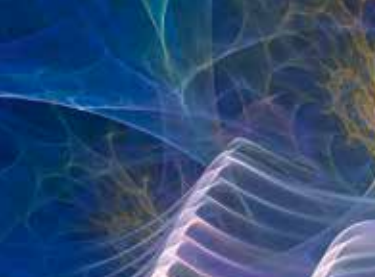


The Italian Biotech Industry

Facts & Figures



BioInItaly[®]
Report 2016

1916  **2016**

 **FEDERCHIMICA**
ASSOBIOFARMACI
Associazione nazionale per lo sviluppo delle biotecnologie

ENEA
Agenzia nazionale per le nuove tecnologie,
l'energia e lo sviluppo economico sostenibile

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Introduction

The aim of the present document is to present the key facts and data of the Italian biotech industry, and to provide a brief analysis of the current context within which Italian companies are operating.

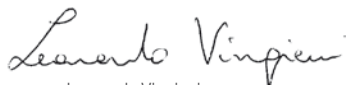
The overall emerging picture relies on the statistic survey made, for the first time this year, by Assobiotec and ENEA on those biotech firms which were active in Italy as of year-end 2015, also based on the analysis of their 2014 balance sheets and on estimates of future trends expected.

Moreover, the said core analysis was integrated with data from the National Statistical System or other public data, thus providing additional snapshots on the entire Italian biotechnology industrial sector.

In fact, as an integral part of the National Statistical Programme and the basis for the biotech industry OECD structural statistics, the 2016 Assobiotec - ENEA survey provides our Stakeholders with detailed insights not only on the many scientific and applicative aspects connected to Italian biotech companies' operations, but also on their innovation drive on the entire industrial system in Italy.

Particular attention was paid this year to the analysis of the incidence of biotech R&D activities, in the strict sense, in order to have a better understanding of their objective contribution on the broader R&D commitment of Italian biotech firms.

What definitely stands out is the fact that the more biotech R&D is done, the higher the total R&D commitment is.



Leonardo Vingiani
Director of Assobiotec



Marco Casagni
Head of Industry and Business Associations Unit - ENEA



- The Italian biotech industry has undergone through an extraordinary growth due to several factors, among them being the undisputed excellence of our academic and industrial research, and the ability of Italian companies to turn innovation into valuable products and technologies.
- Almost 500 biotech companies were active in Italy at the end of 2015, covering all fields of application. Over half of these (256) are dedicated biotech R&D firms that devote more than 75% of their total R&D investment to research activities relating to biotechnologies.
- The large majority of Italian biotech companies (75%) are micro or small-

sized organisations. This share moves to 90% when only considering the dedicated biotech R&D companies, which are indeed the driving force for the entire Italian biotech industry.

- Total biotech turnover exceeds 9.4 billion euro; R&D investment makes over 1.8 billion euro, while the number of biotech employees is above 9,200 units.
- Biotechnology is a high research-intensive industry: among the Italian capital dedicated biotech R&D firms, the incidence of biotech R&D investment on turnover is 25%, with peaks up to 40% for many of them.

Red biotech and GPET

- Also in Italy, Red biotech is the spearhead segment of the entire sector, with 261 companies actively developing innovative therapeutic and diagnostic products, 7.1 billion euro revenues, and 1.4 billion euro R&D investment.
- With reference to the project portfolio of 77 Italian capital companies, the Italian biotech therapeutic pipeline accounts, altogether, for 249 projects, 190 of which have already reached the preclinical (53%) or clinical (33%) phases.
- Although biotechnologies also apply to the identification and development of chemical synthesis active principles, more than 40% of the R&D projects relate to biopharmaceuticals, such as monoclonal antibodies, recombinant proteins, vaccines and Advanced Therapy Medicinal

Products (ATMPs). Most of these projects fall within therapeutic areas which apply to a number of unmet medical needs or are becoming increasingly relevant, due to the overall aging of the population.

- Rare Disease and Advanced Therapy Medicinal Products are among the areas of excellence of Italian research. Not by chance, the first Advanced Therapy treatment approved in the Western-world is an ATMP product based on stem cells, developed by an Italian biotech company.
- Somehow connected to human health biotechnology are also the emerging areas of GPET (Genomics, Proteomics and Enabling Technologies), with 65 companies which are mainly active in the field of *big data*, thus contributing to accelerating the transition to Personalized Medicine.

Green biotech, White biotech and the Bioeconomy

- With regard to Green biotechnology, a large majority of the 44 companies, which are active in this specific area, are micro dedicated biotech R&D firms (73%) engaged in a variety of projects aimed at exploiting the potential of agro-biotechnology, by improving the nutritional value of animal and plant productions, as well as the sustainability of the Italian food chain.
- Industrial biotechnology has to do with the use enzymes, originated by bacteria, fungi and algae, in a diversity of application areas, including the retrain of conventional industrial processes, the production of energy and bioproducts, environment bioremediation and the restoration of the artistic heritage. About half of the 119 firms active in the *White Biotech* segment, are dedicated biotech R&D firms exploiting biotechnologies for the conversion of natural renewable biomass into sustainable biochemicals and biofuels.
- Indeed, Italian Green Chemistry enjoys a true competitive edge, at a world level, in terms of technological leadership in the production processes of biolubricants, colours, solvents, detergents, pesticides, bioplastics, natural fibres and other materials with highly innovative features, which are already now a viable alternative to traditional petrochemical products.
- Bioeconomy, as a model for smart, sustainable and inclusive growth, based on the conversion of renewable natural resources into building blocks for materials, chemicals and energy, is an established reality in Italy too, which worths about 244 billion euro and provides work for more than 1.5 million people.



A high research-intensive industry

- In a direct comparison between the biotechnology and the manufacturing industries in Italy
 - the share of R&D employees is 5 times higher among biotech R&D firms, and 13 times higher among Italian capital dedicated biotech R&D firms;
 - the share of *intra-muros* R&D expenditure is 2.3 times higher among biotech R&D firms, and 14 times higher among Italian capital dedicated biotech R&D firms.
- The Italian biotech firms enjoy the highest levels of educational attainment, with 73% of graduate employees on total employees. Something to be reckoned with, in order to
 - avoid jeopardizing the massive training investment Italy supports through its University;
 - to offer our best talents adequate employment and professional growth opportunities;
 - to compete with the other EU member States in attracting skills and investments
 - to make of our Country a winning system in the arena of the most advanced knowledge-based economies.
- As such, the Italian biotech industry can truly play a key role in spreading innovation and in enhancing the competitiveness of the entire Italian industrial system.

2. The Italian biotech industry in figures

The key figures of the Italian biotech sector...



	Total firms	Dedicated biotech R&D firms...	... of which, Italian capital dedicated biotech R&D firms
Number of firms	489	256	240
Biotech turnover	9,440,916	3,836,558	838,867
Total R&D investment	1,855,187	419,748	194,592
Total biotech R&D investment	503,813	381,296	186,300
Biotech employees	9,229	4,054	2,921
Biotech R&D employees	3,670	2,517	1,699

Values in thousands of euros €/000

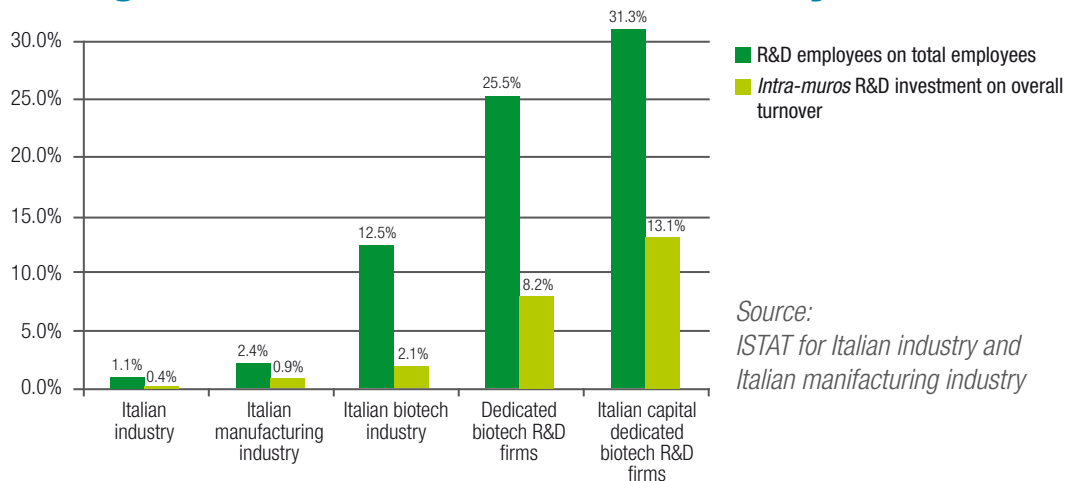
... mirror the dynamism of a steadily growing industry

- Almost 500 biotech companies were active in Italy at the end of 2015. Over half of these (256) are firms that devote more than 75% of their total R&D investment to research activities relating to biotechnologies and, as such, dedicated biotech R&D firms.
- Total biotech turnover exceeds 9.4 billion euro; total R&D investment* makes over 1,8 billion euro, while the number of biotech employees is above 9,200 units.
- Within the biotech activities of the Italian capital dedicated biotech R&D firms, the incidence of the R&D investment on turnover equals 25%** with peaks up to 40% for some of them.

* intra-muros plus extra-muros

**Total biotech R&D investment on biotech turnover

A high research-intensive industry



Source:
ISTAT for Italian industry and
Italian manufacturing industry

Also in Italy, biotechnology is a high research-intensive industry, compared to the whole industrial sector. In a direct comparison with the manufacturing industry,

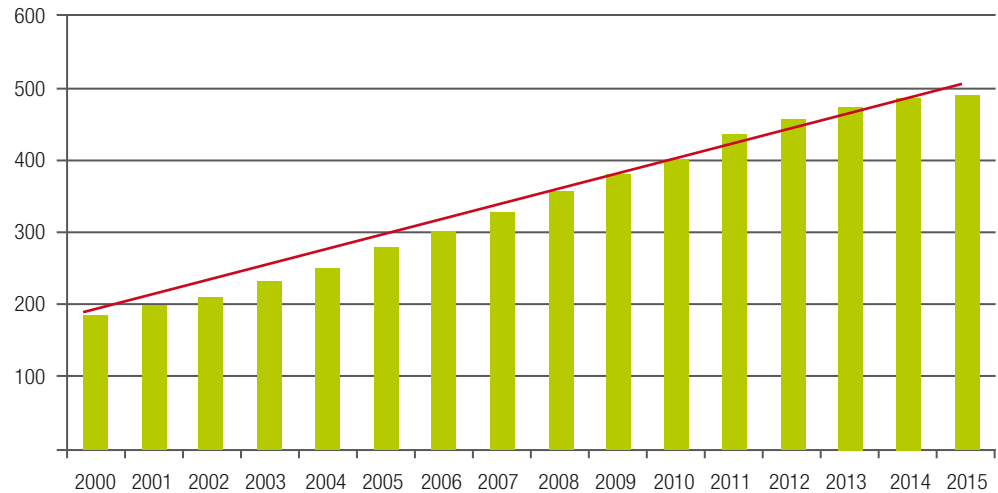
- the share of R&D employees is 5 times higher among biotech R&D firms, and 13 times higher among Italian capital dedicated biotech R&D firms;
- the share of *intra-muros* R&D expenditure on overall turnover*, is 2.3 times higher among biotech R&D firms, and 14 times higher among Italian capital dedicated biotech R&D firms.

