

INVEST  
IN ITALY



**THE PERFECT PLATFORM FOR  
BIOTECHNOLOGY INDUSTRY**

**May 2019**

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ITA  
ITALIAN TRADE AGENCY

INVITALIA

# COUNTRY OVERVIEW





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# 3<sup>rd</sup> LARGEST EU ECONOMY

Italy has a large and skilled **workforce**.

Competitive **location** for investment. Cheaper than USA and many Western European competitors.

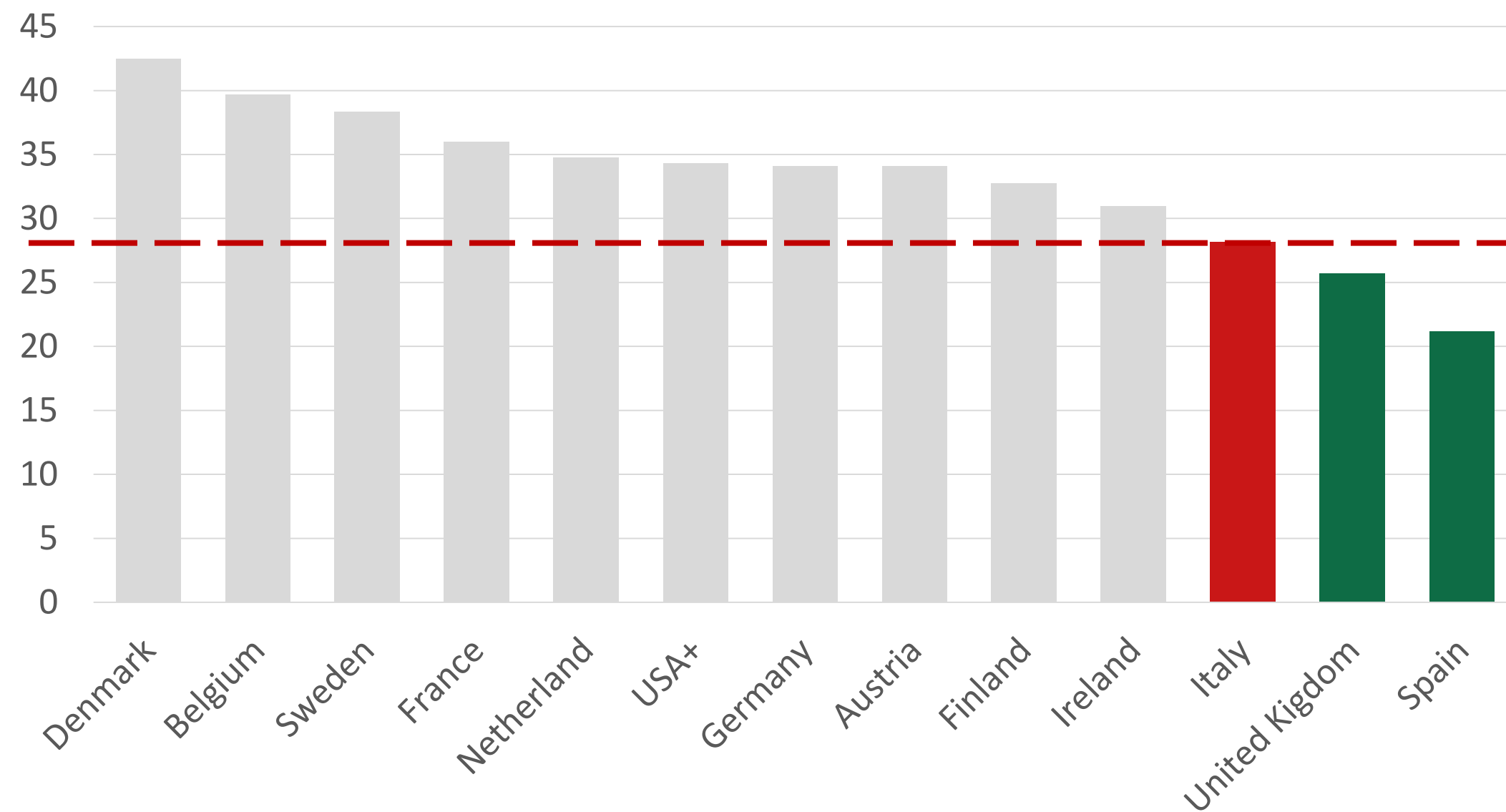
Italy has among the lowest labour costs in Western Europe



# LABOUR COST

More cost effective than most of the competing economies

(manufacturing hourly compensation costs; UE €)



# 3<sup>rd</sup> LARGEST EU ECONOMY

Italy is open to Technology and 4.0  
**manufacturing**

Italy is the **8th economy in the world**, based on  
strong export

Ranks **8th** in 2019 for FDI attractiveness, +10  
than in 2015 (FDI CI AT Kearney)



# ECONOMIC OUTLOOK

1% GDP growth forecast for 2019

(2018 German GDP 0,6%)

**Export** increased by 3.5% between 2017-2018

New employment policies IoT based

A new single website portal for incentives to invest now available



# CORPORATE TAXATION REFORM

In the last years the Italian Parliament approved **new legislation**, including tax incentives, specifically aimed at making Italy *an attractive location for investment* in manufacturing and R&D.

Among those specific tax incentives, the following are particularly relevant:

- Patent box
  - a 5 year-elective regime will grant a partial tax exemption on income derived from qualifying intangible assets (patents, know-how, trademarks) as long as the Italian company performs R&D activities
- R&D tax credit
  - It provides a 25% or 50% tax credit on R&D incremental expenses (at least equal to € 30 K or more), calculated on a fixed basis given by the average of R&D expenses incurred in the previous 3-years period.
- Tax credits/incentives for the purchase of digital

machinery & industrial equipment (Hyper depreciation 170%-100%-50% and Super-depreciation: over-valuation of investments in newly purchased 4.0 technologies)

**Other tax incentives** are:

The “Destination Italy” Decree

- created a *specific and dedicated desk of the Revenue Agency* (Agenzia delle Entrate) in order to help and provide information to foreign investors
- enhanced the *tax ruling procedures*, by extending the validity period of the preventive rulings from 3 to 5 years and including also the existence of Italian permanent establishments of foreign companies
- 50% bonus on social security contribution for companies hiring people under 35 recruited in 2019-2020 (100% in Southern Regions)

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# BIOTECH INDUSTRY

THE MOVE FROM TREATMENT TO PREVENTION,  
DIAGNOSTICS AND CURE...

