

INVEST
IN ITALY



THE PERFECT PLATFORM FOR BIOTECHNOLOGY INDUSTRY

May 2019

INVEST
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ITA
ITALIAN TRADE AGENCY

INVITALIA

COUNTRY OVERVIEW





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INVITALIA

3rd LARGEST EU ECONOMY

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

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

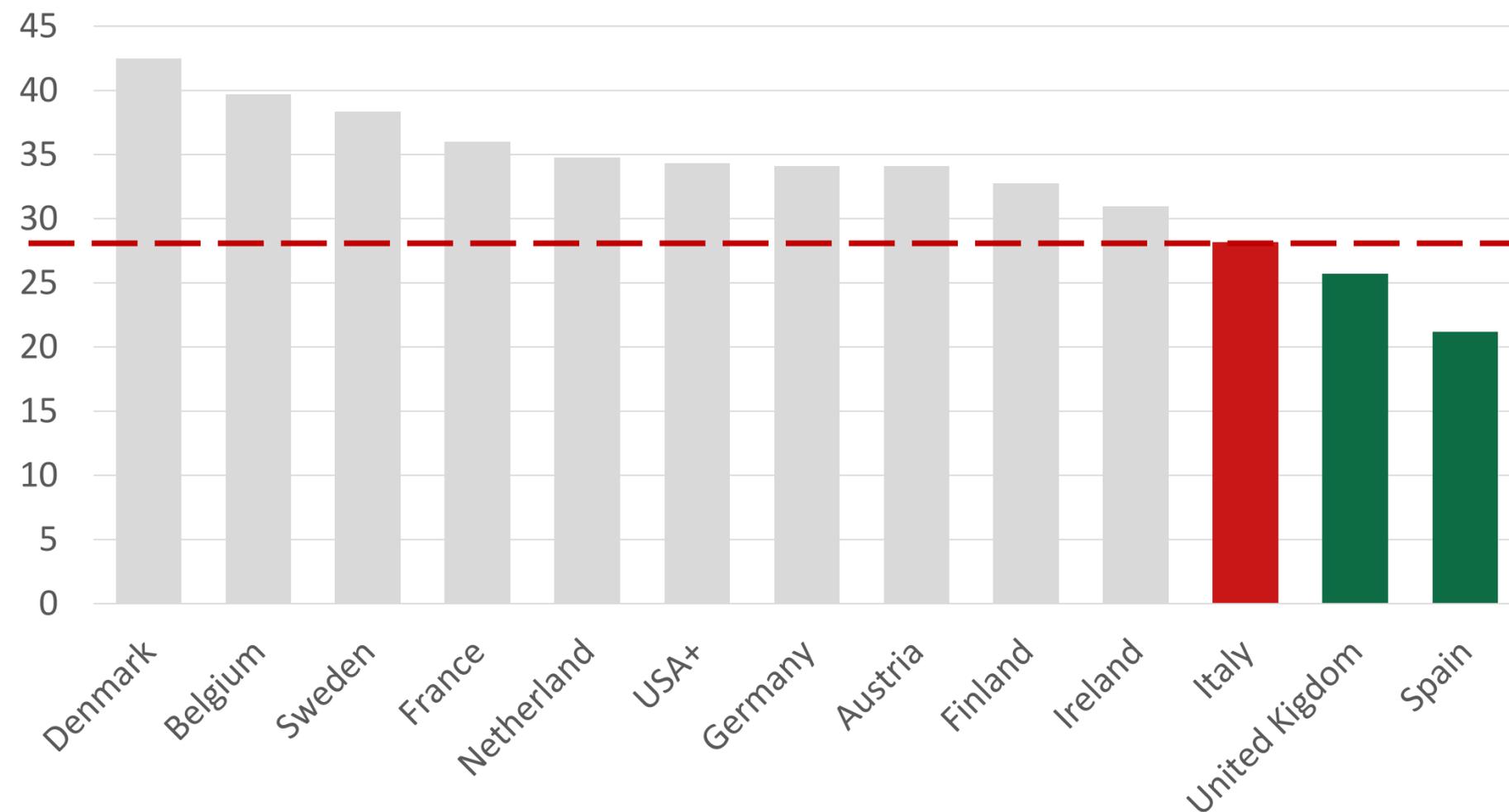
Italy has among the lowest labour costs in Western Europe



LABOUR COST

More cost effective than most of the competing economies

(manufacturing hourly compensation costs; UE €)



