periodically publishes Calls for companies that can receive also financial support for the following types of action: R&D Research & Development, Research Facilities, Environmental Protection, Training Projects, etc. The key sectors identified by the regional S3 Strategy – including Health and Wellbeing - are a priority for the selection of the investment. Life sciences companies already financed include B. Braun and IRCCS IRST.

European Regional Development Fund provides 481 million euro in the period 2014-20. Among main areas where funds and incentives will be allocated we find: R&I; Industry 4.0; ICT development. Here some examples:

- In October 2018, the pharmaceutical company GlaxoSmithKline, headquartered in UK, expands its presence in Parma's province with a 1,500 sqm plant devoted to production and packaging of a medicine for Hiv-treatment, investing 30 million euro.
- B. Braun Avitum deals with therapeutic systems for haemodialysis, dialysis for acute and apheresis patients in the Mirandola District. In 2017 the company started a new R&D investment employing 50 additional workers with the support of the Regional Law for the Promotion of Investments, providing 1.5 million euro of financial incentives.

Sites and buildings

The region offers a wide range of business parks (most of which are located less than 10 kilometres from major motorway and rail junctions) with different features and characteristics for production plants, offices and innovative start-ups. Costs vary according to several factors and development agencies and other operators offer support to identify the right solution. The presence of territorial areas with a high level of specialization gives the chance to integrate the companies with a wide system of suppliers and customers. A selection of strategic business parks has been identified by joint efforts involving the Regional Government, Provinces and Municipalities (e.g.: Ecologically Equipped Business Parks) but the regional offer is much wider. Public properties of different types (e.g.: industrial/logistic, office, commercial) with high potential in terms of access to the regional natural and cultural heritage are available in the DB "Invest in Italy Real Estate". A network of incubators and co-working spaces is available for innovative start-ups. Technopoles are a network of infrastructures hosting and organizing activities and services for industrial research,

experimental development and technology transfer.

Success story

Holostem Terapie Avanzate is a biotechnology company founded in 2008 as a spin-off of the University of Modena and Reggio Emilia and the big enterprise Chiesi Farmaceutici. Holostem has been funded also by the Emilia Romagna Region and a regional bank Foundation.

In 2015, European Commission has given to Holostem the first European marketing authorization for a stem cell-based advanced therapy medicinal product (ATMP) for its product Holoclar®.

In June 2015, a 9-year-old child, Syrian refugee, has been admitted to the Burn Unit of the Children's Hospital in Bochum. He was affected by the "Butterfly Child" syndrome (Epidermolysis Bullosa), a rare disease that causes blisters all over the body. His condition severely deteriorated six weeks before admission, due to bacterial infection and he then suffered complete epidermal loss on ~80% of the total body surface area. During the following weeks, all therapeutic approaches failed and patient's short-term prognosis was unfavourable. At the end, the German Hospital contacted Holostem, the only company able to produce cultured transgenic epidermal sheets. It has been a race against time, but after the transplantation, the new skin led to complete regeneration of a functional epidermis on the entire body of the child.

Business opportunity 1

Regenerative Medicine Innovation Hub

The Regenerative Medicine Innovation Hub of the Emilia Romagna Region is the aggregator of research centers with deep experience in development and industrialization of GMP compliant ATMPs, companies, facilities and innovative projects focused on regenerative and restorative medicine. It can count on several strategic assets, such as:

- Centre for Regenerative Medicine "Stefano Ferrari"
- Multiparametric platform for patient and cells profiling
- High Performance Computing Infrastructure for Big Data Analytics in the life sciences, advanced materials, and innovative production systems
- Epidermolysis Bullosa Hub
- BioBank Network
- Startups

The Hub is ready to establish Industrial and technological partnership with:

- Pharma companies interested in investigating the potential of regenerative medicine
- Research centers interested in activating joint labs
- Investors interested in regenerative medicine startups

Business opportunity 2

Mirandola Medtech District

Mirandola Medtech District is home to over 100 companies specialized in plastic disposable products and electro-medical devices.

The fields of application are hemodialysis, heart surgery, anesthesia and resuscitation, dialysis, aphaeresis and plasmapheresis, transfusion, nutrition and gynecology.

In 2012, an earthquake, which landed two annihilating blows on the entire region, paralyzed around 70% of production capacities.

Companies rebuilds their factories, carrying out their work in provisional containers and tents. The Emilia-Romagna decided to invest €25 million generating 60M€ of total investments. €4 million were for the Mirandola Technopole TPM, a biomedical center, which includes a Higher Technical Institute, universities, labs, incubators and a medical device regulation's service provider.

Now, 5,000 people work in medtech companies in and around Mirandola and generated sales of over 1 billion euros, 40% of which came from exports. Large multinationals including B. Braun, Fresenius Kabi, Baxter, Bellco and others already invested in Mirandola.

The Hub is ready to establish Industrial and technological partnership and host new investments.

the industrial ecosystem. By 2020, the Technopole will host the ECMWF data centre and CINECA with one of the top 5 world most powerful HPC computers, the Competence Center Industry 4.0 BI-REX, INFN complex (National Institute of Nuclear Physics), the bio-banks of the Rizzoli Institute of Bologna, Arpa Emilia-Romagna, ENEA, and other small and large companies and organizations also related to health industries. Emilia-Romagna region is strongly investing on the development of an innovative ecosystem based on Big Data management/exploitation. The Bologna Technopole for Big Data and artificial intelligence calls for an investment of over €350 million. The investment plan includes taking part in a European tender to host a world class pre-exascale HPC supercomputer acquired by the Joint Undertaking Euro HPC at the Bologna Technopole, at a cost of €120 million that the Region intends to fund in close collaboration with the national government.

