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High Technology Indicators
Provisional results. Year 2007

**Turnover of companies in the High Technology sector increases
7.1% in 2007**

**Expenditure of High Technology companies on R&D activities
increases 5.6% as compared with 2006**

Turnover of companies in the High Technology sector stood at 262,345 million euros in 2007, with a 7.1% increase as compared with the previous year.

By manufacturing sector, High and Medium-high Technology recorded turnover of more than 193,025 million euros, with an increase of 7.0% as compared with 2006. Turnover of companies in the High Technology sector increased 2.9%, while that of companies in the Medium-high Technology sector increased 7.8%.

In turn, companies in High Technology or State-of-the-Art services registered turnover 7.4% greater than in the year 2006.

Turnover in the High Technology sectors

(Economic data in thousands of euros)

CNAE	Sectors	2006		2007	Interannual variation 2006-2007
		Turnover	%	Turnover	
A	High Technology Manufacturing sectors	28,167,399	11.5	28,984,940	2.9
244	Pharmaceutical industry	12,349,825	5.0	13,576,158	9.9
30	Office machinery and computers	761,170	0.3	737,314	-3.1
321	Electronic components	1,325,412	0.5	2,056,587	55.2
32-321	Radio, TV and communications apparatus	5,130,085	2.1	4,710,229	-8.2
33	Medical, precision, optical and watchmaking instruments	4,004,492	1.6	4,403,130	10.0
353	Manufacture of aircraft and spacecraft	4,596,415	1.9	3,501,522	-23.8
B	Medium-high Technology Manufacturing sectors	152,188,816	62.1	164,040,846	7.8
24-244	Chemical industry, except pharmaceutical industry	35,290,263	14.4	36,769,594	4.2
29	Machinery and equipment	29,920,144	12.2	32,127,676	7.4
31	Electrical machinery and apparatus	20,586,795	8.4	22,927,006	11.4
34	Automobile industry	58,729,142	24.0	63,369,610	7.9
35-353	Construction of boats, trains, motorcycles and bicycles and other transport material	7,662,472	3.1	8,846,960	15.5
	High and Medium High Technology Manufacturing sectors (A+B)	180,356,215	73.6	193,025,786	7.0
C	High Technology or State of the Art services	64,564,801	26.4	(*) 69,319,789	7.4
64	Post and communications	42,188,444	17.2	(*) 44,301,600	5.0
72	IT activities	21,145,778	8.6	(*) 23,760,652	12.4
73	Research and Development	1,230,579	0.5	(*) 1,257,537	2.2
	Total (A+B+C)	244,921,016	100.0	(*) 262,345,575	7.1

Source: Industrial Companies Survey and Annual Services Survey

(*) Data from the results preview of Annual Services Survey 2007

The High Technology sectors employ 7.3% of the total number of employed persons

The High Technology sectors employed 1,496,100 persons during the year 2007, accounting for 7.3% of the total employed persons in the Spanish economy. 26.9% of the total persons employed in High Technology sectors were women.

The number of employed persons in the High Technology manufacturing sectors amounted to 186,900, whereas the Medium-high Technology manufacturing sectors employed 751,000 persons. High Technology services employed 558,200 persons.

The Autonomous Communities with the highest number of persons employed in the High Technology sectors were Cataluña (with 391,400) and Comunidad de Madrid (322,700). In turn, the Communities with the highest percentage of employment in these sectors as compared with the national total of employed persons were País Vasco (13.0%), Comunidad Foral de Navarra (11.0%), Cataluña (11.1%), Aragón (10.7%) and Comunidad de Madrid (10.6%).

