

Employment in High Technology

Highest increase of employment in the high tech knowledge-intensive services

Statistics in focus

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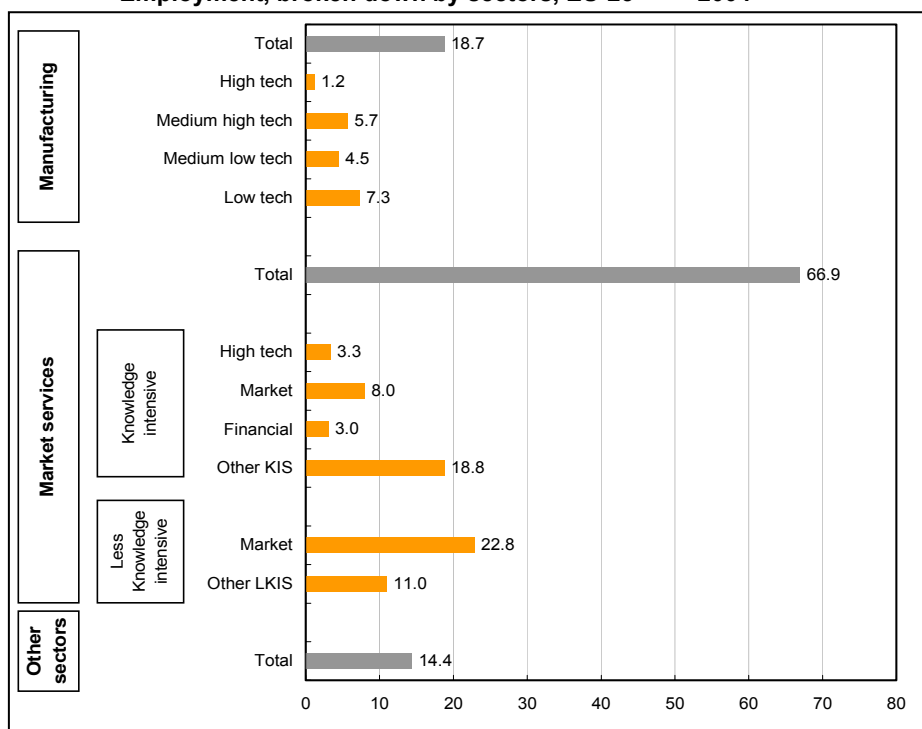
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Figure 1: Employment in manufacturing and services as a percentage of total Employment, broken down by sectors, EU-25 ⁽¹⁾ — 2004



(1) Eurostat estimate.

Source: Eurostat.

Main findings

- Within the EU-25 in 2004, almost 130 million persons (66.9%) were employed in the services sector whereas only 36 million (18.7%) were employed in manufacturing.
- Employment in the manufacturing sector decreased between 1999 and 2004 in the EU-15 at an Annual Average Growth Rate (AAGR) of -1.2%. During the same period, employment in the high tech manufacturing sub-sector decreased even more (-2.0%)
- On the contrary, employment in total services increased at an AAGR of +1.9% between 1999 and 2004. 'Knowledge Intensive Services' (KIS) increased faster (2.6%). The branch of high tech KIS grew even faster (2.9%).
- Expressed as a proportion of total employment (in relative terms), German regions led in high and medium high tech manufacturing. In 2004, among the fifteen leading regions in the EEA and Switzerland, twelve were German.
- In the Knowledge Intensive Services, seven out of the fifteen leading regions were in fact capitals: Inner and Outer London (UK), Stockholm (SE), Oslo og Akershus (NO), Région Bruxelles-Capitale (BE), Île de France (FR) and Berlin (DE).
- Among the 25 regions that increased employment in high tech KIS most between 1999 and 2004, eight were Spanish, including the Comunidad de Madrid.



Fall in employment in the manufacturing sector between 1999 and 2004, highest increase in the High Tech KIS sector

Within the EU-25 in 2004, services accounted for approximately two thirds (66.9%) of total employment. The manufacturing sector was only responsible for 18.7% of total employment — see Figure 1. In other terms, almost 130 million persons were employed in services whereas only 36 million were employed in the manufacturing sector.

As displayed in Table 1, among the 36 million persons employed in manufacturing, 11 million were working in medium high tech manufacturing (5.7% of total employment) and 2.2 million in high tech manufacturing (1.2% of total employment).

In total manufacturing, Germany led with 8.2 million persons employed. It was followed by Italy, France, the United Kingdom and Spain with 4.9, 4.1, 3.8 and 3.0 million respectively.

In relative terms, Slovenia led followed by the Czech Republic and Slovakia with 28.6%, 27.2% and 26.9% respectively of total employment in manufacturing.

Luxembourg was the only country in 2004 where the proportion of persons employed in manufacturing was under 10% of total employment.

In the high tech manufacturing sector, Malta led with a proportion of 4.0% of its total employment in this sector. It was followed by Ireland and Hungary with 2.7% and 2.6% respectively.

