

# Facts&figures of pharmaceutical industry in Italy

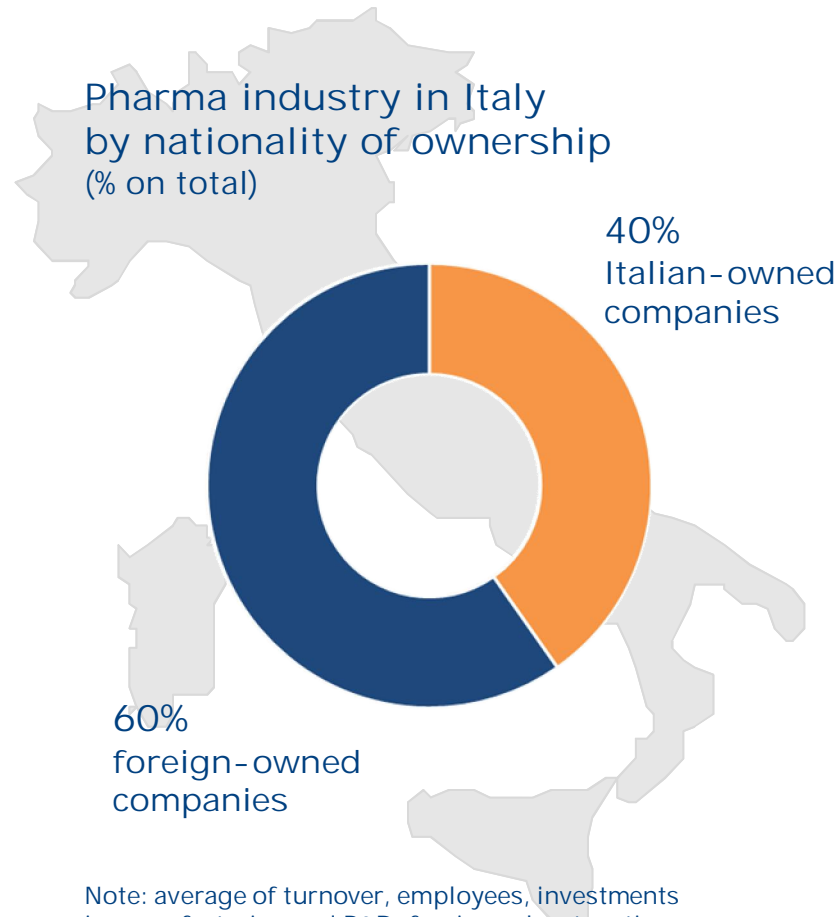
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# Key figures of pharma sector in Italy



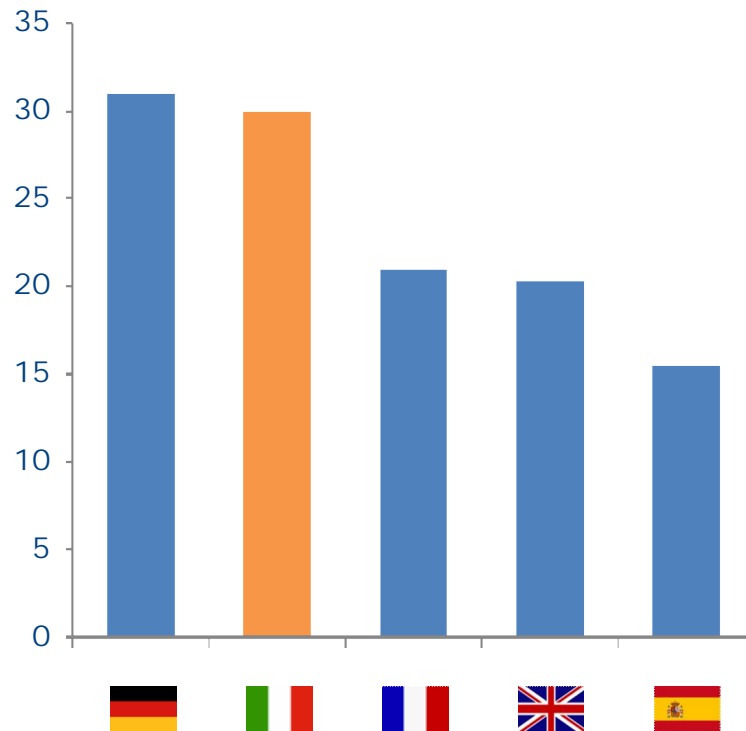
- 200 **companies**, member of Farmindustria, representing 90% of industrial value of pharmaceutical sector in Italy
- 64,000 **employees** (90% graduates), 44% women, and 66,000 in **upstream sectors**
- 6,200 **R&D employees**, 52% women
- € 30 billion of **manufacturing value**, 71% of which due to export (€21 billions)
- € 2.7 billion in **investments**, €1.5 of which in R&D and €1.2 in hi-tech plants and machinery

# Pharmaceutical and upstream sectors by Regions



# Italy is the second pharma manufacturer in EU (aiming at becoming the first)

Pharmaceutical manufacturing  
overall value (€ billion, 2016 estimates)

