

18 April 2012

High Technology Indicators

Year 2010. *Final results*

Turn over of High and Medium-High Technology companies increases 7.2% in 2010

The High and Medium-High Technology sectors account for 6.5% of the total persons employed in the Spanish economy

Turnover of the manufacturing companies in the High and Medium-High Technology sector stood at 152,394 million euros in the year 2010. This figure, which was 7.2% higher than that recorded the previous year, generated an added value of 35,181 million euros.

Within the High Technology manufacturing sectors, worth noting was the *Manufacture of pharmaceutical products*, which reached a turnover greater than 14,869 million euros, representing 58.5% of the turnover generated by the High Technology manufacturing sector.

In turn, turnover of the *Manufacture of electrical material and equipment; machinery; motor vehicles, trailers and semi-trailers* exceeded 85,385 million in invoicing, 67.2% of the total of the Medium-High Technology manufacturing sectors.

Turnover in the High Technology sectors

(Economic data in thousands of euros)

CNAE	Sectors	Year 2009	Year 2010	Interannual variation
		Turnover	Turnover	
A+B	High and Medium-High Technology manufacturing sectors	142,150,493	152,394,115	7.2
A	High Technology manufacturing sectors	25,334,756	25,410,532	0.3
21	Manufacture of pharmaceutical products	15,172,930	14,868,862	-2.0
26	Manufacture of computer, electronic and optical products	5,820,067	5,993,070	3.0
30.3	Manufacture of aircraft and spacecraft and machinery thereof	4,341,759	4,548,600	4.8
B	Medium-High Technology manufacturing sectors	116,815,737	126,983,584	8.7
20	Chemical industry	29,722,492	35,066,183	18.0
25.4	Manufacture of weapons and ammunition	289,599	277,190	-4.3
27, 28, 29	Manufacture of electrical material and equipment; Manufacture of machinery and equipment n.e.c.; Manufacture of motor vehicles, trailers and semi-trailers	80,690,446	85,385,442	5.8
30- 30.1 - 30.3	Manufacture of other transport equipment, except: naval construction; aircraft and spacecraft construction and machinery thereof.	4,704,430	4,724,612	0.4
32.5	Manufacture of medical and dental instruments and supplies	1,408,771	1,530,156	8.6

Source: Industrial Companies Survey

Employment in the High and Medium-High Technology sectors

The High and Medium-High Technology sectors employed 1,196,100 persons during the year 2010, accounting for 6.5% of the total persons employed in the Spanish economy. **28.6% of the total persons employed in these sectors were women.**

The number of persons employed in the High Technology manufacturing sectors reached 142,500, whereas the Medium-High Technology manufacturing sectors employed 555,600 persons. High Technology services employed 498,000 persons.

The Autonomous Communities that presented the highest percentage of employment in these sectors, as compared with the total employed persons, were Comunidad Foral de Navarra (12.1%), País Vasco (11.4%) and Cataluña (10.1%).

Persons employed in the High and Medium-High Technology sectors, by Autonomous Community

Year 2010

(thousands of persons)

Autonomous Community	National total employed persons	High and Medium-High Technology sectors				% of the total employed persons
		Total	Manufacturing sectors		High Technology services	
			High Technology	Medium-High Technology		
TOTAL	18,456.5	1,196.1	142.5	555.6	498.0	6.5
Andalucía	2,859.3	101.6	19.6	29.4	52.6	3.6
Aragón	550.7	53.1	2.6	38.8	11.7	9.6
Asturias, Principado de	404.1	17.9	0.7	6.4	10.8	4.4
Balears, Illes	470.4	11.4	0.9	2.1	8.3	2.4
Canarias	772.2	11.6	0.3	3.0	8.3	1.5
Cantabria	238.3	13.3	1.3	7.3	4.8	5.6
Castilla y León	998.0	58.6	4.6	34.9	19.2	5.9
Castilla-La Mancha	776.8	33.7	5.3	16.4	12.1	4.3
Cataluña	3,137.5	317.1	45.9	176.8	94.3	10.1
Comunitat Valenciana	1,933.8	90.2	7.4	48.6	34.3	4.7
Extremadura	381.0	8.5	0.5	2.6	5.5	2.2
Galicia	1,100.7	52.2	2.7	29.3	20.2	4.7
Madrid, Comunidad de	2,875.1	263.6	38.0	51.0	174.6	9.2
Murcia, Región de	566.5	14.5	1.0	7.8	5.7	2.6
Navarra, Comunidad Foral de	271.8	32.8	1.6	26.6	4.6	12.1
País Vasco	938.8	107.4	9.6	69.4	28.4	11.4
La Rioja	134.6	7.6	0.6	5.0	1.9	5.6
Ceuta	24.7	.	.	.	.	.
Melilla	22.1	.	.	.	.	.