3rd 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

CERFIT

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 ●

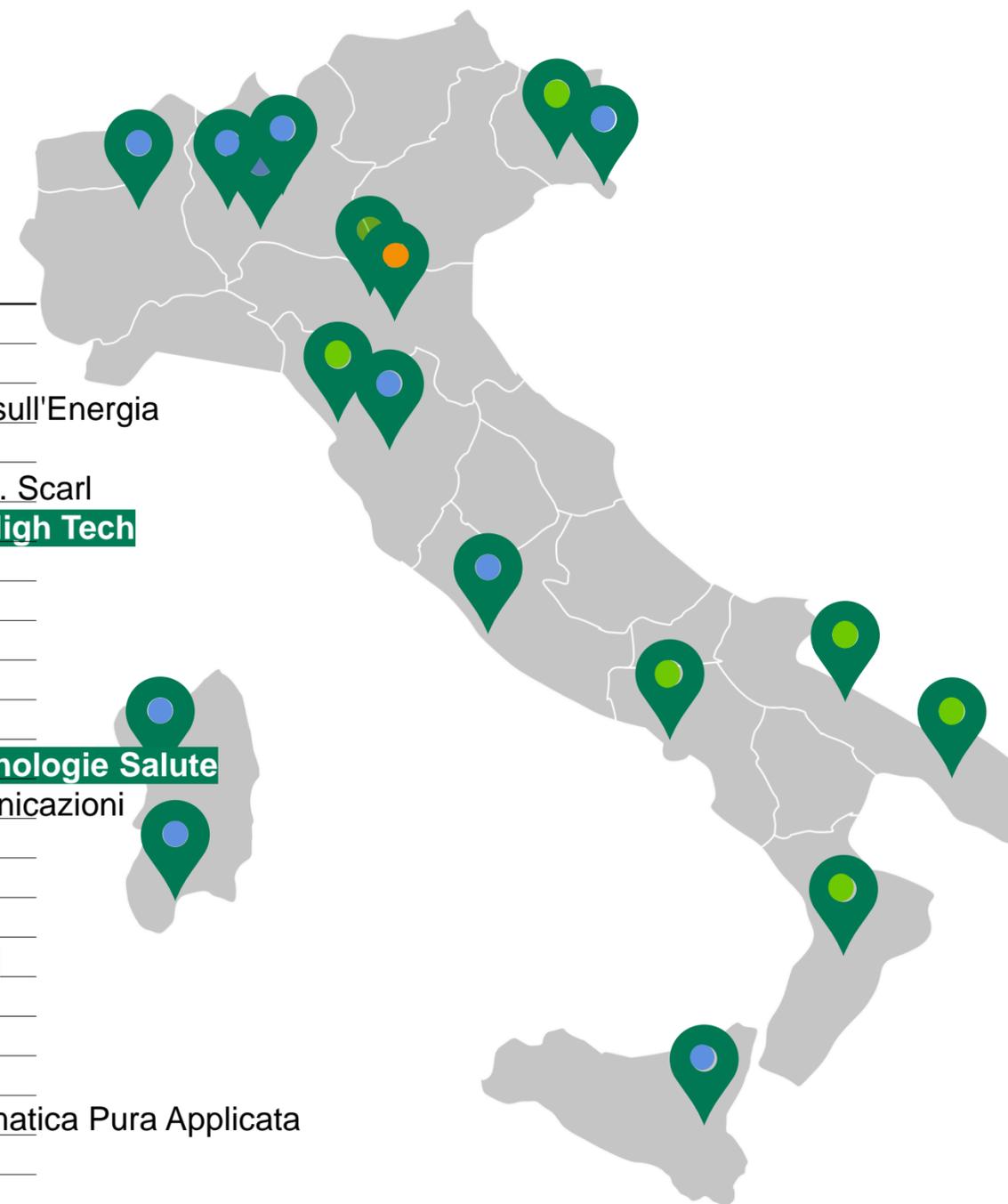
ART-ER

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

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)

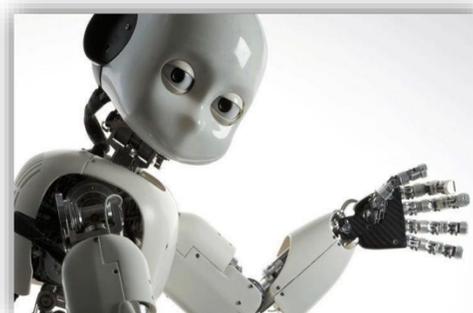


11 scientific programs of three types:

