

25 June 2008

**Statistics on Biotechnology Use**  
Provisional results. Year 2006

**The number of companies carrying out Biotechnology R&D activities increases 24.5% in 2006 as compared with the previous year**

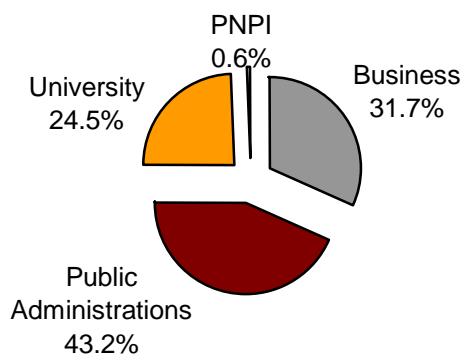
**Expenditure on Biotechnology R&D activities rises to 931 million euros, representing an interannual increase of 39.6%  
In the company sector this increase is 46.6%**

In the year 2006, 467 companies carrying out Biotechnology Research and Development (R&D) activities were counted, representing a 24.5% increase as compared with the previous year.

Internal expenditure on Biotechnology R&D rose to 931 million euros in 2006, which represented 7.9% of total expenditure on internal R&D activities and an increase of 39.6% as compared with 2005.

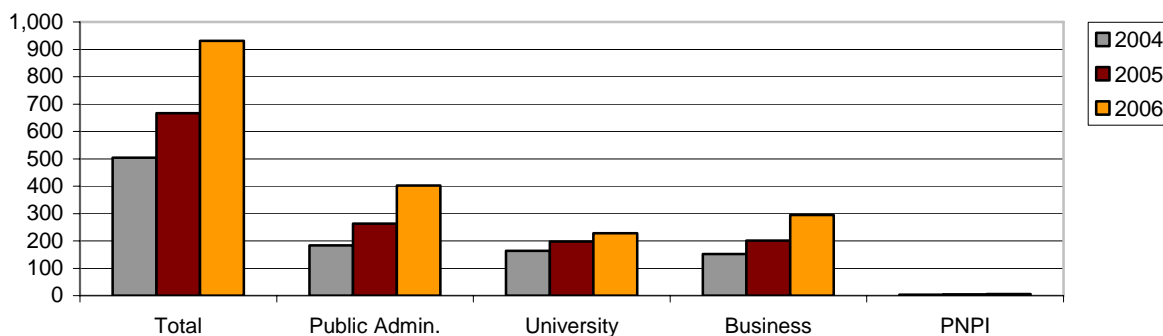
By **field of operation**, the Public Administration sector exhibited the highest percentage over Biotechnology internal R&D expenditure (43.2%), followed by the Business (31.7%) and University (24.5%) sectors.

**Total internal expenditure on Biotechnology R&D activities by field of operation. 2006**



In the case of Public Administration, the aforementioned expenditure reached 402 million euros in 2006, with an interannual increase of 53.1%. In turn, R&D in Biotechnology expenditure for the Company sector exceeded 294 million euros, 46.6% more than the previous year.

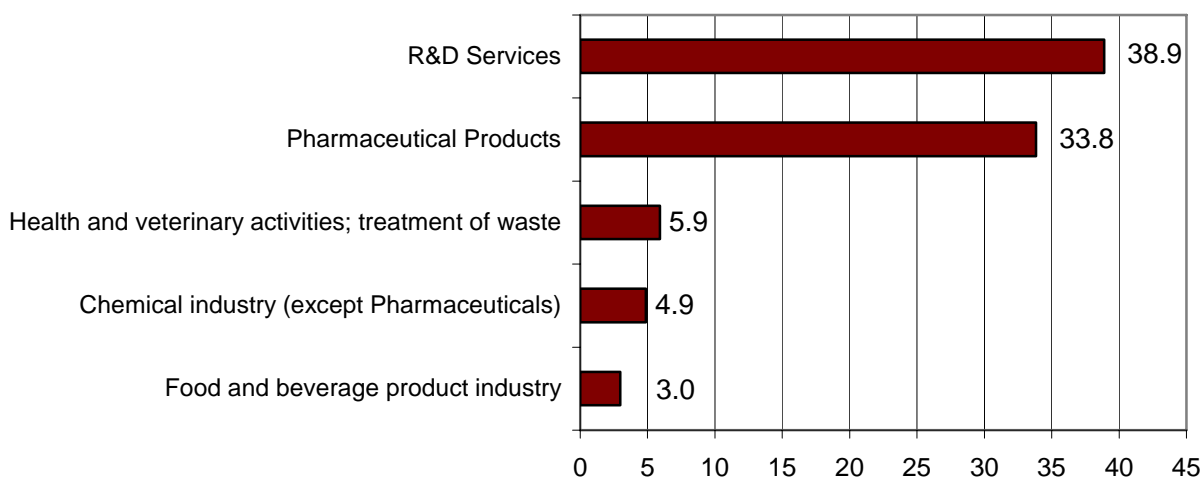
**Evolution of expenditure on Biotechnology R&D**  
(millions of euros)