Persons employed in the High Technology sectors, by Autonomous Community

Year 2007

(thousands of persons)

Autonomous Community	Total employed persons	High Technology sectors			Total	% of total employed persons
		High Technology Manufacturing sectors	Medium-high Technology Manufacturing	High Technology services		
TOTAL	20,355.9	186.9	751	558.2	1,496.1	7.3
Andalucía	3,219.3	18.5	49.1	58.6	126.2	3.9
Aragón	610.8	5.1	44.5	15.8	65.4	10.7
Asturias (Ppado de)	433.3	1.6	11.3	9.3	22.2	5.1
Balears (Illes)	508.0	1.1	8.6	11.4	21.1	4.2
Canarias	915.4	1.6	5.8	14	21.4	2.3
Cantabria	258.5	0.8	11.7	5.1	17.6	6.8
Castilla y León	1,073.0	5.2	42.7	29.3	77.2	7.2
Castilla La Mancha	843.1	5.7	14.4	15.3	35.4	4.2
Cataluña	3,510.6	55.1	239.7	96.6	391.4	11.1
C. Valenciana	2,220.5	10.2	72.5	33.5	116.1	5.2
Extremadura	412.5	0.6	4.5	7.3	12.3	3.0
Galicia	1,193.4	6.8	47	19.9	73.7	6.2
Madrid (C. de)	3,052.6	58.5	67.7	196.5	322.7	10.6
Murcia (Región de)	632.8	1.8	15.4	6.3	23.6	3.7
Navarra (C. Foral de)	289.8	1.6	26.1	4.2	31.9	11.0
País Vasco	990.6	11.9	84.5	32.2	128.7	13.0
La Rioja	145.8	0.7	5.6	2.4	8.8	6.0
Ceuta and Melilla	45.9	0	0	0.4	0.4	0.9

Source: Economically Active Population Survey (annual averages)

R&D investment grows 5.6%

High Technology companies invested a total of 4,683.8 million euros on R&D during the year 2007, that is 5.6% more than the previous year. This figure accounted for 62.8% of total expenditure of the business sector on R&D activities.

The number of persons employed on a full-time equivalent, dedicated to R&D tasks in the High Technology sector, reached 53,816.8, with an annual increase of 3.3%.

The branches of the High Technology sector concentrated 61.5% of the total personnel dedicated to R&D in the business sector and 65.4% of researchers.

Main R&D indicators in the High Technology sectors

Year 2007

	Internal expenditure ¹		R&D personnel ²			
	Total	%	Total		Researchers	
			Total	%	Total	%
High and Medium-high Technology Manufacturing sectors	2,416,305	32.4	26,339.3	30.1	12,476.0	29.6
High Technology Manufacturing sectors	1,302,502	17.5	11,380.3	13.0	6,424.5	15.3
Medium-high Technology Manufacturing sectors	1,113,804	14.9	14,958.9	17.1	6,051.5	14.4
High Technology or State-of-the-Art services	2,267,579	30.4	27,477.6	31.4	15,051.3	35.8
Total High and Medium-high Technology sectors	4,683,885	62.8	53,816.8	61.5	27,527.2	65.4
Total Business sector	7,453,902	100.0	87,542.6	100.0	42,100.5	100.0

Source: Statistics on Scientific Research and Technological Development

¹ Unit: thousand euros

² On a Full-Time Equivalent (FTE)

45.7% of companies belonging to the High and Medium-high Technology manufacturing sector innovated during the 2005-2007 period. Of note were the branches of Manufacture of radio, television and communication equipment (with 77.5%), the Pharmaceutical industry (with 62.4%) and the Manufacture of aircraft and spacecraft (with 63.7%).

In the case of High Technology services, the branch of R&D activities, had 83.6% of innovative companies.

Production value of goods exceeds 9,600 million euros

According to the Industrial Product Survey, the production value of High Technology goods reached practically 9,657.4 million euros in the year 2007.

Production value of High Technology goods, by group of products

(thousands of euros)

Group of products	2007
0. Weapons and ammunition	860,852.4
1. Manufacture of aircraft and spacecraft	450,632.2
2. Office machinery and computers	418,321.9
3. Electronic material: radio, television and communications equipment and apparatus	2,688,238.4
4. Pharmaceutical products	1,642,749.1
5. Scientific instruments	1,082,929.3
6. Electrical machinery and material	352,349.6
8. Chemical products	1,295,640.5
9. Machinery and mechanical equipment	865,686.6
Total High Technology products	9,657,399.7
Total Industrial Production	444,993,407.0

Source: Industrial Products Survey

Exports of High Technology products decrease 4.3%

In terms of foreign trade of High Technology products, **exports** totalled 8,023.6 million euros in 2007, indicating a decrease of 4.3% as compared with 2006.