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

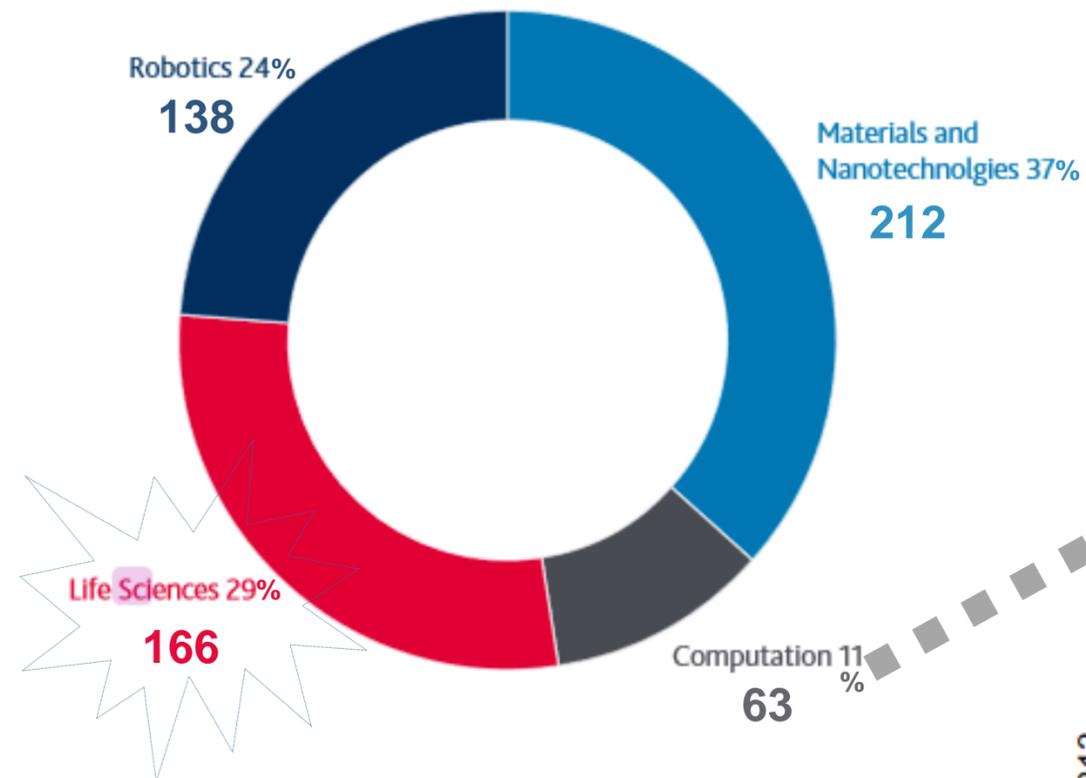
Core Programs, dedicated to the basic research activities traditionally developed by IIT :
Brain Science, Robotics, New Materials, Materials Chemistry

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.