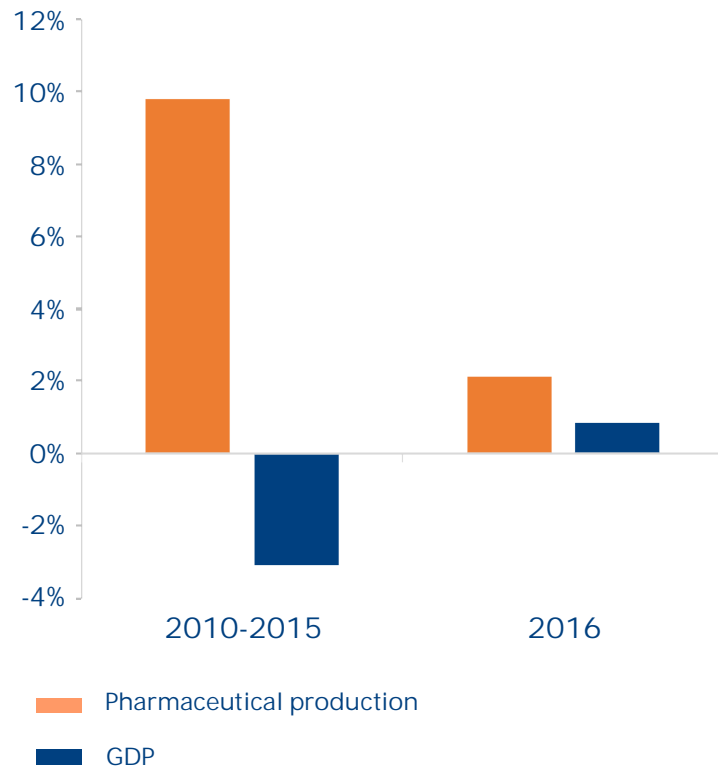


In 2016 Italy ranks second in Europe for pharmaceutical production, with the expectation to become the first manufacturer in the medium-term

Among the Big Eu Italy accounts for 26% of total pharma production and 19% of total sales

# The role of pharmaceutical industry in Italy for the economy of the country

GDP and pharmaceutical production  
(var. %)



The comparison with GDP shows the importance of the pharmaceutical industry for Italy's economy

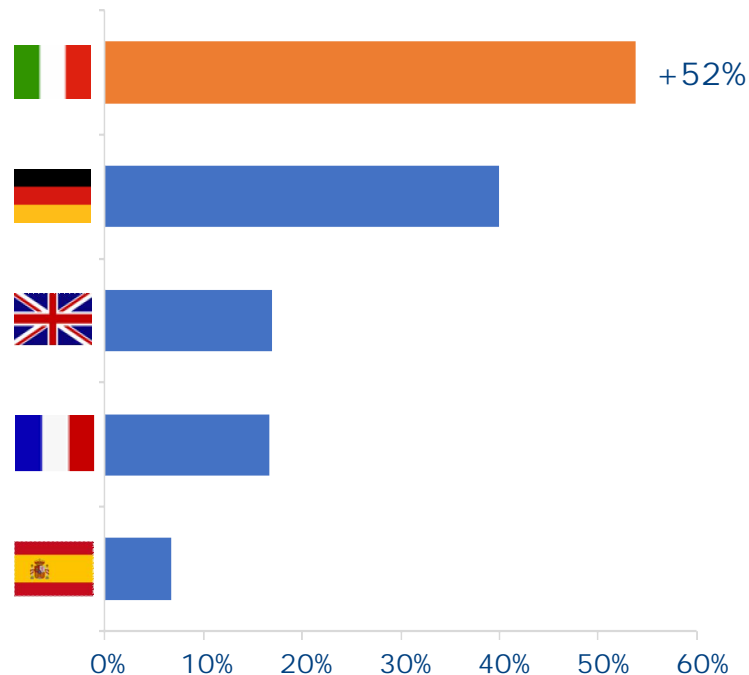
Furthermore, from 2010 to 2016 the pharma ranks first among manufacturing sectors for growth of:

- **industrial production** (+13%)  
(manufacturing average: -5%)
- **export** (+52%)  
(manufacturing average: +24%)
- **productivity\*** (+19%)  
(manufacturing average: +7%)

(\*) labour productivity: added value per employee

# The largest growth of export in Europe: export as the engine of pharma companies in Italy

Pharma export: trend 2010-2016  
for the big Eu countries  
(% change)

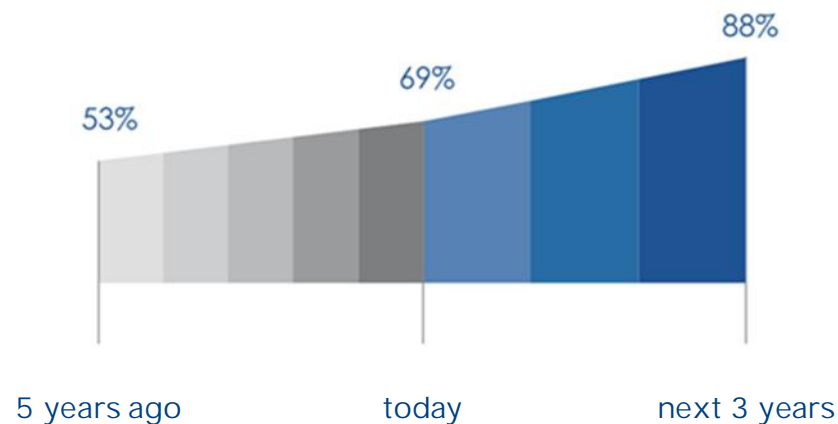


From 2010 to 2016 pharma export in Italy has grown **more than all big Eu countries and more than big European countries' average**

The performance of export is the result of an **increased quality of medicines and vaccines exported all over the world**: in 2010-2016 the average value of export registered a growth of +18% (compared to +1% of European average):

# The Pharmaceutical Industry in the era of digital innovation and industry 4.0

Share of pharmaceutical companies in Italy in which digital innovation is widespread in production processes (weighted data; weights: gross fixed investments, % total)