Belgium, Greece, Spain, Lithuania, Luxembourg, the Netherlands, Poland and Portugal did not reach a share of at least 1% of their total employment in high tech manufacturing

In medium high tech manufacturing, Germany led both in absolute terms with 3.3 million persons employed and in relative terms with 9.4% of the total employment in this sector. It was followed by the Czech Republic (7.7%), Slovenia (7.2%) and Slovakia (7.0%).

One fifth (20.2%) of all persons employed in Slovenia were in low and medium low tech manufacturing. Estonia, Slovakia and Bulgaria followed with 19.1%, 18.3% and 19.3% respectively.

Employment in the total manufacturing sector between 1999 and 2004 decreased at an Annual Average Growth Rate (AAGR) of 1.2% at the level of the EU-15. However, Estonia, Greece, Spain, Italy and Slovakia increased or remained stable during this period.

Table 1: Total employment in manufacturing by sectors, in thousands and as a percentage of total employment, 2004 and AAGR 1999-2004 — EU-25 countries, candidate countries, Iceland, Norway and Switzerland.

country	Employment in manufacturing - 2004								AAGR 1999-2004			
	Total		High tech		Medium high tech		Low and medium low tech		Total	High tech	Medium high tech	Low and medium low tech
	1000s	as a % of total emp	1000s	as a % of total emp	1000s	as a % of total emp	1000s	as a % of total emp				
EU-25	36 265 s	18.7 s	2 218 s	1.2 s	11 023 s	5.7 s	23 022 s	11.9 s	:	:	:	:
EU-15	29 845 s	18.1 s	1 914 s	1.2 s	9 550 s	5.8 s	18 381 s	11.2 s	-1.2	-2.0	-0.6	-1.4
BE	718	17.4	32	0.8	233	5.6	454	11.0	-0.6	1.7	-2.0	0.1
CZ	1 275	27.2	61	1.3	361	7.7	853	18.2	-0.5	1.8	0.1	-0.9
DK	434	15.8	27	1.0	137	5.0	271	9.9	-3.3	-0.1	-1.3	-4.4
DE	8 201	23.1	651	1.8	3 331	9.4	4 218	11.9	-0.9	0.8	0.2	-1.9
EE	144	24.2	11	1.8	20	3.4	114	19.1	3.5	10.7	3.8	2.9
EL	570	13.2	7	0.2	89	2.1	473	10.9	0.0	-1.3	2.4	-0.4
ES	3 035	17.0	92	0.5	776	4.3	2 168	12.1	1.9	0.8	2.0	1.9
FR	4 053	16.8	295	1.2	1 275	5.3	2 483	10.3	-0.9	-2.1	-0.4	-1.0
IE	280	15.3	50	2.7	69	3.8	161	8.8	-0.8	-0.8	1.4	-1.7
IT	4 901	21.8	232	1.0	1 443	6.4	3 226	14.4	0.1	1.7	1.2	-0.4
CY	36	10.7	:	:	3	1.0	32	9.5	-0.4	:	5.6	-1.1
LV	166	16.2	:	:	14	1.3	151	14.8	-1.0	:	11.3	-1.7
LT	255	17.8	12 u	0.9 u	28	1.9	215	15.0	-1.9	3.6	-11.1	-0.5
LU	18	9.7	1 u	0.4 u	2	0.9	16	8.4	-3.3	-1.1	-7.3	-2.9
HU	895	23.0	101	2.6	222	5.7	572	14.7	-0.8	7.4	-2.1	-1.4
MT	29	20.2	6	4.0	5	3.6	18	12.5	:	:	:	:
NL	1 055	13.1	54	0.7	208	2.6	793	9.9	-0.8	-10.3	-4.5	1.3
AT	674	18.4	48	1.3	180	4.9	445	12.2	-2.2	-6.4	0.4	-2.7
PL	2 772	20.3	69	0.5	600	4.4	2 103	15.4	:	:	:	:
PT	1 004	19.6	23	0.4	158	3.1	823	16.1	-2.2	3.2	0.6	-2.8
SI	270	28.6	10 u	1.1 u	69	7.3	191	20.2	-0.4	4.4	0.9	-1.1
SK	577	26.9	34	1.6	150	7.0	393	18.3	1.1	11.0	4.5	-0.6
FI	445	18.7	46	2.0	116	4.9	284	11.9	-1.1	-0.6	-0.9	-1.2
SE	684	15.9	46	1.1	258	6.0	379	8.8	-1.9	-8.3	-0.4	-2.0
UK	3 774	13.5	310	1.1	1 276	4.6	2 188	7.8	-5.0	-7.0	-4.9	-4.8
IS	22	14.2	:	:	3	2.0	18	11.7	-1.0	:	6.7	-2.6
NO	263	11.6	12	0.5	77	3.4	174	7.7	-3.0	-3.0	-3.9	-2.6
EEA	36 549 s	18.7 s	2 231 s	1.1 s	11 103 s	5.7 s	23 215 s	11.9 s	:	:	:	:
CH	589	14.9	81	2.0	196	5.0	312	7.9	-1.1	-1.6	-1.0	-1.0
BG	709	23.9	13	0.4	124	4.2	572	19.3	:	:	:	:
HR	304	19.2	5 u	0.3 u	69	4.4	230	14.5	:	:	:	:
RO	2 089	22.5	38	0.4	490	5.3	1 561	16.8	-0.7	2.1	-4.2	0.5

Source: Eurostat.