Any technological application that uses biological systems, living organisms, or derivatives thereof, to make or modify products or processes for specific use. White biotechnology is the application of biotechnology for industrial purposes. It includes the practice of using cells such as micro-organisms, or components of cells like enzymes, to generate industrially useful products.



# BIOTECH RESEARCH

## Scientific and technological Parks ●

**PST della Sardegna - Porto Conte**

**POINT POLO INnovazione Tecnologica provincia di Bergamo**

**Polaris - PST della Sardegna - Pula**

**Parco Scientifico e Tecnologico della Sicilia - Catania**

Consorzio PST Multisetoriale Magna Graecia

Pa.L.Mer

**Parco Scientifico biotecnologico San Raffaele**

**Parco Tecnologico Padano**

Parco Scientifico e Tecnologico Galileo

Parco Scientifico e Tecnologico della Sicilia - Palermo

CERFITT

**Tecnopolo Tiburtino**

Tecnopolo di Castel Romano

**Fondazione Toscana Life Sciences**

**Parco Scientifico e Tecnologico Kilometro Rosso**

Sviluppumbria

3A Parco Tecnologico Agroalimentare dell'Umbria

**AREA Science Park**

Polo ICT

Environment Park

**Bioindustry Park Silvano Fumero S.p.A.**

**Friuli Innovazione - Centro ricerca e trasferimento tecnologico**

VEGA VEnice GAteway for Science and Technology

DT Sicilia Micro e Nano sistemi

## Tech Districts ●

**Distretto H-BIO Puglia**

Medis – Distretto mecatronico

Di.T.N.E. - Distretto Tecnologico Nazionale sull'Energia

ComoNext

Distretto Agro-alimentare Regionale D.A.Re. Scarl

**DHITECH Scarl - Distretto Tecnologico High Tech**

**Tecnopolo di Mirandola**

Imast S.c.a.r.l.