*Overall turnover means the sum of total revenues of Italian biotech firms, including incomes originating from other business activities. In this sense, the Italian biotech industry overall turnover amounts to 72.2 billion euro.



The evolution of the biotech industry in Italy

Number of biotech firms in Italy

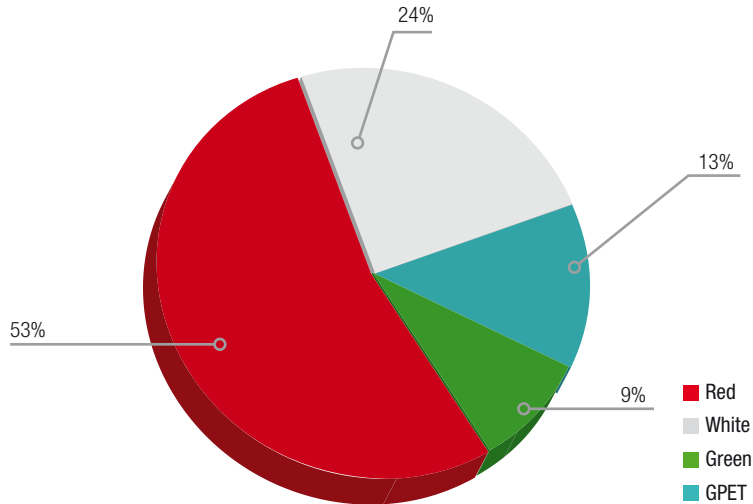


The Italian biotech industry has undergone through an extraordinary growth due to several factors, among them being the undisputed excellence of our academic and industrial research, and the ability of Italian companies to turn innovation into valuable products and technologies.

2. The Italian biotech industry in figures

Companies covering all fields of applications ...

Most of the Italian biotech firms are active in healthcare biotechnology (53%). Others are engaged in industrial biotechnology (24%), in GPET - Genomics, Proteomics and Enabling Technologies (13%) and in Green biotechnology, including agriculture and livestock (9%).



... in order to meet a number of key challenges

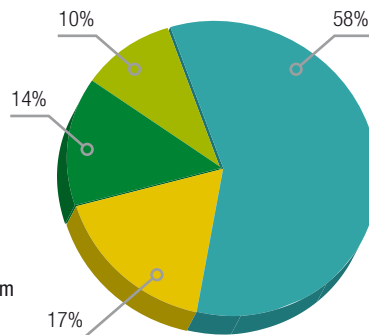
- Identifying and developing therapeutics, vaccines, cosmetics, drug discovery and drug delivery technologies, molecular diagnostic methods. More than half of Italian biotech companies (261) are active in the *Red biotech* field.
- Converting biomass into bio-based sustainable products and second-generation biofuels; improving the efficiency and environmental sustainability of conventional production processes; bioremediation, restoration and ... much more. Almost a quarter (119) of Italian biotech companies are active in the *White biotech* field.
- Analysing the structure and function of genes and proteins; developing bioinformatics technologies; production of biochips and biopharmaceuticals; accelerating the transition to Personalized Medicine. There are 65 companies in Italy, which are active in *GPET*, with a majority in the field of *big data*.
- Improving the nutritional value of animal and plant production; increasing agricultural productivity without extending cultivable land; reducing water consumption; preventing the attacks of pests and plant disease; protecting animal health care. There are 44 companies in Italy, which are active in the *Green biotech* field.

2. The Italian biotech industry in figures

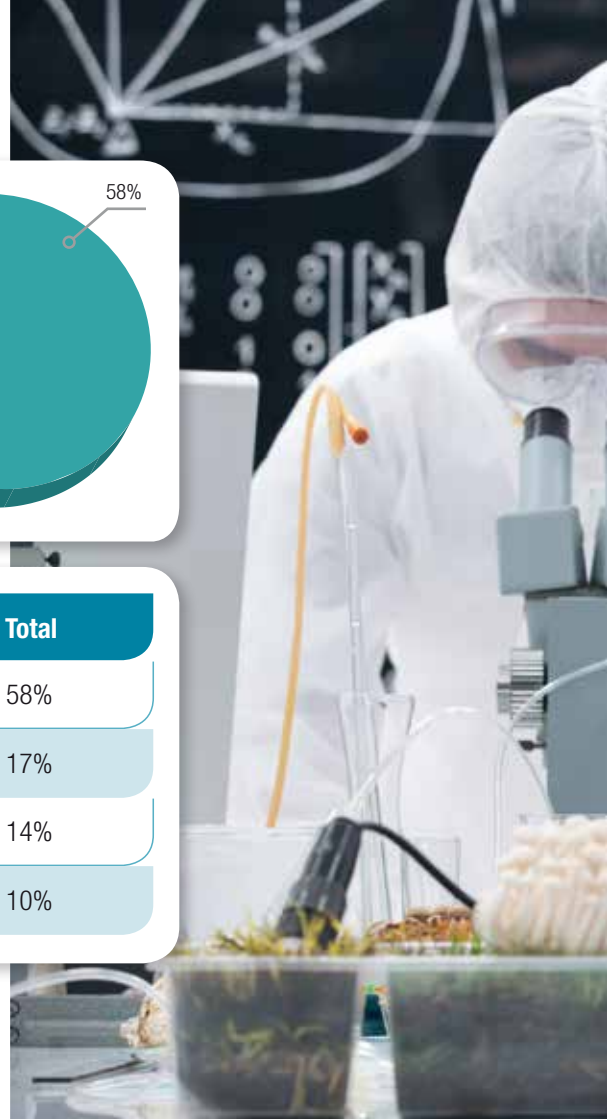
Biotech firms: analysis by size

- Almost 75% of Italian biotech companies are micro or small-sized organisations.
- This percentage is even higher for GPET companies.
- Almost 50% of micro-sized firms are academic spin offs.

Micro: < 10 employees
 Small: < 50 employees
 Medium: 50 - 250 employees
 Big: > 250 employees



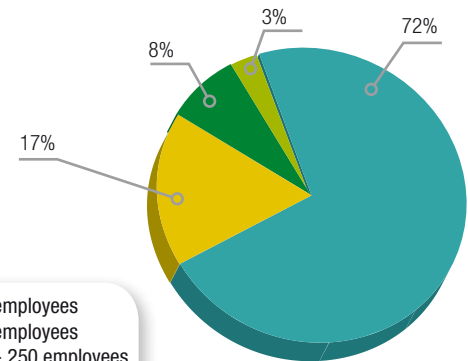
	Red	White	Green	GPET	Total
Micro	52%	64%	50%	82%	58%
Small	16%	18%	25%	11%	17%
Medium	18%	11%	16%	6%	14%
Big	15%	7%	9%	2%	10%



Dedicated biotech R&D firms: analysis by size

- Almost 90% of the dedicated biotech R&D firms are micro or small-sized organisations, with the only exception of those which are active in the Red biotech segment, where 17% of dedicated biotech R&D firms are medium or big-sized organizations.
- More than 50% of micro-sized firms are spin offs.

■ Micro
■ Small
■ Medium
■ Big

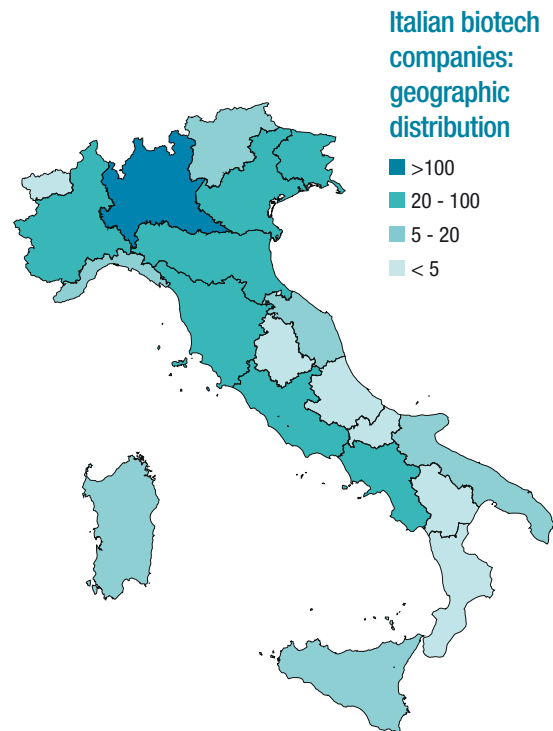


Micro: < 10 employees
 Small: < 50 employees
 Medium: 50 - 250 employees
 Big: > 250 employees

	Red	White	Green	GPET	Total
Micro	66%	76%	73%	86%	72%
Small	18%	17%	27%	9%	17%
Medium	12%	5%	0%	5%	8%
Big	5%	2%	0%	0%	3%

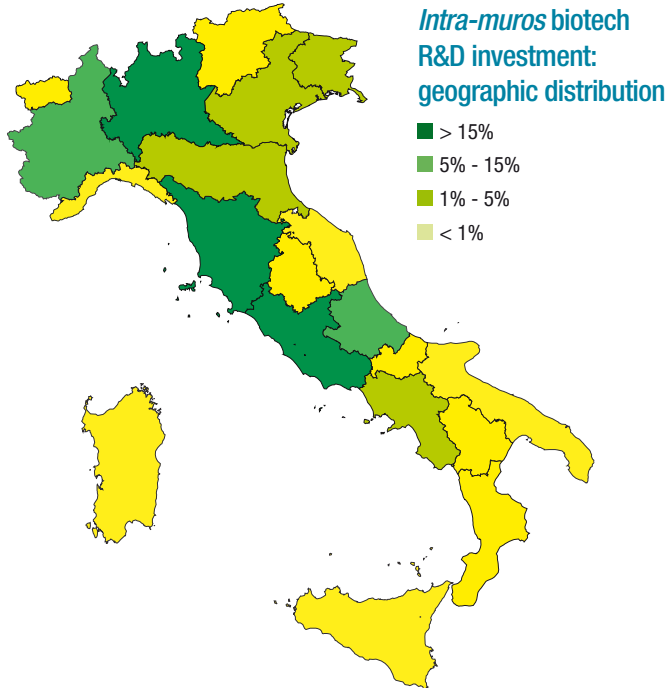
Analysis by geographic distribution

Italian Region	Firms		Contribution to <i>intra-muros</i> biotech R&D investment	Contribution to biotech turnover
	Number	%		
Lombardy	141	28.83%	29.43%	51.11%
Piedmont	57	11.66%	6.61%	3.25%
Latium	45	9.20%	18.48%	25.96%
Emilia - Romagna	44	9.00%	2.90%	1.92%
Tuscany	39	7.98%	23.31%	12.16%
Veneto	38	7.77%	1.97%	1.89%
Friuli - Venezia Giulia	25	5.11%	4.22%	0.18%
Campania	23	4.70%	2.34%	0.48%
Sicily	13	2.66%	0.38%	0.08%
Sardinia	13	2.66%	0.55%	0.03%
Trentino - Alto Adige	12	2.45%	0.54%	1.33%
Apulia	11	2.25%	0.36%	0.00%
Marche	10	2.04%	0.70%	0.90%
Liguria	5	1.02%	8.10%	0.03%
Other Italian Regions	10	2.67%	1.97%	0.68%
Total	489	100.00%	100.00%	100.00%