In the EU-15, employment in the high tech manufacturing sector decreased even more between 1999 and 2004 (-2.0%). However, a number of countries recorded an increase compared to the total manufacturing sector. These were Belgium, the Czech Republic, Germany, Estonia, Spain, Italy, Lithuania, Hungary, Portugal, Slovenia and Slovakia. The AAGR even reached 10.7% in Estonia and 11.0% in Slovakia.

The medium high tech manufacturing sector was the manufacturing sector that decreased least (-0.6%) between 1999 and 2004.

As previously mentioned, the services sector represented in 2004 two thirds (66.9%) of total employment in the EU-25 — see Table 2. In absolute terms, this corresponded to approximately 130 million jobs. Among these, one half were in Knowledge Intensive Services (KIS) and the other half in the Less Knowledge Intensive Services (LKIS).

Five countries were responsible for 68% of total EU-25 employment in services: Germany, Spain, France, Italy and the United Kingdom.

Expressed as a percentage of total employment at national level, the services' sector in Luxembourg, the United Kingdom and Sweden led with

proportions of 77.8%, 76.3% and 75.1% respectively.

This sector represented also more than 70% of total employment in Belgium, Denmark, France, Cyprus, the Netherlands, Iceland, Norway and Switzerland.

Generally, the proportion of services' employment was lower in the new Member States. This explains why the EU-25 average was two percentage points lower than the EU-15 average (68.9%).

The KIS sector represented more than 40% of total employment in Denmark (42.3%), the Netherlands (41.0%), Finland (40.3%), Sweden (47.0%) and the United Kingdom (42.1%), as well as Iceland (42.8%) and Norway (45.6%).

Among employment in KIS, approximately one tenth was in high tech KIS (3.3% of total employment in the EU-25).

In absolute terms, the United Kingdom was first with 1.2 million persons employed. In relative terms, Sweden, Finland and Iceland came first with 4.8%, 4.6% and 4.5% of total employment respectively.

Countries where high tech KIS employment in 2004 was least important (in relative terms) were Greece (1.9%), Lithuania (1.9%) and Portugal (1.4%). Portugal and Greece were also the countries where the least jobs in high tech manufacturing were registered in relative terms (Table 1).

Table 2: Total employment in services by sectors, in thousands and as a percentage of total employment, 2004 and AAGR 1999-2004 — EU-25 countries, candidate countries, Iceland, Norway and Switzerland.