The Services sector dedicated 49.7% of total expenditure on Biotechnology R&D carried out by companies in 2006. 42.9% of this expenditure corresponded to industry, while agriculture and construction represented 7.2% and 0.2% respectively.

By branch of activity, R&D services companies were worth noting, with 38.9% of the total expenditure on Biotechnology R&D, as was the pharmaceutical industry, with 33.8%. It was followed by health and veterinary activities and treatment of waste (5.9%), the chemical industry (4.9%) and the food products industry (3.0%).

**Distribution of expenditure on Biotechnology R&D by branch of activity. Year 2006 (%)**



## Madrid and Cataluña, the Communities with the highest expenditure on Biotechnology R&D

As far as Autonomous Communities are concerned, those which incurred the greatest expenditure on Biotechnology R&D activities in 2006 were Comunidad de Madrid and Cataluña, followed by Comunitat Valenciana, Andalucía and País Vasco.

Likewise, those which recorded the greatest number of companies with activities in Biotechnology were Cataluña and Comunidad de Madrid, followed by Andalucía, Comunitat Valenciana and País Vasco.

## Biotechnology R&D expenditure by field of operation and Autonomous Community

Thousands of euros

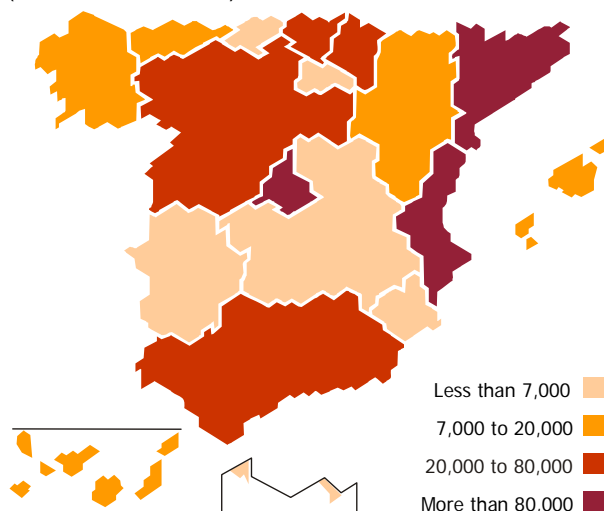
	TOTAL	Other sectors *	Companies
<b>TOTAL</b>	<b>931,268</b>	<b>636,423</b>	<b>294,845</b>
Andalucía	69,197	43,328	25,869
Aragón	9,131	7,459	1,672
Asturias (Principado de)	9,040	7,920	1,120
Balears (Illes)	8,889	8,626	263
Canarias	7,871	6,916	955
Cantabria	480	x	x
Castilla y León	37,054	27,409	9,645
Castilla-La Mancha	4,220	x	x
Cataluña	254,802	152,000	102,802
Comunitat Valenciana	90,579	81,229	9,350
Extremadura	3,151	699	2,452
Galicia	18,779	14,824	3,955
Madrid (Comunidad de)	330,687	239,261	91,426
Murcia (Región de)	6,570	4,279	2,291
Navarra (Comunidad Foral de)	33,974	24,501	9,473
País Vasco	46,260	13,532	32,728
Rioja (La)	584	x	x

\* Other sectors: Public Administrations, PNPis and Higher education

x: data protected by statistical secrecy

## Biotechnology R&D Expenditure in 2006

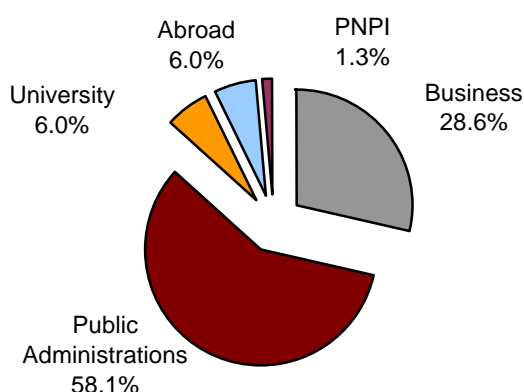
(thousands of euros)



### Financing of Biotechnology R&D activities

Biotechnology R&D activities were mainly financed by the Public Administration (58.1%) and Business (28.6%). The funds from Universities, abroad and Private Non-Profit Institutions (PNPI) financed the remaining 13.3%.

