Instituto Nacional de Estadística

Press Release

2 April 2012

Statistics on Biotechnology Use
Year 2010. *Final results*

Business expenditure on Biotechnology R&D activities grows 12.9% in 2010

Internal expenditure on Biotechnology R&D activities increases 9.3%. Business registers an increase of 11.2%

Personnel employed in internal Biotechnology R&D activities registers an interannual increase of 8.9%

A total of 969 companies carried out Biotechnology R&D activities in 2010, indicating a 12.9% increase, as compared with 2009.

Internal expenditure on Biotechnology-related R&D activities increased 9.3%, as compared with the previous year. The business sector registered an increase of 11.2%. In turn, in the others sectors (Public Administration, Higher education and Private Non-Profit Institutions) the growth rate was 8.2%.

Internal expenditure on Biotechnology-related R&D activities

Internal expenditure on Biotechnology-related R&D activities reached 1,573 million euros in the year 2010, accounting for 10.8% of total internal expenditure on R&D activities, and a 9.3% increase, as compared with 2009.

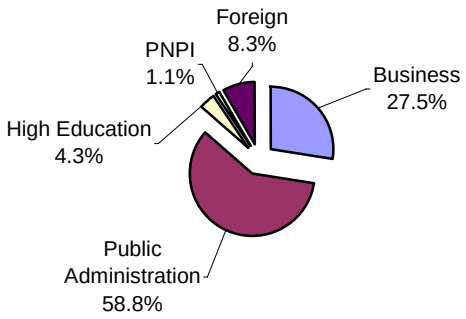
By sector of operation, the Public Administration presented the highest percentage over total internal expenditure on Biotechnology R&D activities (40.9%), followed by the Business sector (36.1%) and Higher education (22.6%).

The business sector experienced a 11.2% increase in internal expenditure on Biotechnology-related R&D activities in 2010. Moreover, the number of companies with internal Biotechnology R&D activities registered an increase of 12.9%.

In turn, in the Public Administration, internal expenditure on Biotechnology R&D grew 5.8%, whereas in Higher education, the annual rate was 11.5%.

Internal Biotechnology-related R&D activities in 2010 were mainly financed by the Public Administration (58.8%) and the private sector (27.5%). Funds from foreign sources (8.3%), from Higher education (4.3%) and from Private Non-Profit Institutions (1.1%) financed the rest.

Evolution of internal expenditure on Biotechnology R&D by source of funds. 2010



Employment in internal Biotechnology-related R&D activities

The total number of persons dedicated to internal Biotechnology R&D activities, on a full-time equivalent, increased 8.9% in 2010, reaching 23,993.3. This figure amounted to 10.8% of the total personnel employed in R&D activities.

The group of researchers in internal Biotechnology R&D activities reached the figure of 15,456.3 persons.

57.5% of personnel were women. The highest percentages of female participation were recorded in the Public Administration (61.6%) and in Private Non-Profit Institutions (60.0%).

Personnel employed in internal Biotechnology R&D activities, by field of operation, according to occupation and sex. Year 2010

On a full-time equivalent

Field of operation	Total		Researchers	
	Total	Women	Total	Women
TOTAL	23,993.3	13,802.3	15,456.3	8,213.3
Public Administration	10,124.6	6,241.4	5,758.1	3,233.9
Higher Education	7,404.7	3,753.7	5,867.6	2,856.5
Business	6,380.4	3,757.0	3,778.4	2,094.5
PNPI	83.6	50.2	52.2	28.4

Data by Autonomous Community

The Autonomous Communities that registered the greatest internal expenditure on Biotechnology R&D in 2010 were Cataluña, Comunidad de Madrid, Andalucía and Comunitat Valenciana.

Total internal expenditure on Biotechnology R&D, by Autonomous City and Community and sector of operation. Year 2010