country	Employment in services - 2004								AAGR 1999-2004			
	Total		KIS		of which high tech		LKIS		Total	KIS	of which high tech	LKIS
	1000s	as a % of total emp	1000s	as a % of total emp	1000s	as a % of total emp	1000s	as a % of total emp				
EU-25	129 517 s	66.9 s	64 116 s	33.1 s	6 460 s	3.3 s	65 400 s	33.8 s	:	:	:	:
EU-15	113 408 s	68.9 s	56 862 s	34.6 s	5 752 s	3.5 s	56 546 s	34.4 s	1.9	2.6	2.9	1.3
BE	3 027	73.1	1 597	38.6	163	3.9	1 430	34.6	1.1	1.7	4.8	0.4
CZ	2 634	56.3	1 150	24.6	144	3.1	1 484	31.7	0.6	1.3	-0.2	0.1
DK	1 998	72.9	1 160	42.3	112	4.1	838	30.6	1.2	0.6	-1.7	2.1
DE	23 544	66.4	11 831	33.4	1 187	3.4	11 714	33.0	0.6	1.8	3.2	-0.6
EE	354	59.5	164	27.5	14	2.4	190	32.0	0.4	-0.3	-1.2	1.1
EL	2 811	64.9	1 077	24.9	81	1.9	1 735	40.1	3.5	4.3	6.0	3.0
ES	11 448	64.1	4 659	26.1	453	2.5	6 790	38.0	5.0	6.0	7.8	4.3
FR	17 333	71.7	8 754	36.2	972	4.0	8 579	35.5	2.1	2.3	2.4	1.9
IE	1 212	66.0	614	33.4	66	3.6	598	32.6	4.0	4.3	0.7	3.7
IT	14 574	65.0	6 786	30.2	688	3.1	7 788	34.7	2.6	4.7	4.2	1.0
CY	241	71.5	88	26.2	7	2.1	152	45.3	4.7	6.1	12.7	4.0
LV	607	59.4	251	24.6	29	2.9	356	34.8	1.3	0.8	6.1	1.7
LT	796	55.4	359	25.0	28	1.9	437	30.4	-1.1	-1.7	-3.8	-0.6
LU	145	77.8	71	38.0	6	3.3	74	39.8	1.7	1.2	-0.8	2.2
HU	2 406	61.8	1 109	28.5	116	3.0	1 298	33.3	1.6	2.8	2.1	0.6
MT	100	68.3	42	29.1	4	2.6	57	39.2	:	:	:	:
NL	5 743	71.5	3 290	41.0	337	4.2	2 453	30.6	1.4	2.1	4.3	0.5
AT	2 494	68.3	1 143	31.3	95	2.6	1 352	37.0	1.2	2.1	-0.6	0.4
PL	7 274	53.2	3 324	24.3	292	2.1	3 949	28.9	:	:	:	:
PT	2 904	56.7	1 136	22.2	70	1.4	1 768	34.5	2.9	4.5	3.7	2.0
SI	504	53.3	228	24.2	24	2.5	276	29.1	2.1	2.2	4.3	2.0
SK	1 194	55.6	539	25.1	50	2.3	655	30.5	0.6	0.9	-3.2	0.4
FI	1 637	68.7	962	40.3	109	4.6	676	28.3	1.3	2.0	1.9	0.5
SE	3 237	75.1	2 024	47.0	205	4.8	1 214	28.2	2.1	1.9	1.2	2.4
UK	21 299	76.3	11 761	42.1	1 208	4.3	9 537	34.2	1.5	1.7	1.1	1.1
IS	110	70.3	67	42.8	7	4.5	43	27.4	1.4	2.7	3.2	-0.4
NO	1 718	75.6	1 037	45.6	89	3.9	682	30.0	0.9	1.7	0.2	-0.4
EEA	131 345 s	67.0 s	65 220 s	33.3 s	6 556 s	3.4 s	66 125 s	33.8 s	:	:	:	:
CH	2 818	71.2	1 575	39.8	158	4.0	1 243	31.4	1.5	2.5	1.6	0.2
BG	1 670	56.2	659	22.2	81	2.7	1 011	34.0	:	:	:	:
HR	845	53.4	332	21.0	31	2.0	512	32.4	:	:	:	:
RO	3 376	36.4	1 306	14.1	139	1.5	2 070	22.3	1.2	1.2	-2.2	1.1

Source: Eurostat.

At the level of the EU-15, employment in the total services sector increased at an AAGR of 1.9% between 1999 and 2004. The Knowledge Intensive Services increased faster (2.6%); and among KIS, the high tech KIS even more (2.9%).

Jobs in the total services sector progressed most in Spain (5.0%), Ireland (4.0%) and Cyprus (4.7%). Only Lithuania experienced a decline (-1.1%) during the same period.

Employment in the KIS sector increased at an AAGR greater or equal to 6.0% in Spain and Cyprus. They were followed by Italy and Portugal.

Within the EU-15, employment in the high tech KIS sector increased even more than in total KIS (and total services) between 1999 and 2004. Nevertheless, more individual countries recorded decreases between 1999 and 2004 than in the total services sector. These were the Czech Republic, Denmark, Estonia, Lithuania, Luxembourg, Austria and Slovakia. The AAGR was -3.8% in Lithuania.

Employment in the Less KIS sector also increased but at a lower extent. AAGR at the level of the EU-15 reached 1.3%. Employment only decreased in Germany, Lithuania, Iceland and Norway.

German regions in the lead in high and medium high tech manufactures

Figure 2 portrays the leading regions in terms of employment in high and medium high tech manufacturing in 2004, both in absolute (1000s) and in relative terms (as a % of total employment).

In 2004, the first region in absolute terms was Lombardia (IT) with 444 thousand persons employed in high and medium high tech manufacturing. Lombardia was followed by two German regions: Stuttgart and Oberbayern with 415 and 280 thousand persons employed, respectively.

Among the fifteen leading regions in absolute terms, seven were German, four Italian, two French and one was Spanish. Denmark (the entire country is classified at NUTS 2 level) was the 14th leading region in absolute terms. However, as a percentage of total employment, the proportion in high and medium high tech only reached 6.0%. The same situation occurred in the region Île de France (FR) which ranked as fourth region in absolute terms,