Source: Economically Active Population Survey (EAPS)

(.) Data for Ceuta and Melilla, in the High and Medium-High Technology sectors, are not provided due to low significancy

Investment in R&D

High and Medium-High Technology companies invested a total of 4,852 million euros in R&D during the year 2010, that is, **0.5% more** than the previous year. This figure accounted for 64.6% of total expenditure of the business sector on R&D activities.

The number of employed persons dedicated on a full-time equivalent to R&D tasks in the High Technology sector amounted to 57,635 (0.5% less than in 2009). The branches of the High and Medium-High Technology sectors represented 62.5% of the total personnel dedicated to R&D in the business sector, and 66.9% of researchers.

Main R&D indicators in the High Technology sectors

Year 2010

Sectors	Internal		R&D PERSONNEL ²			
	Total	%	Total	% Women	Researchers	
					Total	% Women
High and Medium-High Technology manufacturing sectors	2,447,964	32.6	25,599.4	28.6	12,193.6	31.8
High Technology manufacturing sectors	1,258,923	16.8	11,354.5	36.4	6,348.3	35.6
Medium-High Technology manufacturing sectors	1,189,041	15.8	14,244.8	22.4	5,845.4	27.6
High Technology or state-of-the-art services	2,404,054	32.0	32,035.6	33.7	18,178.6	38.8
Total High and Medium-High Technology sectors	4,852,018	64.6	57,635.0	31.4	30,372.2	35.9
Total business sector	7,506,443	100.0	92,221.3	30.7	45,377.3	38.3

Source: Statistics on Scientific Research and Technological Development activities

¹ Units: thousands of euros

² On a Full-Time Equivalent (FTE)

48.5% of High and Medium-High Technology manufacturing sector companies were innovative in the 2008-2010 period. Within the High Technology manufacturing sectors, was important to note the branches of the *Manufacture of pharmaceutical products* (with 73.1% of innovative companies). Among the Medium-High Technology manufacturing sectors, worth noting the *Manufacture of transport equipment, except naval construction; aircraft and spacecraft construction and machinery thereof* (with 60.2% of innovative companies).

In the case of High Technology services, 73.3% of the companies belonging to the branch of R&D activities were innovative.

Value of the production of goods

According to the Industrial Products Survey, the value of the production of High Technology goods reached 8,663 million euros in the year 2010, that is, 3.1% more than in 2009.

Production value of High Technology, by group of products (million euros)

Groups of products	2009	2010	Growth 2009-2010 (%)
1. Manufacture of aircraft and spacecraft	617.2	605.0	-2.0
2. Office machinery and computers and apparatus	112.5	89.1	-20.8
4. Pharmaceutical products	2,222.5	2,352.1	5.8
5. Scientific instruments	1,814.5	2,039.6	12.4
6. Electrical machinery and material	912.5	969.9	6.3
7. Chemical products	196.6	152.6	-22.4
8. Mechanical machinery and equipment	1,190.3	1,216.0	2.2
9. Weapons and ammunition	726.4	624.0	-14.1
Total High Technology products	8,399.5	8,663.2	3.1
Total industrial production	337,105.7	359,807.1	6.7

Source: Industrial Products Survey

2010 Provisional data

Foreign trade of High Technology products

In 2010, **exports** of High Technology products **increased 17.4%**, as compared with the previous year, arriving at a total of 9,144 million euros.