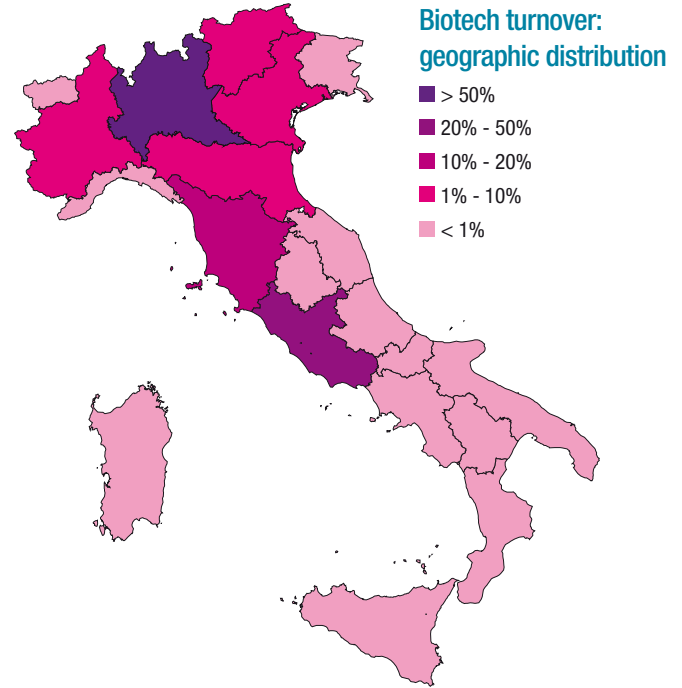


Operational headquarters: geographic distribution

2. The Italian biotech industry in figures



- Lombardy is the first Region in Italy by number of companies, R&D investments and biotech sales, followed by: Piedmont and Latium for number of companies; Tuscany and Latium for *intra-muros* R&D investment; Latium and Tuscany for biotech sales.



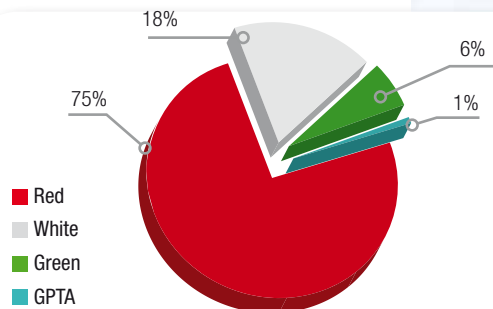
- Considering the average biotech revenues per company, Latium ranks first, Lombardy second and Tuscany third. It is interesting to note that the fourth and fifth position are those of two emerging Regions: Basilicata and Trentino Alto Adige.

2. The Italian biotech industry in figures

Biotech turnover: analysis by application field

- Considering the total number of firms, those active in the Red biotech field generate more than 75% of total turnover.

Total companies: breakdown of turnover by field of application



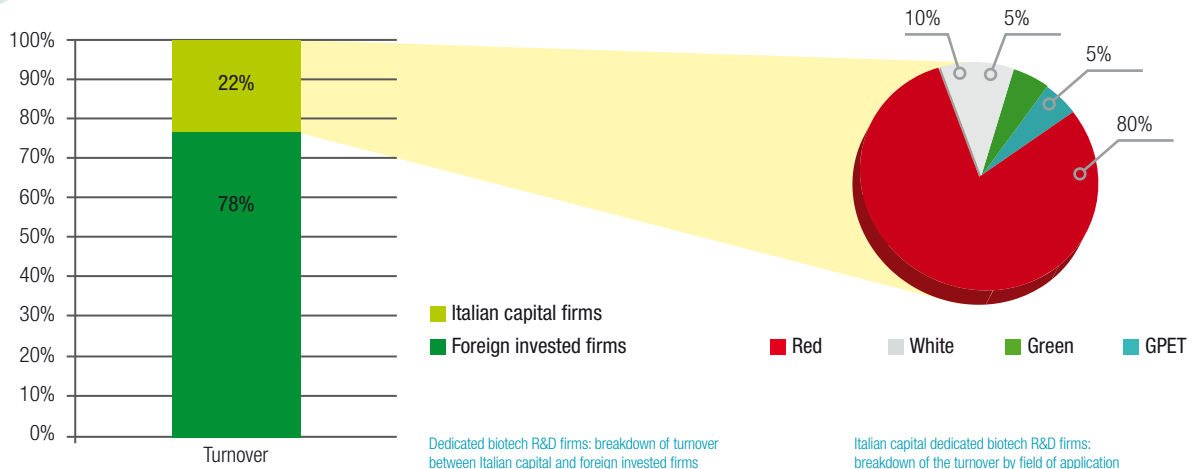
- The evolution of the turnover at three and five years, shows significant increases in almost all fields of application, thus confirming the contribution to the Italian biotech industry development of the many new products and technologies that are reaching the market, as well as the anti-cyclical nature of this business.

Biotech turnover: forecast by field of application
*A representative sample of firms

	Forecast 2017*	Forecast 2019*
Red	12.9%	18.8%
White	17.1%	15.3%
Green	17.0%	21.6%
GPET	-0.2%	0.3%
Total	12.8%	18.1%

Biotech turnover: Italian capital and foreign invested firms

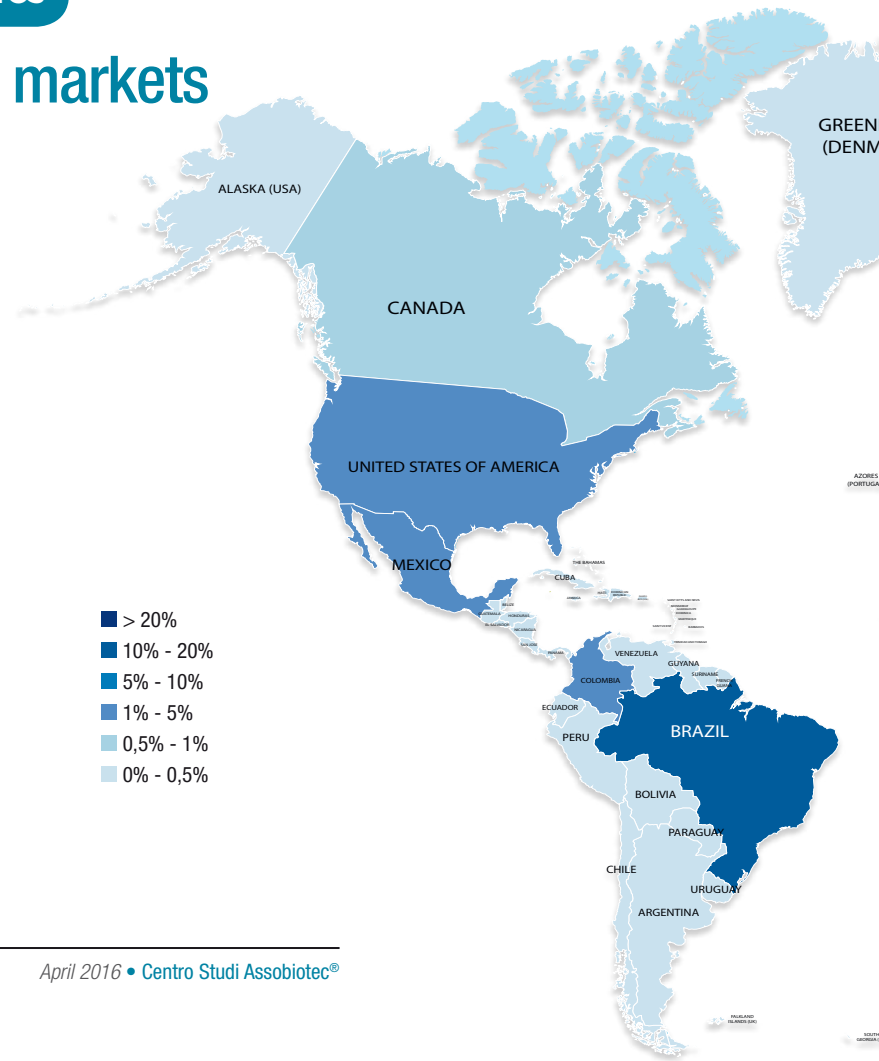
- The Italian biotech industry turnover amounts to 9.4 billion euro, 3.8 billion of which originate from dedicated biotech R&D firms. Although accounting for 14% of total companies, foreign invested firms contribute to 78% of total sales.
- Among the Italian capital companies, 80% of turnover originates from those which are active in the Red biotech field.



2. The Italian biotech industry in figures

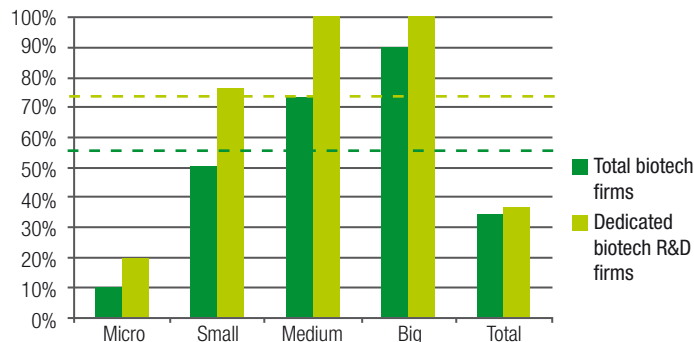
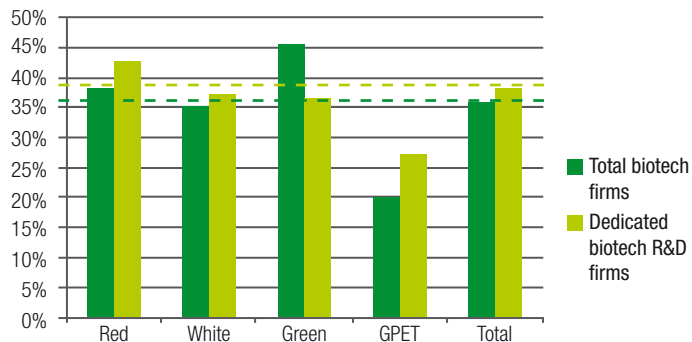
Exports and major foreign markets

- Based on ISTAT foreign trade data, we were able to trace 175 exporting companies (36% of total biotech firms in Italy); in 2014, their overall exports amounted to 12.6 billion euro.
- Exports of biotech products, in the strict sense, totalled 691 million euro, almost half of which (52%) originate from dedicated biotech R&D firms.