Business opportunity 3

The “Big Data Technopole”

The “Big Data Technopole” is a new space for Digital Economy with an area of about 40,000 sq.m available for new investments in an outstanding business environment. The main objective is to make the Big Data Technopole a global benchmark for computing capacity and data management for

FRIULI VENEZIA GIULIA

SMART HEALTH

Infrastructures and connections

- Airports: Venice Marco Polo Airport, Treviso A. Canova Airport and Trieste Airport Friuli Venezia Giulia are 30/60 minutes driving from regional main towns
- Main Highways: E70-A4 Turin-Milan-Trieste, A23 Palmanova-Tarvisio, A28 Portogruaro-Conegliano
- Railway: Connections from Udine and Trieste railway stations to Milan, Rome, Turin and Venice

Industrial base

Bio-high-tech in Friuli Venezia Giulia consists of about 150 companies working in Smart Health within three closely related Bio fields: Bio-Med (including Ambient Assisted Living Technologies), Bio-Tech and Bio-ICT. Among the large companies, we can mention Lima Corporate spa (one of the world leading companies in prosthetics), and Biofarma spa (working in nutraceuticals). Medium-sized

enterprises include ALIFAX srl (R&D and producer of clinical diagnostic instrumentation), Eurospital spa (R&D and producer of pharmaceutical products, medical and surgical devices, in vitro diagnostic devices), and Diaco Biofarmaceutici srl (expert in the manufacturing of quality sterile liquid products), while small and micro enterprises represent 90% of the whole field

Facts and figures

SMART HEALTH CLUSTER

- Export: 300-315 mln €
- Turnover: 900 mln €
- Enterprises: 150
- Employees: 5,000
- Foreign companies: 4

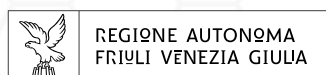
BIOHIGHTECH INDUSTRY FOCUS

- Biomedical
- In vivo and in vitro diagnostics
- Medical informatics and Bioinformatics
- Innovative Therapy
- Ambient Assisted Living

R&D network

Key players in research and innovation: 150 companies (MedTech and in-vivo diagnostics 30%, in vitro diagnostics 18%, Medical informatics 20%, Innovative therapies 17%, Ambient assisted living 15%); three Universities (Trieste, Udine, Sissa); two CNR (National Research Council of Italy) sites; five international research institutes (ICGEB International Centre for Genetic Engineering and Biotechnology, Elettra Sincrotrone, LNCIB-Biotechnologies University Consortium National Laboratory; Italian Liver Foundation; Callerio Foundation for oncologic diseases); two IRCCS-Sanitary Research and Care Institutes (Burlo Garofolo in Trieste and CRO in Aviano, Pordenone); two academic medical center hospitals (Trieste and Udine, both certified by the Joint Commission International); four technology and science hubs, including AREA Science Park.

IP4FVG - Industry Platform 4 FVG, Friuli Venezia Giulia digital innovation hub, supports SMEs in the industrial



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manufacturing digital transformation and promotes technological updating in the sector also through training, living labs and specialised services.

The Burlo Garofolo Pediatric Institute is a children's hospital recognised as the best one in Italy for its research activity and 28th all over the world.

Know-how and specialisation in the following fields: in vivo diagnostics, prosthetics, regenerative medicine, biosensors and advanced microscopy, in vitro diagnostics and bio-pharmaceutics (bio-similar) with particular specialisation in cardiology, neurology, oncology, pediatrics, gynecology, genomics (Next Generation Sequency), nutraceutics, informatics, including all the IoT (Internet of Things) technologies (telecommunications, big data, informatics safety, cloud infrastructures for health, mobile technologies), all the HPC (High Performance Computing) technologies, hospital and welfare information technology, bio-images and bio-signals IT, telemedicine, remote assistance, smart home automation systems, wearable technologies, decision support systems.

CBM is the Smart Health Cluster of Friuli Venezia Giulia with a leading role in building relationships between all the actors in this field - entrepreneurs, researchers, clinicians, policy makers and people involved in finance and education. CBM is focused on internationalisation activity in order to increase its network with European countries (i.e. Bavaria, Austria, Poland, Balkan regions) and U.S., Cuba, Thailand, Australia and others.

Incentives and funding

Friuli Venezia Giulia has several types of incentives and funding: companies meeting specific criteria can benefit from regional taxes reduction; public grants can be awarded to support the creation of new enterprises and implement RDI projects. Other types of incentives to support competitiveness of SMEs and measures to finance innovation technology investments are provided. Different kinds of regional subsidised financing can be granted to support investments and business development.

Sites and buildings

Area Science Park – Science and Technology hub. BIC FVG S.r.l. – Enterprises incubator

Consorzio Innova FVG - Science and Technology hub.

Friuli Innovazione – Research and Technology Transfer hub.

Polo Tecnologico di Pordenone - Science and Technology hub.

Port of Trieste Industrial area – This is the leading Italian port for total tonnage movement and railroad traffic, with almost 10,000 trains/years reaching the main European industrial destinations.

Fully operative Free zones in Trieste (unique in the EU context) offering warehousing, storing, examining, sorting, packing and repacking, manufacturing and industrial processing at convenient economic condition also for industrial processing of non-EU goods destined for EU and non-EU markets.

Success story

VivaBioCell was founded in 2007 as a spin-off of University of Udine, Italy. The company develops, manufactures and commercializes automated bioreactors to support advanced therapy medicinal products manufacturing for innovative and regenerative medicine therapies like autologous stem cell transplantation. Medical Devices are coherent to the “Good Manufacturing Practice – GMP in a box” concept.

