

Innovation and Technology in Spain

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Innovation is the action and effect of altering or changing something, by incorporating new aspects, or the process of creating or modifying a product and placing it on the market

- Real Academia Española

1. Spain Today

1

Spain is the 4th economy in the euro zone, the 5th in the European Union, and the world's 13th largest economy (GDP)

2

Spain is the world's 11th largest investor of stock worldwide (640,311.7 million USD).

3

Spain was the second largest investor in Latin America

4

Spain has a powerful network of infrastructures, the world's 2nd largest high-speed railway network , placed among the world's top 10 countries with the best quality in the field.

5

Spain is positioned as the world's 9th largest recipient of FDI worldwide (USD 634,531.9).

2. Science, Innovation and Technology

■ Spain is fast becoming a **leader in innovation** and generating advanced solutions in the industries of aerospace, renewable energies, water treatment, rail, biotechnology, industrial machinery and civil engineering.

■ The country is determined to deepen and intensify its productive specialization in industries that depend on technology and innovation.



2. Science, Innovation and Technology

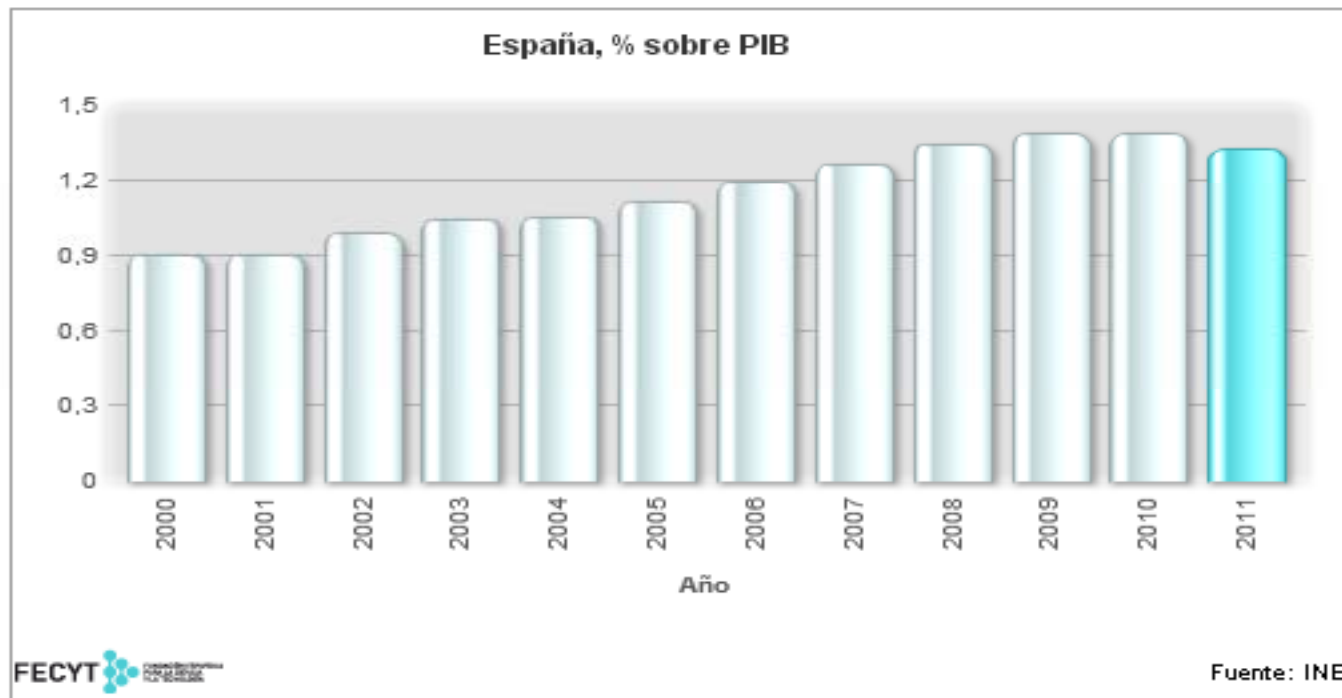
- In 2007, more than 215,000 people worked in the field of R&D, 1.8 times more than in 2000.
- Share of the workforce conducting R&D activity rose from 7.4% in 2000 to 10.65% in 2008.
- Scientific production has grown from 32,500 documents in 2003 to 52, 238 in 2008, an increase of 62%.
- In 2008, articles written by Spanish researchers accounted for 3.13% of the world total.
- Expenditure on innovation as a % of firm revenues has risen over the last four years and new and improved products have accounted for 13% of company sales in the last two years.



2. Science, Innovation and Technology

Spain has constantly increased the amount of resources channeled to R&D over the last decade. Indeed, growth in investment in R&D has outpaced GDO growth rising from 0.91% of GDP in 2000 to 1.33% of GDP in 2011.