Source: elaboration on ISTAT data, 2014

Exports analysis by field of application, dimension and company type



	Red	White	Green	GPET	Total
Total biotech firms	38%	35%	45%	20%	36%
Dedicated biotech R&D firms	43%	37%	36%	27%	38%

	Micro	Small	Medium	Big	Total
Total biotech firms	12%	51%	74%	92%	36%
Dedicated biotech R&D firms	20%	77%	100%	100%	38%

Source: elaboration on ISTAT data

- Red and Green biotech are the two sectors originating the greater exports in the entire Italian biotech industry.
- The share of exporting firms increases with the company size, and is far below the average in micro-sized organisations.
- The portion of dedicated biotech R&D firms with export activities is greater in all fields of application – with the only exception of the Green biotech field – and it doesn't directly relate to the size of the organization.
- All of the medium and big-sized dedicated biotech R&D firms are exporting companies; with specific reference to those which are active in the Green area, almost all of the small-sized organisations are exporting companies too.

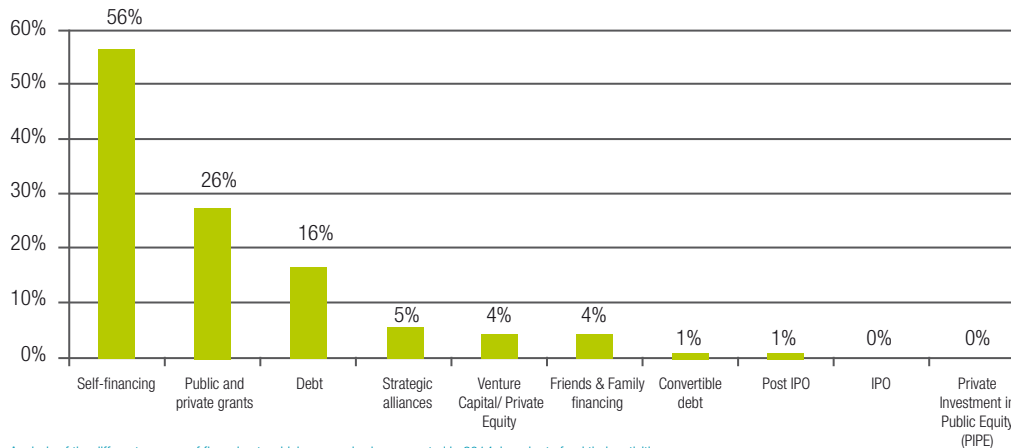
Net income

- Almost 63% of Italian biotech companies recorded a profit in 2014. The said percentage is intrinsically limited by the net financial results of the dedicated biotech R&D firms, most of which are micro or small-sized organisations that do not have any product on the market yet.

Size class of turnover	Total firms	Profitable firms	Profitable firms vs. Total firms
0-19	101	25	24.75%
20-49	33	19	57.58%
50-99	30	21	70.00%
100-199	25	20	80.00%
200-499	47	30	63.83%
500-999	32	24	75.00%
1000-1999	26	21	80.77%
2,000-3,999	24	19	79.17%
4,000-4,999	11	5	45.45%
5,000-9,999	21	15	71.43%
10,000-19,999	21	13	61.90%
20,000-49,999	25	21	84.00%
50,000-199,999	37	31	83.78%
≥ 200,000	37	32	86.49%
Total	470	296	62.98%

Values in thousands of euros €/000

Financing sources by kind

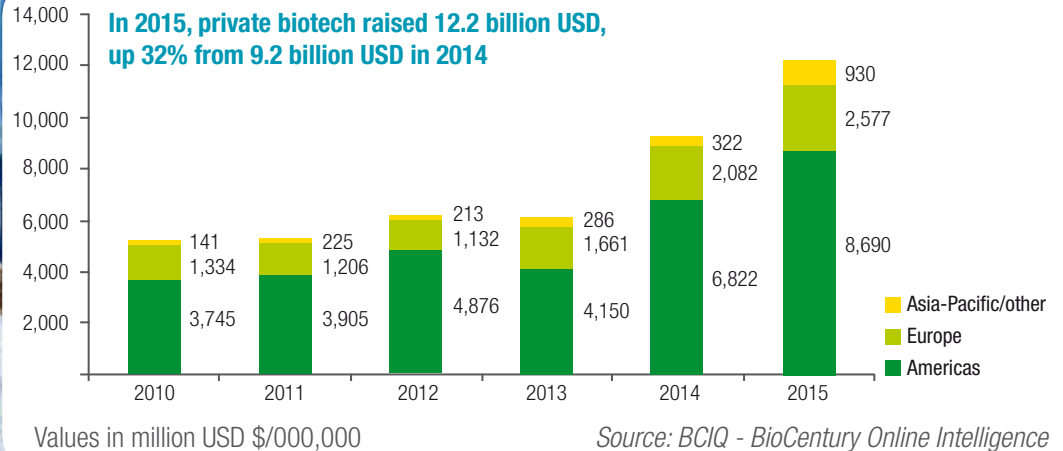


Analysis of the different sources of financing to which companies have resorted in 2014, in order to fund their activities
*A representative sample of firms

- With reference to 2014, the majority (56%) of Italian biotech companies has been self-financing its activities, more than a quarter (26%) had access to private or public grants, almost 16% has resorted to debt capital, while only 4% could access risk capital.
- Besides proving the weakness of the Italian equity market, the above data highlight the key role which government funding plays in supporting new research intensive entrepreneurial initiatives, particularly in their early stages of development.



Global biotech Venture Capital investment



- The entire venture capital market remains underdeveloped in Italy. Indeed, total capital invested in 2015, with reference to the 11 transactions regarding the biotech sector, amounts 7.3 million euro*.
- However, in recent years, several Italian biotech firms generated agreements for a total value exceeding five billion euro, compared to an initial investment of a few hundred million.

*Source: AIFI, 2015

Business strategy

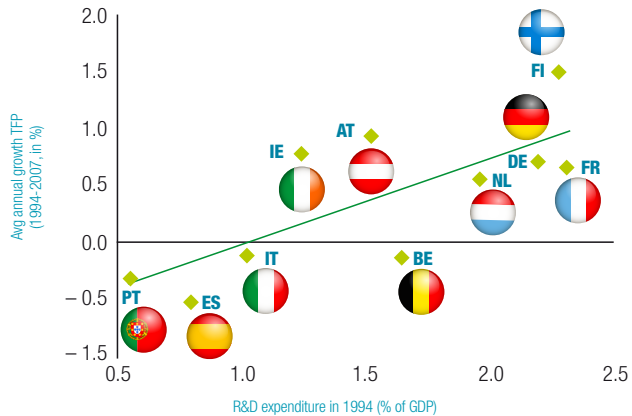
- The large majority (63%) of Italian capital dedicated biotech R&D firms attributes a high strategic value to the possibility of reaching a partnership or a co-development agreement with third party companies.
- Similarly, about half of them considers as relevant, or as extremely relevant, the possibility to integrate their project portfolio through in-licensing agreements (41%), or to generate profits through out-licensing deals (43%).
- On the contrary, only a minority of the same firms would be open both to conferring their assets in a possible joint venture (33%) with a third party company (16%), or to seeking for an M&A transaction (5%).
- There seems to be tendency to maintain within the original organization the control and the exploiting of the available know-how and expertise, that is typical of small-sized firms or of those entrepreneurial initiatives originating from academic spin offs, at least in their initial phases.

Strategic options	Share of firms, which considers as relevant or as extremely relevant the given strategic options
Partnership or co-development	63%
Out-licensing	43%
In-licensing	41%
Joint venture	33%
Acquisition of new technologies and products	29%
M&A	5%

Italian capital dedicated biotech R&D firms: *different potential strategic options in terms of relevance
*A representative sample of firms

3. R&D activities

TFP* Growth and R&D Spending




- Research is the growth engine of any economic system.
- According to a recent report from the European Commission*
 - those EU Countries that have invested in innovation, knowledge and growth of business skills, could better overcome the crisis;
 - adequate investments in research and technological innovation are behind the higher levels of productivity of the leading European economies.
- This is why Italy too needs to support research, and biotechnology research in particular.
- Not by chance, the European Union has included biotechnologies among the Key Enabling Technologies, based on their potential impact and retrain on a broad number of industrial sectors.
- With specific reference to the SME instrument in Horizon 2020, Italy ranks first in terms of number of proposals submitted, and among the top three EU Countries, along with Spain and the United Kingdom, in terms of number of funded proposals.

*Total Factor Productivity

Source: *The drivers of Total Factor Productivity in catching-up economies* – DG ECFIN 2014



R&D investment



	Total firms	Dedicated biotech R&D firms	... of which, Italian capital dedicated biotech R&D firms
Total <i>intra-muros</i> R&D investment	1,498,423	374,354	184,402
<i>Intra-muros</i> biotech R&D investment	452,216	365,689	178,193
Total <i>extra-muros</i> R&D investment	356,764	45,394	10,190
<i>Extra-muros</i> biotech R&D investment	51,597	15,607	8,107
Total R&D investment	1,855,187	419,748	194,592
Total biotech R&D investment	503,813	381,296	186,300

Values in thousands of euros €/000 - Investments 2014

- Considering total companies, the share of biotech R&D investment amount to 27% of total R&D investments.
- The said share increases to 91% when only considering the dedicated biotech R&D firms, and reaches 96% with regards to the Italian capital dedicated biotech R&D firms.
- Based on the estimates provided by the companies themselves, the *intra-muros* biotech investment will grow on average by 2.7% per year, with peaks of up to 5.3% for those firms which are active in the Green biotech segment.

* A representative number of firms

R&D investment by field of application

	Red		White		Green		GPET	
	Total firms	Dedicated biotech R&D firms	Total firms	Dedicated biotech R&D firms	Total firms	Dedicated biotech R&D firms	Total firms	Dedicated biotech R&D firms
Total <i>intra-muros</i> R&D investment	1,153,914	351,041	305,718	14,521	25,395	4,344	13,396	4,448
<i>Intra-muros</i> biotech R&D investment	405,013	343,892	33,007	13,351	8,121	4,341	6,075	4,105
Total <i>extra-muros</i> R&D investment	281,792	44,445	62,178	670	10,987	95	1,806	185
<i>Extra-muros</i> biotech R&D investment	50,889	15,075	538	396	140	95	52	42
Total R&D investment	1,435,706	395,486	367,896	15,190	36,383	4,438	15,202	4,633
Total biotech R&D investment	455,902	358,966	33,523	13,748	8,261	4,435	6,127	4,147

Values in thousands of euros €/000 - R&D investment in 2014

Public policy measures to support R&D

- In 2014, more than 50% of companies could benefit from at least one form of public policy support for their R&D activities.