These are “Closed Systems” that do not necessarily require to be located in a high sterility clean room environment. The mission is to make new medical treatments become affordable. Current applications include developing stem cell for the treatment of osteoarthritis and advanced cell and gene therapies, as the automated “GMP-in-a-Box” system will be used to develop next generation immune cells production in the treatment of cancer through natural killer cells. In 2015 VivaBioCell has been fully acquired by NantCell Inc, a subsidiary of NantWorks LLC group, based in Los Angeles (CA), USA.

Business opportunity

Proposer: Biovalley Investments spa

Investment type: Funding.

Description: streaMED.ai is a SaaS platform designed to support effective patient flow management in surgery units of public and private healthcare providers. Key advantages:

- The project aims at solving a problem experienced by surgery units for years, producing relevant cost savings with AI technology developed in collaboration with a specialized center of the University of Trieste.
- As of today, there are no comparable solutions available in terms of integration of technologies and

FRIULI VENEZIA GIULIA

SMART HEALTH

clinical data management.

- The consortium of partners gathers skills, expertise, and technology acquired during 20 years of direct professional experience in developing middleware, connectivity and integration of clinical, laboratory and medical image data for hospital organization.
- In order to produce a deliverable prototype, an estimated investment of 900,000 euro is required to cover the development costs for the first three years. Based on current negotiations with two research hospitals, the team expects to receive from these institutions 300,000 euro in the 3 years; a portion of this funding will be received upfront to develop the prototype.
- The team looks for pure investors and/or commercial partners.



LAZIO

LIFE SCIENCES

Infrastructures and connections

- 2 International Airports (Fiumicino Leonardo Da Vinci, Ciampino)
- 3 commercial ports (Civitavecchia, Gaeta, Fiumicino)
- Main Highways: A1 Naples-Rome-Milan; A12 Roma-Civitavecchia; A24 Roma-L'Aquila.

Industrial base

Lazio is Italy's 2nd most important and one of Europe's most important pharmaceutical industry hubs.

- Home of international players and highly innovative local SMEs operating in synergy with the important public research network.
- Main areas of specialisation and high added value production are: pharmaceutical innovative drugs, e-Health and medical devices production.



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Facts and figures

- 300 companies
- 22,000 employees
- 8 billion euro exports (40% of regional exports)
- 45 Biotech companies (about 10% of the total in Italy)
- 25.96% contribution to biotech turnover
- 26 specialized research centres
- 10,000 researchers
- 7,468 graduates in life sciences per year
- High presence of public and private research infrastructures
- Innovation agreements: 200 M € for projects concerning R&D

R&D network

Presence of important industrial and multinational groups with their own R&D centers.

Some of the main national and international players: BSP Pharmaceutical, Sanofi Aventis, DPhar, SPL, Menarini and Alpha - Sigma.

Areas of specialisation: Pharmaceutical: pre-clinical development of inhibitors for the treatment of solid cancers.

Medical devices: development of new optical systems for subcellular resolution retina analysis.

Incentives and funding

LAZIO INNOVA, as an agency owned by the Lazio Region, operates to the advantage of businesses and local public administration in the provision of:

- incentives from regional, national and/or European resources;
- credit support and the issuance of guarantees;
- interventions in risk capital;
- services for the internationalization, promotion of business networks and regional excellence;
- services for the creation and development of business;
- measures for social inclusion.

More info available at:
www.lazioinnova.it – www.laziointernational.it

Sites and buildings

LAZIO INNOVA has a set of integrated tools for Innovation & Internationalization, coordinates a group of incubators of start-ups and has connections with the main Scientific and Technological Parks of Lazio. In the recent years, Lazio Region has seen a growth of incubators, accelerators and other startup related organization and projects.

Success story

Tong Ren Tang Giomi Srl, the Italian-Chinese joint-venture

The Italian-Chinese company Tong Ren Tang Giomi S.r.l. is the joint venture established in Rome in 2018 between the GIOMI RSA and the Chinese group TONG REN TANG Chinese Medicine and represents the first experience in the healthcare sector of integration between traditional Chinese medicine and modern European medicine.

The TONG REN TANG is a company founded in 1669 by direct seal of the Emperor Yongzheng and was the exclusive supplier of the Chinese royal family for a good 188 years. Today it is a leading company on the Chinese market and listed on the Shanghai and Hong Kong stock exchanges.

The GIOMI Group, on the other hand, was founded in 1949 and today is a European healthcare group with a presence in Italy and Germany. It operates in the hospital, residential and home sectors, covering the entire health chain.

The common intent of the two business groups is to spread well-being through health-care methodologies that used to diverge in traditions and techniques. The Newco will not only promote traditional Chinese medicine products in the

Italian and European markets, but is planning to open pharmacies, specialized parapharmacies, traditional Chinese medicine centers with a modern management organization, clinics and departments to accommodate the flow of patients in reserved spaces within the GIOMI group hospital facilities.

www.giomi.com

Business opportunity

Proposer: Genechron SRL

Projects:

- Hanemir Bbiomarker
- DILI Biomarker
- MPT Test
- DMD Biomarkers

Info: www.genechron.com

Proposer: GENOMEUP SRL

Project: GenomeUP

Info: www.genomeup.com

Proposer: Healthia Srl

Projects:

- HappySalus
- HappyDoctor/HappyPatient Line

Info: www.happysalus.com

Proposer: LIFESEEDER S.P.A.