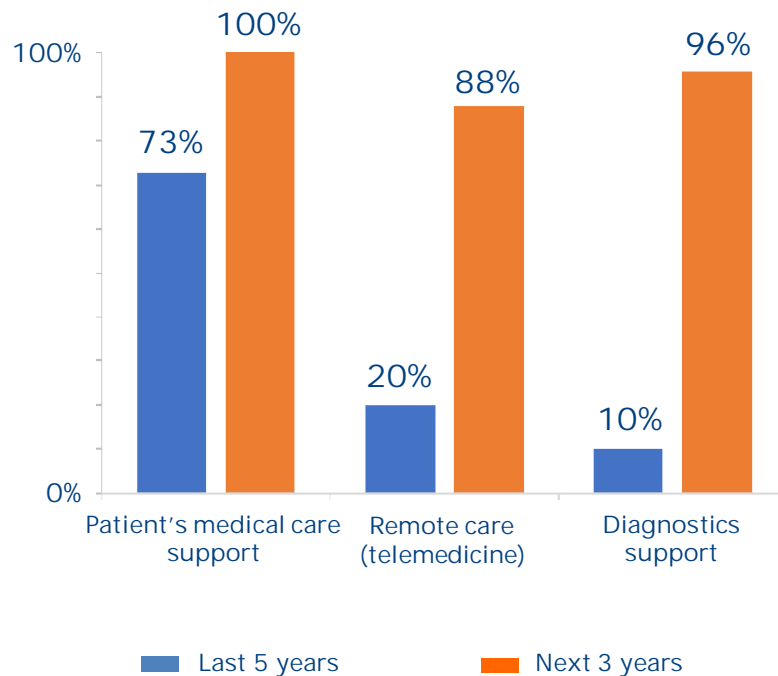
Pharmaceutical companies are already at the forefront of digitalization of productive and organisational processes.

With software for integrated plan management, intelligent logistics, additive manufacturing (3D printing) or virtual prototyping technologies.

And they will continue to invest in the near future

# New medicines and ICT for healthcare support

Share of pharmaceutical companies in Italy offering e-health products and services for patient support (weighted data; weights: R&D and gross fixed investments)



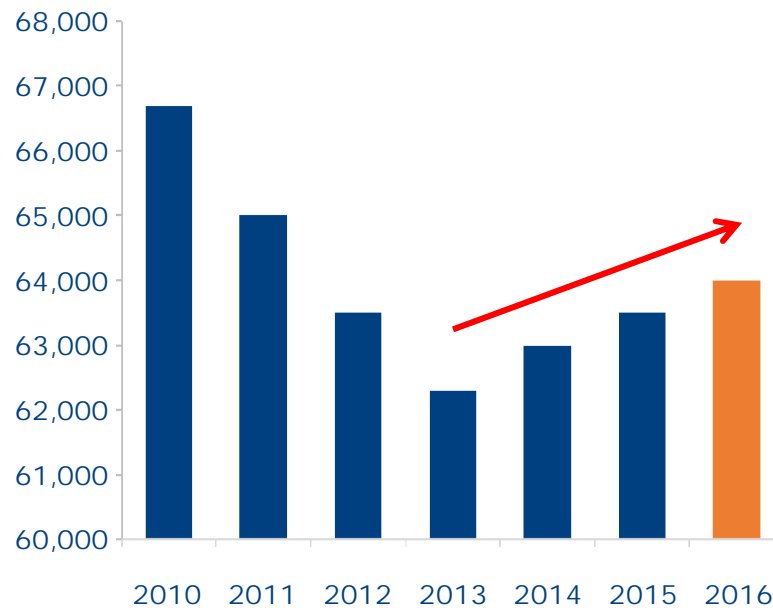
Digital technologies available today reshape the relationship between patient and doctor in the process of treatment and assistance. In this way **citizens become "engaged"**, able to interact in a more aware and responsible manner with their own doctor and in general with the NHS

A new scenario with significant implications for companies, which more frequently offer **e-health products and services in support of patients' assistance and care**



# The growth of employment in pharma sector

Trend of pharmaceutical employment  
(2010-2016)



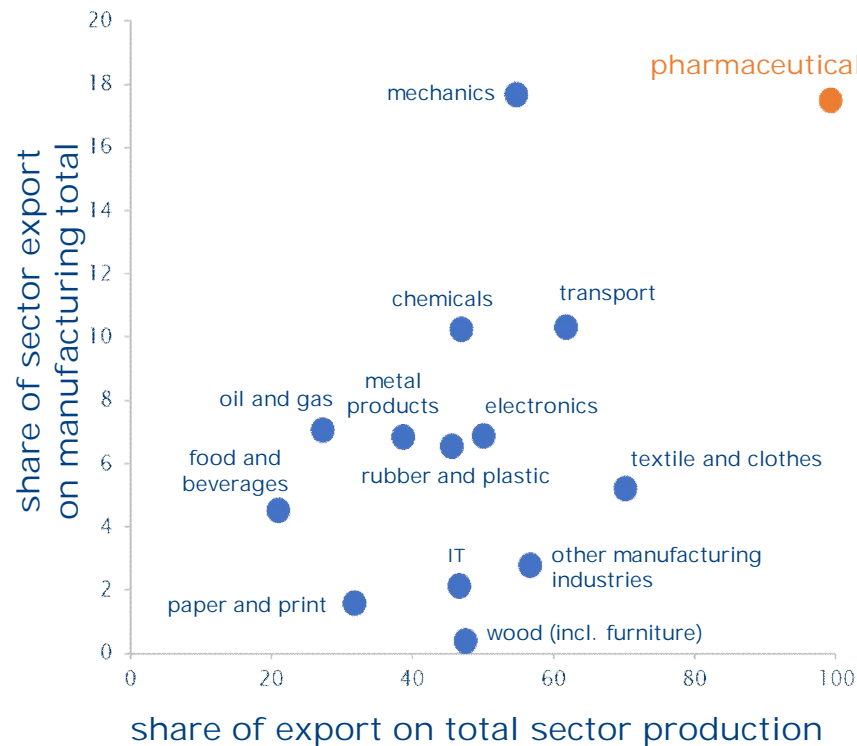
In 2016 employment in pharma industry  
grew by 1%,  
mainly in production and R&D (+1,5%)