#### Total internal expenditure on Biotechnology R&D activities by origin of the funds. 2006



### Staff employed in Biotechnology R&D

Biotechnology R&D activities employed 15,735 persons on a full time equivalent in the year 2006, which indicates a 36.0% increase as compared with 2005. This figure accounted for 8.3% of total staff employed R&D activities.

Companies employed 3,622 persons on a full-time equivalent, representing a 41.3% interannual increase. This figure represented 4.4% of the total staff employed in R&D.

The number of researchers on a full time equivalent rose to 9,991, representing a 21.7% increase. This figure implied 8.6% of the total for researchers in R&D.

Companies employed 2,021 researchers on a full-time equivalent 2005, 35.8% more than in 2005. This figure represented 5.1% of the total for researchers in R&D.

### Staff employed in Biotechnology R&D by field of operation and according to occupation and sex. Year 2006

Full time equivalent

Field of operation	Total		Researchers	
	Total	%Females	Total	%Females
<b>TOTAL</b>	15,735.2	56.9	9,991.1	53.2
Public Administration	6,988.1	59.1	4,059.0	55.2
University	5,006.2	51.8	3,842.4	49.6
Business	3,621.9	59.0	2,020.7	55.5
PNPI	119.0	75.6	69.0	71.0

### More than half of the Biotechnology R&D personnel are women

In 2006, 56.9% of the personnel employed in Biotechnology R&D activities, on a full-time equivalent, were women, increasing their number by 43.5% as compared with the previous year.

The highest percentages of female participation in Biotechnology R&D activities were recorded in the PNPI sector (75.6%), whereas in Public Administration and the Business sector, the percentages were 59.1% and 59.0%, respectively.

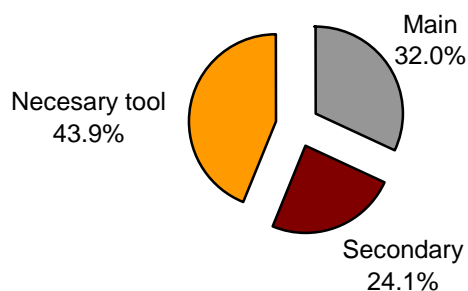
### Companies with activities related to Biotechnology

659 companies that carried out activities related to Biotechnology during the year 2006 were counted, representing a 38.2% increase as compared with the previous year.

Expenditure on activities related to Biotechnology in the private business sector was 458 million euros, employing 6,599 persons on a full-time equivalent in 2006.

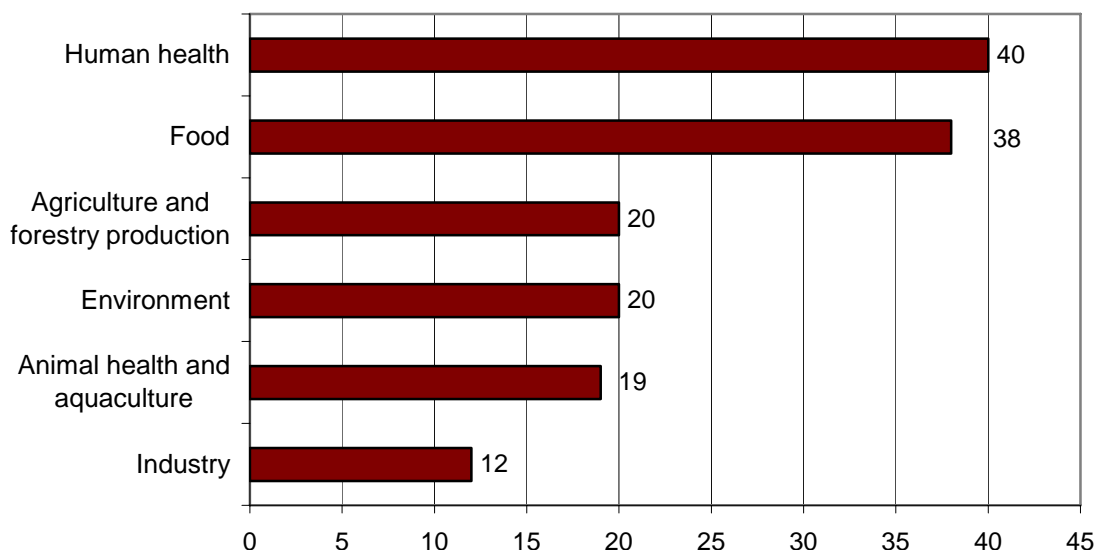
32.0% of the companies with activities related to Biotechnology considered that said activities were main or exclusive. 24.1% considered that they were a secondary line of business, and 43.9% claimed that they were a necessary tool for one or several stages of the production process.