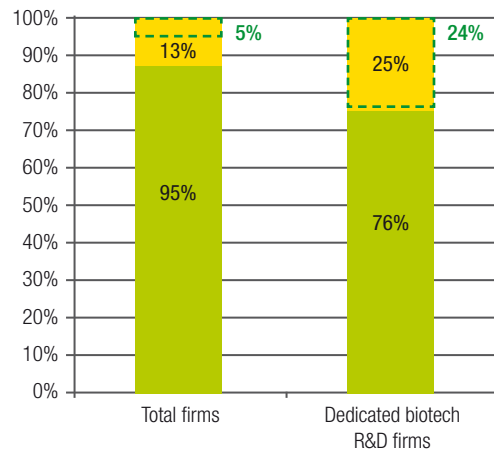
	Capital account and interest account grants	Operating grants, tax credits and tax bonuses
Regional and local government administration	22%	11%
Central government administration	17%	11%
European Union and other supranational administrations	15%	7%

- Considering the tax credit mechanism on R&D costs enacted by the Italian Government, despite having only had feedback from a limited number of companies, we can reasonably state that in 2014 the Italian biotech firms were granted a deduction of at least 16 million euro on their taxable incomes.
- About one third of these companies intend to make use of the aforesaid tax credit also in 2015.

A representative sample of firms

R&D employees on total employees

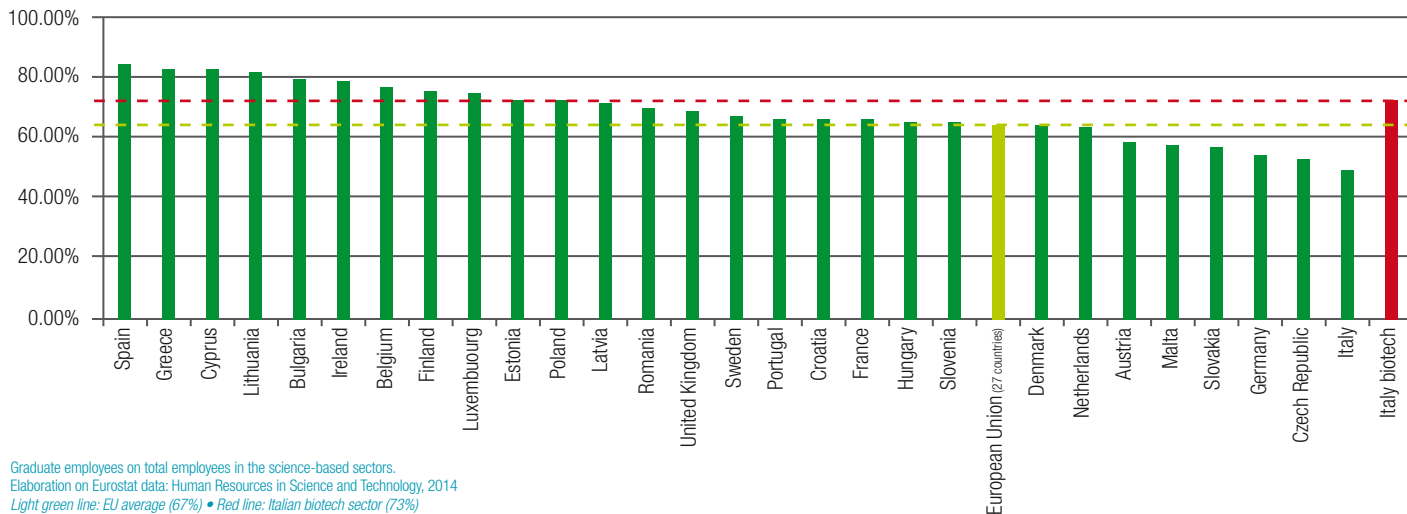
In line with what has been observed for the incidence of R&D investments on turnover, also the share of biotech R&D employees on total employees is significantly higher in the case of dedicated biotech R&D firms, out of total firms.



	Total firms	Dedicated biotech R&D firms
Total employees	76,955	10,523
R&D employees	9,623	2,678

- R&D employees...
- ... of which, Biotech R&D employees
- Other employees

Highly qualified job opportunities



Graduate employees on total employees in the science-based sectors.
 Elaboration on Eurostat data: Human Resources in Science and Technology, 2014
 Light green line: EU average (67%) • Red line: Italian biotech sector (73%)

- With only 49% of graduate employees on total employees, Italy is lagging behind in Europe in terms of educational attainment in the science-based industry.
- With 73% of graduate employees, on total employees*, the Italian biotech industry ranks well above the European average (67%).
- The Italian biotech industry enjoys the highest levels of educational attainment. Something to be reckoned with, in order to avoid jeopardizing the massive training investment Italy supports through its University, to offer our best talents adequate opportunities in terms of professional growth, to compete with the other EU member States in attracting skills and investments, to make of our Country a winning system in the arena of the most advanced knowledge-based economies.

*A representative sample of firms

4. Red biotech

Red biotech



	Total firms	Dedicated biotech R&D firms...	... of which, Italian capital dedicated biotech R&D firms
Number of firms	261	131	117
Biotech turnover	7,131,284	3,663,551	667,880
Total biotech R&D investment	455,902	358,966	164,219
Total employees	49,995	8,968	4,264
Biotech employees	6,566	3,221	2,107
R&D employees	7,524	2,211	1,347
Biotech R&D employees	2,911	2,073	1,261

Values in thousands of euros €/000

In the case of the Italian capital dedicated biotech R&D firms, the incidence of research investment on their revenues or operating costs reaches on average 25%

Answering to the growing healthcare demand of an ageing population

- Also in Italy, human health biotechnology is the spearhead segment of the entire biotech sector.
- Indeed, the majority (53%) of biotech companies are Red biotech firms that represent a major share of total biotech turnover (75%), as well as of total biotech R&D investment (90%) and biotech R&D employees (79%).
- Based on our analysis, we identified 261 biotech firms engaged in the research and development of new therapeutic and diagnostic tools, at the end of 2015.
- Of these, 131 companies are dedicated biotech R&D firms that devote 75% or more of their total R&D costs to biotech activities.

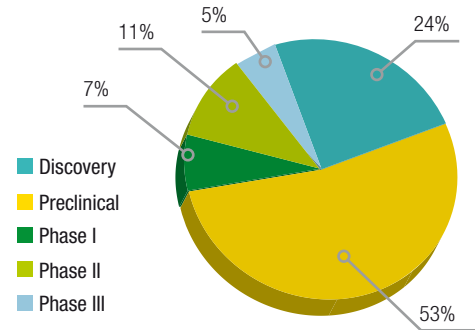


Therapeutics: focus on the Italian pipeline

- By tracing the project portfolio of 77 Italian capital companies* it emerges that the Italian biotech therapeutic pipeline accounts, altogether, 249 projects, 190 of which have already reached the preclinical (53%) or clinical (33%) development phases.
- We also identified five (5) additional Phase I and II clinical projects, which will be directly developed by the big pharma companies to whom they were sold, together with other 20 projects which originate from the Italian capital pharmaceutical companies biotech R&D activities.

	Number of projects
Discovery	59
Preclinical	133
Phase I	17
Phase II	28
Phase III	12
Total	249

Project analysis by R&D phase

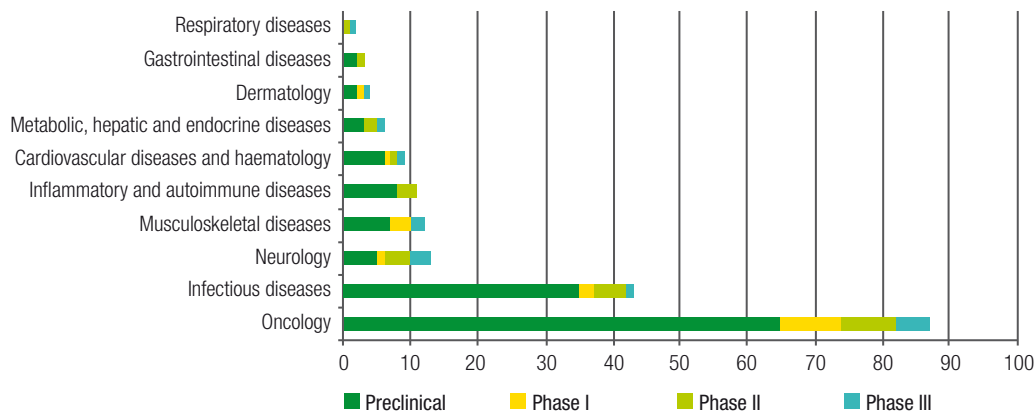


*We only counted the Italian capital companies, net of pharmaceutical companies. As such, the number of the above projects is only partial, compared to the number of biotech products developed entirely in Italy.

Strategic therapeutic areas

- Italian companies' investments are mainly focused on those therapeutic areas that are still associated to a number of unmet medical needs (i.e.: oncology and immunology), or are becoming increasingly relevant, both from an epidemiological and clinical point of view, due to the overall aging of the population (i.e.: neurology).
- The emergence of infectious disease, such as HIV/AIDS and tuberculosis, or the resurgence of epidemics such as that associated with the Ebola virus, also directs investments towards the development of vaccines for the prophylaxis and prevention of possible pandemics.

Project analysis by therapeutic area and phase of development



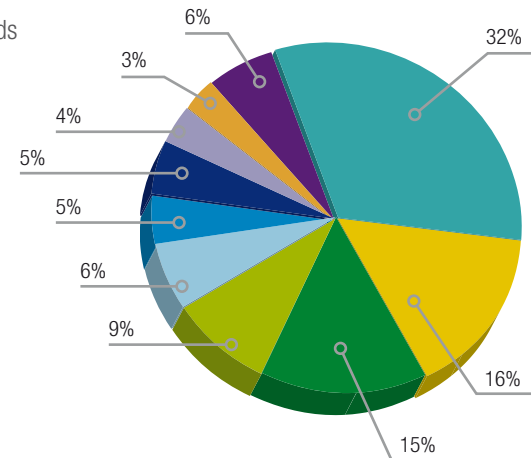
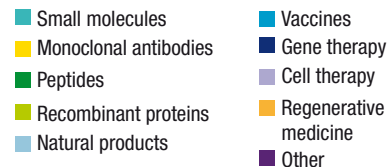
The WHO has selected an Italian vaccine to tackle the epidemic of Ebola



The growing share of biopharmaceuticals

- More than 40% of the R&D projects relates to biopharmaceuticals: monoclonal antibodies, recombinant proteins, vaccines and Advanced Therapy products – half of which are still in preclinical phase – that open a radically new perspective for the treatment of a number unmet medical needs and Rare Disease.
- Biotechnological methods are also applied for the identification and development of new active principles of chemical synthesis, such as small molecules and peptides.
- Most of the ongoing trials (44%) relates to the development of monoclonal antibodies for the treatment of cancer, whilst 24% of the studies regards the development of recombinant proteins for curing oncological, infectious and metabolic diseases.