**Atcoroglio**

Polo Tecnologico di Pavia

**Polo tecnologico di Navacchio**

**Sardegna DistrICT - DT Biomedicina-Tecnologie Salute**

Sardegna DistrICT - DT Tecnologie e Comunicazioni

DTA - Distretto Tecnologico Aerospaziale

Habitech Distretto Tecnologico Trentino

Fondazione Torino Wireless

**Centro di Biomedicina Molecolare (CBM)**

**BioTecnoMed**

## Other Centres ●

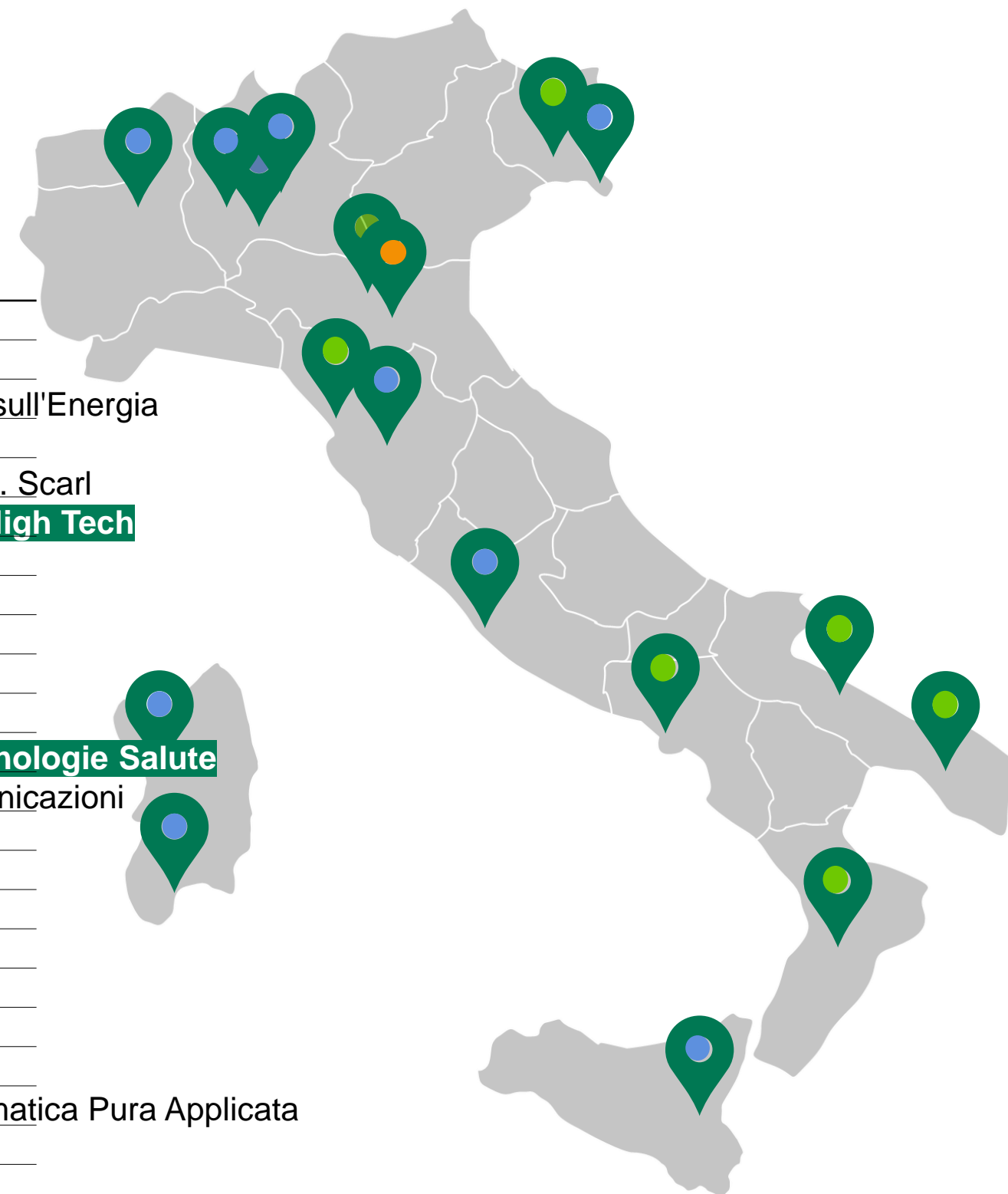
**ART-ER**

C.R.M.P.A. Centro Ricerca Matematica Pura Applicata

CUSSMAC

Tis Innovation Park

Tecnogranda



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# AND UPTODATE, NEW IDEAS...



CONSORZIO  
INTERUNIVERSITARIO  
BIOTECNOLOGIE

CONSORZIO INTERUNIVERSITARIO BIOTECNOLOGIE

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

UNIVERSITIES  
FACULTIES AND  
DEPARTMENTS

BIOTECHNOLOGY - ENGINEERING – CHEMISTRY - PHARMACY – MEDICAL UNIVERSITIES



ASS. NAZ. BIOTECNOLOGI ITALIANI

<http://www.biotecnologi.org/>



Associazione Farmaceutici Industria  
Società Scientifica

“ASSOCIAZIONE FARMACEUTICA INDUSTRIA”

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

# NATIONAL TECH CLUSTERS

• AEROSPACE TECHNOLOGY	ROME	<a href="http://www.ctna.it/">http://www.ctna.it/</a>
• <b>AGRIFOOD</b>	<b>ROME</b>	<a href="http://www.clusteragrifood.it/en/">http://www.clusteragrifood.it/en/</a>
• GREEN CHEMISTRY	MILAN	<a href="http://www.clusterspring.it/home/">http://www.clusterspring.it/home/</a>
• INTELLIGENT FACTORIES	BOLOGNA	<a href="http://www.fabbricaintelligente.it/en/">http://www.fabbricaintelligente.it/en/</a>
• CLUSTER TRASPORTI	ROME	<a href="http://www.clustertrasporti.it/">http://www.clustertrasporti.it/</a>
• <b>LIFE SCIENCE</b>	<b>MILAN</b>	<a href="http://www.clusteralisei.it/en/">http://www.clusteralisei.it/en/</a>
• SMART LIVING TECHNOLOGIES	ANCONA	<a href="http://www.smartlivingtech.it/en">http://www.smartlivingtech.it/en</a>
• SMART COMMUNITIES TECH	TURIN	<a href="http://www.smartcommunitiestech.it/en/">http://www.smartcommunitiestech.it/en/</a>

What's coming next...

- HERITAGE TECH
- DESIGN, MADE IN ITALY

- SEA ECONOMICS
- ENERGY



# ITALIAN TECHNOLOGY INSTITUTE

IIT's production includes **8569 publications**, over **150 European projects** and **18 ERC** (European Research Council) winners, more than **700 active patent applications**, **17 established start-ups** and more than 20 under due diligence.

Since 2009, the Institute's scientific activity has been further strengthened with **the creation of eleven IIT research centres in Italy** (in Turin, two in Milan, Trento, Rome, two in Pisa, Naples, Lecce, Ferrara) and **two outstations located abroad** (MIT and Harvard in the US)

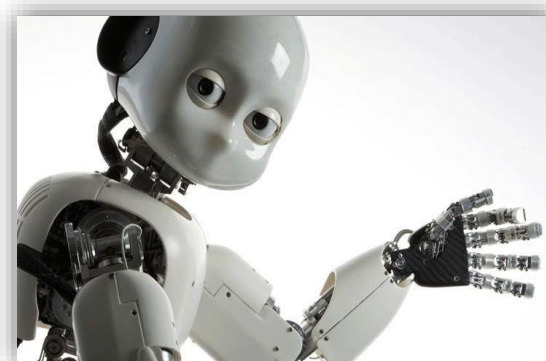


11 scientific programs of three types:

**Technology Programs**, primarily aimed at developing High tech research in collaboration with external entities and industries:  
**Portable Energy, Robotic Rehabilitation, Graphene**

**Core Programs**, dedicated to the basic research activities traditionally developed by IIT :  
**Brain Science, Robotics, New Materials, Materials Chemistry**

**Cross Disciplinary Programs**, primarily devoted to high risk-high return research both basic or applied:  
**Interaction, Health Technologies, Nano-Bio Photonics, Computation**



