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Life Science Hub

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**Lombardy and Life
Sciences.
Our plan for
the future**

1. The value of an integrated sector

Lombardy and Milan form the heart of the **Life Sciences** sector at national level, thanks to an interconnected ecosystem of companies and public and private organizations that create a regional unicum of collaboration. This virtuous ecosystem is characterized by different areas of therapeutic and sectorial specialization (from pharmaceuticals to medical devices and digital technologies for health). Such elements represent a strategic lever for talent and investment attraction, promoting the growth and development of the entire supply chain, both public and private.

The strength of this system is enhanced by a strong culture of collaboration and resource sharing, which often sees companies and institutions working together on research and development projects, sharing not only scientific knowledge but also infrastructure and technology. This synergy makes it possible to accelerate innovation and tackle complex challenges more effectively.

Considering both the direct and indirect contributions of the life sciences sector, in 2022 the added value of this sector corresponded **to 12.6% of the regional GDP**, with an overall direct and indirect added value of more than **56.6 billion euros**. The incidence is higher than in the rest of Italy, where the life sciences and ancillary industries contribute 10.1% of the domestic GDP. Furthermore, it must be noted that the direct and indirect added value of Lombardy's life sciences sector accounts for **2.5% of the entire country's GDP**¹.

Lastly, according to the latest figures for 2022, the sector employs more than **1.8 million people** nationwide, more than 19% of whom are in Lombardy².

The above confirms the strategic importance of Lombardy's specialization in the life sciences sector, and not just in the economic growth of the region and Italy, but also for the concentration of international collaboration projects.



1 - Assolombarda, La rilevanza della filiera Life Science in Lombardia: benchmarking Italia e regioni europee, 2024.

2 - Assolombarda, La rilevanza della filiera Life Science in Lombardia: benchmarking Italia e regioni europee, 2024.

2. The Lombardy Regional Healthcare System Model

The regional scenario

Lombardy's Regional Healthcare System (RHS) is unique in the Country; it is based on an integrated system that combines excellent healthcare services – both public and accredited private - with an innovative life science supply chain, promoting positive partnerships aimed at providing cutting-edge care for residents. The Lombardy RHS combines **quality, accessibility and sustainability**, for a value-oriented ecosystem.

The RHS in Lombardy has a network of over **3,550 public and accredited private healthcare facilities**³. Of these, over **223 are public and accredited private hospitals**⁴, which together provide around 40,000 beds to citizens⁵, and these include:

- **30 large public and private hospitals**, 13 of which offer level II emergency services that also provide services for foreign patients;
- **2 medical centers** dedicated to the **expat community** living in Milan;
- **19 Clinical Care and Research Institutes (IRCCS)**, constituting about 35% of those active in Italy, **including 5 public and 14 private institutes**, all contributing to innovation and scientific research⁶.

Of the top **250 hospitals in the world**, **six are from Lombardy**⁷, and, at a national level, the region is a leading hub in the field of life sciences due to its significant research and training, and the importance of the pharmaceutical and medical device industry.

Furthermore, the study '**Sostenibilità e resilienza del sistema sanitaria lombardo**' [**Sustainability and Resilience in the Lombardy Regional Healthcare System**] - conducted by the **Alta Scuola di Economia e Gestione dei Sistemi Sanitari** of the **Università Cattolica del Sacro Cuore (Altems)**, with the support of **Assolombarda** and in collaboration with **Regione Lombardia** - underscored the high quality of clinical outcomes ensured by Lombardy's healthcare system. This achievement is attributed to the region's **efficient health governance**, which emphasizes collaboration with companies specializing in **technological and pharmaceutical innovation** and adheres to a **value-based approach** to healthcare.

3 - Ministry of Health, Statistical Yearbook (data 2022), 2024.

4 - Lombardy Region, Welfare, PIANO SOCIOSANITARIO REGIONALE 2024-2028 (data 2023), 2024.

5 - Lombardy Region, Welfare, PIANO SOCIOSANITARIO REGIONALE 2024-2028 (data 2023), 2024.

6 - Reworked by Assolombarda based on data from the Ministry of Health, IRCCS List, 2024.

7 - Reworked by Assolombarda based on data from Newsweek, World's Best Hospitals 2024 - Top 250, 2024.

An Integrated Territorial Hospital System

Lombardy's RHS also has a continuously developing capillary system. In this context, Integrated Home Care Services (IHCS) and Home Care Providers have become an integral part of the RHS. Between 2022 and 2023, there was a rise of **38.34% in the number of Lombardy users benefiting from IHCS, reaching approximately 178,233 patients**⁸.

This data demonstrates how the model is being structured in order to **respond to the growing demand for home healthcare, due, in part, to the change in age demographics**, with the average age of the population rising (**over-65s in Lombardy are 23.5% of the population**, while in Italy this percentage reaches 24,3%⁹).

Nursing Homes (RSA) are a fundamental pillar for managing this demographic transition and, particularly, for caring for non-self-sufficient elderly persons. In Lombardy, there are **1,503 RSA** in operation (representing 18.67% of the national total) with a total capacity of **70,969 beds** (accounting for 26.46% of beds in residential facilities nationwide)¹⁰.

Through the guidelines and implementation of the National Recovery and Resilience Plan (PNRR), the IHCS and RSA networks now work together with **Community Homes** and **Community Hospitals** in order to strengthen territorial healthcare and improve accessibility to the healthcare system for citizens. As of 2024, in Lombardy, there are **126 Community Homes** (16.67% more than in 2023) and **23 Community Hospitals**, offering general medicine, specialist and nursing services and which, with such services, help reduce hospital admissions for minor illness.

Within this scenario, the accredited private sector represents an important partner for the Lombardy Regional Healthcare Service. Accredited private outpatient clinics and laboratories account for 63% of outpatient and laboratory services¹¹, in the case of residential facilities the accredited private sector accounts for 90% of facilities, while in semi-residential facilities the percentage is 83%¹².

8 – Lombardia Infatti – Regione Lombardia, Relazione sull'avanzamento del Programma Regionale di Sviluppo Sostenibile 2024, 2024.

9 - Silver Economy Network, Scenario Longevità - Report 2024, 2024.

10 - Reworked by Assolombarda based on data from the Ministry of Health, Statistical Yearbook (data 2022), 2024.

11 - Cergas-Bocconi, OASI Report, 2024.

12 - Cergas-Bocconi, OASI Report, 2024.