Project analysis by type



Biotech drugs allow radically new treatment perspectives for a number of unmet medical needs

Orphan Drugs and Advanced Therapies

Rare Disease and Advanced Therapy Medicinal Products (ATMPs) are among the areas of excellence of Italian research. On the one hand, our academic scientists enjoy the largest number of scientific publications in the field of Rare Disease; on the other, the first ATMP product approved in the Western world is a product based on stem cells, developed by an Italian biotech company.

- Seven (7) are the Italian biotech companies that have obtained at least one Orphan Drug Designation (ODD); five (5) of these therapies are already in Phase III clinical development.
- Two (2) are the theranostic products, for the diagnosis and treatment of medium intestine neuroendocrine tumours; the relevant applications for Marketing Authorization have already been applied both to the FDA and the EMA.
- Of the 29 Advanced Therapy projects, eight (8) are already in clinical development phase.
- One (1) additional ATMP product, developed by Telethon and acquired by GSK, for the treatment of ADA-SCID, a severe form of immunodeficiency disease, has completed clinical development and is now expected to be registered by the EMA.

Orphan Drug Designation	Number of projects
EMA	6
EMA + FDA	9
Total	15

	Cell therapy	Gene therapy	Regenerative medicine	Total
Discovery	2	3	0	5
Preclinical	3	7	6	16
Phase I	0	2	1	3
Phase II	4	0	0	4
Phase III	1	0	0	1
Total	10	12	7	29

Improved diagnostics for better treatments

- The innovation drive of biotechnologies has been also exploited in diagnostics, leading to the development of new detective, quantitative and predictive methods, that by accurately and promptly identifying the causes of disease, allow both the correlation between diagnosis and therapeutic schemes specifically customized on patient's characteristics, and the steady monitoring of therapy in terms of effectiveness.
- This specifically applies to the so-called *omics* technologies, which have made a dramatic contribution to the identification of biomarkers that can be used to establish a patient population eligible for a specific treatment, or to forecast the adverse effects on another, or like litmus paper for therapy monitoring.
- In this perspective also falls the growing interest in theranostics, one of the most advanced border of oncological research, based on the use of magnetic nanoparticles coated with a polymer and bonded to antibodies that can be used both for the early detection of cancer cells and for their destruction.
- Among the projects developed by the 60 diagnostic firms we could identify in the course of our analysis, we counted as many as six (6) theranostic peptides and one (1) monoclonal antibody for oncological indications.



Paving the way to Personalized Medicine

- The sequencing of the human genome, the understanding of the genetic and molecular bases of the disease, and the countless tools provided by biotechnologies allow the industry to develop innovative therapeutic approaches, selectively aimed at specific pharmacological targets, as well as to anticipate their effects on a particular patient population and to optimize the entire pathway of cure.
- Having consolidated a number of therapeutic approaches aimed at large populations of patients, modern medicine is now moving towards the establishment of a new paradigm of Personalized Medicine, based on a variety of patient-specific models, or directed at specific subsets of patients' populations.
- We are therefore facing a radical change of perspective, the development of which relies on the fundamental progresses in the field of Advanced Therapy and Regenerative Medicine, as well as on a number of diagnostic achievements with an incredible predictive and prognostic value.
- With regard to Regenerative Medicine, we could also count an increasing number of products that, from a regulatory point of view, would not properly fall under the definition of Advanced Therapy Medicinal Products, but rather under that of Medical Devices. Among these, it is worth mentioning 15 products, based on the use of specific human, animal or biosynthetic scaffolds, enriched with growth factors and patient stem cells, to be applied for tissue regeneration.



5. Green biotech

Green biotech



	Total firms	Dedicated biotech R&D firms of which, Italian capital dedicated biotech R&D firms
Number of firms	44	22	22
Biotech turnover	592,906	40,270	40,270
Total biotech R&D investment	8,261	4,435	4,435
Total employees	3,288	196	196
Biotech employees	897	162	162
R&D employees	223	74	74
Biotech R&D employees	144	74	74

Values in thousands of euros €/000

In the case of Italian capital dedicated biotech R&D firms, the incidence of research investment on biotech revenues equals 11%

Innovating in the agrifood chain

- Continuous growth in food demand at a worldwide level, limited availability of water and cultivable land, protection of the ecosystem and its biodiversity, sustainability of the agricultural productions, food safety: these are just a few of the main issues of global agriculture we currently need to address.
- Through biotechnology we can sequence the genome of the different plant varieties, protect crops from pests or increase their adaptability to the environment, reduce chemical and energy inputs, improve the nutritional profile of food and agricultural products.
- Italian green biotech companies are actively engaged in increasing the nutritional value of animal and plant productions and in developing new diagnostic tools to ensure safety and wholesomeness of our products.
- Since ancient times, the growth of agricultural productivity has been driven by innovation in agronomic sciences and genetic improvement, and it shall continue to be so, also thanks to the new breeding techniques made available by biotechnology.



White biotech

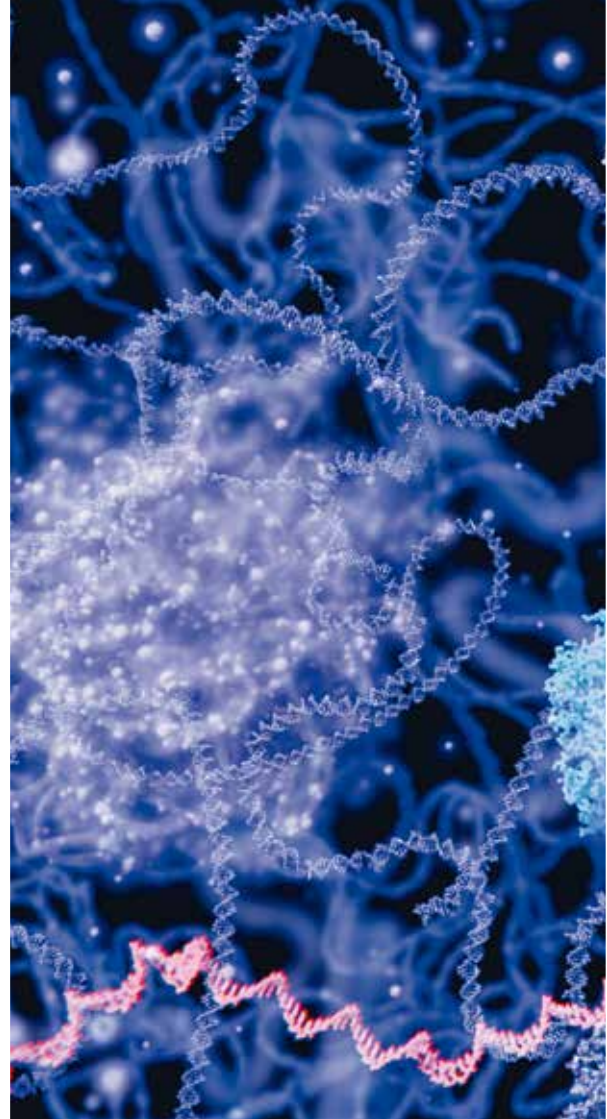
	Total companies	Dedicated biotech R&D companies
Number of companies	119	59
Biotech turnover	1,642,815	85,576
Total biotech R&D investment	33,523	13,748
Total employees	22,188	975
Biotech employees	1,352	326
R&D employees	1,633	251
Biotech R&D employees	436	229

Values in thousands of euros €/000

In the case of Italian capital dedicated biotech R&D firms, the incidence of research investment on biotech revenues equals 16%

The key role of microorganisms and enzymes

- Industrial biotechnology has to do with the use of natural or engineered enzymes, originated by bacteria, fungi and algae, in a diversity of application areas ranging from the improvement of many industrial processes and the production of energy and bioproducts, up to environment bioremediation, and the restoration and conservation of the artistic heritage.
- Indeed, a number of white biotech methods allow an increased performance of traditional industrial processes, with considerable advantages in terms of high added-value productions and economic and environmental sustainability.
- Europe produces over 60% of the enzymes used in the food, pharmaceutical, nutraceutical, cosmeceutical, animal feed, paper, textile, chemical, wood processing and energy industries.
- Not surprisingly, the OECD estimates that currently more than 35% of products for daily use originate from biotechnologies.



From the conversion of renewable biomass ...

- The use of molecular biology techniques is more and more entering into the common practice for the selection of enzymes that can convert organic biomass into building blocks of biological origin and energy, as well as to retrain several traditional production processes in terms of greater efficiency and environmental sustainability.
- Italian Green Chemistry, with its modern bio-refineries, looks at biotechnologies as an innovative and competitive way to produce biochemicals such as biolubricants, colours, solvents, detergents, pesticides, bioplastics, natural fibres and other materials with highly innovative features, which are already now a viable alternative to traditional petrochemical products.
- Facilities such the advanced biorefineries of BioChemtex in Crescentino, of Matrica in Porto Torres, of GFBiochemicals in Caserta, of Mater Biotech in Adria represent, by far, the new paradigm for the growth of Green Chemistry at a worldwide level.

... to a new economic model of sustainable growth

- In the European vision, the conversion of renewable natural resources into building blocks for materials, chemicals and energy, combines with a model of smart, sustainable and inclusive growth, to support economic recovery and generate new and qualified job opportunities.
- The Bioeconomy is an established reality in Italy, which allowed the conversion of dismissed industrial plants into advanced biorefineries, whose strong integration with the agricultural districts from which the biomass comes, is the basic prerequisite to optimize the quality of the productions and to maximize the economic and environmental benefits for those territories.
- Measuring the value of the Bioeconomy in Italy, as well as its development prospects, is the focus of the *Second Report on the Bioeconomy in Europe*, issued by the Studies and Research Department of IntesaSanpaolo, in collaboration with Assobiotech .