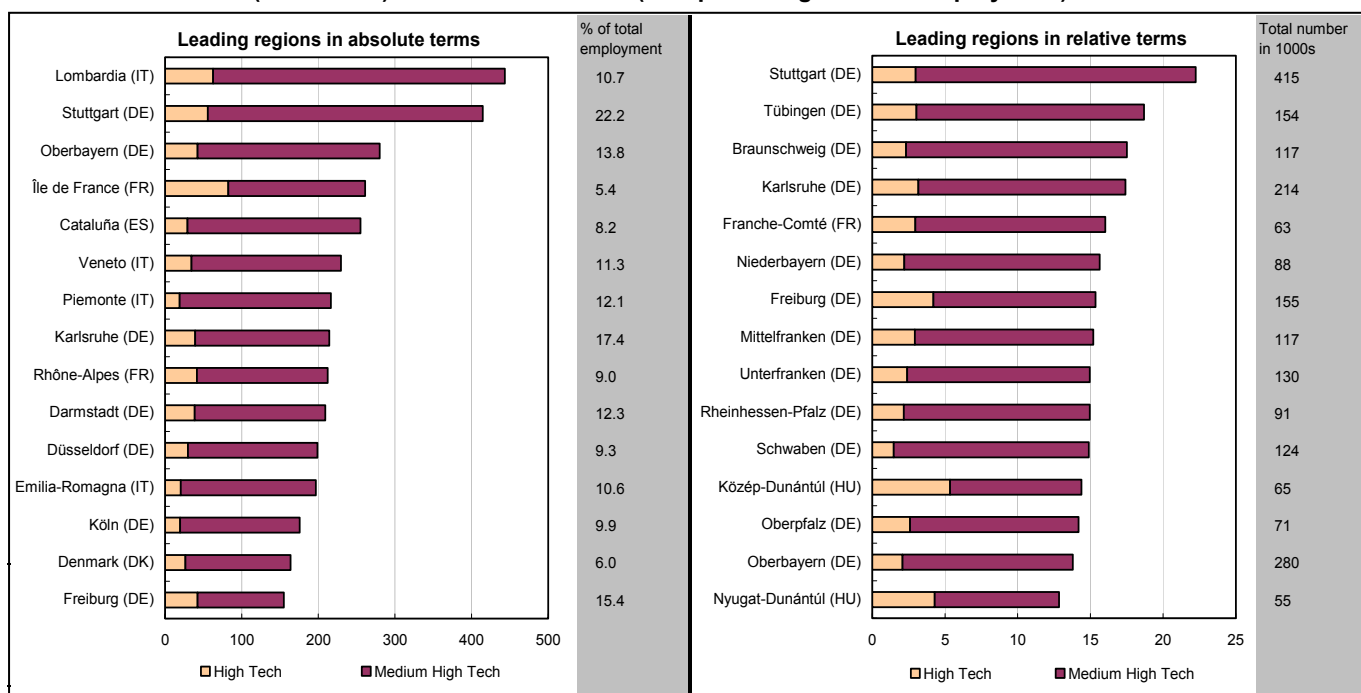
but only represented 5.4% of total employment of this region. However, Île de France was also the first region in terms of employment in high tech manufacturing, with 82 thousand persons.

German regions excelled even more when considering relative employment in high and medium high tech manufacturing. Indeed, twelve of the fifteen leading regions in 2004 were in Germany, two were located in Hungary and one was in France.

Among the German regions, Stuttgart (DE) ranked first with 22.2% of total employment in high and medium high tech manufacturing. Stuttgart was also the second region in absolute terms with 415 thousands persons employed in this sector.

Among the leading regions in relative terms, the two Hungarian regions displayed the highest proportion of employment in high tech manufacturing with 5.3% and 4.3% respectively.

Figure 2: Employment in high tech and medium-high tech manufacturing in the leading EU-25/EFTA regions, in absolute (thousands) and in relative terms (as a percentage of total employment) — 2004



Source: Eurostat.

Capital regions specialised in Knowledge Intensive Services (KIS)

Figure 3 displays the leading regions in terms of employment in Knowledge Intensive Services (KIS) in 2004, both in absolute and in relative terms.

Beside Denmark, two of the nine first regions in absolute terms were French, two were Italian, two were Spanish and two were located in the United Kingdom. They were followed by four German regions, by Zuid-Holland (NL) and by Andalusia (ES).

Île de France (FR) was the leading region in terms of KIS employment with 2.3 million jobs. With 364 thousand persons employed, Île de France (FR) was also the leading region in the high tech KIS sub sector followed by Comunidad de Madrid (ES) with 157 thousand.

Lombardia (IT) ranked second with 1.3 million persons employed in total KIS. However, in relative terms, it accounted only for 31.6% of total employment of this region (the EU-15 average was 34.6%). The same situation occurred in Cataluña (ES) and in Andalusia (ES), ranking sixth and fifteenth respectively, with only 27.7% (Cataluña) and 24.1% (Andalusia) of total employment in KIS.

Denmark, which is classified at NUTS 2 level, was the third most important region in absolute terms with 1.2 million people employed. This corresponded to 42.3% of the total employment of this region.

Looking at the fifteen leading regions in absolute terms, five regions were capitals: Île de France (FR), Outer and Inner London (UK), Comunidad de Madrid (ES) and Lazio (IT).

In relative terms (as a percentage of total employment), four of the 15 leading regions were situated in the United Kingdom, three in Sweden and another three in Norway.