A future-oriented model: digitization and telehealth

In 2022, Lombardy was nominated by the government as the lead region for the development and creation of the **National Telehealth Platform**, a project developed under the PNRR. This has been a significant step in fostering important synergies between the public and digital health value chain, leading to the development of a more digitized and interconnected RHS.

One of the main aims of this project is to integrate the different telehealth platforms already present in the region, ensuring greater **cohesion and interoperability between the different systems and applications** used in the context of telehealth and telemonitoring (remote patient monitoring). This approach offers numerous advantages, such as easier management of data flow to monitor the health and needs of the population.

Moreover, this initiative is a clear example of the progressive digitization of the healthcare system, with the participation of life science enterprises, from medical devices to Information and Communication Technologies (ICT).



3. Lombardy, a model of excellence for research

Because of the value of its health and welfare, educational, research and production system, Lombardy has established itself as a hub for the development of innovation and research in the Life Sciences sector.

This is supported by the high concentration of innovative specialized healthcare facilities and the presence of numerous highly specialized research organizations, collaborating together and leveraging the synergy that take form when research, academia and business work together.

Lombardy IRCCS & Impact Factor

Institutes of Hospitalization and Care of Scientific Nature (IRCCS) are national hospital bodies of excellence that unify, within their structure, diagnostic-therapeutic activities and research activities of the highest level in the biomedical field and in the management of healthcare services, with a peculiarity that lies in the continuous exchange of scientific knowledge between laboratory and clinical activities.

>>> IRCCS. Many areas of high specialization.

AREA	NUMBER OF IRCCS
CARDIOLOGY	3
ONCOLOGY	2
REHABILITATION	4
NEUROLOGY	3
MOLECULAR MEDICINE	1
PSYCHIATRY	1
RARE DISEASES	1
DISEASES OF THE MUSCULOSKELETAL DISORDERS	1

The excellence of Lombardy's IRCCSs can be seen in their ability to conduct high-level clinical research studies. Moreover, according to the latest available data from 2020, Lombardy's IRCCSs produce a **total impact factor of more than 33,000**, about **44%** of the total impact factor for IRCCSs across the country¹³.

In 50% of national studies, participating centers based in Lombardy had roles as coordinators, demonstrating the centrality of the region in clinical trials¹⁴. Moreover, when assessing the management performance of the various IRCCSs involved, a good level of system digitization is found: according to a recent study based on a panel of 23 hospitals and centers working on clinical trials in Lombardy, in **78% of the cases research processes are digitized and automated**¹⁵.

A leader in clinical trials and innovation

Lombardy has a very competitive and strongly developing clinical trial system, which is unique in Italy. According to AIFA data, **50% of clinical research conducted nationally in pharmacology is concentrated in the Lombardy Region**¹⁶, which is also a leading area in pharmaceutical manufacturing within the EU, demonstrating the highest added value among the benchmark regions in Europe. When looking at patent applications for biotechnology (compared to France, Germany, Denmark and the Netherlands), Italy has the highest value for the 'red biotech' specialization index and is in 7th place for investments in R&D in the Life Sciences sector (2020)^{17,18}.

13 - Reworked by Assolombarda based on data from the Ministry of Health, Produzione Scientifica IRCCS in termini di Impact Factor normalizzato (2012-2020 data), 2022.

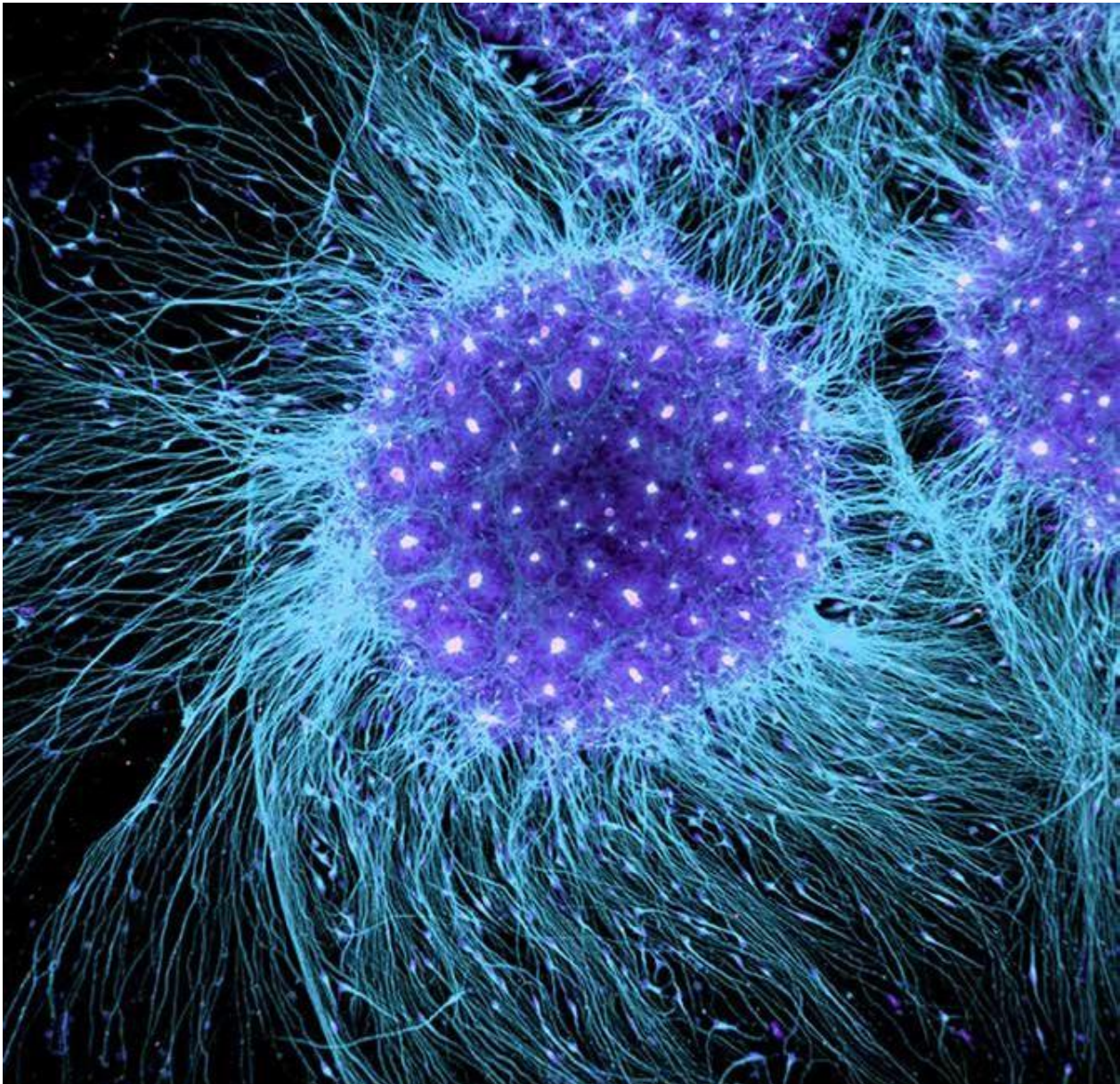
14 - AIFA, La Sperimentazione Clinica dei medicinali in Italia – 20° Rapporto Nazionale (data 2020-2022), 2023.