Project: Life Sciences Innovative Projects

Info: www.lifeseeder.com

Proposer: VAXXIT SRL

Projects:

- HIV Tat Immunotherapy Vaccince + people on HIV drug treatment
- Treatment of Kaposi's Sarcoma
- Treatment of cancer of the cervix
- Tat+Env combination vaccine for prevention of HIV infection
- HSV vector vaccines against Herpes, Tuberculosis and other intercellular pathogens

Info: www.vaxxit.com

Proposer: ACT Operations Research, European Brain Research Institute (EBRI) and the Italian National Research Council (CNR)

Project: MODIAG – Modeling for Diagnostic

Info: www.act-operationsresearch.com

Proposer: Angelini Pharma

Projects and key opportunities: research of industry and networking partnership

Info: angelinipharma.com

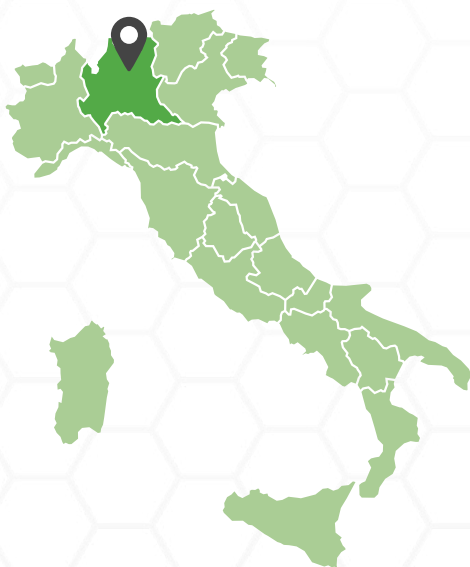


LOMBARDY

HEALTH INDUSTRY

Infrastructures and connections

- 573 km of highways
- 900 km of national roads
- 11,000 km of provincial roads
- 1,680 km of railway network
- 4 International airports:
- Milano Malpensa Airport, Varese - Ferno (54.5 km from Milan)
- International Airport Il Caravaggio, Bergamo - Orio al Serio (60.4 km from Milan)
- Enrico Forlanini Airport, Milano - Linate (9.7 km from Milan)
- International Airport Gabriele D'Annunzio, Brescia - Montichiari (120.5 km from Milan)
- Distance by car from Milan to Paris (8h50min), Berlin (10h45min), Frankfurt (7h30min), Barcelona (10h)



**Regione
Lombardia**

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Marco Fedato

Industrial base

The Health industry is strongly oriented to the future needs of society, becoming an important driver to create or recognize new emerging markets

In Lombardy Health Industry contains a very rich and varied system of competences, which includes the following themes:

- **Biotechnologies:** pure biotech companies research and development of based products exclusively on biotechnologies
- **Pharmaceuticals:** the pharmaceutical industry in Lombardy plays an important role for the well-being and quality of life. A role that combines the high propensity to research and to innovation with a significant manufacturing activity
- **Medical devices:** it includes all those medical technologies that make the difference in making a healthcare system at the forefront
- **Food:** related to foods with nutritional specificity for rehabilitation, nutraceuticals, etc
- **Creative industries:** related to disability, maintenance, and design reacquisition of psycho-physical faculties
- **Constructions** for equipped living and working environments and for individual well-being systems

The Pharma sector is the most advanced in terms of technology in Lombardy: companies invested mostly in the Internet of Things, 3d printing, robotics and artificial intelligence

The Biomedical enterprises are focused on biomedical devices for personal use, instrumental use, electro medical use and for early diagnostics

The priority themes of technological development are e-health, new diagnostic systems, drugs and innovative therapeutic policies, prevention, health monitoring, rehabilitation

The excellence of Lombardy Life Sciences Cluster is characterized by scientific and industrial competencies in the:

- Biotechnology sector applied to the health sector (red biotech)
- GPET (Genomics, Proteomics and Enabling Technologies) sector
- Nano biotechnologies

- Pharmaceutical sector and medical devices, with focus on personalized medicine (early diagnosis, rehabilitation devices and others) and mobile health services (telemedicine, remote health monitoring and interoperability platforms).

The Thematic Working Groups of Lombardy Life Sciences Cluster are: PHARMACEUTICALS (new drugs), MEDICAL DEVICES (for diagnosis and therapies), ICT FOR HEALTH, ADVANCED THERAPY (gene therapy, cell-based products, combined therapies), DIAGNOSTICS (in vivo, in vitro and device diagnostics), and NEUROINFLAMMATION (research of the pathogenetic mechanism related to neuroinflammation in neurological diseases)

Facts and figures

- 1st Italian region in terms of employees in the pharma sector, with more than 30,000 units (47.2% at national level), of whom 2,825 deals with R&D activities
- 1st region in Italy for European funds obtained in the health sector (4th among European regions)
- With 28% of businesses and local units based in Lombardy (162 units), 23% of investments and 32% of the turnover, Lombardy is confirmed the first region of Italy for presence, commitment and results in Biotech
- 816 biomedical enterprises (307 with more than 20 employees) and they employ 40% of the Italian workforce of this sector
- Presence of Lombardy Life Science Cluster that includes:
 - 82 enterprises
 - 24 Universities and Research bodies
 - 20 Other bodies
 - 6 Associations

R&D network

The R&D investments of Lombard enterprises in this sector accounts for roughly one third of the national total Lombardy counts the highest number of surgeries

- The research system consists of 6 Faculties of Medicine, 2 Departments of Bioengineering, 28 hospitals with university course premises, 288 Research centers with research activities in the health sector and 186 centers with research lines in non-food biotechnologies
- Public universities and Research centers involved include LIUC, the Catholic University, Bicocca University of Milan, the University of Milan, Vita Salute S. Raffaele

as well as the CNR and the Politecnico of Milan

- Human Technopole (located at Expo Milano 2015 site), the new Italian research centre that will be an attractive hub for national and international talents at European and global level for biomedical research, genomics and for the future of medical science.