6,000 new jobs in 2016

The **quality of Human Resources**  
is the main competitive advantage  
for pharma companies and their investments  
in Italy

# Foreign-owned pharma companies in Italy: leaders for investments and export

Export intensity of foreign-owned companies in Italy, per industrial sector



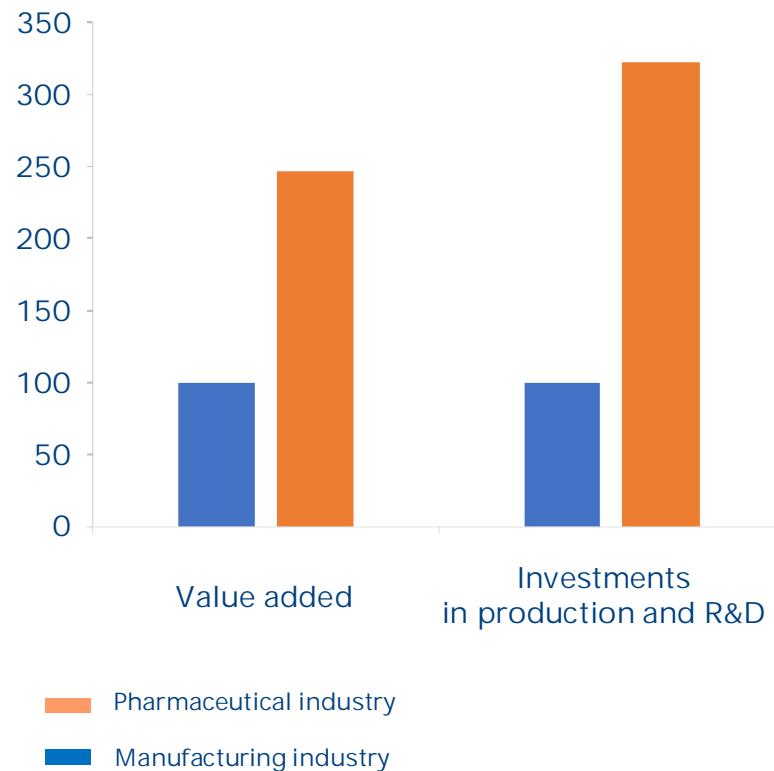
Among foreign-owned companies in Italy, pharma ranks top for **investments and export overall value**

And they are also leader for:

- share of export on production (90%)
- added value per employees

# Italian-owned pharma companies in Italy: performances beyond the manufacturing average

Value added and investment per  
employee of Italian-owned companies  
(index: total manufacturing=100)

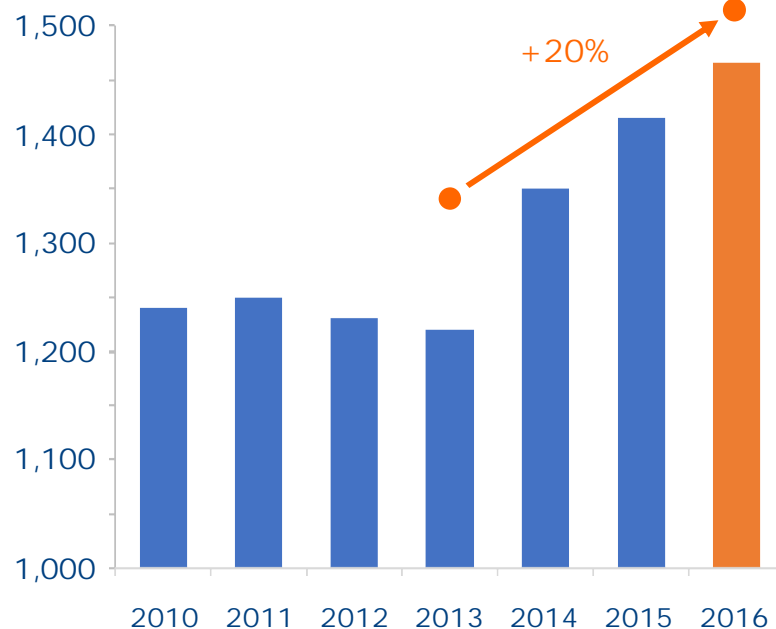


Among Italian-owned companies,  
pharmaceutical ones have **added value and  
investments in production and R&D  
per employee higher than the average**

This structural features allow companies  
to expand to foreign markets: in fact,  
they exported **more than the 70%  
of total revenue**

# R&D pharma investment in Italy are growing also thanks to a more attractive ecosystem

R&D pharma expenditure in Italy  
(€ million)