15 - IQVIA for Assolombarda and Cluster lombardo scienze della vita, Project A.D.E. - Accelerate Digital Evolution in clinical research, 2022.

16 - AIFA, La Sperimentazione Clinica dei medicinali in Italia – 20° Rapporto Nazionale (data 2020-2022), 2023.

17 - European Commission, Top EU R&D investors in the global economy Benchmarking technological capabilities in the health industry, 2022.

18 - European Commission, Exploring the global landscape of biotech innovation: preliminary insights from patent analysis, 2024.



Centers and Hubs for Life Science Innovation

A further demonstration of the richness of Lombardy's Life Sciences ecosystem is the presence and planning of several poles for research and development in Life Sciences, including Milan Innovation District (MIND), the City of Health, Open Zone and the Gerolamo Cardano Park in Pavia. These poles engage in projects on a national and international level, which also involve the entities associated with them, providing the territory with additional outlets for development opportunities, also thanks to the attraction of national investment in research and development in the pharmaceutical and medical sectors. This system of bodies finds in the Cluster lombardo scienze della vita – due to its nature as a public-private aggregation body of international relevance and the Lombardy Region's main point of reference for health, life sciences and biomedical research - a lever for the development of valuable synergies between the public and private sectors.

MIND

MIND, Milano Innovation District, is a development hub, that unites scientific and technological businesses working in Life Sciences, healthcare, biotech, pharmaceuticals, agri-food, nutrition, data science, and big data, including:

- **Fondazione Human Technopole**, providing research infrastructure for life sciences and big data, with a focus on medicine, nanotechnology and nutrition. In specific, Fondazione Human Technopole has made available five national research platforms offering access to cutting-edge technologies in the fields of **genomics, genome editing, disease modelling, optical microscopes, structural biology and data management and analysis**¹⁹;
- **University of Milan**, with a plan for the development of a new campus with a capacity for 11,500 students, 62,988 square meters of teaching and scientific laboratories, including a 15,273 square meter macro-platform in which up to 300 researchers can work, an 8,546 square meter library, 1,100-bed student dormitory; a total of 210,000 square meters that will accommodate up to 23,000 people including lecturers, researchers and students²⁰;
- **IRCCS Ospedale Galeazzi - Sant'Ambrogio**, the merger of two highly specialized facilities, Istituto Ortopedico Galeazzi and Istituto Clinico Sant'Ambrogio, represents a center of excellence in specialist activities, like orthopedics and neurosurgery, as well as in cardiovascular and bariatric fields²¹.

Città della Salute

Città della Salute is a project that will bring together **two of Lombardy's leading IRCCSs** - Fondazione IRCCS Istituto Nazionale dei Tumori and Fondazione IRCCS Istituto Neurologico Carlo Besta - specialized in the fields of neuroscience, oncology and molecular medicine, aiming to develop a research and treatment hub of national and international importance.

19 - Human Technopole, 2024.

20 - MIND - Milan Innovation District, 2024.

21 - MIND - Milan Innovation District, 2024.

Open Zone

Open Zone is located on the outskirts of Milan and is home to 34 companies and over 1,000 people to advance research in the Life Sciences and build bridges between different skills, languages and worlds, with the aim of **transforming research into business**²².

Parco Gerolamo Cardano for Sustainable Innovation

The University of Pavia is leading the initiative to develop Parco Gerolamo Cardano into a hub for sustainable innovation²³. This scientific district, whose design specifications were presented in 2023, promotes public-private partnerships with the aim of attracting investments, students and researchers from all over the world.

Parco Gerolamo Cardano will include a **research center and infrastructure for companies interested in developing and working in technological innovation**.

For healthcare, the main focus will be radiotherapy, diagnostic imaging, personalized medicine, emerging viral threats, neuroscience, nutrition and pharmafood.

National Research Council Centers

The National Research Council (CNR) is a **national public research organization with general scientific competence, supervised by the Ministry of Universities and Research (MUR)**, whose remit is to carry out scientific research projects in the main areas of knowledge and apply those results to the development of the country, promoting innovation and the internationalization of research.

These activities are carried out with a human resource base of more than 9,300 employees operating throughout the country, of whom **8,713 make up the organization's scientific network, which includes researchers and research support staff**²⁴. This scientific network consists of **88 institutes of which more than 11% are located in Lombardy**^{25,26}.

These centers operate based on a model of local, national and international collaboration, attracting funds, gaining knowledge and facilitating connections.

The presence of the CNR in Lombardy makes us a **region of enormous potential, with significant development outlets, both in the rest of Italy and abroad**.

These initiatives, ecosystems and hubs of innovation in Lombardy are an incentive for innovation in healthcare, thus contributing to the development of patents and making the Lombardy region an area of interest for the investment of European funds, public and private investments (including from abroad) and talent.

22 - Open Zone, 2024.

23 - University of Pavia.

24 - Consiglio nazionale delle Ricerche, Il CNR in numeri (data 2023), 2024.

25 - Consiglio nazionale delle Ricerche, Il CNR in numeri (data 2023), 2024.

26 - Reworked by Assolombarda based on data from the Consiglio Nazionale delle Ricerche, 2024.

Cluster lombardo scienze della vita

The **Cluster lombardo scienze della vita** is a **regional community dedicated to Life Sciences in Lombardy**. It brings together public and private entities - from the research, industrial and clinical sectors - active in every area of life sciences: diagnostics, advanced therapies, pharmaceuticals, medical devices and applied health technologies.

The Cluster includes over 110 organizations working in Healthcare, Life Sciences and High Tech, and has helped to make the Lombardy Region a center of excellence for research and innovation. Moreover, through partnerships with other participating business associations, the Cluster reaches a potential pool of more than 800 businesses throughout the Lombardy Region.