Incentives and funding

Regione Lombardia supplies incentives for corporate investments and Start-ups. For example:

«AL VIA» Corporate Investments

- 5% to 15% non-repayable grant for capital expenditures in productive assets for a specific investment project
- Long-term financing from €50,000 to €2.85M at favorable rates, with a duration from 3 to 6 years
- Free financial guarantee to cover up to 70% of the financing
- The eligible projects must fall within one of these two categories: Company Development or Relaunch of Productive Areas
- The intervention is dedicated to companies: registered in the Italian Register of Companies with an operating office in Lombardy at the time of the supply of the contribution, active for at least 24 months

«Linea Innovazione» Incentives for Innovation Projects

The incentive consists of a subsidized-interest-rate loan and a capital contribution to support the interest payments (starting from a minimum of €300,000 up to a maximum of €7,000,000).

The combination of the incentives can cover 100% of the total eligible cost of the project.

The financial incentive is dedicated to MSMEs employing fewer than 3,000 people, which have the Headquarter in Lombardy and are planning to invest in a project which aims to innovate the process or the product of the business. Thanks to the ERDF - European Regional Development Fund, Regione Lombardia allocated in the 2014 – 2020 program period 36% of the fund (€349.2 M) to strengthen the research sector, foster technological development, and innovation. In the same way, 30% of the fund (€294.6 M) is allocated to promote the competitiveness of SMEs and improve access to loans.

Thanks also to the European Bank of Investment, who has allocated € 50,000,000 to financing the project, in collaboration with Finlombarda (operational partner).

LOMBARDY

HEALTH INDUSTRY

Sites and buildings

AttrACT website www.attractlombardy.it gives access to more than 100 investment opportunities (greenfield and brownfield opportunities), located in 55 Municipalities, mapped out through the AttrACT Programme. A variety of sites ranging from the office building to the industrial facility. This initiative, promoted by Regione Lombardia together with Unioncamere Lombardia, is a unique experimentation in Italy for the promotion of the investment opportunities located in Lombardy.

- Within the Lombardy Life Science Cluster: PARCO TECNOLOGICO PADANO (Lodi, LO)
- Within The Italian Scientific and Technological Parks Network:
- POLO TECNOLOGICO DI PAVIA (Pavia, PV)
- COMONEXT (Lomazzo, CO)
- KILOMETRO ROSSO (Bergamo, BG)
- BERGAMO SVILUPPO (Bergamo – BG)
- “MIND” (Milano Innovation District) a world-leading science, technology and innovation park, a business friendly “innovation ecosystem” for domestic and international players, a “catalyst” for sustainable socio-economic growth, a new vibrant community fully integrated with the city centre of Milan. Located just a few miles North-West of the city centre, which hosted the six-month Universal Exposition in 2015.

Success story

SANOFI ITALIA

SANOFI is a French global healthcare leader in the world. With more than 100,000 employees present in 100 countries, the company has 79 manufacturing sites in 36 different countries. In 2017, the sales reached € 35bn.

SANOFI is one of the leading pharmaceutical company in Italy, where it has a strong industrial presence. The Italian subsidiary manufactures and markets drugs in all the group's business areas.

SANOFI Italia has its headquarters in Milan and another branch in Modena. In Italy, there are 4 industrial plants of SANOFI. A unit of clinical research (CSU- Clinical Study Unit) with 39 collaborators, dedicated to conduct clinical studies operates at SANOFI site in Milan.

The Lombardy site is an example of positive growth which has been going on for some time, thanks to an investment plan of € 19 M over the last three years enabling to expand the production capacity.

NOVARTIS FARMA

Novartis is a global healthcare company based in Switzerland working in the pharmaceutical sector. Second pharmaceutical multinational in the world by turnover.

Novartis is present in Lombardy with Alcon Italia SpA in Milan and Novartis Farma SpA or Sandoz SpA in the province of Varese.

Novartis is planning to increase its investments in Italy. The group's investments will be mainly allocate to R&D, collaborating with research centers and hospitals to carry out clinical trials, investing in data collection, training doctors and supply advanced drugs.

In 2017 Novartis already invested € 61 M in Italy to do 224 studies involving 10,000 patients. In Italy the group planned to launch an investment of € 200 M in R&D in three years.

Business opportunity

AttrACT Program

The AttrACT Program is a unique innovative program in Italy: it brings together investors, investment opportunities and local Municipalities thanks to a dedicated online platform, www.attractlombardy.it.

AttrACT aims at:

- developing the regional offering
- promoting opportunities for investment
- bringing together the main territorial stakeholders

More than 100 “ready to use” investment opportunities, representing all the 12 provinces of Lombardy and pertaining to 4 key segments: Industry, Logistics, Offices and Tourism. The Program has mapped both publicly- and privately-owned areas.

AttrACT sees the direct engagement of the Lombardy Municipalities involved in the Program that are called to identify local investment opportunities (greenfield and brownfield) in their area, made it

available to investors, and simultaneously made commitments to simplify administrative processes, offer economic and tax incentives and offer qualified assistance service.

Commitments can vary according to the Municipality:

- Simplification of administrative processes such as:
- Adopting the Action Plan by the city council in less than 90 days from the request
- Delivering a Planning Permission in less than 60 days from the request
- Dedicating a portal or an on line “front office” service where investors can find all useful information
- Economic and Tax incentivisation such as:
- Declaring in advance all urban planning and construction expenses without additional expenses
- Offering reduction or exemption of IMU, TASI, e/or TARI according to the Municipality
- Reducing the primary and secondary land development expenses by at least 20%
- Promotion:
- Making available a support team that coordinates the work, facilitates the relationships and encourages collaboration
- Providing preliminary consulting services and support to companies in the presentation and implementation of their projects, with the issuance of written opinions if requested in the proposal

AttrACT, where to invest in Lombardy.