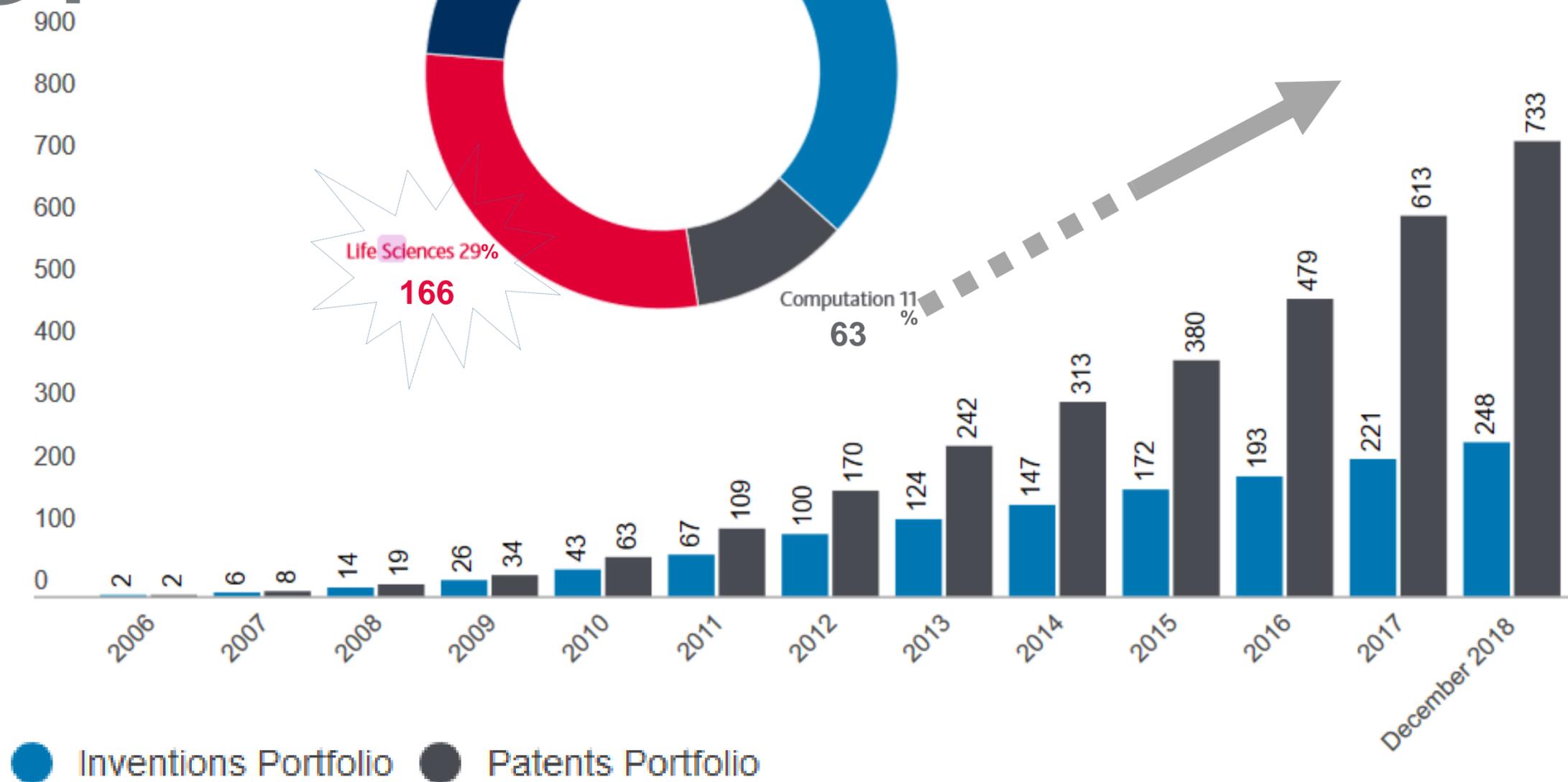
Application portfolio by platform (October 11th, 2017)



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 2nd highest course for enrolment in the country – **225,619** currently studying an engineering discipline.¹

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.²



POLITECNICO MILANO



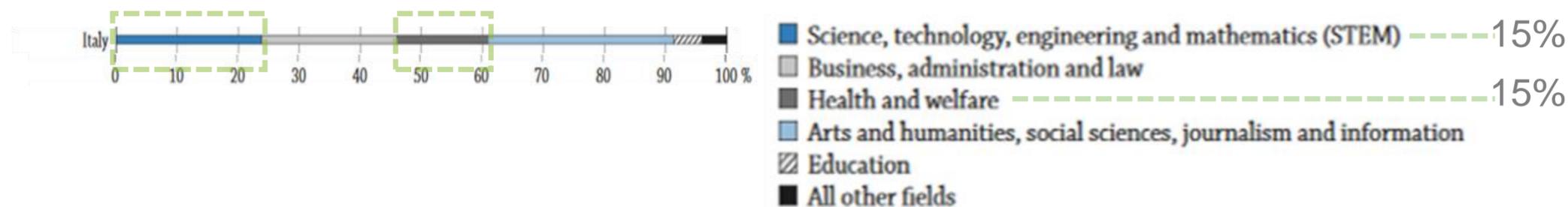
Politecnico di Bari



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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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