The aim of the Cluster is to exploit the valuable synergy created between public and private entities, favoring research and innovation in the Life Sciences, and supporting the future health of local residents. For this, the Cluster has received the regional mandate, from Regione Lombardia, of **representing the RHS at an international level**, promoting the value of the Lombardy system abroad, creating valuable partnerships and attracting investment to the region.

In order to achieve this, the Cluster fosters the **development of connections and partnerships**, community building projects, institutional events, technical and working roundtables, support services for the development of research and innovation partnerships, matchmaking, and fostering clinical research and technology transfer within the sector. As sector representatives to the regional government, the Cluster also works to collect requirements and proposals from the regional system through analyses and studies, sharing useful information with the Institutions for the development of local and regional strategies for R&D and healthcare: from advanced therapies to medical devices and digital technologies. Lastly, through partnerships with European and national bodies, the organization encourages dialogue with institutions, promoting policies that **unlock the potential of research and health** for an increasingly healthy nation.



Innovation and Technology Transfer Foundation

Lombardy's innovation ecosystem also boasts the presence of an organization that works to enhance technology transfer, **Fondazione Innovazione e Trasferimento Tecnologico (FITT)**²⁷. FITT works on behalf of its members (leading biomedical research centers, public and private organizations, IRCCS, and others) with the aim of **supporting processes leading to results that range from scientific research facilitation to successfully marketing the innovation** developed by their scientists, ensuring that such discoveries benefit patients and society. The aim is to promote the development of patents, licenses, spin-offs and start-ups, maximizing the impact of research investments and scientific discoveries.

The Foundation aims to promote the **development of new therapies and medical devices** through collaboration with established companies or new business ventures, through licensing agreements for intellectual property, regarding discoveries and inventions developed by its members.

Focus: genetics, genomics and advanced therapies

Lombardy is also one of the most advanced regions in **genetics and genomics** (and in red biotech in general). This Region has been the cradle of various avant-garde research and therapies, such as the first gene therapy to be approved in Europe (Strimvelis), the first stem cell-based therapy (Holocar), and the first genomic approach, in Italy, for the development of a vaccine against meningococcus B.

In addition, in gene therapy, the Lombardy Region is one of the main stakeholders in a national project that works to support the **development of cutting-edge cancer treatments** using CAR-T technology, with a total of 8 centers in the region authorized to administer CAR-T therapy - 25.8% of CAR-T centers nationwide²⁸.

Highlighting the innovative capacity of our region, Lombardy also boasts pioneering achievements in the field of medicine. Among them, SR-Tiget (Istituto San Raffaele Telethon per la Terapia Genetica), who developed the first treatment for ADA-SCID, a genetic disease, which is only administered in Italy at the IRCCS Ospedale San Raffaele²⁹.

Focus: personalized medicine

A further area of specialization for this region is **personalized medicine**, where the Lombardy Region is present both through the **Regional Foundation for Biomedical Research (FRRB)** and through its own policies.

FRRB plays a key role in attracting and distributing research funding throughout the region, highlighting the skills in the Lombardy Life Sciences sector. Today, the Foundation is involved in several European projects under Horizon 2020, the new Horizon Europe and INTERREG.

This organization acts consistently with the objectives of the three-year strategic plan for research, innovation and technology transfer of the Lombardy Region, adopted in 2019, and which attracted approximately 750 million euros in investments from private, European and Lombardy Regional funds between 2019 and 2023³⁰.

27 – Fondazione per l'innovazione e il Trasferimento Tecnologico, 2024.

28 - AIL - Associazione Italiana Contro Leucemie Linfomi e Mieloma, Access to CAR-T, 2024

29 – Fondazione Telethon, 2024.

30 - Revized by Assolombarda based on data from Lombardy Region, PROGRAMMA STRATEGICO TRIENNALE PER LA RICERCA, L'INNOVAZIONE E IL TRASFERIMENTO TECNOLOGICO, 2019. 30 – Fondazione per l'Innovazione e il Trasferimento Tecnologico, 2024.

Life Sciences:

SECTOR

Accounts for

12.6% of the GDP in Lombardy

10.1% of the national GDP

346,153 employees

equal to **19.1%**

Of the national total

RESEARCH

Over

7,000 researchers
+ **40**

Research Centres, including a National Life Science Centre

19 IRCCS

50% of national clinical drug trials

COMPANIES

+770 businesses and organisations working in life sciences that are active members of Assolombarda

The value of industry output in Lombardy exceeds **€38 billion**

share of domestic added value equal to **52.3%**

The health services sector in Lombardy generates

18.3% of added value

EDUCATION

15 Universities of which

7 with faculties of medicine

332,171 students

17.4%

of the national total

94,024

enrolled in a STEM faculty

The numbers in Lombardy

PHARMACEUTICAL INDUSTRY

262 pharmaceutical companies

equivalent to

34% of national total

More than

25,830 employees

36.9% of national total

Lombardy is in **1st** place in Italy for R&D investments with

€560 million invested

An export value of

€9.8 billion

20% of the value of national pharma exports.

The Contract Development and Manufacturing Organisations (CDMO) segment generated turnover equivalent to

€3.6 billion, equivalent to **23%** of the registered at a **European** level.

MEDICAL DEVICES INDUSTRY

1,401

companies, amounting to

30.2% of the national total

51,747

employees, amounting to

44% of those employed by the industry nationally

A domestic export value of

€5.9 billion, equivalent to

47.6% of the value of the national total for medical devices

Through the Fondazione Regionale per la Ricerca Biomedica, Lombardy has decided to pinpoint its focus on a number of key issues: precision medicine - as a means for placing the individual and their needs at the center of treatment - research into rare diseases and cancer, and the fight against antibiotic resistance. Particular attention is paid to the career development of young researchers: talent from the region is nurtured and, at the same time, attempts are made to attract aspiring professionals from abroad by offering competitive funding with adequate infrastructure, both aspects that can be found in Lombardy.

To date, FRRB has financed **86 projects of high scientific and health value** through competitive tenders.

4. An internationally recognized education and research system

Lombardy's specialization in life sciences is also supported through a globally competitive education and research system, with universities, specialized ETS, research centers and medical simulation centers. The region is highly competitive thanks to the system's ability to develop cutting-edge projects. An example of this is the partnership between Humanitas University and Politecnico di Milano, who together have developed a degree aimed at training highly skilled medical personnel in the field of biomedical engineering; another example is the Roberto Rocca Innovation Building at Humanitas University, which fosters interdisciplinary cooperation for the advancement of innovation in the Life Sciences.