MIND – Milano Innovation District

An innovation, culture and research based identity with international focus

The former Expo site will be transformed into a “Science, Knowledge and Innovation Park”: a hub open to the world, capable of attracting international excellences and promoting Italian technology and culture in an extraordinary location.

A science and technology park with outstanding architectural features, able to attract investment and generate economic benefits throughout the country with scientific, recreational, cultural, sports, residential, productive and tertiary functions.

MIND will become a new part of the city: a smart, sustainable, authentic, inclusive and safe community, able to attract talented people from around the world.

The three major anchors of the project are:

- the new cross-disciplinary research infrastructure Human Technopole which will develop personalized approaches in the field of medicine and nutrition on cancer and neurodegenerative diseases using genomics, big data analysis and new diagnostics techniques
- University of Milan Campus: a modern scientific, education and research campus, aiming to the most advanced international standards for teaching, research and interaction with the private industry
- Galeazzi research and treatment hospital: gathering together the excellence in the orthopaedic field of IRCCS Galeazzi and the experience gained in the cardio-thoracovascular and bariatric field of the Istituto Clinico Sant’Ambrogio, to offer patients a great multi-specialized research hospital.

PIEDMONT

LIFE SCIENCES

Infrastructures and connections

- 1 International airport (Torino International Airport)
- 1:00h from Milano Malpensa Airport
- Crossed through the Mediterranean and Genova-Rotterdam EU railway
- Vicinity to the upper Tyrrhenian ports (Genova and Savona)
- 3 interconnected logistics hubs.

Industrial base

Life sciences - specifically biotechnology, pharmaceuticals and medical devices - represent one of the most promising hi-tech industrial sectors in Piemonte. More than 400 local companies+ 21 multinationals. Sectors: Biotech, Pharmaceuticals, Food Supplements, Cosmetics, Disposable, Services & Techno Care, Digital Health, Hospitals, LABS, SPA & Fitness.



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Facts and figures

More than 400 companies operating in the life sciences field

- Over 250 companies specifically in the healthcare and medtech supply chain
- 347 thousand employees, equal to 20% of the national value.
- Almost 10k employees in 21 multinationals
- 4th Italian region with 52 companies in the biotechnology field
- 820 research groups of which 60% in healthcare and medtech fields scientific production
- 3 Public universities
- 3 Incubators: 2I3T, I3P, ENNE3
- 1 Science & Technology Park dedicated to biotechnology: Bioindustry Park Silvano Fumero
- 1 Innovation Cluster for biotechnology: BioPmed Among Piemonte's leading key
- Players: Advanced Accelerator Applications Srl (AAA) A Novartis company, Ephoran, Huvepharma, Ab Sciex, Agilent Technologies, Bracco Imaging, Merck, Sicor (Teva), Diasorin, Delpharm, Livanova, Olon, L'Oreal, ELitechGroup, CID - Carbonstent & Implantable Devices, Sienna Biopharmaceuticals, Unicyte Fresenius, TrovaGene, im3d, Consort Medical, Horizon Discovery
- Regional Technological Platforms and Innovation Hubs
- Top public healthcare system: leader in Europe in Organic Transplantology, excellence in the Oncology and Cardiology.

R&D network

A network of research centres, multinational companies and SMEs, makes of Piemonte a cluster of innovation, education and technology transfer and the core of a robust, interlinked system active in pharmaceuticals, biotechnology, wellness and health massively supported by converging technologies. Piemonte ranks high in Europe as a strategic partner for cooperation, R&D and investments in the life sciences and converging technologies sector, making the region a powerful location for scientific and industrial partners and for new busines-

ses to set up operations. The Regional Technological and Innovation Hubs are drivers of innovation and research programs involving the public system, big players and companies: successful results in terms of medical applications, diagnostics, medical sensor technology and automation.

Incentives and funding

ROP ERDF 2014/2020: Action I.1B.2.2 Objectives: to foster research and development projects Fields of application – smart factory, bioeconomy, life sciences, space economy

- Regional Investment contract for big companies with a foreign shareholder or a controlling one
- ROP ERDF 2014/2020 Action III.3c.1.2 – Investment attraction through Financial Support. Ensuring Positive Effects on local SMEs for SMEs not active in Piemonte yet; local SMEs that have delocalized production, SMEs already operating in Piemonte that want to develop a functionally different type of investment
- Human Resources – High Level training and Research apprenticeship (ESF 2014-2020) for people aged from 18 to 29 including PhD and Academic Diploma of Research Training, research activities
- ROP ERDF 14/20 Axis I Action 1.1.b.41 - support to Start-ups development programs
- L.R. 34/04 - Objectives: to foster start-up, expansion and diversification of a productive local unit and process/ product innovation.

Sites and buildings

The Bioindustry Park is a driver for growth and a regional point of reference for business related to the life sciences and health, promoting and developing research in the biotechnology, healthcare and life science sector. The Park directly coordinates the fulfilment of investments and management of the technical equipment, supports the implementation of R&D projects in the on-site companies, encourages the development of start-ups and spin-offs; provides infrastructures as well as scientific and advanced services, such as technology transfer, patent support, tutoring of start-ups and spin-offs, project management and financial support.

Regione Piemonte and Municipality of Torino offer industrial areas and location solutions for high tech service companies willing to invest in Piemonte.

Success story

Regione Piemonte (Regional Government) has recently contributed to the successful installation of 3 companies in its territory. All these companies have benefited from the financial support of the ROP ERDF 2014/2020 Axis I Action I.1b.1.1 - IR2 - Industrialization of Research Results.