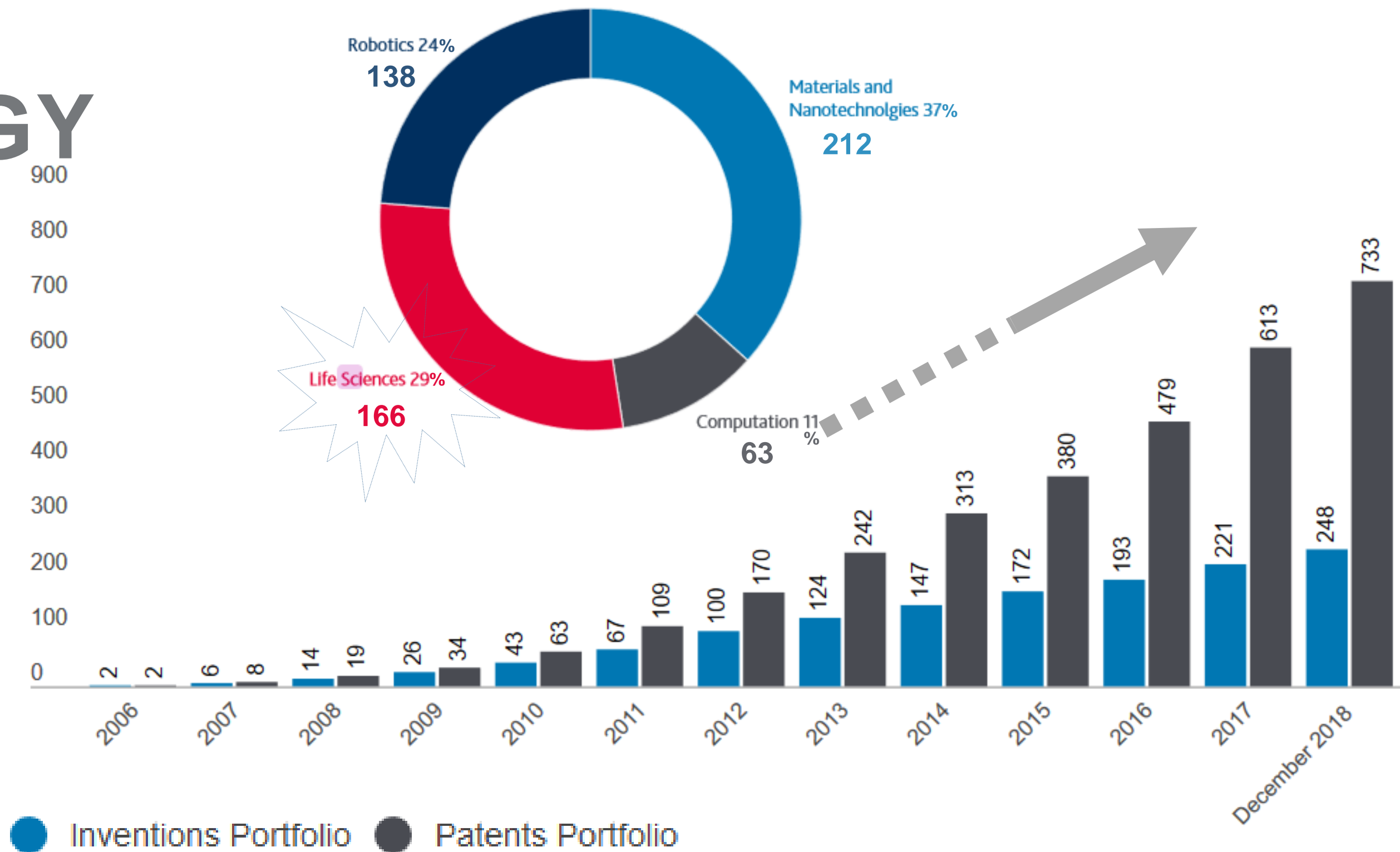
National Foundation financed by the State to conduct scientific research for the purpose of technological development. IIT aims to promote excellence in basic and applied research and to promote the development of the national economy. Scientists with 21 different profiles (spanning from medicine to engineering) collaborate to the execution of the Strategic plan.

Application portfolio by platform (October 11th, 2017)

# TECHNOLOGY TRANSFER

INVENTIONS AND PATENTS  
PORTFOLIO

Strong points



# ABUNDANT AND SKILLED WORKFORCE

Italy has some of the world's best engineering universities. Indeed, engineering is the 2<sup>nd</sup> highest course for enrolment in the country – **225,619** currently studying an engineering discipline.<sup>1</sup>

The Technological Departments of the Italian Universities annually produce a pool of graduates with the knowledge and industry experience to immediately enter the work force.

The engineering sector currently employs around 417,000 people in Italy.<sup>2</sup>



POLITECNICO MILANO



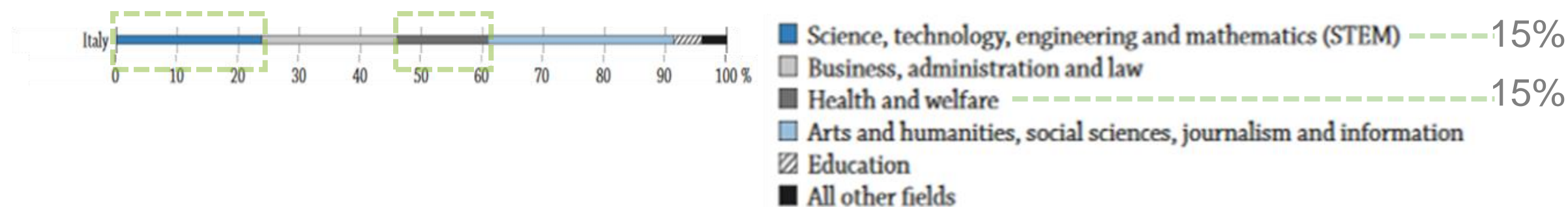
Politecnico di Bari



POLITECNICO DI TORINO

And much more.

Tertiary-educated 25-64 years old (2016) – Fields of study



# ...RIGHT DEVELOPMENT



FEDERCHIMICA ASSOBIOTEC  
ASCHIMFARMA

FEDERCHIMICA

<https://assobiotec.federchimica.it/en/home>



FARMINDUSTRIA

FARMINDUSTRIA

<https://aschimfarma.federchimica.it/>

<https://www.farmindustria.it/>



ASSOBIOMEDICA

ASSOBIOMEDICA

<https://www.assobiomedica.it/it/index.html>





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# INVEST IN ITALIAN BIOTECHNOLOGY

2018

ITALIAN INNOVATION DAYS, ASIA AND...