Leading University Network

There are over 7000 researchers working in Lombardy across 40 research centers. To these, one must consider the additional 332,171 students (17.4% of the national total) distributed throughout an educational network of 15 universities³¹. Lombardy also boasts some of the most important national universities in world rankings for specific disciplines of study (Università Bocconi in 9th place for Management and Social Sciences, Politecnico di Milano in 23rd place for Engineering and Technology, and Università Statale di Milano in 97th place for Life Sciences and Medicine)³².

Centers for Applied Medicine, Simulation and Training

The healthcare and life sciences network also includes a number of businesses promoting the development of specialist skills, leading to a consolidation of knowledge through upskilling and reskilling for medical professionals and new recruits from university. This also includes a number of high-level **centers for medical simulation**, advanced specialization and research in the fields of **neurology, pneumology, general anatomy, gynecology-obstetrics, and neonatology**: Besta Neurosim Center, Humanitas Mario Luzzato Simulation Center,

31 - Regione Lombardia, Lombardia Speciale - I dati e le eccellenze della Lombardia, in collaboration with Polis Lombardia and Il Sole 24ORE (data from 2023), 2024.

32 - Qs World University Rankings, 2024.

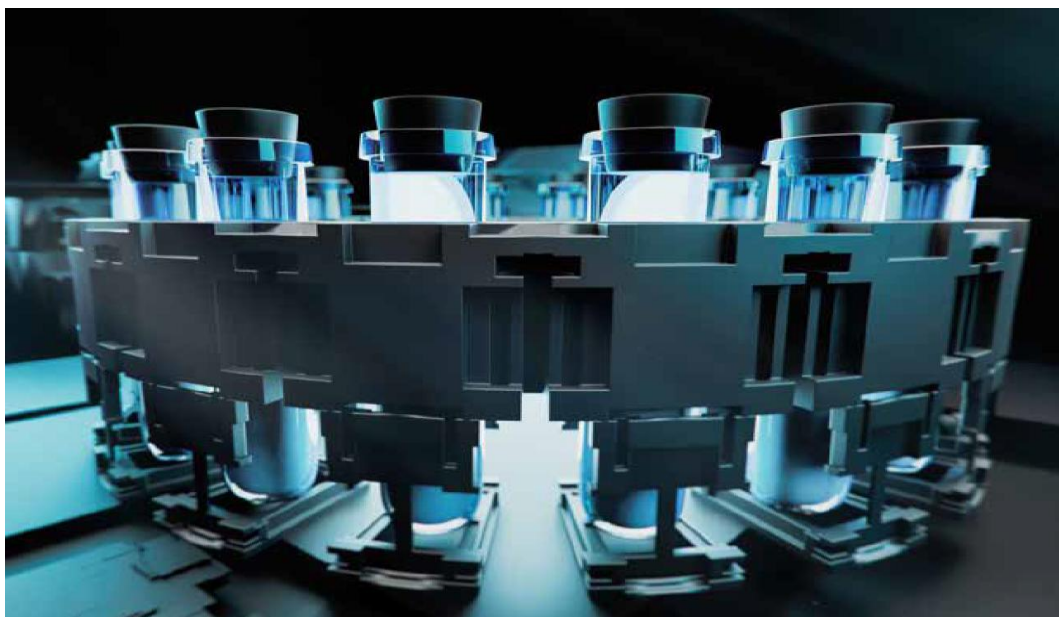
the Poliambulanza Foundation simulation center, the Roberto Rocca Innovation Building at Humanitas University, the AB Medica simulation center, and the Institute for Advancing Science at Boston Scientific.

The presence of these organizations supports the healthcare system in introducing breakthroughs in innovation locally, and, at the same time, makes Lombardy a high-profile hub for knowledge in healthcare.

5. The pharmaceutical industry

According to ISTAT data for 2022, there are **262 active local pharmaceutical production companies** in Lombardy (**34% of the national total**)³³, contributing to making Lombardy the leading pharmaceutical center in Italy in terms of concentration of businesses. More than **25,830 employees** are concentrated in the area (**about 36.9% of the national total in the sector**)³⁴. Furthermore, if one considers the investments of pharmaceutical companies in Research and Development, Lombardy is the top-ranking region in Italy **in terms of resources invested, amounting to 560 million euros in 2023**³⁵.

In terms of sales and manufacturing, the pharmaceutical industry in Lombardy generates **20% of Italy's recorded pharmaceutical exports**, for a value of 9.8 billion euros³⁶. Within this field, the biopharmaceutical sector plays an increasingly important role.



33 - Re-elaboration by Assolombarda based on Istat data (2022), 2024.

34 - Farmindustria, Indicatori Farmaceutici, 2024.

35 - Farmindustria, Indicatori Farmaceutici 2024.

36 - Farmindustria, Indicatori Farmaceutici, 2024.

In addition, Italy and Lombardy also lead Europe in the field of Contract Development and Manufacturing Organizations (CDMO): companies manufacturing pharmaceuticals for third parties. According to the latest available data, in Italy, this sector, also due in part to investments in 4.0 and production lines, produced a value of 3.6 billion euros (or 23% of the total European value)³⁷.

Compared to the rest of Europe, data confirms that even in 2022 the pharmaceutical industry in Lombardy generated a higher per capita added value than all other benchmark regions:

695 Euros per inhabitant. The regions used for this comparison were: Baden-Württemberg, Cataluña, and Île-de-France, which represent the most advanced European regions for life sciences³⁸.

6. Medical Devices Industry

Lombardy also has the highest concentration of companies operating in the medical devices sector (1,401 in Lombardy vs 4,641 in Italy), employing 44% of the national workforce (equivalent to 51,747 employees out of a total of 117,607)³⁹.

The medical devices sector is projected towards developing innovative technologies, compatible with the 4-P model of medicine (personalized, participatory, predictive and preventive), which encompasses the following subgroups: biomedical, biomedical equipment, technical equipment, services and software, in vitro diagnostics, electro-medical and other borderline product categories. A large number of innovative start-ups and SMEs operate within this field, accounting for 94% of the companies in the sector and falling into different sectorial subgroups. Among these, the medical services and software sector, through tools for telemedicine, remote-assistance and tele-monitoring, **has supported the reform in patient management for chronic illness in the Lombardy RHS, through the development of projects such as CreG (Chronic Related Group)**, which has also been recognized as a benchmark project at a European level.