In turn, **imports registered an increase of 14.0%**, reaching 22,685 million euros.

Foreign trade of High Technology products, by type of product

Year 2010	(million euros)		
Groups of products	Value of exports	Value of imports	Trade balance
1. Manufacture of aircraft and spacecraft	1,464.9	1,654.6	-189.7
2. Office machinery and computers	665.3	4,164.6	-3,499.3
3. Electronic material; radio, TV and communications equipment and apparatus	2,575.3	8,349.3	-5,774.0
4. Pharmaceutical products	1,682.8	3,346.5	-1,663.7
5. Scientific instruments	761.3	2,464.6	-1,703.3
6. Electrical machinery and material	174.8	592.8	-418.0
7. Chemical products	992.7	1,476.3	-483.5
8. Mechanical machinery and equipment	652.2	455.3	196.9
9. Weapons and ammunition	174.8	181.3	-6.5
Total	9,144.2	22,685.3	-13,541.1

Source: INE compilation with data from the State Tax Administration Agency

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 degree of complexity, it requires a continuous effort in research and a solid technological base.

For statistical purposes, the definition of High Technology is performed by an comprehensive listing of the branches of activity (**sector approach**) and of products (**product approach**) that are considered, at a given moment in time, to be 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.

The list of High Technology products used is the SITC Rev.4.

High and Medium-High Technology sectors.

CNAE 2009	SECTORS
High Technology manufacturing sectors	
21	Manufacture of pharmaceutical products
26	Manufacture of computer, electronic and optical products
30.3	Manufacture of aircraft and spacecraft and machinery thereof
Medium-High Technology manufacturing sectors	
20	Chemical industry
	25.4 Manufacture of weapons and ammunition
27 to 29	Manufacture of electrical material and equipment; Manufacture of machinery and equipment n.e.c.; Manufacture of motor vehicles, trailers and semi-trailers
30- 30.1 - 30.3	Manufacture of other transport equipment, except: naval construction; aircraft and spacecraft construction and machinery thereof.
	32.5 Manufacture of medical and dental instruments and supplies
High Technology or state-of-the-art services	
59 to 63	Motion picture, video and television programme activities, sound recording and music publishing; Radio and television programming and broadcasting activities; Telecommunications; Programming, consultancy and other activities related to IT; Information services.
72	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 Rev.4 Code
1	Aerospace	[(714 - 714.89 - 714.99) + 792.1 + 792.2 + 792.3 + 792.4 + 792.5 + 792.91 + 792.93 + 874.11]
2	Office machines and computers	[751.94 + 751.95 + 752 + 759.97]
3	Electronics-communications	[763.31 + 763.8 + (764 - 764.93 - 764.99) + 772.2 + 772.61 + 773.18 + 776.25 + 776.27 + 776.3 + 776.4 + 776.8 + 898.44 + 898.46]
4	Pharmaceutical industry	[541.3 + 541.5 + 541.6 + 542.1 + 542.2]
5	Scientific instruments	[774 + 871 + 872.11 + (874 - 874.11 - 874.2) + 881.11 + 881.21 + 884.11 + 884.19 + (899.6 - 899.65 - 899.69)]
6	Electrical machinery	[(778.6 - 778.61 - 778.66 - 778.69) + 778.7 + 778.84]
7	Chemistry	[52222 + 52223 + 52229 + 52269 + 525 + 531 + 57433 + 591]
8	Mechanical machinery and equipment	[714.89 + 714.99 + 718.7 + 728.47 + 731.1 + 731.31 + 731.35 + 731.42 + 731.44 + 731.51 + 731.53 + 731.61 + 731.63 + 731.65 + 733.12 + 733.14 + 733.16 + 735.9 + 737.33 + 737.35]
9	Armament	[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 (R&D) (INE)
- Technological Innovation in Companies Survey (INE)
- Economically Active Population Survey (INE)
- Quarterly Labour Cost Survey (INE)
- Industrial Products Survey (INE)
- Foreign Trade Statistics (INE compilation with AEAT data)
- Survey on the Use of Information and Communication Technologies and Electronic Commerce in Companies (INE)

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

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