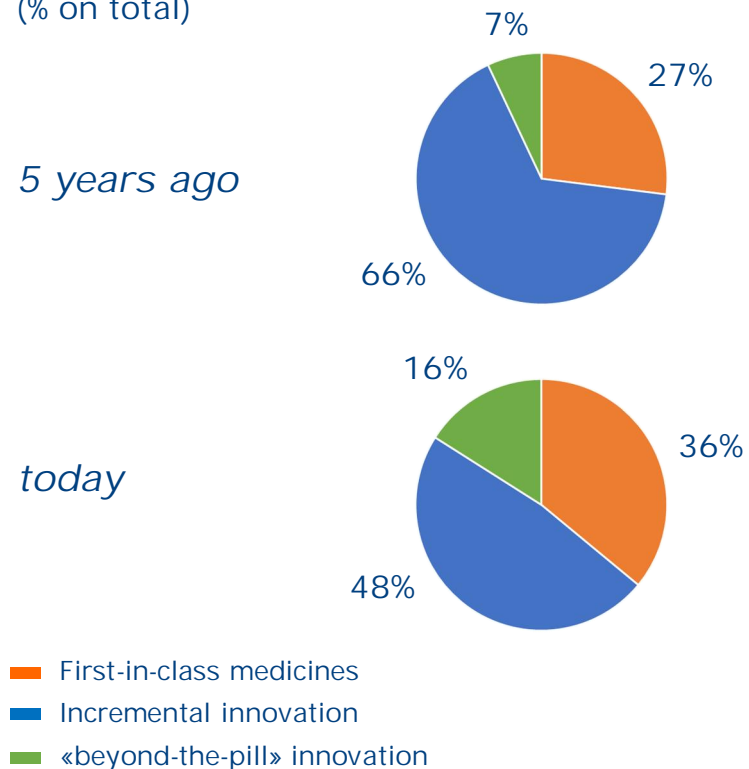
In 2016 pharma companies invested € 1,5 billion, the 7% of national total

In the last three years investments have grown by 20%

Pharma companies in Italy invest 17% of their added value, 12 times more than the national average. The sector drives the country to Europe 2020 goal (3% of national added value)

# Pharmaceutical R&D in Italy at the forefront of innovation

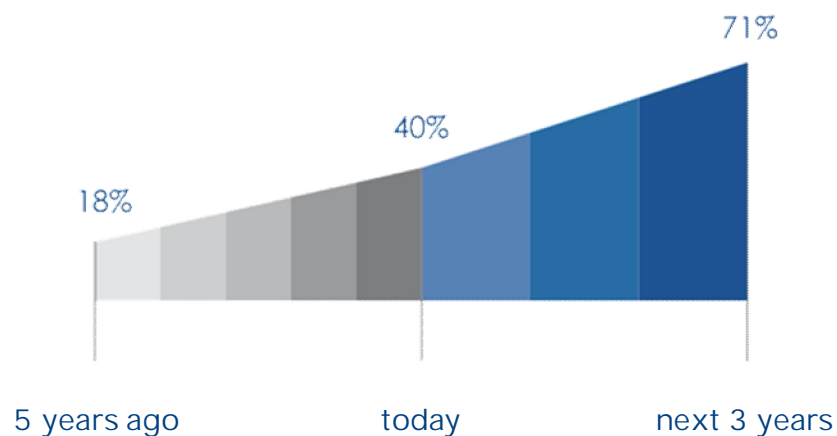
Composition of pharmaceutical  
companies R&D investment in Italy  
(% on total)



In the last few years the role of **first in class medicines** (those that start a new class of products) has greatly increased, as has that of **beyond the pill innovation**, due to the integration between medicines and digital devices, to improve the patient's health outcome

# An increasingly digital pharmaceutical R&D

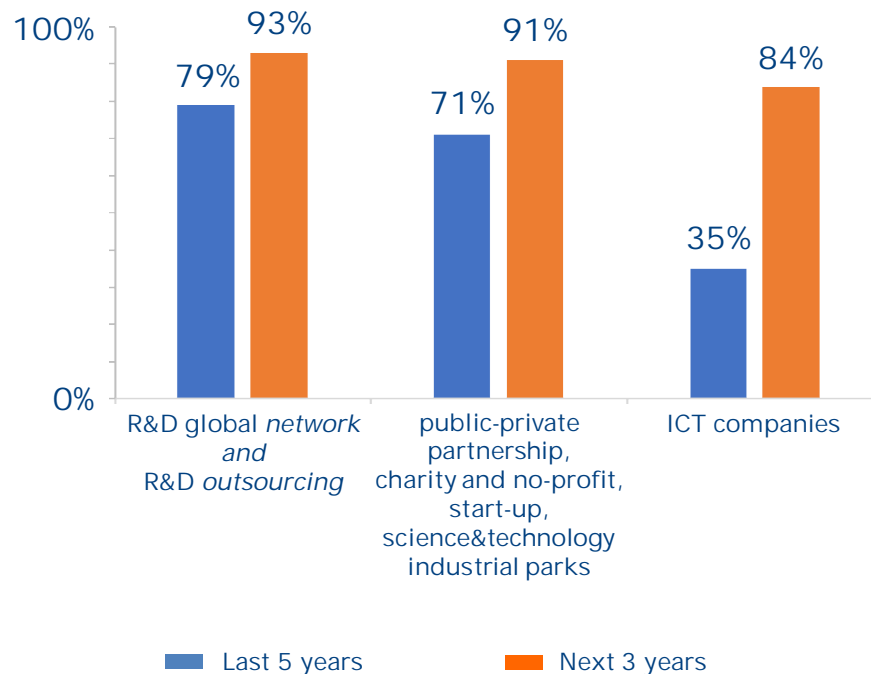
Share of pharmaceutical companies in Italy in which digital innovation has an important role in R&D activity (weighted data; weights: R&D investments)