- Huvepharma Italia Srl start a new strategic project for a total of eligible expenses equal to € 10,896,740.00. In collaboration with the Department of Chemistry and Drug Science and Technology of the University of Turin, Huvepharma Italia Srl aims at identifying new alternative solvents characterized by greater sustainability. In the context of circular economy, the company will also implement a sludge and waste treatment for their re-use as fuel therefore minimizing its disposal. The project is expected to increase the company's competitiveness and consolidation in the API market as well as to offer employment opportunities for the local market.
- CID S.p.A, company of the Alvimedica group, will start a new strategic project for a total of € 6,000,000.00 in eligible expenses. The company aims at developing innovative stents that besides fulfilling the mechanical function can also slowly release a drug capable of preventing tissue proliferation, which tends to occlude the lumen of the blood vessel. The most important feature of this highly innovative stent is the possibility to use it in diabetic patients.
- Bracco Imaging S.p.A. will start a new strategic project for a total of € 10,000,000.00 in eligible expenses. The company will focus on the pre-clinical and phase 1 clinical development of a new contrast agent for magnetic resonance. The investment will increase the competences of the team currently working in the Unit based in Piemonte, fully in line with the industrial footprint of the company.



TRENTINO

LIFE SCIENCES

Infrastructures and connections

- International Airports: 45 minutes from Verona airport (Catullo)
- Main Highway: A22 Brennero-Modena
- Railway that connects North East of Italy with Austria and Germany
- Brenner Basistunnel in construction
- Interporto of Trento
- Broadband with more than 1,100km of optical fiber
- Proximity to key European countries (Switzerland, Germany, Austria)
- Within 2-3 hours flight from major European cities.



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Industrial base

Industrial Know-how:

Medical devices, pharmaceutical and food supplements, diagnostic applications, biomedical engineering, biomolecular and microbiological investigation.

Main companies:

ePharma, Novartis-Sandoz, Biomat, Biodermol, Eurocoating, Novagenit, Corehab, OPT SurgiSystems, Bio4Dreams, GPI, Imagina Biotech, Alia therapeutics, Wondergene Sybilla biotech.

Facts and figures

HEALTHCARE & LIFE SCIENCES CLUSTER

- Export: 106 million euros
- 40 companies
- 5th Region for turnover generated
- 20 million € invested for R&D by the Public Sector
- 11 million € for R&D on biology and bio-technology
- 1,5 million € for R&D on digital Healthcare
400 researchers, 200 employees
- Foreign companies:
- Novartis-Sandoz
- OPT SurgiSystems
- Specialization areas:
- Biology and Biotechnology
- Medical devices
- Rehabilitation
- eHealth

R&D network

Research Centers: CIBIO, University of Trento (Department of Integrative Biology), Bruno Kessler Foundation (ICT, microsystems, smart materials), Edmund Mach Foundation (agrifood, genomics, environment).

Trentino Salute 4.0 is the first Competence Center in Italy focused on digital healthcare between the Healthcare Institution, FBK and the Autonomous Province of Trento.

Labs: LaBSSAH – Laboratory of Biomolecular Sequence and Structure Analysis for Health, CIBIO – Centre for Integrative Biology, Neuroinformatics Lab, Ausilia – Assisted Unit for Simulating Independent Living Activities, CimeC Center for Computational and System Biology, Proton Therapy Center.

Know-how:

- Personalized medicine and eHealth devices
- Genetics and biomarkers
- Brain and neuronal
- Rehabilitation and accessibility

Incentives and funding

- Up to 80% local grant on R&D project
- Up to 70% local grant on internationalization
- Up to 60% local grant for researchers hiring
- Up to 50% local grant on innovation
- Private – Public equity financing up to 1.5 milion €

Success story

The Department CIBIO – at the University of Trento, created in 2009, with more than 300 researchers is an excellence that pursue the task of creating a suitable environment for merging classical cellular and molecular biology approaches with the new powerful tools of systems and synthetic biology, and with the contribution of chemistry, physics, informatics, mathematics, and engineering in an integrative view of basic biological processes and of their derangement in disease.

- The last ten years have witnessed an unprecedented revolution in biology. The availability of complete and annotated genome sequences for many species and the increasing affordability of high-throughput approaches for the global monitoring of macromolecules in cells are providing the basis for the mechanistic understanding of living tissues, both in their physiology and in the determinants of their diseased state.
- In January 2018, Nature Biotechnology published an invention made in CIBIO “A highly specific SpCas9

variant is identified by in vivo screening in yeast”. A variant of CRISPR–Cas9 nucleases for genome editing that will allow scientists in performing

different applications for therapeutic purposes.

- In 2019, the University of Trento license the use of the invention to a spin off company, Alia Therapeutics that is the first Italian company dedicated to the application of this disrupting technology.

Business opportunity

Trentino Sviluppo, in-house company of the local Government, has 2 science park, 6 BIC (Business Innovation Centre)

- We provide: fully equipped spaces and infrastructures, support on technology transfer, technology partnership, supply chain development, HR selection, incentive selection
- INVEST IN TRENTINO: significant local incentives, efficient and reliable autonomous government, #1 quality of life in Italy, supportive R&D environment, 0 local tax (for 5 years), a workforce you can count on
- Provide Equity through Trentino Invest.
- Provide support to innovation and technology transfer through HIT-Hub Innovazione Trentino.