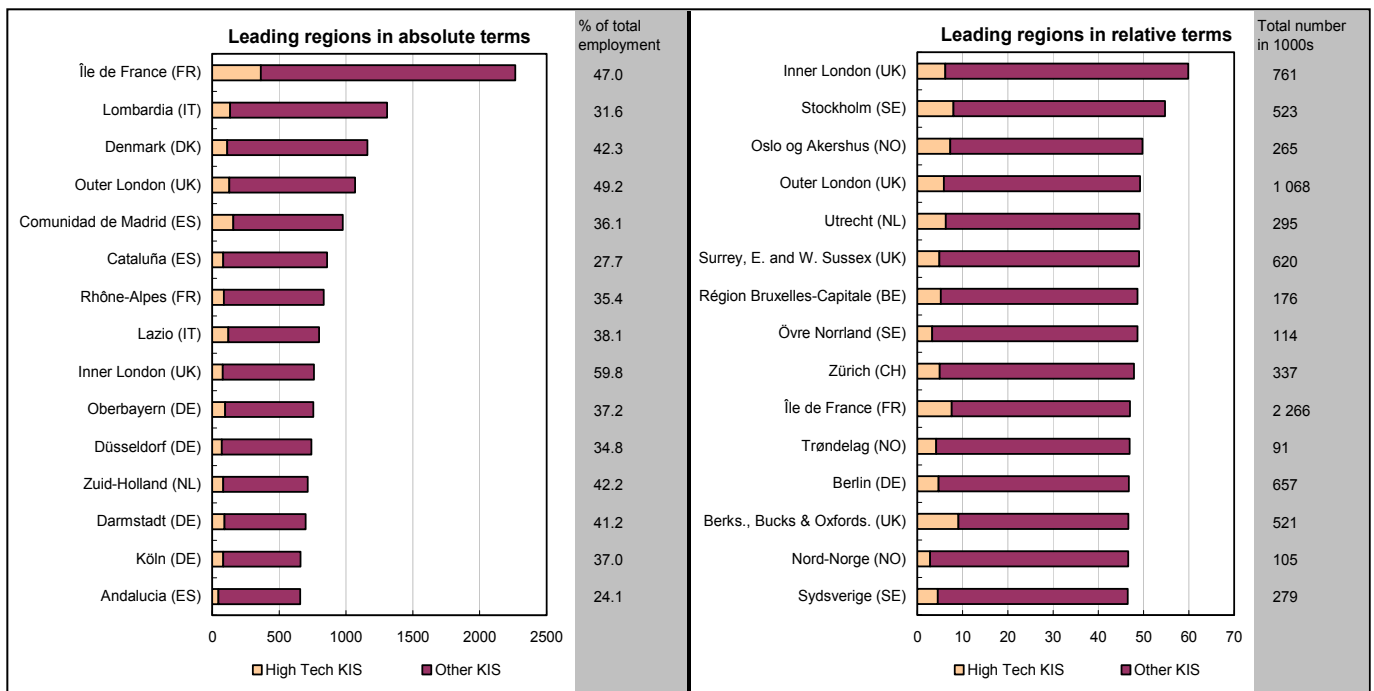
Seven out of the fifteen leading regions in relative terms were capital regions: Inner and Outer London (UK), Stockholm (SE), Oslo og Akershus (NO), Région Bruxelles-Capitale (BE), Île de France (FR) and Berlin (DE).

The first region was Inner London with almost 60% of total employment in KIS, followed by Stockholm (54.7%), Oslo og Akershus (49.8%) and Outer London (49.2%).

Three regions led both in absolute terms and in relative terms: Île de France, Inner London and Outer London.

Taking into account only the high tech KIS sector, the region "Berkshire, Bucks and Oxfordshire" (UK) led with more than 9% of total employment. It was followed by Stockholm (SE) and Île de France (FR) with 8.0% and 7.6% respectively.

Figure 3: Employment in Knowledge Intensive Services (KIS) in the leading EU-25/EFTA regions, in absolute (thousands) and in relative terms (as a percentage of total employment) — 2004



Source: Eurostat

Employment in high and medium high tech manufacturing increased as fast in Latvia, Cyprus and Estonia as in the leading EU-25/EFTA regions

Table 3 shows the top 25 regions with the highest Annual Average Growth Rate (AAGR) between 1999 and 2004 in terms of employment for both the high and medium high tech manufacturing sector and the high tech KIS sector.

Among the top 25 regions in high and medium high tech manufacturing, seven were Italian, five German, four Spanish and three French.

Moreover, three countries that are classified at NUTS 2 level were among the top 25 regions in 2004: Latvia, Cyprus and Estonia with an AAGR equal to 9.8%, 6.3% and 5.9% respectively. However, the proportion of employment in this sector remained quite low in Cyprus and Latvia (1.4% and 1.2% of total employment respectively).