Thanks to **Big Data analysis** and **use of new IT**, digitalisation is revolutioning the treatment of diseases, with **new and more efficient healthcare models** and an **increasingly personalized R&D**

# Pharma research in Italy: a network of excellence for health and quality of life

Share of pharmaceutical companies in Italy with R&D conducted in partnership (weighted data; weights: R&D investments)



More than 7,000 medicines in development globally, **with the contribution of research in Italy: in biotech, vaccines, plasma protein therapies, advanced therapies, rare diseases and sex-difference medicine**

- more than 300 biotech products in development
- 3 out of 6 advanced therapy medicinal products are made in Italy

**Innovation is the result of the network** between companies and public-private partnership, non-profit, universities, biotech SMEs, start-up and no-profit companies

# Clinical trials: the door of innovation, opportunity and resource for the country

Italy's ranking by quality of scientific publications (average between citable documents, citations, H-index)

	1°	2°	3°	4°	5°
Medicine (all disciplines)					
Oncology					
Cardiology and cardiovascular					
Neurology					
Pharmacology					
Drug discovery					

In 2016 pharma companies invested **€ 700 million in clinical trials**, in NHS structures

Italy could become a **hub for clinical trials**, thanks to the scientific expertise and the excellences in industry, universities and NHS structures

Investing in clinical trials not only means **new medicines and innovative therapies for patients**: it also **guarantees to NHS important resources and savings**, since companies bear all the costs connected to clinical trials (for 1€ invested in oncology trials, NHS saves 2,2€)



# Italy is among world's «healthiest» countries, with lower expenditure

Healthcare expenditure, % on GDP

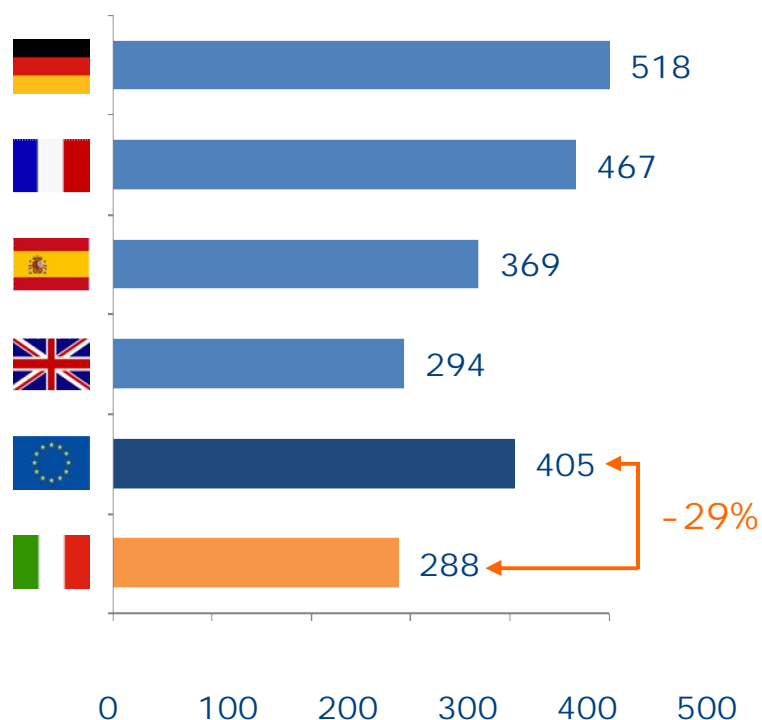
	Total	Public	Out-of-pocket
Eu-15 (ave.)	10.0	7.6	2.4
Italy	9.1	6.8	2.2
USA	16.9	8.4	8.6
Japan	11.2	9.5	1.7

The NHS is one of the most important assets in the country. Many respected international sources (WHO and OECD to name but a few) place Italy among countries at the top of the list in terms of life expectancy in good health and quality of the health service

Use of medicines and vaccines has made a major contribution to health in Italy and other countries, but in Italy the pharmaceutical spending is lower compared to other economies: over the last 10 years the expenditure/GDP ratio in Italy has been stable at 1%, compared to 1.2% average ratio in Europe

# Italy's pharmaceutical expenditure is lower than big European countries

Per capita pharma public expenditure  
(territorial + hospital, euro, 2015)

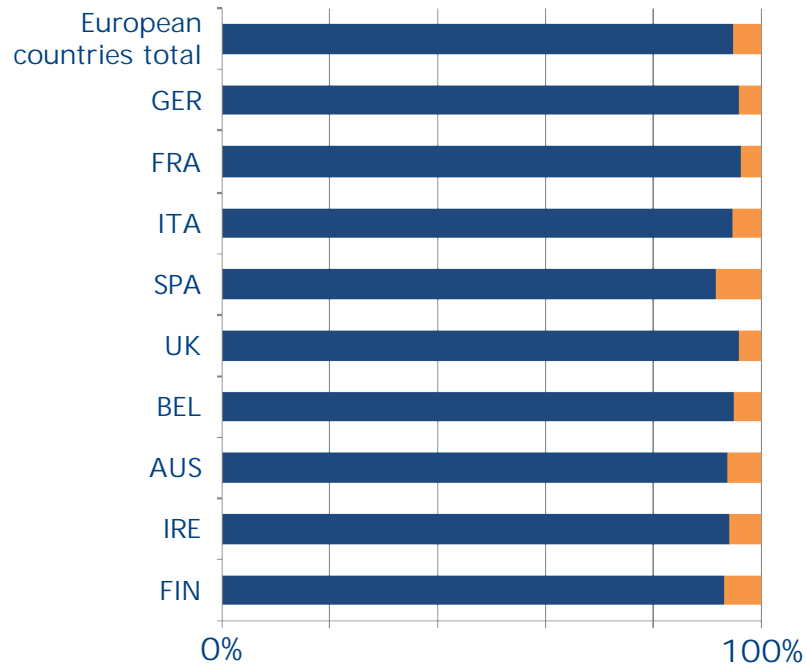


In Italy pharmaceutical public expenditure is 29% lower than European average: € 288 per capita compared to € 405