In addition, **there are international and Italian companies operating in the Lombardy region that are leaders in the fields of prosthetics, electro-medical products and global solutions for diagnostic imaging**, telemedicine, and home care. Such areas are fundamental for better management and prevention of diseases with a high financial and healthcare impact (e.g. oncology), for the Italian National Health Service and for the longevity of a population whose average age continues to rise.

37 - Farmindustria, Indicatori Farmaceutici, 2024.

38 - Assolombarda, La rilevanza della filiera Life Science in Lombardia – Benchmark Italia e regioni europee, 2024.

39 - Confindustria Dispositivi Medici, Il Settore in Numeri (data 2023), 2024.



7. Advantages for citizens and the National Health System

Through an analysis of performance and health investment data, the value of the Lombardy RHS model emerges clearly, providing high standards of care and life expectancy, with an ability to plan and allocate healthcare resources. The balance between public and accredited private healthcare services, contributes to providing a high level of responsiveness to the needs of a society whose average age is getting older. In this context, where 80% of healthcare resources are employed in chronic illnesses (strongly linked to the ageing population), **the Lombardy RHS continues to provide healthcare and innovation**⁴⁰ by focusing on territorial medicine and the central aim of prevention: an asset for all age groups, which will lead to a healthier society in Lombardy in the mid to long term. The **Regional Healthcare Plan 2024 - 2028** emphasizes prevention as a central element for the sustainability of the RHS and focuses on the main elements of the Regional Prevention Plan 2021-2025, which includes aspects ranging from the promotion of vaccinations through to cancer screening and preventing infectious diseases. An example of regional initiatives for healthcare prevention and longevity is the **Prevention Task Force**, integrating stakeholders from the entire system to study innovative models, aimed at increasing participation by the population in programs and other initiatives for prevention.

The universality that is a characteristic of healthcare in Italy means that our regional and national systems are recognized as **some of the best internationally**. In terms of national healthcare, the National Healthcare System (NHS) is among the top positions in the main international classifications, ranking second for overall system performance, according to the World Health Organization, and fourth place for healthcare efficiency, according to the Bloomberg classification⁴¹.

Supporting this position is OECD data (2024), according to which the percentage of Italian citizens with perceived good and excellent states of health (72.8%) surpasses that of other main European economies, including France (66.6%) and Germany (65.5%)⁴².

In 2023, life expectancy at birth averaged **83.1 years in Italy**, with 85.2 years for women and 81.1 years for men. Even higher values were recorded in the Lombardy region, where women have a life expectancy at birth of 85.9 years, and 81.9 years for men⁴³.

Life expectancy at birth reflects genetic components, lifestyles and social habits, but other impacting factors include scientific discoveries and innovation, introduced by the companies in the Life Sciences sector, which have been leading to the exponential growth in life expectancy of the Italian population over the last 50 years. Because of the integration of these factors, for each year that passes, **the Italian population gains another 3 months of life**⁴⁴, making ours **one of the longest-lived populations in Europe and in the world**.

40 - Ministry of Health, Piano Nazionale della Cronicità, 2024.

41 - Bloomberg, Bloomberg Health Care Efficiency, 2018.

42 - OECD, Better Life Index - Health, 2024.

43 - Silver Economy Network, Longevity Scenario - Report 2024, 2024.

44 - Farmindustria, Orologio della vita, 2024.



This rise in life expectancy is also supported by a continuously developing system that invests in improving clinical outcomes, thanks in part to a network of centers that innovate the healthcare system, including IRCCSs. For Lombardy, over the 2015-2023 period, **data from the National Agency for Regional Health Services (AGENAS) show an improvement in outcomes for certain debilitating high mortality conditions.** One such example is acute myocardial infarction (AMI), considered to be one of the leading causes of death in the country and in Europe, where the 30-day post-infarction mortality rate over this period fell from 8.43% to 7.13% in Italy. This rate is even lower in Lombardy, which reports a 6.8% 30-day mortality rate for AMI⁴⁵. Another example is the 30-day mortality rate for ischemic stroke: in 2023 the national average of deaths 30 days after the event was 9.4%, an improvement on 2017 when it was 11.43%. Here too, Lombardy reports a lower percentage, which stands at 7.74% in 2023⁴⁶. In addition, during this same period, AGENAS data also shows an **increase in response time speed from the NHS and RHS for patient needs**, as reflected by the promising data of patients undergoing surgery 2 days after a femur neck fracture: in 2023, 14 regions, including Lombardy, hit or surpassed the 60% threshold set by Ministerial Decree No.70 of 2 April 2015 in regard to this procedure⁴⁷.

The value of the data on the performance of our National Health System, both at national and regional level, is even more significant if one considers the current level of investment and compares it with that of other benchmark economies in Europe. **In Italy, total health expenditure per capita is 2,947.1 euros, while in Germany it reaches 5,316.9 euros, in the Netherlands it is 4,530.0 euros, and in France it is 4,309.8 euros**⁴⁸. Although the outcome to investment ratio is currently favorable for our NHS, the European Commission's Ageing Report 2024 highlights the need to rethink the allocation of public resources in order to address the challenges posed by the structural changes in our demographics, shifting ever closer to a society increasingly over-65.

In particular, lower birth rates, an ageing population and new migration flows will contribute to an inevitable increase in overall health expenditure and long-term care costs. In order to ensure the system remains sustainable, it is essential to increase investments in healthcare, from services to innovative solutions, with an emphasis on prevention, starting from birth onwards. This approach will be **crucial to respond effectively and sustainably to the challenges for longevity and well-being in the future**⁴⁹.