In turn, **imports** reached 27,597.6 million euros, with an increase of 6.8% as compared with the previous year.

Foreign trade of High Technology products, by type of product

Year 2007		(thousands of euros)	
Group of products	Value of exports	Value of imports	Trade Balance
0. Weapons and ammunition	152,539	133,952	18,587
1. Manufacture of aircraft and spacecraft	1,564,374	2,860,822	-1,296,448
2. Office machinery and computers	1,006,167	6,460,766	-5,454,599
3. Electronic material: radio, television and communications equipment and apparatus	1,538,506	10,207,688	-8,669,182
4. Pharmaceutical products	1,188,845	2,773,027	-1,584,182
5. Scientific instruments	816,369	2,658,117	-1,841,748
6. Electrical machinery and material	234,596	740,506	-505,910
8. Chemical products	778,748	1,114,502	-335,754
9. Machinery and mechanical equipment	743,440	648,274	95,166
Total	8,023,584	27,597,654	-19,574,070

Source: Own compilation using Foreign Trade Statistics data from the State Tax Administration Agency

For further information see **INEbase-www.ine.es** All press releases at: **www.ine.es/prensa/prensa_en.htm**

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Methodological annex

Considering technology as the knowledge base necessary for producing new products and processes, High Technology is characterised by a fast renewal of knowledge, much greater than other technologies, and due to its complexity, it demands a continuous effort in research and a solid technological base.

For statistical purposes, the definition of High Technology is performed by an exhaustive listing of the branches of activity (**approach by sector**) and of products (**approach by product**) that are considered, at a certain moment in time, of high technological content.

In order to determine the list of High Technology activities and products, we have started with the methodological tasks performed by the OECD in this matter, as well as with adaptations thereof to the European scope performed by Eurostat.

High and Medium-high Technology sectors.

List used by the INE

NCEA-93	Sectors
	High Technology Manufacturing sectors
244	Pharmaceutical industry
30	Office machinery and computers
321	Electronic components
32-321	Radio, TV and communications apparatus
33	Medical, precision, optical and watchmaking instruments
353	Manufacture of aircraft and spacecraft
	Medium-high Technology Manufacturing sectors
24-244	Chemical industry, except pharmaceutical industry
29	Machinery and equipment
31	Electrical machinery and apparatus
34	Automobile industry
35-353	Other transport material
	High Technology or State of the Art services
64	Post and communications
72	Computer activities
73	Research and Development

The study of High Technology from the product perspective is based on the construction of indicators that reflect the technological content of the goods produced and exported by a country or industrial sector.

List of High Technology products

Group	Sector	SITC Code
1	Aerospace	[7921+7922+7923+7924+7925+79291+79293+(714-71489-71499)+87411]
2	Office machines and computers	[75113+75131+75132+75134+(752-7529)+75997]
3	Electronics-communications	[76381+76383+ (764-76493-76499)+7722+77261+77318+77625+77627+7763+7764+7768+89879]
4	Pharmaceutical industry	[5413+5415+5416+5421+5422]
5	Scientific instruments	[774+8711+8713+8714+8719+87211+(874-87411-8742)+88111+88121+88411+88419+89961+89963+89966+89967]
6	Electrical machinery	[77862+77863+77864+77865+77867+77868+7787+77884]
7	Chemistry	[52222+52223+52229+52269+525+531+57433+591]
8	Mechanical machinery and equipment	[71489+71499+71871+71877+71878+72847+7311+73131+73135+73142+73144+73151+73153+73161+73163+73164+73165+73312+73314+73316+7359+73733+73735]
9	Weaponry	[891]

The tables shown in this statistical operation are compiled with the results of the following operations:

- Industrial Companies Survey (INE)
- Annual Services Survey (INE)
- Statistics on Scientific Research and Technological Development (INE)
- Technological Innovation in Companies Survey (INE)
- Economically Active Population Survey (INE)
- Quarterly Labour Cost Survey (INE)
- Industrial Products Survey (INE)
- Foreign trade Statistics (own compilation with AEAT data)
- Survey on the use of Communication and Information Technologies and E-Commerce in Companies (INE)