Our country is in line with other European countries in terms of diffusion of generics – 90% of pharmacy consumption – and is the first for value and volume of sales for biosimilars, with the highest market share among the main European countries

# Share of off-patent market in Italy is aligned with other European countries

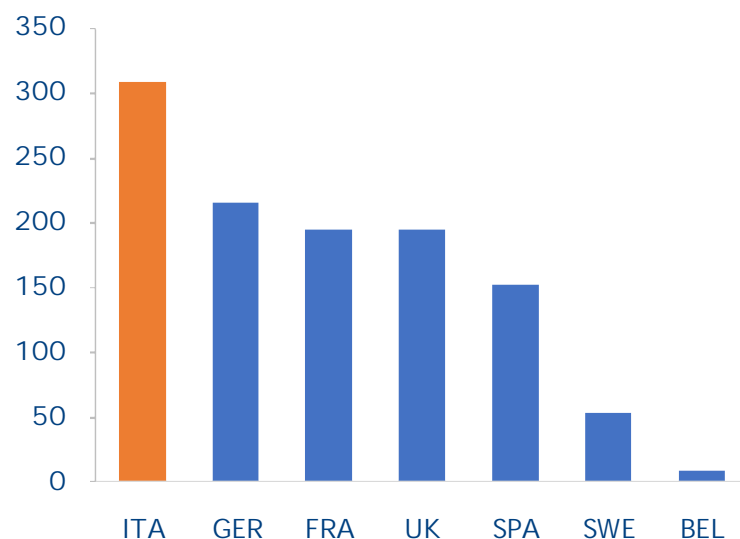
In and off-patent share  
in pharmacy market  
(% of total packages, 2016)



Italy is in line with other European countries in terms of diffusion of generics (90% of pharmacy consumption)

# Biosimilar products consumption in Italy is equal if not higher than other European countries

Sales of biosimilar products in 2016  
(€ million, ex-factory prices)



Volume market share of biosimilar products in top-7 European countries  
(% on total)

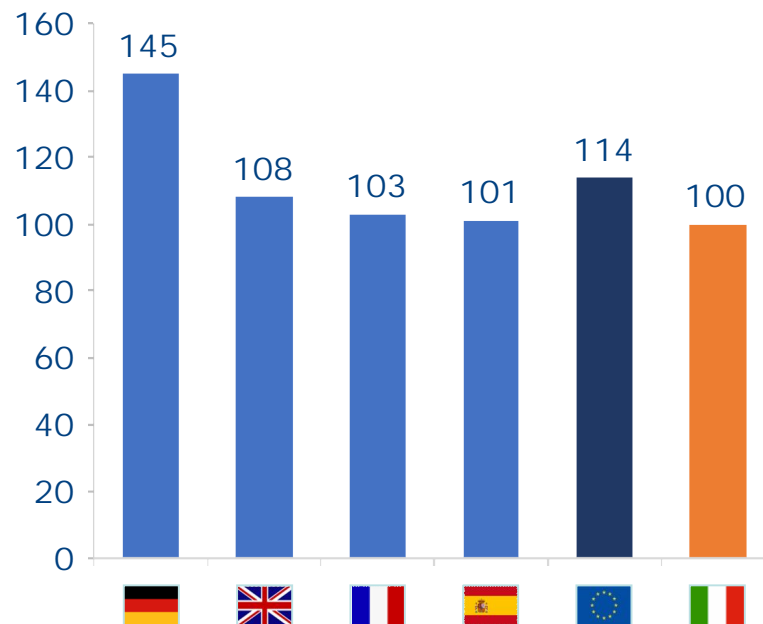
	Market share	Market share at consumption structure parity (*)
Top 7 europeans	13.4%	13.4%
Italy	25.7%	16.3%
Sweden	16.6%	18.2%
Spain	14.2%	14.3%
Germany	13.8%	15.9%
UK	9.2%	7.4%
France	6.1%	9.0%
Belgium	2.0%	2.1%

(\*) reference structure: top7 europeans' consumption

Italy is the first for value and volume of sales for biosimilars, with the highest market share among the main European countries