Through a holistic view of the system, uniting healthcare policies with research and the development of the Life Sciences, Italy and Lombardy can continue to grow and provide healthcare for the entire population, activating a network of experts, guaranteeing employment, productivity, value, innovation, health and affordable care. **A holistic system where investing today means investing in health and longevity of tomorrow.**

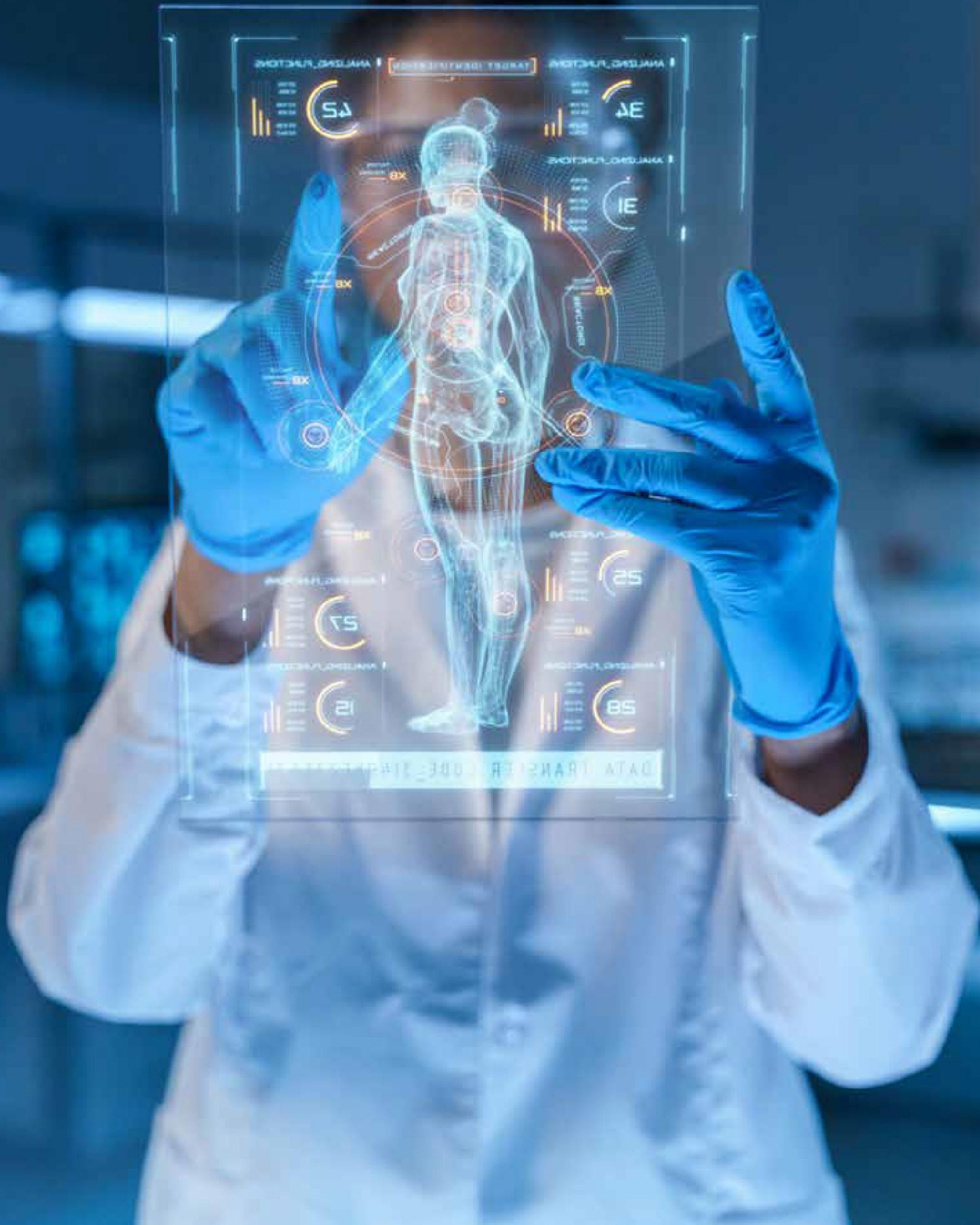
45 - AGENAS, Programma Nazionale Esiti - 2024 Edition, 2024.

46 - AGENAS, Programma Nazionale Esiti - 2024 Edition, 2024.

47 - AGENAS, Programma Nazionale Esiti - 2024 Edition, 2024.

48 - OECD, Health Expenditure and Financing (Euros per person, PPP converted, data 2022), 2024.

49 - G7 Italy, G7 Health Ministers' Communiqué, 2024.



From Assolombarda, a project to support the future of Life Sciences

In the areas of Milan, Monza, Brianza and Lodi alone, there are more than **770 companies affiliated with Assolombarda operating in this sector** in their various fields, including pharmaceuticals, biopharmaceuticals, medical devices, healthcare and research.

A substantial core of companies accounting for more than 10% of the association's members. In order to enhance the potential of the Lombardy region in the field of life sciences, the **Lombardy Life Science Hub** project was established with the support and input of the main stakeholders in the life sciences and healthcare sector.

Assolombarda aims to improve the industrial sector and RHS by attracting more investments to the area, in synergy with regional initiatives and organizations working in the life sciences sector.

Through a plan for Life Sciences, which integrates the sectors in the system, we aim to support Healthcare in providing citizens with cutting-edge care, to continue to improve the quality of life for our population and the sustainability of our Healthcare System.

Thanks to an interconnected system of public and private stakeholders working in the Life Sciences, we support a network of actions and projects leading to a healthy future.

Our Mission

To promote the **development of the Life Sciences ecosystem in Lombardy** by strengthening a **unified identity**, and providing **services, initiatives and projects** aimed at promoting **research and innovation**, the **attractiveness for investment**, and **internationalization**.

Our Vision

To make the Lombardy
Life Sciences Sector
and Healthcare
System recognized
areas of excellence
at an international
level.

All partners of a virtuous ecosystem





Strategic guidelines

- To strengthen innovation and competitiveness of the Regional Healthcare System starting from the PNRR, through collaboration between public and private healthcare
- To contribute to the development of an innovative regional procurement strategy for health technology, enhancing the role of our sector at an international level
- To strengthen research and innovation in the life sciences in the Lombardy Region by launching an integrated public-private regional steering committee

Strategic Drivers

- PNRR and Financing
- Procurement and Value Based Healthcare
- Promoting Community and System
- Internationalization and Investment Attraction
- Training and Comparison

Market Access

OBJECTIVES

Local access to innovation is a priority for a system aiming at continuously improving care.

For this reason, the Association promotes a dialogue between businesses and the public system, geared towards promoting greater accessibility, benefiting the health and the sustainability of the system through value-based healthcare.