THE EXTRAORDINARY  
ITALIAN TECH  
Innovation Days

NORTH AMERICA



2019



**2018 BIO KOREA**  
International Convention

**BIO** International Convention  
The Global Event for Biotechnology

**HEALTHCARE: ITALY ON THE MOVE**

SAN FRANCISCO, 10 JANUARY 2018 – 6.00 PM  
FOUR SEASONS HOTEL – VERANDA BALLROOM

Borsa dell'Innovazione e dell'Alta Tecnologia

**2018**  
NAPOLI  
Aprile 19-20

**BIAT Sections**

- Aerospace
- Environment
- Biotechnologies**
- Greentech
- ICT
- Nanotechnologies
- New materials
- Mechatronics
- Smart Communities technologies

Borsa dell'Innovazione e dell'Alta Tecnologia

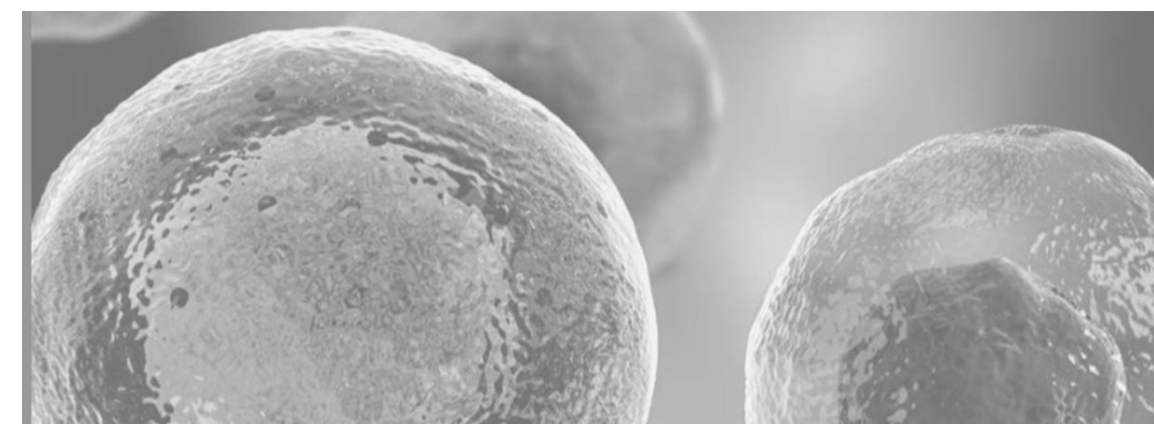
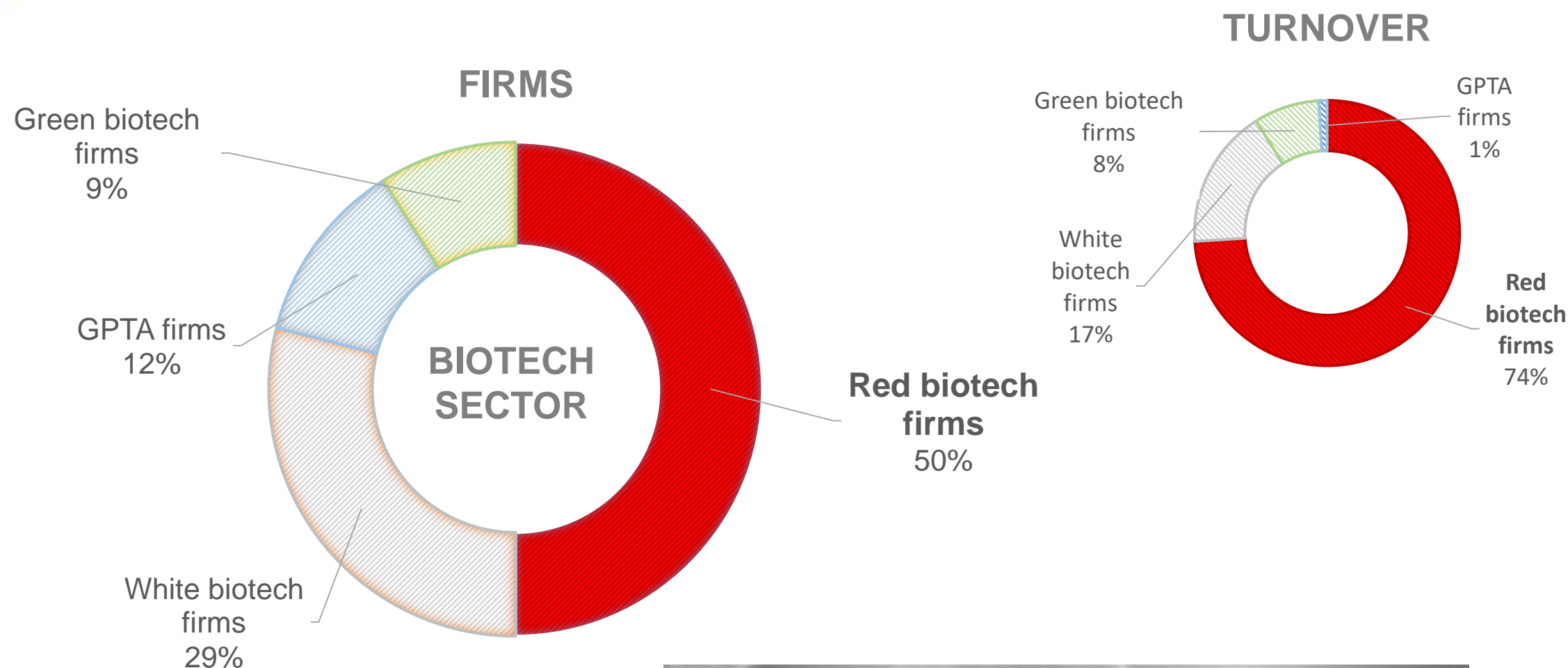
**2019**  
BARI  
Aprile 11-12



# BIOTECH SECTOR COMPOSITION

Red Biotech, Italy is a pioneer and a global leader

- ✓ 295 Firms in the field of human health
- ✓ 74% of the total Italian Biotech turnover
- ✓ 76% of employees involved in R&D activities
- ✓ 91% of the total Biotech R&D investment (1.8bn)



1st Country by number of Advanced Therapy products authorized by the EU (3 out of 6)