The AAGR of the top 25 leading regions ranged between 15.8% and 3.6%. The first region was Limousin (FR) followed by Calabria (IT) and Región de Murcia (ES) with 14.1% and 13.8% respectively.

Three Italian regions within the top 25 were quite important in absolute terms: Lazio, Veneto and Toscana. This explains why Italy was one of the few countries which increased employment in the high and medium high tech manufacturing.

With Picardie (FR), Oberfranken (DE) and Niederbayern (DE), Veneto (IT) was also one of the

top 25 regions that had a proportion of jobs of over 10 % in this sector.

In the high tech Knowledge Intensive Services (KIS), the AAGR of the top 25 regions ranged between 21.1% and 8.3%. The region that increased the most was "Shropshire and Staffordshire" (UK), followed by the Prov. Limburg (BE) and Región de Murcia (ES) with 20.8% and 17.9% respectively. The latter region was also third in terms of AAGR in high and medium high tech manufacturing (13.8%).

Among the top 25 regions, eight were Spanish, including the Comunidad de Madrid (8.4%). Moreover, Comunidad de Madrid (ES) was one of the two regions out of the top 25 that had a proportion of employment in high tech KIS superior to 5%. This explains why Spain (7.8%) was the second country with the highest AAGR of employment in KIS after Cyprus (12.7%). Indeed, Cyprus – classified at the NUTS 2 level – was the ninth region with the highest AAGR.

Otherwise, there were four regions from the United Kingdom, three from Belgium, three from Italy, two from Germany and two from France.

Table 3: EU-25/EFTA regions with the highest AAGR 1999-2004 of employment in high and medium high tech manufacturing and in employment in high tech KIS.

High and medium high tech manufacturing				High tech KIS			
Leading regions	1000's	as a % of total emp.	AAGR 1999-2004	AAGR 1999-2004	as a % of total emp.	1000's	Leading regions
Limousin (FR)	22.4	6.6	15.8	21.1	5.0	35.8	Shrop- and Stafford-shire (UK)
Calabria (IT)	8.3	3.4	14.1	20.8	3.2	10.7	Prov. Limburg (BE)
Región de Murcia (ES)	19.4	3.6	13.8	17.9	1.6	8.8	Región de Murcia (ES)
Stereia Ellada (EL)	8.2	4.0	13.1	16.1	2.4	9.3	Principado de Asturias (ES)
Latvia (LV)	14.5	1.4	9.8	15.8	2.3	12.4	Aragón (ES)
Illes Balears (ES)	6.9	1.5	8.2	15.8	2.4	24.8	Thüringen (DE)
Thüringen (DE)	88.5	8.7	7.9	15.5	3.4	27.9	Alsace (FR)
Abruzzo (IT)	36.3	7.7	7.8	15.4	1.7	13.4	Canarias (ES)
Salzburg (AT)	13.9	5.6	7.7	12.7	2.1	7.2	Cyprus (CY)
Marche (IT)	48.4	7.5	6.8	11.7	4.3	29.3	Prov. Antwerpen (BE)
Lüneburg (DE)	68.9	9.6	6.4	11.4	3.4 u	4.1 u	Burgenland (AT)
Cyprus (CY)	4.0	1.2	6.3	11.4	4.9	8.4	Prov. Namur (BE)
Estonia (EE)	30.5	5.1	5.9	10.8	3.6	21.4	Northumb., Tyne and Wear (UK)
Castilla-la Mancha (ES)	16.3	2.3	5.5	10.7	3.8	25.4	Lancashire (UK)
Trier (DE)	12.6	5.7	5.4	10.2	1.7	6.1	Extremadura (ES)
Languedoc-Roussillon (FR)	20.2 u	2.5 u	5.4	10.0	2.6	52.0	Veneto (IT)
Inner London (UK)	24.3	1.9	5.1	9.0	3.8	19.4	East Wales (UK)
Picardie (FR)	69.8	11.0	5.0	9.0	1.7	47.0	Andalucía (ES)
Lazio (IT)	100.7	4.8	4.3	8.6	3.0	21.7	Lüneburg (DE)
Oberfranken (DE)	57.9	11.9	4.2	8.6	2.8	25.3	Pais Vasco (ES)
Umbria (IT)	18.8	5.4	4.1	8.5	3.2	10.9	Umbria (IT)
Veneto (IT)	229.6	11.3	4.0	8.5	2.8	48.7	Campania (IT)
Niederbayern (DE)	87.6	15.6	3.9	8.4	3.6	23.0	Picardie (FR)
Principado de Asturias (ES)	9.8	2.5	3.7	8.4	5.8	157.4	Comunidad de Madrid (ES)
Toscana (IT)	95.0	6.4	3.6	8.3	2.5 u	7.7 u	Friesland (NL)

Source: Eurostat

➤ ESSENTIAL INFORMATION – METHODOLOGICAL NOTES

Sources

The database on Statistics on high-tech industries and knowledge-intensive services includes data on employment in high technology and medium-high technology manufacturing sectors, knowledge-intensive service sectors, high technology service sectors, other sub-sectors and reference sectors, is compiled by Eurostat under "Science and Technology". The indicators presented in this publication are extracted and built up using data from the European Union Labour Force Survey — EU LFS.