TOOLS

- Access Working Group, which brings together companies from the pharmaceutical and medtech sectors to promote constructive debates with the regional procurement and access system
- Technical meetings with regional authorities to align strategies and visions for the pharmaceutical, medtech and health services sector
- Forum Sanità Futura: a project dedicated to bringing together businesses and stakeholders working in Lombardy's public healthcare sector in order to promote a common vision for strategic issues on health governance

PROJECTS AND ACTIONS

Access Working Group
Future Health Forum

FOR FURTHER INFORMATION



Research and Innovation

OBJECTIVES

Lombardy is a research hub, with a network of 7 universities with faculties of medicine, 1 National Life Science Research Centre, 19 public and private IRCCSs, and over 40% of the 70 industrial companies working in the Life Sciences research in the country. From base research to clinical trials, Lombardy holds a national record: 50% of clinical drug trials are carried out in the region. It is for this reason that the Association promotes dedicated work groups and actions to support members in fostering the development of research, partnerships and policies to increase the competitiveness of the area and make it more appealing for innovation (from base research to pre-clinical and clinical research).

TOOLS

- Clinical Research Work Group: coordinated by the Cluster lombardo scienze della vita, it brings together public and private hospitals, ethics committees, companies, professional associations and scientific societies
- Life Science Research and Innovation Network: an informal network for sharing opportunities and collaborations in Research & Innovation and assisting companies in accessing European funds for R&I (Horizon Europe)
- Representation in regional and national roundtables, from the Lombardy Region to Confindustria, sharing motions and take advantage of opportunities for associated companies (regional, national and European tenders)

PROJECTS AND ACTIONS

Clinical Research Working Group

Life Science Research and Innovation Network

Clinical Research Observatory

FOR FURTHER
INFORMATION



International Development

OBJECTIVES

International competitiveness for the life sciences sector is a strategic driver in developing a system capable of innovating and evolving, to benefit the development of healthcare, welfare and the economy of the country. In this regard, the Life Science Area is taking action to promote the Health and Life Sciences system abroad, helping to both internationalize Lombardy's organizations and attract investments in the area, through collaboration with national and international bodies.

TOOLS

- Promoting international business trips and study tours for businesses to help meet other institutions and potential partners to develop relationships and collaborations
- Participation in international events, fairs and shows relevant to the life sciences, as to promote the local area and create useful contacts for members
- Collaboration with the Lombardy Region and Milano & Partners to attract investments in the life sciences and support for international businesses to understand the rules of the Healthcare System, access to Technology and Services, to create networks within the sector
- Promotion of healthcare in Lombardy through the Health Lombardy portal, highlighting the clinical excellence of healthcare facilities operating in the region
- Enhancing the Lombardy Health & Life Science system through the Assolombarda Life Science Brochure, available for the entire sector

PROJECTS AND ACTIONS

International Missions: focus on Gulf
Health Lombardy Portal

FOR FURTHER
INFORMATION



174/02455

174/02455

Life Science Hub Lombardy

174/02455

174/02455

174/02455

174/02455

Digital evolution

35%

63%

OBJECTIVES

Promoting digital transformation and the adoption of digital health technologies in the healthcare system. This is one of the most challenging objectives pursued by the Life Science Area, which, in collaboration with the Industry and Energy and Innovation Area, works to promote analyses, proposals and projects dedicated to technology and research.

TOOLS

- Digital Health Work Group: a multidisciplinary group that promotes exchanges among providers, end users and stakeholders in digital healthcare, sharing knowledge and analyses
- Digital Health Revolution meetings: a format that promotes knowledge and awareness of technology and management trends related to digital medicine
- Life Science Digital Evolution: a project of the life sciences sector that promotes free assessments to evaluate the digital readiness of one's own business, comparisons with industry data, in-depth meetings with valuable technical partners and the development of partnerships

PROJECTS AND ACTIONS

Digital Health Working Group
Digital Health Revolution
Life Science Digital Evolution

FOR FURTHER
INFORMATION



67.235

84.

Life Science Hub Lombardy

Analyses and scenarios

72.6544
91.2024

60.2297

94.

37.9114

OBJECTIVES

Through sector partnerships, this association is working to develop precise analyses of the value and contribution of the Life Sciences sector in Lombardy, promoting evidence-based comparison and territorial placement. Furthermore, the development of data and scenarios related to healthcare and Life Sciences allows the value of the system to be shared with the outside world, promoting Lombardy as a hub for the Life Sciences. Preparation and/or coordination of specific sector analyses to understand the context and identify dynamics, trends and opportunities in life sciences.

TOOLS

- Preparation and/or coordination of specific sector analyses to understand the context and identify dynamics, trends and opportunities in the Life Science sector
- Collaboration between Centro Studi of Assolombarda and AIOP, Anitec-Assinform, Confindustria Dispositivi Medici, Farindustria, Federchimica, Cluster lombardo scienze della vita in the development of the study “The relevance of the Life Sciences sector in Lombardy. Benchmarks among Italian and European Regions”
- Development of targeted studies and analyses to monitor the performance of the healthcare system, promoting the development of an overall system concept

PROJECTS AND ACTIONS

Altems Report: 'Sustainability and Resilience of the Lombardy Region Healthcare System'

“The Relevance of the Life Sciences Sector in Lombardy. Benchmarks among Italian and European Regions”

FOR FURTHER
INFORMATION



Ecosystem development

OBJECTIVES

One of the missions of the Life Science Area is to develop an active community that promotes a continuous exchange of knowledge and opportunities for a life sciences sector that is ever closer to the needs of the healthcare system and citizens. It is for this reason that, each year, the Association organizes a series of events including conferences and networking events, open to all members of scientific, national and international organizations, helping to cement sectorial identity.

TOOLS

- The Milano Life Science Forum is the key event for community, networking and dialogue for the entire Life Sciences system, not just for Lombardy but for the entire country
- Industry Visits: networking opportunities that take place in the premises of associated businesses and organizations, to promote exchanges and knowledge between the sector's top players, within the framework of life science industry projects

PROJECTS AND ACTIONS

Life Science Industry Meetings
Milano Life Science Forum

FOR FURTHER
INFORMATION



Training and skills



OBJECTIVES

Identification of training needs in the sector and activation of bespoke training for current and future professional development.

TOOLS

- Life Sciences Training Work Group brings together HR from companies working in the life sciences to combine industry with universities in terms of human assets
- Laboratory of Professions, a project developed in partnership with the Training and Human Capital Area dedicated to the presentation of professional figures to students of scientific subjects, by companies in the sector
- Liaise with universities to update training programs and activities related to accessing employment
- Organization of training courses and training sessions, online or in-person

PROJECTS AND ACTIONS

Training Working Group

Laboratory for Professions

Technical roundtables with universities

FOR FURTHER
INFORMATION







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