# BIOTECH SECTOR COMPOSITION

**Green Biotech**, agriculture and zootechnics area,

more than one company on two is an exporter

- ✓ 10%~ on total Biotech Firms in the field of Green
- ✓ 900 mln~ total turnover
- ✓ 80% are small or micro enterprises
- ✓ +50% R&D investment on previous years



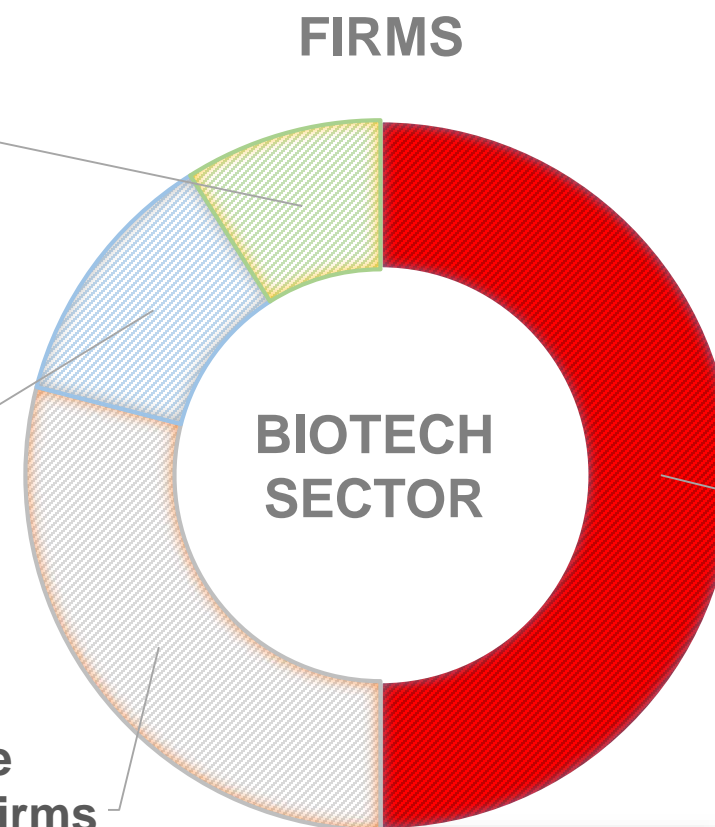
**White  
biotech firms**  
29%



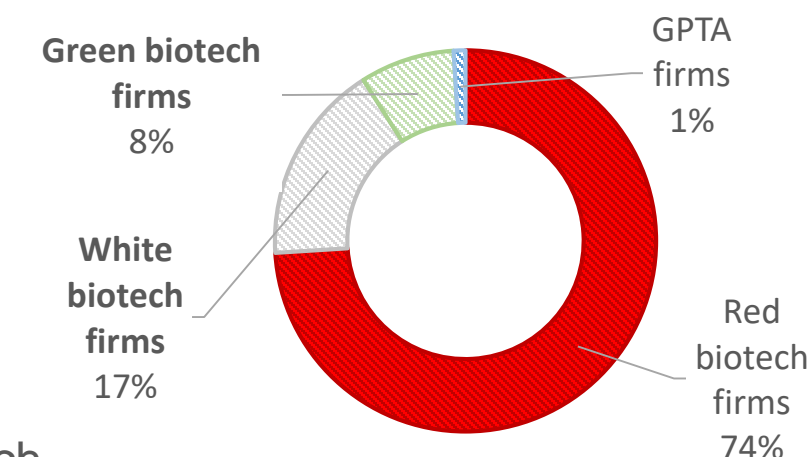
**White Biotech**, agriculture and zootechnics area,

more than one company on two is an exporter

- ✓ 30%~ on total Biotech Firms in White biotech
- ✓ 2 bln~ total turnover
- ✓ 500 ~ R&D staff
- ✓ 250 mln R&D investment



## TURNOVER



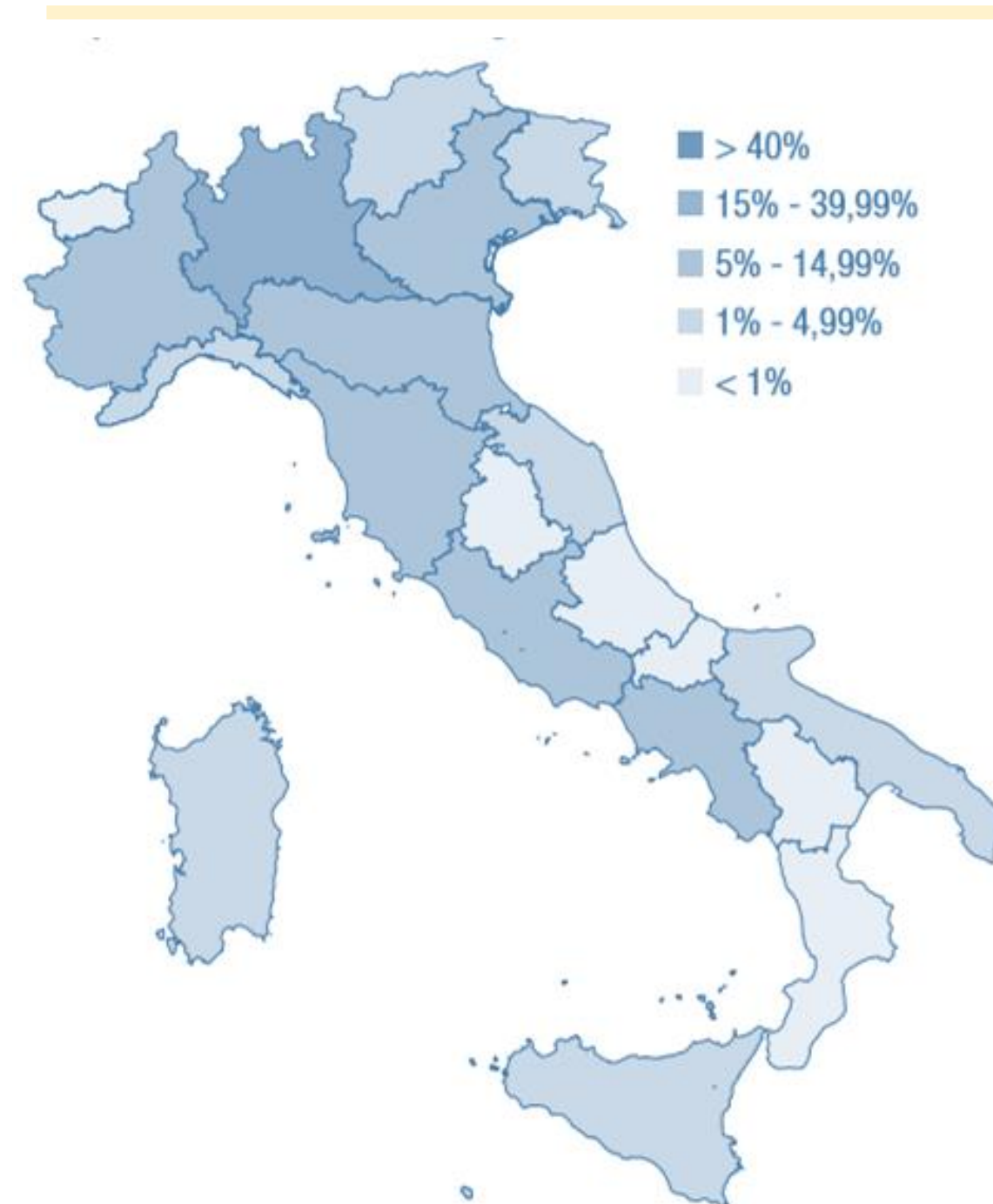
from plant breeding innovation and genetic editing to biotransformations through enzymatic catalysis for the requalification of traditional industrial processes and the preparation of chemical compounds by fermentation, from the production of bio-plastics to bioremediation and environmental diagnostics