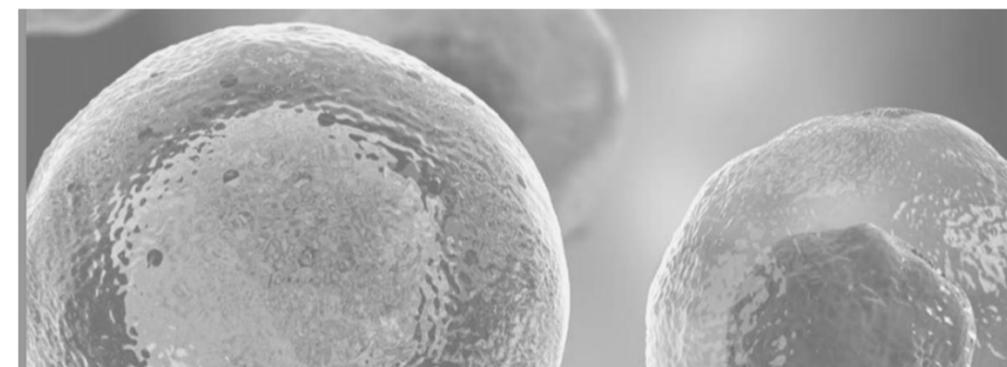
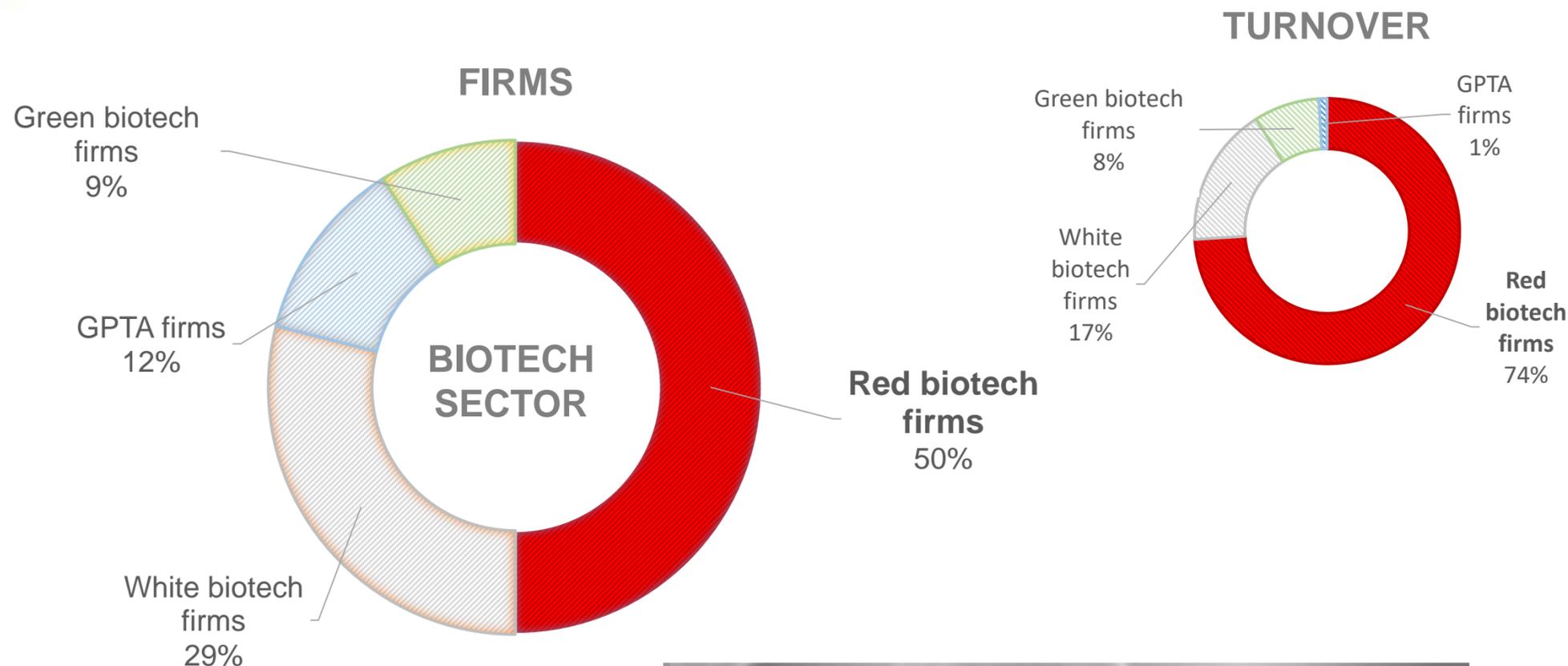
2019 BARI
Aprile 11-12