Thousands of euros

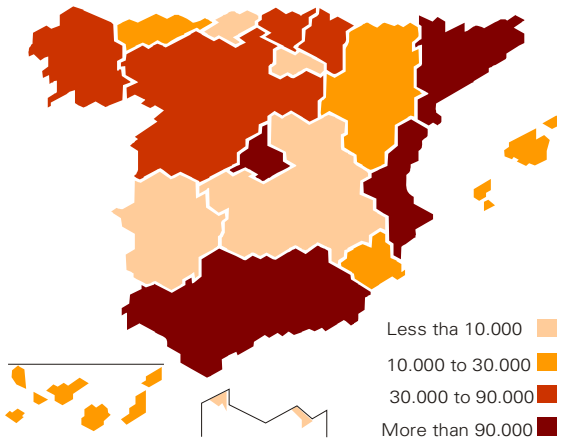
	TOTAL	Rest of sectors *	Business
TOTAL	**1,573,074**	**568,280**	**1,004,795**
Andalucía	155,242	41,939	113,302
Aragón	20,282	8,116	12,165
Asturias, Principado de	13,296	2,476	10,820
Balears, Illes	18,332	2,541	15,791
Canarias	23,952	4,244	19,708
Cantabria	8,453	(1)	(1)
Castilla y León	58,719	19,466	39,252
Castilla-La Mancha	11,885	2,029	9,857
Cataluña	457,082	177,827	279,255
Comunitat Valenciana	129,223	32,323	96,900
Extremadura	5,425	(1)	(1)
Galicia	48,978	12,949	36,029
Madrid, Comunidad de	452,398	175,592	276,806
Murcia, Región de	39,705	5,821	33,884
Navarra, Comunidad Foral de	31,702	9,988	21,714
Pais Vasco	92,134	67,406	24,728
Rioja, La	6,265	1,858	4,406
Ceuta	-	-	-
Melilla	-	-	-

(*) Rest of sectors, Public Administration, PNPI and Higher education

(1) Not available to protect statistical confidentiality

(-) Numerical data equal to zero not resulting from rounding

Internal expenditure on Biotechnology-related R&D activities. Year 2010
(thousands of euros)

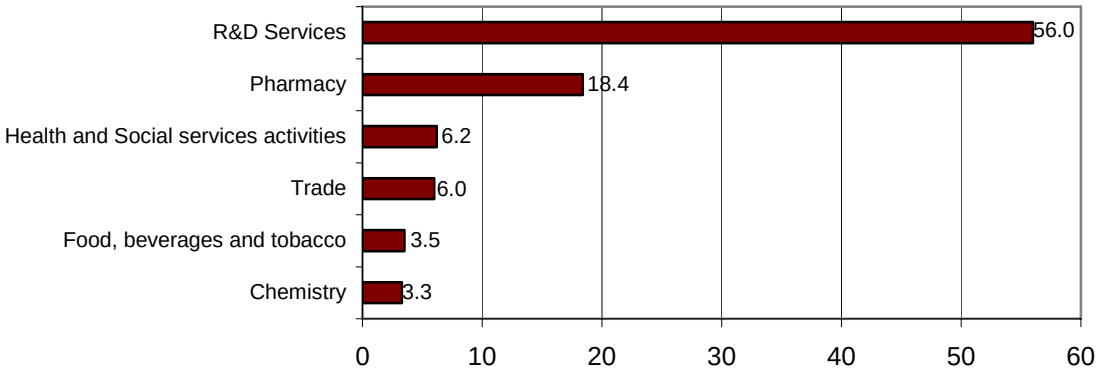


Data by sector and branch of activity

The Services sector accounted for 71.1% of internal expenditure on Biotechnology-related R&D activities in the year 2010. In turn, companies in Industry accounted for 26.8% thereof.

By branch of activity, worth noting were *R&D Services* (with 56.0% of total expenditure) and *Pharmacy* (with 18.4%).

Distribution of internal expenditure on Biotechnology R&D, by branch of activity. Year 2010 (%)



External expenditure on Biotechnology R&D activities

Purchases of Biotechnology R&D reached 215 million euros in the year 2010. 22.1% of this expenditure was made outside of Spain.

By sector, Business presented the highest percentage over total expenditure on external R&D activities, with 67.7%.

Total sectors. Purchases of Biotechnology R&D services
Unit: thousands of euros

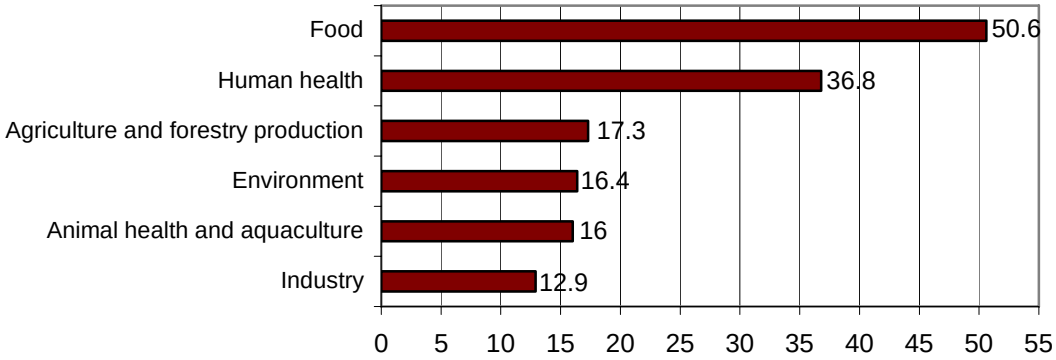
	Total 2010	Business	Rest of sectors *
Purchases of Biotechnology R&D services	**214,931**	**145,610**	**69,320**
- In Spain	167,369	104,277	63,092
- Abroad	47,561	41,333	6,228