### Companies with activities related to Biotechnology by type of activities carried out. 2006



Among the areas of final application of the products obtained from the use of different types of biotechnology, in companies with activities related to biotechnology, worth noting were human health and food, with 40% and 38%, respectively.

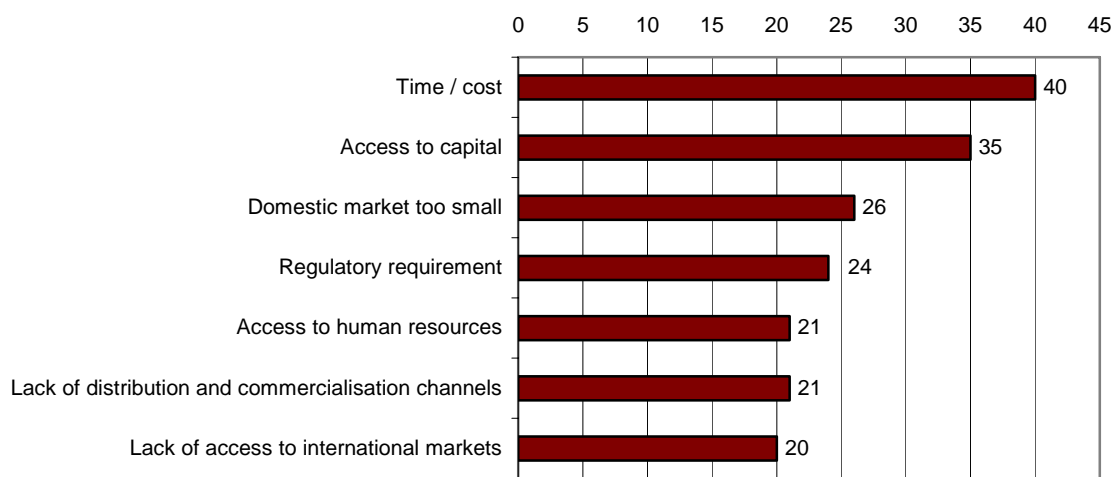
**Percentage of companies by areas of final application of Biotechnology**



**Obstacles to the development of Biotechnologies**

The obstacles that, with a high\* valuation, prevented or hampered the advance of activities in the development and commercialisation of biotechnological products and processes were time/cost and the access to capital, with 40% and 35%, respectively, of the total units (in both the public sector and the private) that carried out activities related to Biotechnology. As main obstacles, they were followed by a national market that was too small, with 26%, and the regulatory requirements, with 24%.

**Obstacles to the development of Biotechnologies. Year 2006 (%)**



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

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## **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 annex to the Technological Innovation in Companies Survey, and aimed at all those units that were potentially linked to biotechnology. In the case of the Public Sector, the information was collected through a module annex to the Statistics on R&D Activities and was aimed at all those units that carried out R&D statistics, be they Universities, Public Administrations or PNPis.

The main aggregates for quantifying the national effort invested in Biotechnology R&D activities are: domestic Biotechnology R&D expenditure, which includes current expenditure and the capital corresponding to Biotechnology R&D activities undertaken within Spain throughout the year, and the personnel working on Biotechnology R&D tasks, which includes all of the persons that worked in the country throughout the year, on a full-time equivalent (FTE).

As of 2006, the scope of the biotechnology statistics was broadened, considered as the object of study the units with activities related to biotechnology (not only with biotechnology R&D), analysing the type of biotechnological activities that they develop and the areas of final application of the products obtained from the same, as well as the obstacles that prevent or hamper the progress of the development and commercialisation of biotechnological products and processes.