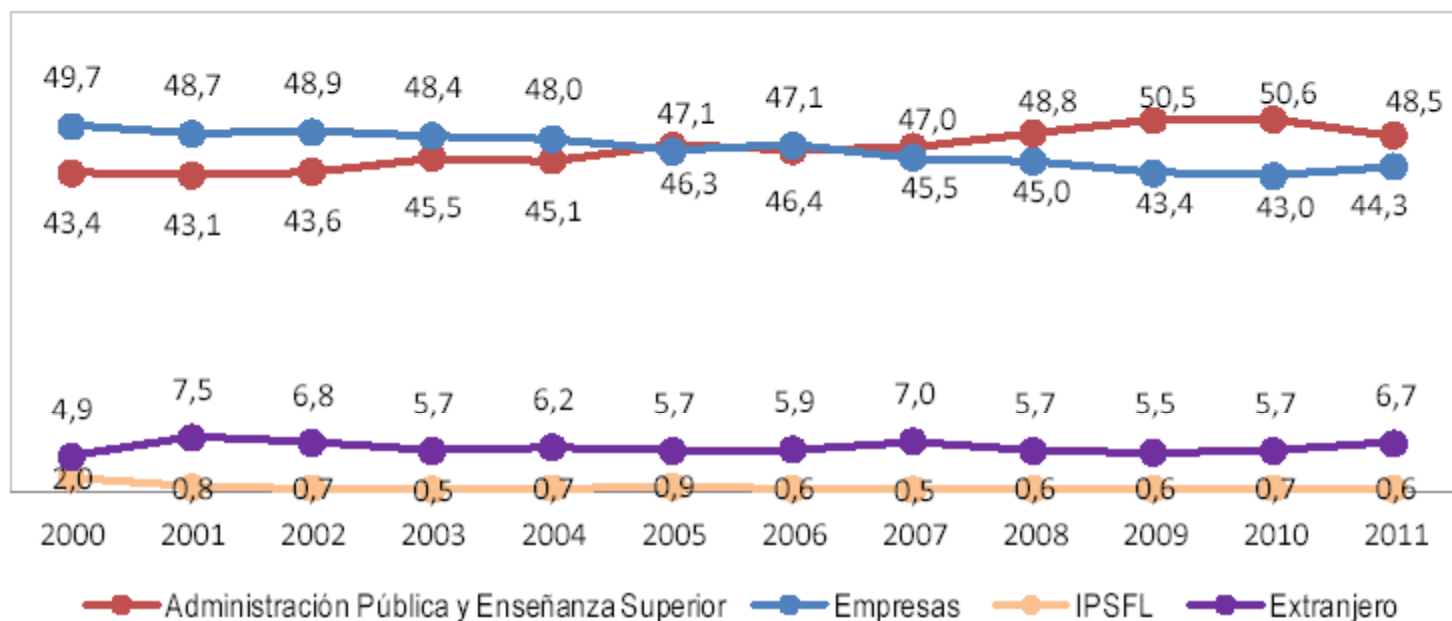
R&D Spending As A Percentage of GDP



2. Science, Innovation and Technology

Private spending has tripled over the last 10 years. We must rebalance public and private expenditures, private only accounted for 45% of total expenditure, compared to EU average of 55%.

Internal Source Funding in R&D Expenditures Per Source (%) (2010-2011)



Fuente: INE. Elaborado por FECYT.

Source: Spanish Innovation Strategy, Ministerio de Ciencia e Innovación.

2. Science, Innovation and Technology

Notwithstanding the important achievements made in recent years some challenges remain:

- Current growth model based on industries of low innovation
- The financial sector channels few resources to innovative companies and venture-capital activities
- Lack of coordination between the educational system and corporate needs
- Overly rigid Public Administration

3. New Strategy (2013-2020) and Plan

- The New Strategy is conceived as a **multiple industry initiative that involves all political, social and economic stakeholders..**
- It contains a series of **economic policy measures**, both microeconomic and macroeconomic and includes environmental and social aspects, which together create a new environment for the development of innovation.

3. New Strategy (2013-2020)

Recognize and promote talent in Research, Development and Innovation (R&D&I) and the employability of that talent;
To provide impetus for business leadership in R&D&I;
To promote excellence in scientific and technical research;
and to foster R&D&I activities that address the global challenges facing society.

1. Improving the quality of human resources at all levels.
2. Maintaining support for R&D and innovation despite difficult budgetary conditions.
3. Helping small innovative companies to grow and increasing the innovativeness of larger firms.
4. Building on the dynamism in emerging technologies and improving the connection between Spanish research and global innovation networks

3. New Strategy (2013-2020)

In line with the targets that are been defined by the next European program “Horizon 2020” and consequently agents in the Spanish R&D&I system will have the framework to foster collaboration with the rest of Europe

1. Spanish Science, Technology & Innovation Strategy (2013-2020).

- The Strategy for 2013-2020 contains the objectives, reforms and measures that need to be addressed within the sphere of research, development and innovation with a view to strengthening their growth and impact

2. State Plan for Scientific and Technical Research and Innovation

- Instrument used by the General State Administration Services to meet the targets set by the Strategy, whose actions will be carried out under the auspices of the State Secretariat of R&D&I by the financing agencies set forth in the Science, Technology and Innovation Act, in particular, the Centre for Technological and Industrial Development (CDTI) and the future Spanish State Agency for Research

4. Strategic Goals

- **To put Spain at the forefront of knowledge:** fostering stability and mobility within the System, fostering international cooperation networks, promoting consolidated research groups & scientific organizations of excellence.
- **To promote a highly-competitive business sector:** stimulating the start-up of new technology-based enterprises & public-private cooperation agreements, enhancing the research outcomes transfer to the production System.
- **To integrate the regions within the Science and Technology System:** active coordination & cooperation of information exchange, common funding instruments & shared participation modalities in the National Plan.