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



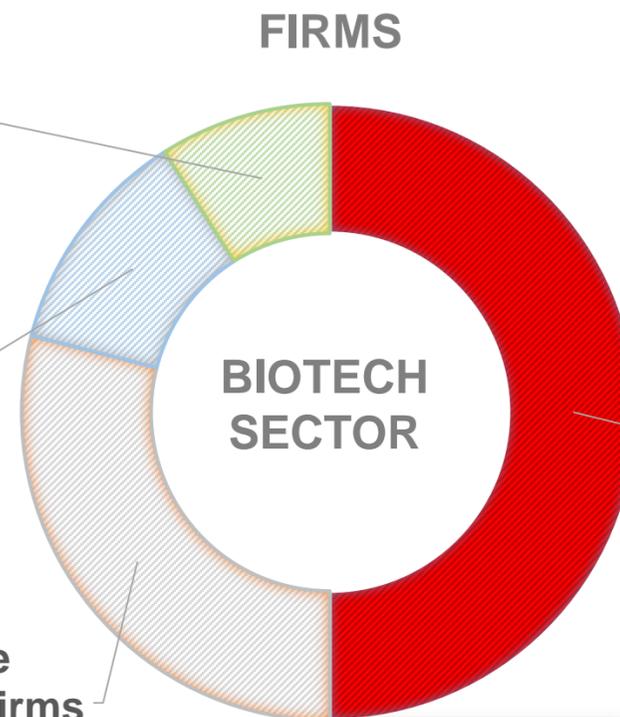
**White
biotech firms**
29%



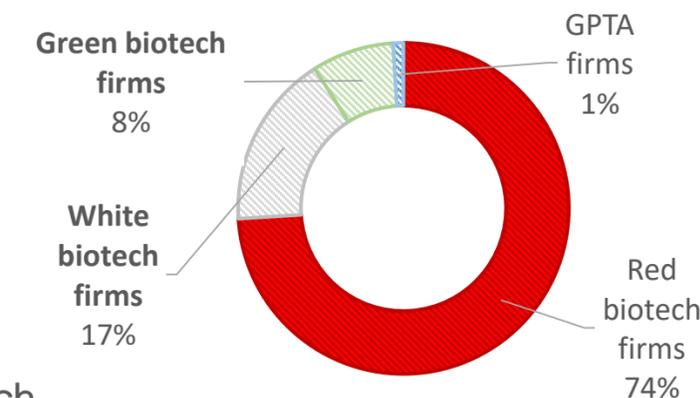
White Biotech, agriculture and zootechnics area,

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



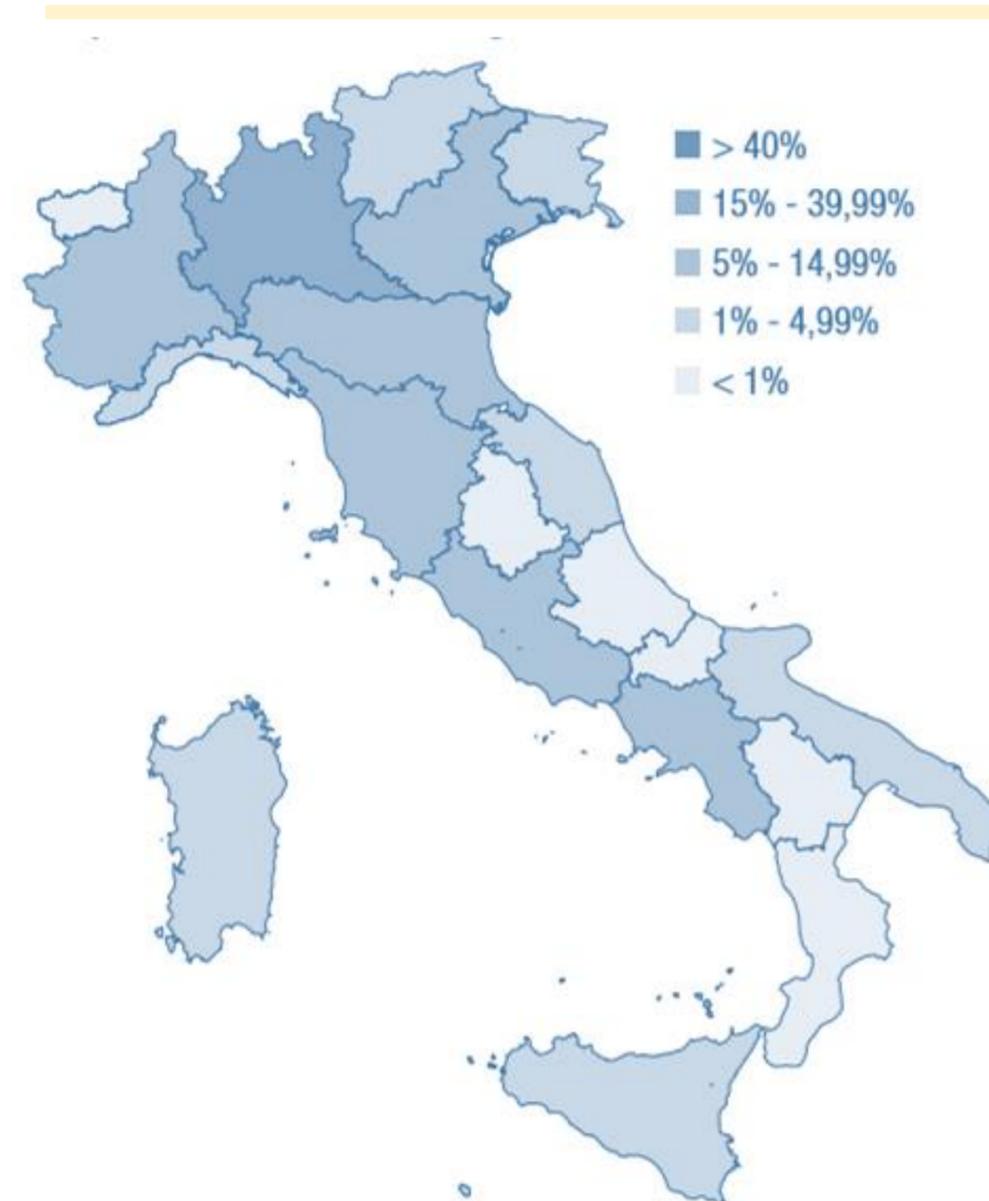
from plant breeding innovation and genetic editing to biotransformations through enzymatic catalysis for the requalification of traditional industrial processes and the preparation of chemical compounds by fermentation, from the production of bio-plastics to bioremediation and environmental diagnostics