The Bioeconomy: value of production in 2013

	Italy	Germany	France	UK	Spain	EUS
Agriculture, forestry fishery of which:	59,646	53,463	85,854	33,197	49,710	281,870
<i>Agriculture</i>	56,363	48,187	78,573	29,837	N.D.	N.D.
<i>Forestry</i>	1,566	4,903	5,006	1,392	N.D.	N.D.
<i>Fishery</i>	1,717	373	2,275	1,969	N.D.	N.D.
Food	128,502	182,004	156,692	102,879	132,666	702,743
Wood	14,324	23,704	10,277	7,928	6,387	62,620
Paper and pulp	21,097	37,726	16,251	13,997	12,217	101,288
Biochemicals	20,456	46,613	26,745	12,971	18,344	125,129
Total bioeconomy	244,024	343,510	295,819	170,973	219,324	1,273,650
Total economy	3,085,769	5,206,683	3,768,136	3,618,844	1,946,070	17,625,501
Bioeconomy of total	7.9 %	6.6 %	7.9 %	4.7 %	11.3 %	7.2 %

Values in millions of euros €/000.000

Source: Intesa Sanpaolo estimates, based on Eurostat data

In terms of production, Bioeconomy in Italy worths about 244 billion euro, equal to 7.9% of the total value of national production

The Bioeconomy: employment opportunities in 2013

	Italy	Germany	France	UK	Spain	EUS
Agriculture, forestry fishery of which:	892	641	757	356	736	3,382
<i>Agriculture</i>	827	597	709	325	N.D.	N.D.
<i>Forestry</i>	38	39	30	19	N.D.	N.D.
<i>Fishery</i>	27	5	18	12	N.D.	N.D.
Food	449	922	625	401	407	2,804
Wood	129	137	66	78	59	469
Paper and pulp	73	147	62	53	42	377
Biochemicals	29	50	25	16	31	151
Total bioeconomy	1,544	1,847	1,510	888	1,244	7,033
Total economy	24,323	42,328	27,197	30,044	17,948	141,840

Values in thousands of units

Source: Intesa Sanpaolo estimates, based on Eurostat data

In terms of employment, Bioeconomy in Italy provides work for more than 1.5 million people

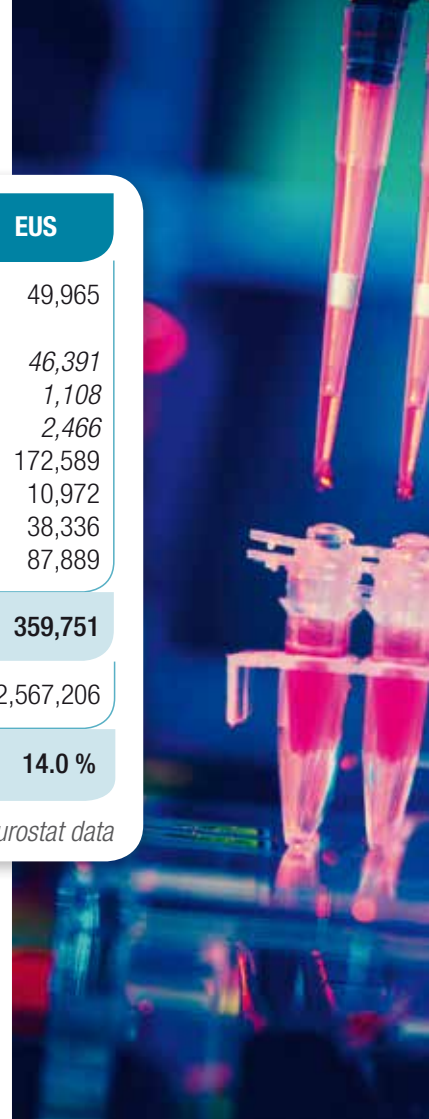
The Bioeconomy: exports in 2013

	Italy	Germany	France	UK	Spain	EUS
Agriculture, forestry fishery of which:	5,985	10,548	16,385	3,102	13,945	49,965
<i>Agriculture</i>	5,669	9,947	15,487	2,092	13,195	46,391
<i>Forestry</i>	105	334	381	79	210	1,108
<i>Fishery</i>	211	267	517	930	540	2,466
Food	27,423	57,046	43,307	20,769	24,043	172,589
Wood	1,513	6,039	1,860	380	1,180	10,972
Paper and pulp	6,234	18,723	6,181	2,904	4,294	38,336
Biochemicals	9,616	37,980	20,088	11,885	8,319	87,889
Total bioeconomy	50,772	130,336	87,821	39,040	51,782	359,751
Total economy	390,233	1,093,160	437,439	407,060	239,314	2,567,206
Bioeconomy of total	13.0 %	6.6 %	20.1 %	9.6 %	21.6 %	14.0 %

Values in thousands of units

Source: Intesa Sanpaolo estimates, based Eurostat data

The value of Italian exports generated by the sectors belonging to Bioeconomy amounts to about 51 billion euro, representing almost 13% of total exports





8. Supporting innovation

- The national scenario is rapidly evolving, with a number of promising facts and initiatives for the development of the Italian biotech industry too. Among others, it is worth quoting the following ones:
 - the recognition of the status of innovative start-up and innovative SME;
 - the introducing of a stable tax credit mechanism on R&D costs and investments;
 - the adoption of a system of preferential taxation on intellectual property incomes (Patent Box);
 - the implementing of several activities in order to support new entrepreneurial projects in the Life Sciences area: the *Panakès* VC fund and other seeding initiatives such as *Italian Angels for Biotech* and *Italian Angels for Growth*, together with specific accelerating programmes such as *BiovelocITA*, *Open Accelerator* and the *Bioupper* platform, just to quote a few;
 - the allocation of dedicated resources to finance a three-year plan, to boost genetic improvement in agriculture;
 - the increasing awareness of the importance of actively promoting the Italian innovation system also in the field of Life Sciences (*Invest in Italy Global Roadshow*).

Not forgetting the unique opportunity the Human Technopole project offers Italian research.

9. Methodology

- The BiolIntaly 2016 survey originates from the collaboration between *Centro Studi Assobiotech* and the Industry and Business Associations Unit - Contracts and Partnerships Management Directorate of ENEA.
- All data and information were collected through a questionnaire sent to the companies active in the sector (response rate 41%), and by analysing the available balance sheets and corporate websites.

Companies have been classified according to the OECD (Organisation for Economic Co-operation and Development) methodology * based on the following definitions:

- **Biotechnology:** the application of science and technology to living organisms, as well as parts, products and models thereof, to alter living or non-living materials for the production of knowledge, goods and services
- **Biotech firm:** a firm that is engaged in biotechnology by using at least

one biotech technique to produce goods or services and/or to perform biotech R&D. Some of these firms may be large, with only a small share of total economic activity attributable to biotechnology

- **Dedicated biotech R&D firm:** a firm that devote 75% or more of their total R&D to biotechnology R&D

*OECD Biotechnology Statistics 2009

- With reference to the field of application in which falls the predominant part of the company's biotech activities, biotech firms are classified as follows:

- **Red biotech firms:** companies operating in the human health sector, by using modern biotechnological methods for the research, development and production of products for the diagnosis, treatment and disease prevention, including drugs, new therapies, vaccines, diagnostics and molecular pharming.
- **Green biotech firms:** companies operating in agriculture and livestock, thus using modern biotechnological methods in order to improve animal and crop production, by increasing their productivity and quality, by fostering their adaptability to the environment and their resistance to pathogens, or by developing biological and eco-friendly products for the protection of plants and animals;

- **White biotech firms:** companies using modern biotechnological methods for the retraining of many conventional industrial processes and the conversion of renewable biomass into bioproducts and energy, as well as for applications in the food, nutraceutical and cosmeceutical industry, for the improvement of diagnostic and environmental remediation systems, or the development of products for the restoration of the artistic heritage;
- **Genomics, Proteomics and Enabling Technologies firms (GPET):** companies applying modern biotechnological methods in the fields of the *omics* disciplines (*genomics, proteomics, transcriptomics*, etc.), bioinformatics technologies, systems biology, biochips, biosensor and basic research.

10. Italian biotech companies

- 3 C.I. srl
- 4Lab Diagnostics srl
- A. Costantino & C. spa
- AAT Advanced Analytical Technologies srl
- AB Analitica srl
- Abbvie srl
- Abich srl
- Abiel srl
- Aboca spa
- Accelera srl
- ACS Dobfar spa
- Active Cells srl
- Actygea srl
- Adienne srl
- Advanced Accelerator
- Applications Italy srl
- Advent srl
- AEP Polymers srl
- Aethia srl
- Agri New Tech srl
- Agrifutur srl
- Agritest srl
- Agroalimentare Sud spa
- Agriols Technologies spa
- Agrolabo spa
- Alexion Pharma Italy srl
- Alga&Zyme Factory srl
- Algain Energy srl
- Algamundi srl
- AlgaRes srl
- Allergan spa
- Allergopharma spa
- Alltox srl
- Also Biotech srl
- Altergon Italia srl
- AMBC Advanced Molecular and Biological Computation srl
- Ambiotec sas
- Ambrosialab srl
- Amgen srl
- Anallergo srl
- Ananas Nanotech srl
- Angelini ACRAF spa
- Anika Therapeutics srl
- Apavadis Biotechnologies srl
- Aptenia srl
- Aptuit srl
- Apulia Biotech srl
- Archimede R&D srl
- Ardis srl
- Areta International srl
- Ariad Pharmaceuticals Italia srl
- Arterra Bioscience srl
- Asoltech srl
- Astrazeneca spa
- Avantea srl
- Axxam spa
- BASF Italia srl
- Baxalta srl
- Baxter World Trade Italy srl
- Bayer Cropscience srl
- Bayer spa
- BBA Biotech srl
- Beta Renewables spa
- BGT Italia Biogenomic Technology srl
- Bict srl
- Bio 3 Research srl
- Bio Fab Research srl
- Bio Genetix srl
- Bio Merieux Italia spa
- Bio Soil Expert srl
- Bio Tools srl
- Bioaesis srl
- Bioagro srl
- Biocell Center spa
- Biochemtex spa
- Biocomlab srl
- Biodermol srl
- Biodiagene srl
- Biodigitalvalley srl
- Biocepest srl
- BIOerg srl
- Biofer spa
- Biofordrug srl
- Biogen Idec Italia srl
- Biogenera spa
- Bio-Ker srl
- Bioman srl
- Biomedical Research srl
- Biomedical Tissues srl
- Biomolecular Research
- Genomics srl
- Bionat Italia srl
- Bionucleon srl
- Bio-on srl
- Bioops srl
- Biopaint srl
- Biopharma srl
- Bioplantec srl
- BioPox srl
- Biorep srl
- Biorigen srl
- Bioscience Genomics srl
- Biosearch Ambiente srl
- Bioside srl
- Biosistema srl
- Biosphere srl
- Biosynth srl
- Biotec Sys srl
- Biotecgen srl
- Bioteck srl
- Biotecnologie BT srl
- BioTekNet scpa
- Biouniversa srl
- Bio-Ve-Oil Olimpo srl
- Boehringer Ingelheim Italia spa
- Bracco Imaging spa
- Bristol Myers Squibb srl
- BSA Ambiente srl
- BSL Cosmetics srl
- BTM Biological Tools for Mediterranean Agriculture srl
- BTS Italia srl
- C4T scarl
- C5-6 Italy srl
- Cage Chemicals srl
- CCS Aosta srl
- Ceinge Biotecnologie Avanzate srl
- Celgene srl
- CellDynamics srl
- Cellply srl
- Cereal Docks spa
- Chemi spa
- Chemical Center srl
- Chiesi Farmaceutici spa
- Chrono Benessere srl
- Clonit srl
- Clovis Oncology Italy srl
- CO.PRO.B. - Cooperativa
- Produttori Bieticoli sca
- Cogep srl
- Colorobbia Italia spa
- Congenia srl
- Consorzio Interdisciplinare di Studi Biomolecolari ed Applicazioni Industriali srl
- Consorzio Interuniversitario di Ricerca in Chimica dei Metalli nei Sistemi Biologici
- Consorzio per il Centro di Biomedicina Molecolare srl
- Consorzio per la Genetica Molecolare Umara
- Corion Biotech srl
- CPC Biotech srl
- Crabion srl
- Creabiiis Therapeutics srl
- Cruell Italy srl
- CryoLab srl
- Cutech srl
- Cyanagen srl
- Cypraea pscl
- DAC srl
- Dalton Biotecnologie srl
- Danone spa
- Detoxizymes srl
- Dia.Pro srl
- Dia-Chem srl
- Diasorin spa
- Diatech Pharmacogenetics srl
- Diatheva srl
- Dicofarm spa
- Diesse Diagnostica Senese spa
- DIVAL Toscana srl
- DNA Analytica srl
- Dompe' Farmaceutici spa