(*) Rest of sectors: Public Administration, PNPI and Higher Education

Areas of Biotechnology application

Amongst the areas of final application of the products obtained from the use of the different types of biotechnology, worth noting were *Food* and *Human health*, with 50.6% and 36.8%, respectively, of the total units.

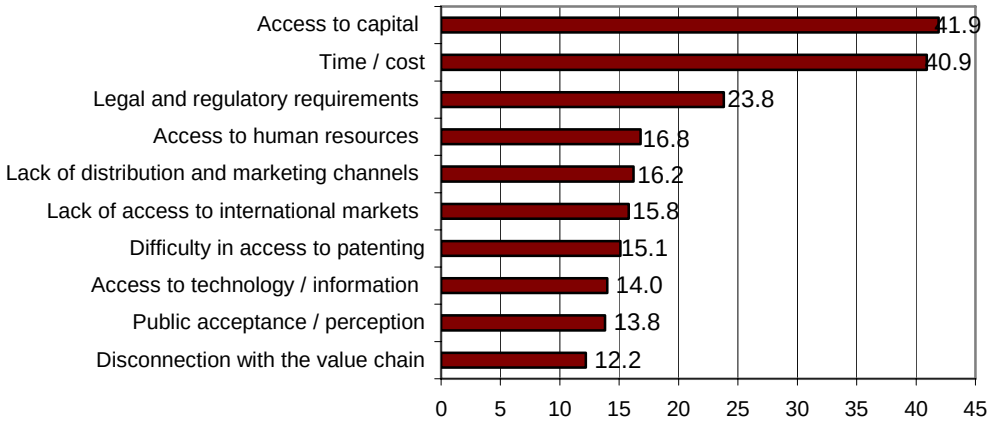
Percentage of units with biotechnological activities, according to the areas of final Biotechnology application. Year 2010



Impediments to the development of Biotechnology

The impediments that, with a high* valuation, prevented or hindered the progress of development and marketing activities of biotechnological products and processes, were *Access to capital* (with 46% of the total units that carried out Biotechnology-related activities during the year) and *Time/cost* (40.9%).

Impediments to the development of Biotechnologies. Year 2010 (%)



*The scale was: High, Medium, Low and Does not know

Methodological note

The Statistics on Biotechnology Use were prepared following the methodological guidelines of the OECD.

The information was collected, in the case of companies, through an additional module annexed to the Technological Innovation in Companies Survey, and intended for all those units that were potentially linked to Biotechnology. In the case of the Public Sector, the information is collected through a module annexed to the Statistics on R&D Activities, and is aimed at all those units that carry out the R&D statistics, be they Higher education centres, Public Administration or PNPI.

As of the year 2006, the scope of the Biotechnology statistics was broadened, considering as the target of study those units with Biotechnology-related activities (not only Biotechnology R&D), analysing the type of biotechnological activities that they carry out, and the areas of final application of the products obtained from these, as well as the impediments that prevent or hinder the progress of the development and marketing of biotechnological products and processes. In 2007, it considered the internationalisation of Biotechnology-related activities, and beginning in 2008, it included expenditure on external Biotechnology R&D activities.

In 2010, the companies used for the Biotechnology publication ceased to be processed in the census. As of that year, part of the companies researched come from a random sample, which as a result causes a break in the data series. The INE will soon publish, on its website, the new data series from the year 2008 onwards.

Biotechnology comprises the application of science and technology to living organisms, as well as to their parts, products and models, in order to alter living or inert material, for the purpose of producing knowledge, goods or services.

The main aggregates for quantifying the national effort in Biotechnology-related activities, performed within the State throughout the year, comprise: expenditure on Biotechnology-related activities, personnel dedicated to these activities, including persons who have worked on a full-time equivalent (FTE), internal expenditure on Biotechnology R&D, which includes current and capital expenses, and the personnel dedicated to Biotechnology R&D tasks, which includes the group of persons who have worked on a full-time equivalent (FTE).