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

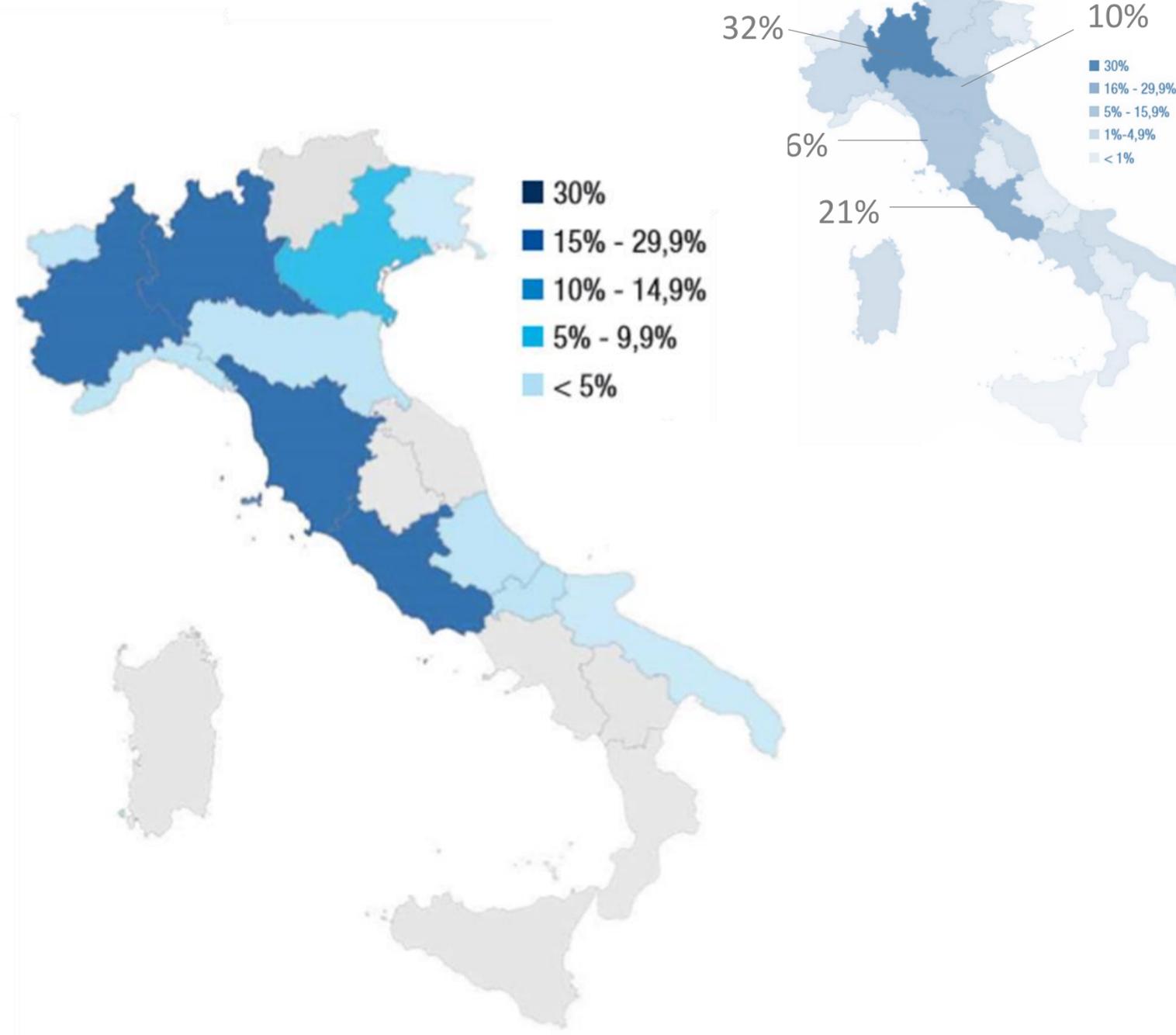