10. Italian biotech companies

- Dott. Dino Paladin - CRS
- Dow Agrosciences Italia srl
- Eco-Sistemi srl
- Ecotechsystems srl
- Edgelab srl
- Eli Lilly Italia spa
- Eltek spa
- Enbiotech srl
- ENI spa
- Ephoran Multi Imaging Solutions srl
- Epi C srl
- Epigen Therapeutics srl
- Epinova Biotech srl
- Epitech Group srl
- Eridania Sadam spa
- Erydel spa
- Espikem srl
- Etna Biotech srl
- Eudendron srl
- Eugonomics srl
- Euroclone spa
- Eurocoating spa
- Eurospital spa
- Eurovix spa
- Evolution Technology Laboratories srl
- Exenia Group srl
- Exosomics Siena spa
- Experteam srl
- Explora srl
- Externautics spa
- Farcoderm srl
- Farma ID srl
- Fastest srl
- Fastissues srl
- Fatro spa
- Fem2 - Ambiente srl
- Ecobioservices and Researches srl
- Ecoil srl
- Fidia Farmaceutici spa
- Fin-Ceramica Faenza spa
- FIS - Fabbrica Italiana Sintetici spa
- Flora Conservation srl
- Flowmetric Europe srl
- Fly Life srl
- Food Research and Innovation - FRI srl
- Fotosintetica & Microbiologica srl
- Franvax srl
- Fresenius Medical Care Italia spa
- G&Life spa
- Galatea Bio Tech srl
- Galileo Research srl
- Geltis srl
- Genedia srl
- Genenta Science srl
- Generon srl
- Genesis Bioscience srl
- Genespin srl
- Genessere srl
- Geneticlab srl
- Genoma Group srl
- Genomix4Life srl
- Genomnia srl
- Genovax srl
- Gentium spa
- Gentochem srl
- Gentras snc
- Genzyme srl
- Gexnano srl
- GF Biochemicals spa
- Gilead Sciences srl
- Gio.Eco srl
- Giotto Biotech srl
- Glaxosmithkline spa
- Glaxosmithkline Vaccines srl
- Glures srl
- Glyconova srl
- Gnosis Bioresearch srl
- Gnosis spa
- Godiagnostics srl
- Green Lab srl
- Greentech srl
- Grape srl
- GSK Vaccines Institute for GlobalHealth srl
- HMGBiotech srl
- HO.P.E. srl
- Holostem srl
- Hospira Italia srl
- HPF Nutraceuticals srl
- Hygeia Lab srl
- IGA Technology Services srl
- Immagina Biotechnology srl
- In4Tech srl
- Inbios srl
- Indena spa
- Industria Meridionale Alcolici srl
- Inkidia srl
- Innoven srl
- Integrated Systems Engineering srl
- IOM Ricerca srl
- IPADLAB srl
- Ipsen spa
- IRB Istituto di Ricerche Biotechnologiche spa
- IRBM - Istituto di Ricerche di Biologia Molecolare P. Angeletti spa
- ISB - Ion Source & Biotechnologies srl
- Istituto Biochimico Italiano Giovanni Lorenzini spa
- Istituto di Ricerche Biomediche Antoine Marxer RBM spa
- Istituto Ricerche Applicate srl
- iSweetch srl
- Italfarmaco spa
- Izo spa
- Janssen Cilag spa
- JV Bio srl
- Kayser Italia srl
- Kedrion spa
- Kemotech srl
- Kither Biotech srl
- Kos Genetic srl
- Kron Morelli srl
- Ktedogen srl
- L.A.V. Laboratorio Analisi Veterinarie srl
- Labor srl
- Laboratori Turval Italia srl
- Lati Industria Termoplastici spa
- Lay Line Genomics spa
- LB Lyopharm srl
- Lead Discovery Siena srl
- LEBSIC srl
- Lesaffre Italia spa
- Life and Device srl
- Life Line Lab srl
- Lifegene sas di Lanza Francesco Maria e C.
- Liosintex srl
- Lipinutragen srl
- Lofarma spa
- Lundbeck Pharmaceuticals Italy spa
- Mac Pharma srl
- Magis Lab srl
- Mater Biotech spa
- Matrica spa
- Mavi Sud srl
- Medestea Research & Production spa
- Mediapharma srl
- Medical Research Institute srl
- Meditekology srl
- Menarini Biotech srl
- Merck Serono spa
- Merial Italia spa
- Meristema srl
- Metagenics Italia srl
- Micro Biological Survey srl
- Micro4you srl
- Microbiol snc
- Microbion srl
- Microbiotec srl
- Microgem srl
- Microgenomics srl
- Micron Research Service srl
- Microspore spa
- Microtech srl
- Mindseeds Laboratories srl

10. Italian biotech companies

- ML Biotech Italia srl
- M-Medical srl
- Molecular Biotechnology srl
- Molirom srl
- Molmed spa
- Molteni Therapeutics srl
- Monsanto Agricoltura Italia spa
- Monteresearch srl
- MSD Italia srl
- Multimedita Holding spa
- Mybasol srl
- Mybatec srl
- Mycoplast di Federico Maria Grati e Stefano Babbini snc
- Naicons scril
- Nanogen Advanced Diagnostics spa
- Nanomaterials.it srl
- Nanomed3d srl
- Nanoshare srl
- Nanovector srl
- Narvalus srl
- Natimab Therapeutics srl
- Natural Technologies Italia srl
- Naxospharma srl
- Nealys srl
- Need Pharma srl
- Neotica srl
- Neotron spa
- Nerviano Medical Sciences srl
- Neuheart srl
- Neuro Visual Science Technology srl
- Neuro-Zone srl
- Newron Pharmaceuticals spa
- Newronika srl
- Next Genomics srl
- NGB Genetics srl
- Nicox Research Institute srl
- Nobil Bio Ricerche srl
- Norgine Italia srl
- Notopharm srl
- Novagenit srl
- Novagenit srl
- Novamont spa
- Novartis Farma spa
- Novo Nordisk spa
- Noxamet srl
- Nurex srl
- Nutraceutica srl
- Nutrigene srl
- NuvoVec srl
- Officina Biotecnologica srl
- Olon spa
- Ophera srl
- Orphan Europe Italy srl
- Oxi.Gen Lab srl
- Patheon Capua spa
- Personal Genomics srl
- Pfizer Italia srl
- Pharmadiagen srl
- PharmaGo srl
- Philogen spa
- Phytoremedial srl
- PinCell srl
- Pioneer Hi-Bred Italia Servizi Agronomici srl
- Plantechno srl
- Plasmore srl
- Polymed srl
- Prigen srl
- Primm srl
- Principium Europe srl
- Probiotal spa
- Proge Farm srl
- Promis Biotech srl
- Proteotech srl
- Proxenia srl
- ProXentia srl
- Raresplice srl
- Recordati Industria Chimica e Farmaceutica spa
- REDD srl
- Reithera srl
- Remembrane srl
- Research & Innovation spa
- Research Toxicology Centre spa
- Resindion srl
- Ricerche Sperimentali Montale srl
- Rigenerand srl
- Roche spa
- Rotalactis srl
- Rottapharm Biotech spa
- S.I.F.I. Società Industria Farmaceutica Italiana spa
- S.P.A. - Società Prodotti Antibiotici spa
- Sacace Biotechnologies srl
- Sacchetto spa
- Sacco srl
- SAFAN Bioinformatics sas
- Salentec srl
- Sandoz Industrial Products spa
- Sanofi Aventis spa
- Sanofi Pasteur MSD spa
- Sclavo Diagnostics International srl
- Sea Marconi Technologies di Vander Tumiatti sas
- Sentinel CH spa
- Serge Genomics srl
- SetLance srl
- Shire Italia spa
- Shoreline Società Cooperativa
- Sigea srl
- Sigma-Tau Industrie Farmaceutiche Riunite spa
- Silicon Biosystems spa
- Silk Biomaterials srl
- Sirius Biotech srl
- Smile Biotech srl
- Società Italiana Sementi spa
- Società Metropolitana Acque Torino spa
- Società Produttori Sementi spa
- Sooft Italia spa
- Spaceland Italia srl
- Spider Biotech srl
- Spiker Renewables srl
- Stallergenes Italia srl
- Stemgen spa
- STMicroelectronics srl
- Synbiotec srl
- Syngenta Italia spa
- Takeda Italia spa
- Takis srl
- Target Heart Biotech srl
- Technogenetics srl
- Tecna srl
- Tecnobios Procreazione srl
- Tectronik srl
- Telea Biotech srl
- Tensive srl
- Tes Pharma srl
- Tethis spa
- Tib Molbiol srl
- Tissuegraft srl
- Tissuelab spa
- TMLab srl
- Toma Advanced Biomedical Assays spa
- TOR srl
- Transactiva srl
- Trustech srl
- Tydock Pharma srl
- UB-Care srl
- UCB Pharma spa
- Ufpeptides srl
- UN.E.CO. srl
- Unistrains srl
- UPMC Italy srl
- Veneto Nanotech scpa
- Veneto Pharma srl
- Versalis spa
- Vetogene srl
- Vetspin srl
- Vevy Europe spa
- Virostatics srl
- Vismederi srl
- VivaBioCell spa
- Wetware Concepts srl
- Xeptagen spa
- Ylichron srl
- Zoetis srl

Companies tracked by internet analysis

Assobiotec

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Graphic design and page layout: Studio ABC Zone (MI)

Photo credits: Shutterstock

Printed by: Bine Editore Group S.r.l.