The database covers a time series from 1994 onwards. Data are currently available at the national and regional levels for the 25 Member States of the European Union, the Candidate countries, Iceland, Norway and Switzerland. EU-25 regional data follow the NUTS 2003 nomenclature and are available at NUTS levels 1 and 2.

NUTS

Regional data are presented according to the Nomenclature of Territorial Units for Statistics, NUTS 2003. Data in this publication are presented at the NUTS 2 level.

Quality of the data

The guidelines on quality of the data established by the EU LFS are applied to the database on high tech industries and knowledge based services and therefore regions for which quality levels do not permit publication appear as not available. Regions for which quality levels define the data as unreliable but allow for publication are included and flagged as unreliable.

Statistical abbreviations and symbols

s Eurostat estimation
u Unreliable
: Not available

Classification of high tech and knowledge intensive sectors

High tech and medium-high tech manufacturing sectors

The classification of high and medium-high technology manufacturing sectors is based on the Eurostat/OECD's classification — itself based on the ratio of R&D expenditure to GDP or R&D intensity. Since the EU LFS only allows reporting of NACE at the 2 digit level, the aggregations are made as follows:

High technology manufacturing	NACE Rev. 1.1 codes: 30 Manufacture of office machinery and computers 32 Manufacture of radio, television and communication equipment and apparatus 33 Manufacture of medical, precision and optical instruments, watches and clocks
Medium-high-technology manufacturing	NACE Rev. 1.1 codes: 24 Manufacture of chemicals and chemical products 29 Manufacture of machinery and equipment n.e.c. 31 Manufacture of electrical machinery and apparatus n.e.c. 34 and 35 Manufacture of transport equipment
High and medium high technology manufacturing	NACE Rev. 1.1 codes: 24 Manufacture of chemicals and chemical products 29 to 35 Manufacture of machinery and equipment n.e.c.; man. of electrical and optical equipment; man. of motor vehicles, trailers and semi-trailers; man. of other transport equipment
Low and medium low-technology manufacturing	NACE Rev. 1.1 codes: 15 to 22 Manufacture of food products, beverages and tobacco; textiles and textile products; leather and leather products; wood and wood products; pulp, paper and paper products, publishing and printing; 23 Manufacture of coke, refined petroleum products and nuclear fuel 25 to 28 Manufacture of rubber and plastic products; basic metals and fabricated metal products; other non-metallic mineral products; 36 to 37 Manufacturing n.e.c.

Knowledge-intensive and less knowledge-intensive services

The knowledge intensity reflects the integration with a generic or service specific science and technology base, it can be seen as a combination of knowledge embedded in new equipment, personnel, and R&D intensity.

Service sectors are defined according to their knowledge-intensity. The two main groups are:

- Knowledge-intensive services — KIS, and
- Less Knowledge-intensive services — LKIS.

Each of these can be further broken into sub-groups.

Knowledge Intensive Services (KIS)	NACE Rev. 1.1 codes: 61 Water transport 62 Air transport 64 Post and telecommunications 65 to 67 Financial intermediation 70 to 74 Real estate, renting and business activities 80 Education 85 Health and social work 92 Recreational, cultural and sporting activities
High-technology KIS	NACE Rev. 1.1 codes: 64 Post and telecommunications; 72 Computer and related activities; 73 Research and development
Less KIS	NACE Rev. 1.1 codes: 50 to 52 Motor trade 55 Hotels and restaurants 60 Land transport; transport via pipelines 63 Supporting and auxiliary transport activities; activities of travel agencies 75 Public administration and defence; compulsory social security 90 Sewage and refuse disposal, sanitation and similar activities 91 Activities of membership organization n.e.c. 93 Other service activities 95 Activities of households as employers of domestic staff 99 Extra-territorial organizations and bodies

Exception

Due to a lack of employment data at the 2-digit level of NACE before 2004, employment by sector indicators for PL can not be calculated and therefore are not presented in this publication. The EU aggregate excludes Poland in such cases.

Data presented in this Statistics in Focus shows the data availability in Eurostat's reference database as of 30 November 2005.

Further information:

Databases

[EUROSTAT Website/Science and technology/High tech industry and knowledge based services/Statistics on high-tech industries and knowledge-intensive services/High-tech industries and knowledge-intensive services: employment statistics](#)

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European Statistical Data Support:

Eurostat set up with the members of the 'European statistical system' a network of support centres, which will exist in nearly all Member States as well as in some EFTA countries.

Their mission is to provide help and guidance to Internet users of European statistical data.

Contact details for this support network can be found on our Internet site: www.europa.eu.int/comm/eurostat/

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