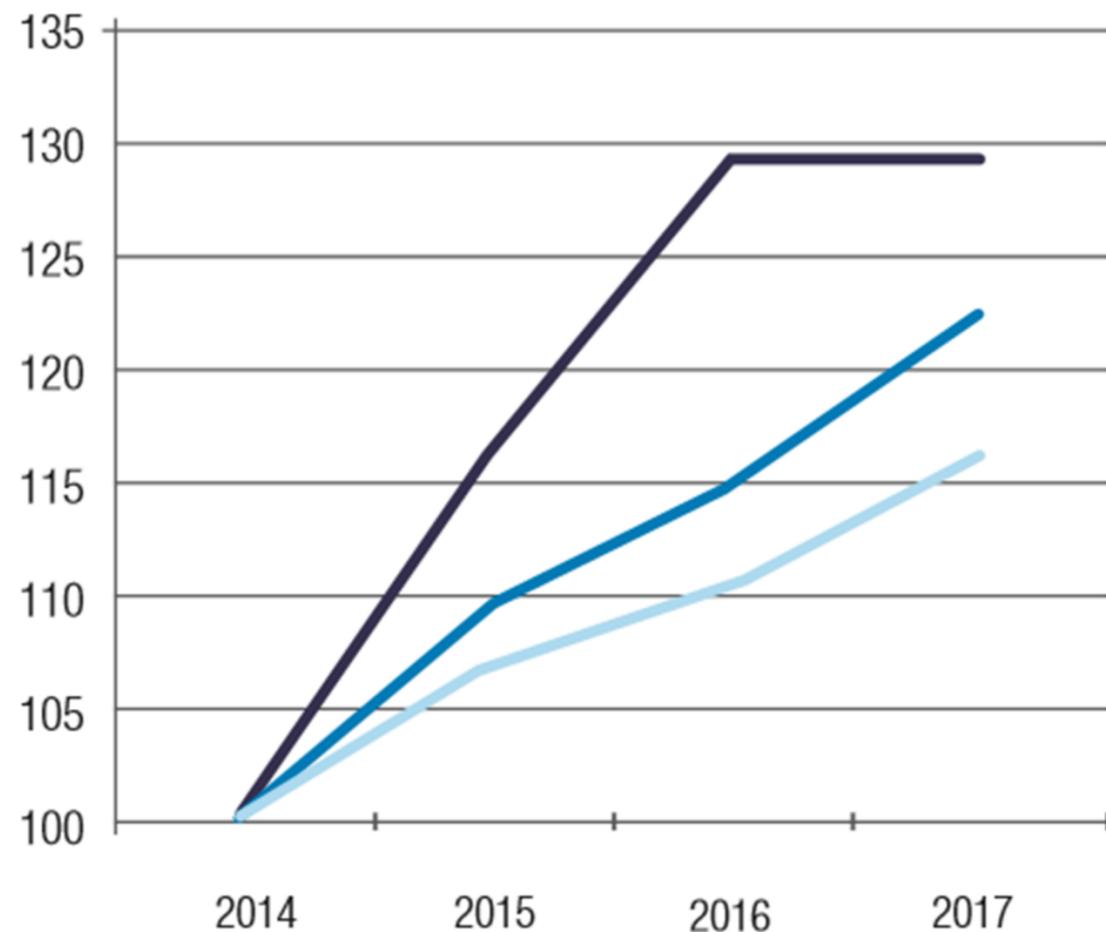
BIOTECH EXPORT

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