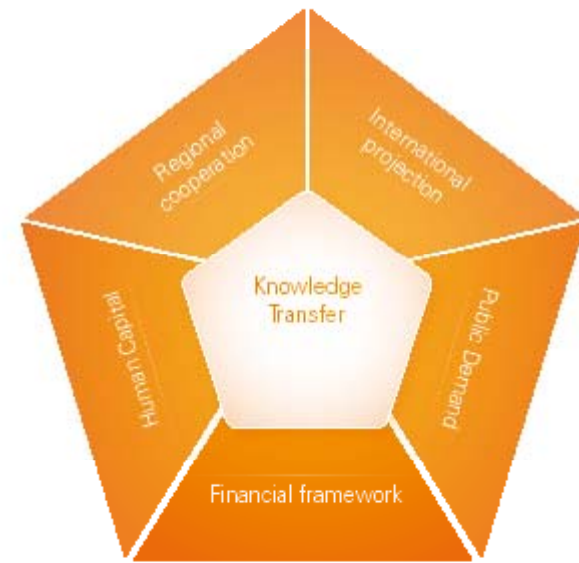
4. Strategic Goals

- **To boost the international scope of the Science and Technology System:** coordinating policies, establishing incentives to participate in the Framework Program, helping research staff access to international projects and networks.
- **To create a favorable climate for R&D&I investment:** enhancing public funding transparency, enacting legislation in favor of developing S&T, new formulas for knowledge transfer, encouraging science and technology sponsorship in the private sector.
- **To establish suitable conditions for disseminating science and technology:** creating new communication formats that meets public demands, stimulating citizens' entrepreneurial skills and attitudes, setting up forums and awarding prizes to promote interest in science.



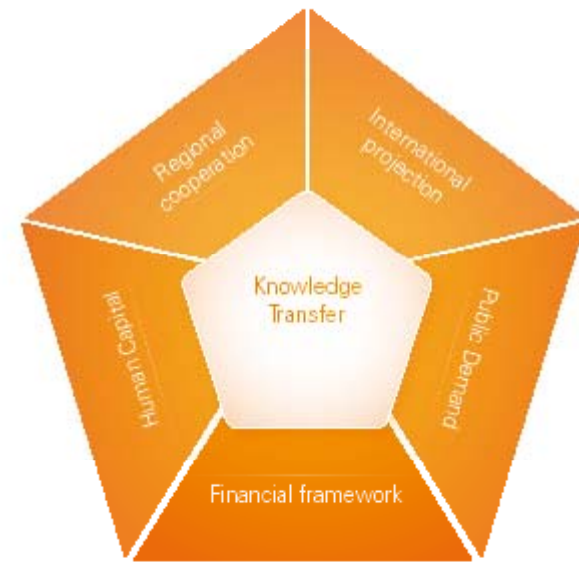
5. Axis.

- 1. Fostering Financial Framework for Innovation** – target is set to increase annual investment in R&D&I by 6,000 million euros in relation to 2009.
- 2. Promoting Innovation through Public Demand** – covers the promotion of public procurement policies as a way to stimulate innovation through demand.
- 3. Strengthening Regional Cooperation** – Innovation is still highly concentrated in two regions of Spain, Madrid and Cataluña, which account for 54% of the total. This Axis promotes the recognition of the essential role of Regional and local governments in the development of innovation.



5. Axis.

4. **Human Capital** – Encourages improvement of professional training for human resources and the provision of research and innovation talent to the business sector.
5. **International Projection – Internationalization is inherent to innovation.**
 - Aims to help innovation companies develop an international strategy into their product development and launch the technological and innovative products they have developed onto international markets. Such actions tend to improve the standing of the Spanish innovation economy worldwide and improve the technological balance of payments.
 - Play an active role in attracting foreign venture capital funds together with foreign networks of business angels.



6. Horizon 2020

	2010	2016	2020
Percentage of Spending in R&D Over GDP (%)	1,39%	1,48%	2,00%
Percentage of Spending in R&D from the Private Sector Over GDP (%)	0,60%	0,73%	1,20%
% of R&D Spending from Foreign Sources	5,70%	9,60%	15,00%
Employment in R&D Activities	11,80%	13,00%	16,00%
% of SMEs working with technological innovations over all SMEs	14,60%	16,00%	20,00%
% of Exports in ST&I Over Total of all exports	4,70%	6,00%	10,00%
Increase in Number of Patents Requested	--	25,00%	50,00%
Increase in Venture Capital Invested		5,00%	12,00%

Source: INE, OECD, Eurostat, World Intellectual Property Organization.

¡Gracias! Thank you!

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