# In Italy medicines' prices are lower compared to other European countries

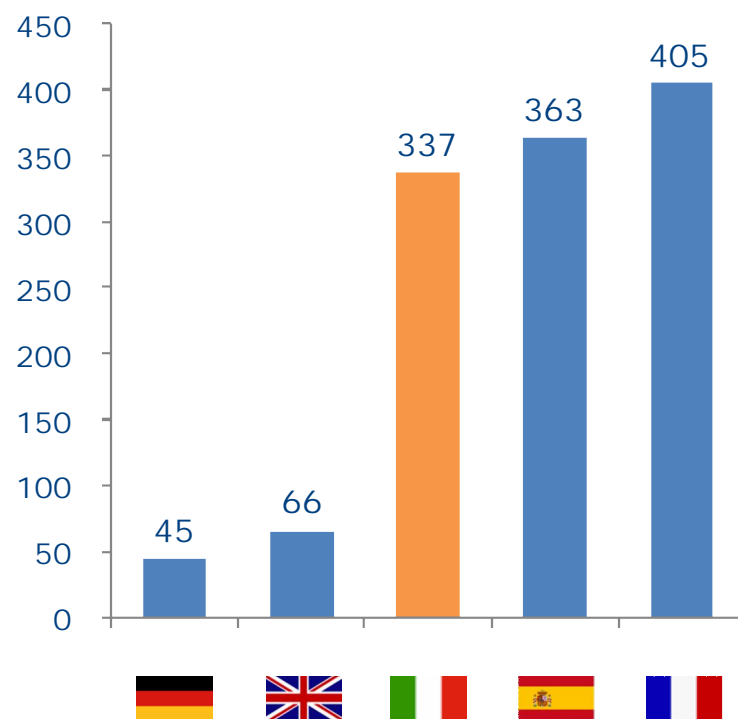
Medicines' prices  
in international comparisons:  
(index Italy=100, ex-factory values, 2015)



Many respected national and international sources show that **prices of medicines** in Italy – negotiated with the regulatory agency, Aifa – **are lower than in other European countries**. On average, prices in Italy are 14% lower than European ones

# Conditions at market launch for new medicines in Italy and other big European countries

Time of access to new medicines  
(time elapsing between EMA's MAs and availability)



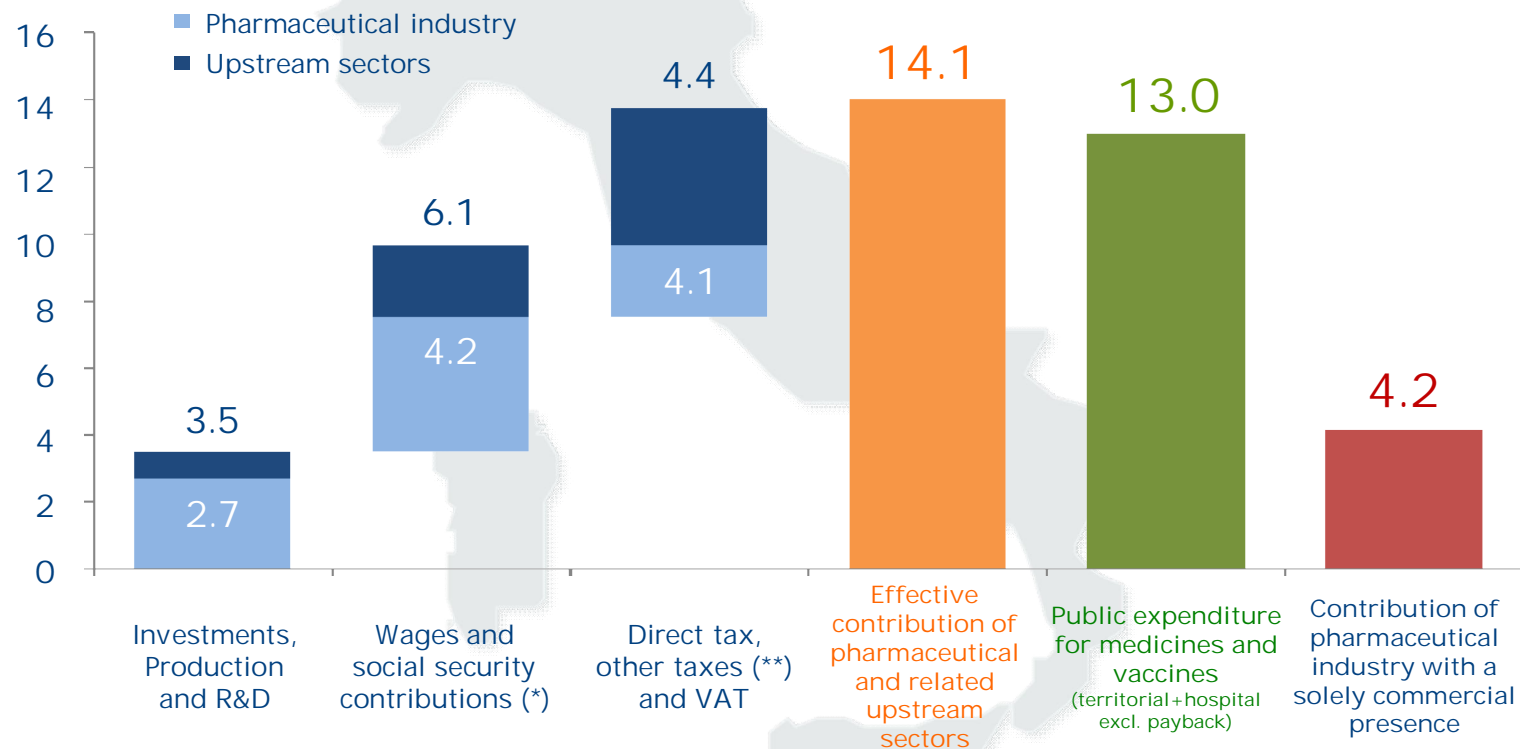
Access to new medicines in Italy is penalized compared to other big Eu countries.

This gap is due to the **high number of redtape limits, both at regional and local levels**

Measured in terms of per capita consumptions, the availability of new medicines to patients is reduced as compared to other big European countries

# Pharmaceutical industry and upstream sectors in Italy

Direct economic contribution of pharma industry and upstream activities, compared to public expenditure for reimbursed medicines – 2016  
(€ billion, ex-factory prices)



(\*) excluding R&D employees, included in «R&D investments»

(\*\*) Fares, duties and non-deductible calculated on expenditure in promotional events and conventions