# BIOTECH WHERE IN ITALY

Italian biotechnologies companies widespread throughout the national territory, even if concentrated for over 80% in the center-north of the country.

Almost 90% of turnover from biotech activities is achieved in only 3 regions, while investments in R & D are supported for over 87% by companies located in just 5 regions.

## Biotechnologies firms

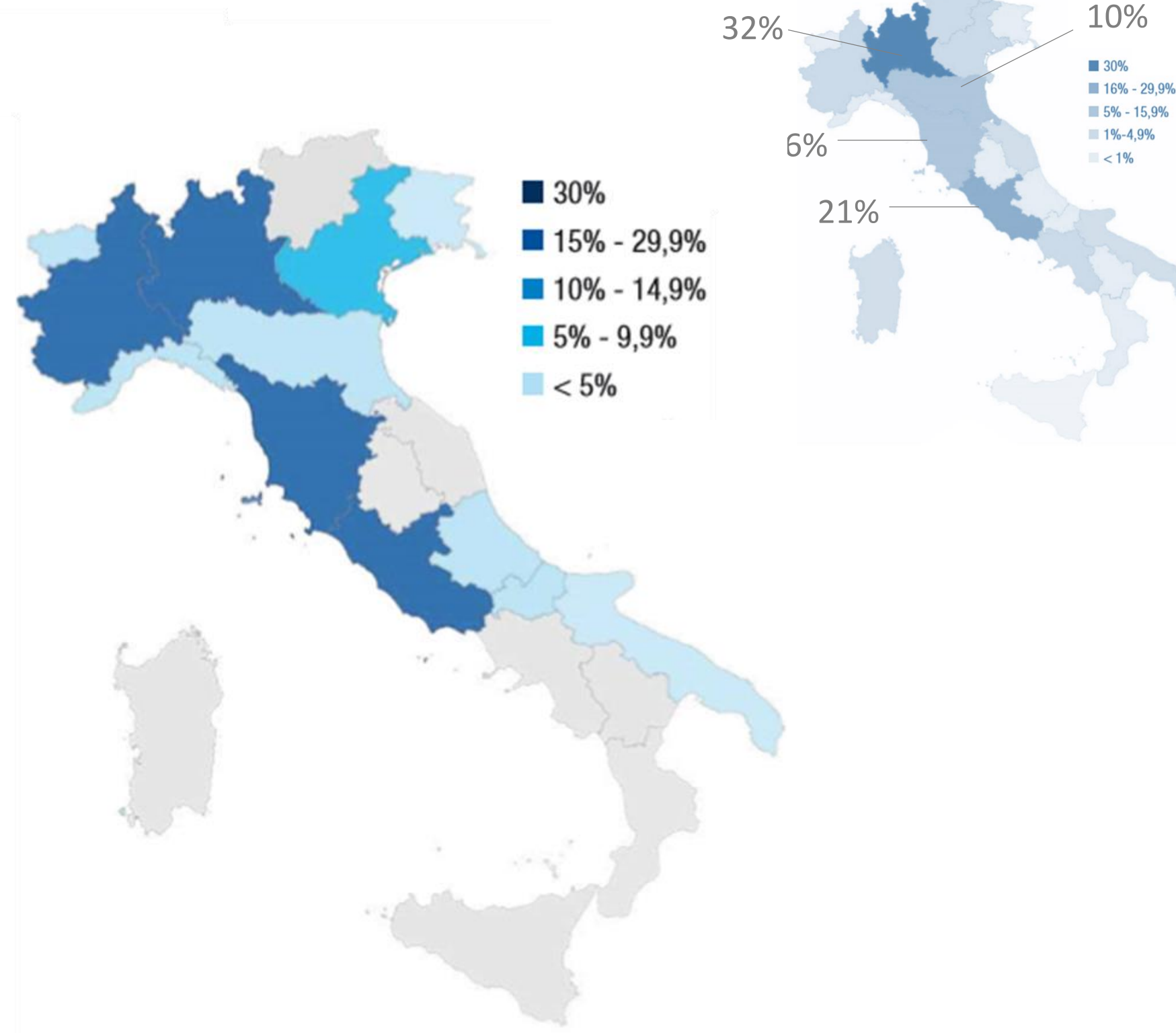




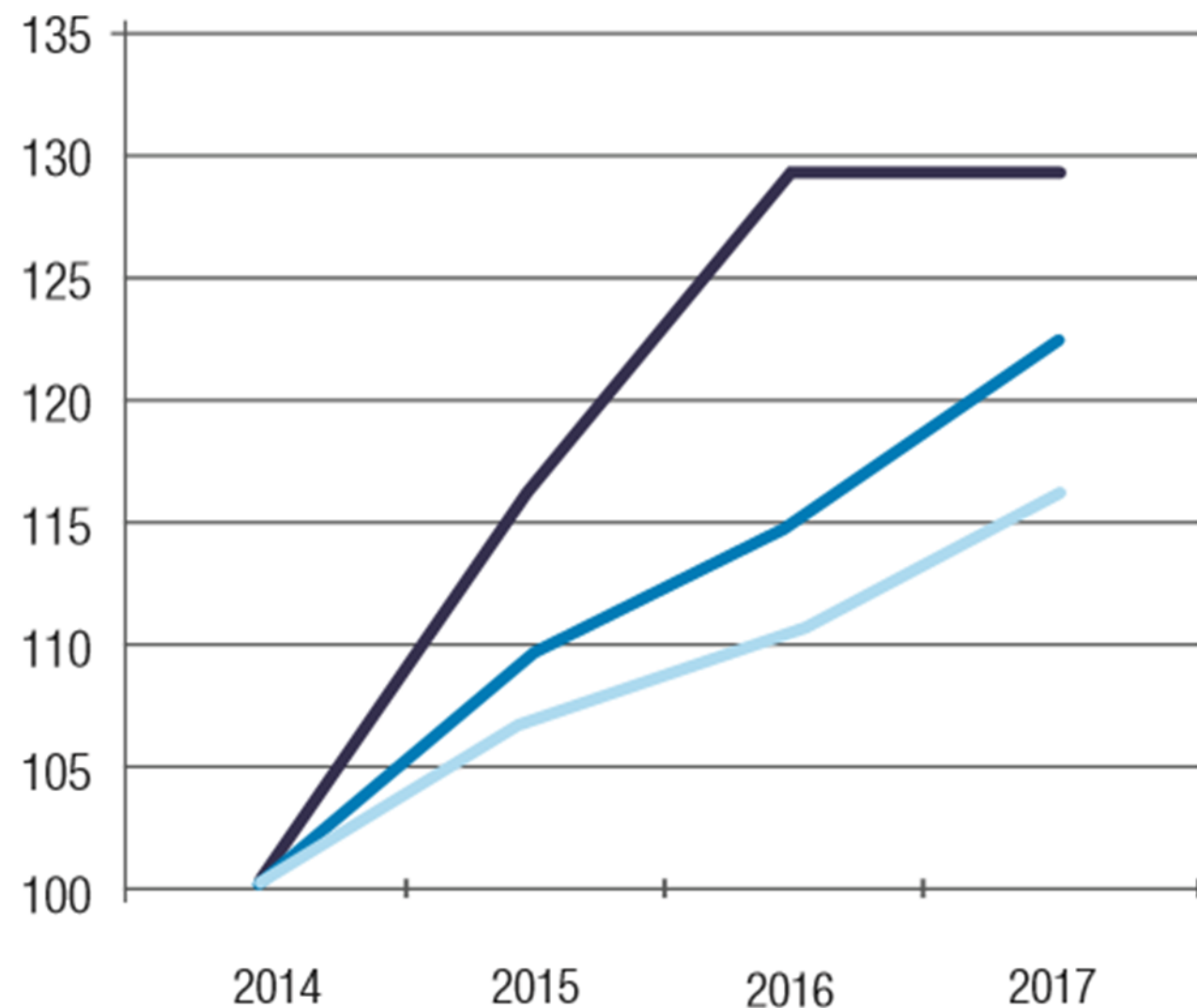
# BIOTECH EXPORT

Biotech export is highly polarized at a territorial level around four regions (Lombardy, Lazio, Piedmont and Tuscany) for more than 90% of the total

Biotech companies are characterized by a high projection on foreign markets (38% of exporting companies in 2015). The share of exporting companies has tended to increase in recent years (with 23% of exporting companies in 2015), widely over the average of manufacturing sector and the total Italian industry



ITALIAN BIOTECH R&D INVESTMENTS TREND  
(2014=100)



# WHAT ABOUT RESEARCH

Investments in biotech R&D represent 35% of total R&D investments. Around 764 million euros on biotech R&D, up 22% compared to 2014

33% of total biotech investments are destined to finance research activities carried out in outsourcing, while 67% of research activities are carried out internally in companies

In the last 3 years in Italy the growth in internal R&D investments dedicated to biotech has been equal to 16% for all capital enterprises, and 29% for companies dedicated to biotech R&D with Italian capital

## REGIONAL CLUSTERS AND EXPORT



<http://www.lombardialifesciences.it/en/>



<http://www.lazioinnova.it/il-distretto-tecnologico-delle-bioscienze/>



<http://www.toscanalifesciences.org/en/>



# SUBSTANTIAL ADDED VALUE

In the national ranking of the technological poles of all sectors for export in Italy, the first two are pharma/biotech, Lazio and Lombardy, and the pharma/biotech districts of Tuscany and Campania are respectively in fourth and seventh place. The pharmaceutical sector represents 55% of the total export of Italian technological poles



# GENOME EDITING

Italian researchers and companies are at forefront of the DNA engineering issue

## CRISPR

In nature, 'cas' proteins update bacterial genome enabling evolution. CRISPR is the technique used by researchers for this purpose to manipulate DNA



## 'EvoCas9'

is an evolution of CRISPR on genetic manipulation, an Italian 'Molecular scissors', the world best technique at this moment developed from CIBIO (University of Trento)







# NEXT TRADE SHOWS AND EVENT





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THANK YOU