TUSCANY

PHARMA

Infrastructures and connections

- 2 integrated international airports (Florence and Pisa), serving over 50 international destinations
- 1:30h from Florence to Rome by high-speed train 1:40h from Florence to Milan by high-speed train Tuscany is crossed by: the major Italian highway (A1) connecting Milan with Rome and Naples the EU “Scandinavian-Mediterranean Core Network Corridor” linking the Baltic Sea with Southern Italy and Malta
- 1 main commercial port (Livorno) with direct links to the 10 major Mediterranean ports
- 3 main logistic parks (Livorno, Prato and Arezzo)

Industrial base

Leading region in R&D: Tuscany is one of the world leading regions in terms of research in vaccines, oncology, cardiovascular, neurology, biorobotics & biomaterials (one of the

most recent vaccines, anti-meningococcus B has been developed in Tuscany – Novartis – GSK)

First class public health system with high expertise in all the fields of medicine, operating with cutting edge procedures for clinical trials

Synergy between public and private research thanks to a well developed technology transfer model all around Tuscany:

- 4 business incubators for life sciences based companies
- TuscanyLifeSciencesCluster (that counts more than 300 affiliated companies, 19,000 employees, 823 patents) Many international companies have set up their headquarters for Italy and Southern Europe in Tuscany (Eli Lilly, Kedrion...) and many international companies have set up in Tuscany local units for manufacturing products, organizing clinical studies with domestic partner (Biomérieux, Novartis – GSK)

Facts and figures

370 firms in Life Science (42 pharma, 80 biotech, 120 medical devices and 128 software&services)

- Turnover: EUR 8 billion
- 7.5% Regional GDP
- 9,000 employees (= 1.2% of total Tuscany's employees)
- 2,000 employees in R&D activities
- 1.45 bln € export (=18% of LS Turnover)
- 3 Universities involved in LS R&D, with a total of 19,000 students in scientific fields Main Research areas in Life Sciences in Tuscany
- Pharma (Advanced Therapy - Antibodies - Blood Factors - Growth Factors - Cytokines - Drug Development - Immunotherapies - Pharma production - Antitumor compounds - Development of anti-parasitic and antiviral agents - Orphan diseases)
- Software (Bioinformatics - Communication systems - eHealth - Telemedicine - Telematics - Telemetry - Image Analysis - IT infrastructures - Mobile App)
- Biotechnology (Genomic search for new diagnostics - Protein atom depth analysis)



invest in tuscany

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R&D network

3 major Universities (Florence, Siena and Pisa)

2 Superior Graduate Schools (SSSA - Scuola Superiore Sant'Anna, SSNP – Scuola Normale di Pisa).

Advanced Institutes (IMT - Institute for Advanced Studies of Lucca, SUM – Italian Institute of Human Sciences, in Florence)

3 National Research Centres

- National Institute for Nuclear Physics (INFN)
- National Institute for Astrophysics (INAF)
- National Research Center (CNR), present in Tuscany with 19 Institutes of Research

Incentives and funding

4 business incubators for life sciences based companies

- Tuscany Life Sciences Cluster (that counts more than 300 affiliated companies, 19,000 employees, 823 patents)

Success story

- In 2018 Yf Capital, a Chinese private equity fund co-founded by Jack Ma, acquired 100% of the ESAOTE group, a leader in the biomedical sector present in Florence with a plant that employs 220 workers
- In 2017 the Swiss multinational Lonza, active in the biopharmaceutical sector, has invested in the Sienese innovative SME Exosomics, which develops non-invasive liquid biopsy tests for the screening and diagnosis of cancers. In 2019 the company has launched a Series A Round of investment subscribed, among others, by Agilent Technologies.
- In 2017 The Swiss pharmaceutical group Skan has invested 6 million euros in the Sienese startup Pharma Integration, which specializes in the development of fully robotic systems and production lines for filling syringes and bottles for vaccines and oncological products

Business opportunity

PHARMA AND MED TECH LOGISTIC AND DIGITAL HUB

Greenfield Project

Investors: Financial or Industrial operating in

pharma sector Proposing Companies: 4 Pharma companies already operating in Tuscany

Description: the possibility of investing in a digital logistical platform to support the industries operating in the life sciences sector, which will make it possible to optimise the distribution chain of medicines produced in Tuscany, and more generally in central Italy. The investment is aimed at equipping an area of 125,000 square meters, half of which will be built, to build 21,000 square meters of warehouses, with temperature-controlled environments, suitable for the storage of pharmaceutical products, with 8 loading areas and as many intended for the shipment of goods, as well as about 6,000 square meters of offices.

It is a platform designed to have high expansion capacity, to serve any other interested companies in the many areas of life sciences, as new warehouses can be built for an additional 20,000 square meters of floor space.

The storage capacity, from a pre-feasibility analysis, is estimated at 38,000 initial pallet places, three quarters of which can hold temperatures between 15° and 25° and one quarter between 2° and 8°.

70% of stocks will be for raw materials and packaging, 30% for finished products, which will be handled at a rate of 52,000 pallets per year. 80% are destined for export and 20% for the domestic market.

M&A IN COMPANY OPERATING IN MEDICAL IMAGING AND ULTRASOUND TECHNOLOGIES

Brownfield Project Investors: Financial or Industrial operating in pharma/medical device sector Value of total Investment: to be defined Proposing Companies: Local firm searching for strategic partnership

Core business: the company, born as a Spin-Off company of the Italian National Research Council and University of Pisa, is specialized in Medical Imaging and Innovative Ultrasound Technologies. The company produces its Cardiovascular Suite, a CE marked medical device software for assessing early markers of cardiovascular risk. The company aims to design a next generation of biomedical ultrasound systems.

ASSETS:

Commercial distribution on the global market based on 14 distributors and 8 agents monitoring the system and focused on medical devices sales.

Synergies and collaborations with the Italian National Research Council CNR, the University of Pisa and several research institutes at global level.

Strong scientific references on the products usage validating the system.

The Cardiovascular Suite is CE marked and the company got the ISO 9001:2008 certification.

High market's recognition and high investments budget ratio.

PROJECT COORDINATION:
INVESTMENT PROMOTION OFFICE
PAOLA PAOLOCCI

INVEST IN ITALY TEAM:
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