

12 May, 2014

Enterprises in Portugal  
2010-2012

## COMPANIES IN HIGH AND MEDIUM HIGH-TECHNOLOGY SECTORS WHAT'S THEIR RELATIVE IMPORTANCE?

In 2012, High and Medium High-technology Sectors represented 3.1% of the companies and 12% of the non-financial companies' GVA. These sectors presented different characteristics from the total non-financial sectors, investing more in R&D and employing better paid human resources with a larger contribution to the GVA. These sectors also concentrated a higher share of inward foreign affiliates, of exporting companies and of High Growth Companies in relation to the total non-financial companies. In comparison with other European countries, in the last year with available information (2011), the weight of these sectors remained relatively modest.

Knowledge-intensive High-technology Services represented the largest share of companies (67.5%) and GVA created (55.5%) in these sectors. Within service activities, Computer Programming and Consultancy (60.7% of the companies) and Telecommunications (57.7% of the total GVA), stood out as the most relevant.

From the data collected and compiled by the Integrated Business Accounts System (IBAS), Statistics Portugal has been releasing information in new areas of Enterprise Statistics, in order to meet the growing and differentiated needs of users.

One of the areas considered as important to the analysis of the potential of economic growth and economy competitiveness respects to information about companies working in sectors that produce high-technology goods and services.

Although the development of products with a high level of technological sophistication may occur in an almost

undifferentiated way in companies of the most diverse economic activities, it is possible to identify sectors where companies produce goods or services technologically more demanding, with increased value added. To identify these sectors, Statistics Portugal used as a reference the classification adopted by Eurostat (see the following figure). Three sectors are considered: High-technology Manufacturing, Medium High-technology Manufacturing and Knowledge-intensive High-technology Services.

In the first part of this Press Release, we present a characterization and analysis of the economic and

financial performance of the companies that integrate these three sectors, ending with some comparisons among European countries in 2011. The second part is

exclusively dedicated to the Knowledge-intensive High-technology Service sector, given its greater relative importance.

## >> High and Medium High-technology Sectors

Which activities belong to these sectors?

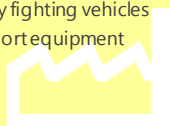
### >> High-technology Manufacturing

- Manufacture of basic pharmaceutical products and pharmaceutical preparations
- Manufacture of computer, electronic and optical products
- Manufacture of air and spacecraft and related machinery



### >> Medium High-technology Manufacturing

- Manufacture of chemicals and chemical products
- Manufacture of weapons and ammunition
- Manufacture of electrical equipment
- Manufacture of machinery and equipment
- Manufacture of motor vehicles, trailers and semi-trailers
- Manufacture of railway locomotives and rolling stock
- Manufacture of military fighting vehicles
- Manufacture of transport equipment



### >> Knowledge-intensive High-technology Services

- Motion picture, video and television programme production, sound recording and music publishing activities
- Programming and broadcasting activities
- Telecommunications
- Computer programming, consultancy and related activities
- Information service activities
- Scientific research and development



Source: Eurostat

## HIGH AND MEDIUM HIGH-TECHNOLOGY SECTORS: CHARACTERIZATION AND PERFORMANCE

High and Medium High-technology Sectors, representing just 3.1% of companies, were responsible in 2012, for an important share of the turnover and GVA generated in the total non-financial companies (9.9% and 12.0% respectively). This contribution to GVA increased over the three years in analysis from 11.5% to 12% between 2010 and 2012.

In 2012, these sectors had over 167 thousand persons employed, about 6% of the total non-financial companies.

Knowledge-intensive High-technology Services represented more than half of the companies (67.5%) and GVA (55.5%) of the High and Medium High-technology Sectors. High-technology Manufacturing was the least representative, with 3.2% of the companies and 8.2% of the GVA.

>> Figure 1 – Main economic indicators of companies (2012)

	Year	Companies		Persons Employed		Turnover		GVA	
		Nº	%	Nº	%	10 <sup>6</sup> EUR	%	10 <sup>6</sup> EUR	%
Total Non-financial Companies	2012	353 611		2 695 317		310 680		70 038	
	2011	360 588		2 863 552		329 965		75 563	
	2010	360 279		2 935 468		336 850		80 557	
High and Medium High-technology Sectors	2012	11 132	3.1	167 694	6.2	30 652	9.9	8 398	12.0
	2011	10 848	3.0	169 041	5.9	32 215	9.8	8 910	11.8
	2010	10 283	2.9	165 965	5.7	31 328	9.3	9 296	11.5
High-technology Manufacturing	2012	360	3.2	15 219	9.1	2 932	9.6	692	8.2
	2011	375	3.5	15 285	9.0	3 066	9.5	672	7.5
	2010	382	3.7	15 664	9.4	2 892	9.2	707	7.6
Medium High-technology Manufacturing	2012	3 257	29.3	85 321	50.9	16 808	54.8	3 047	36.3
	2011	3 339	30.8	87 886	52.0	17 775	55.2	3 359	37.7
	2010	3 372	32.8	87 507	52.7	16 136	51.5	3 393	36.5
Knowledge-intensive High-technology Services	2012	7 515	67.5	67 154	40.0	10 911	35.6	4 659	55.5
	2011	7 134	65.8	65 870	39.0	11 374	35.3	4 879	54.8
	2010	6 529	63.5	62 794	37.8	12 300	39.3	5 196	55.9

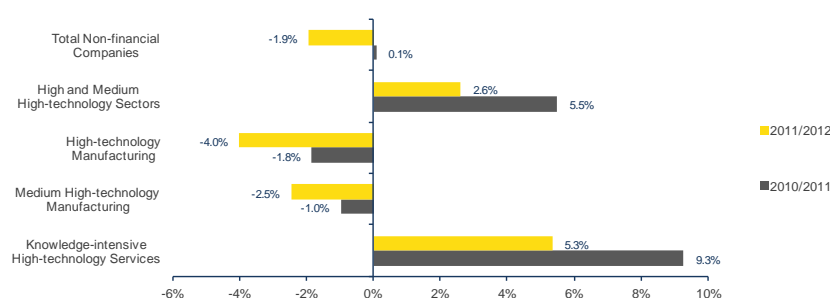
Source: Statistics Portugal, IBAS

### The number of companies in the Knowledge-intensive High-technology Sectors increased

In relation to 2011, the number of companies of the High and Medium High-technology Sectors grew, in

opposition to the total non-financial companies (2.6% in relation to -1.9%). This growth was mostly due to the increase in the number of companies in Knowledge-intensive High-technology Services (+5.3% from previous year).

>> Figure 2 – Variation rate of the number of companies (2010-2012)



Source: Statistics Portugal, IBAS

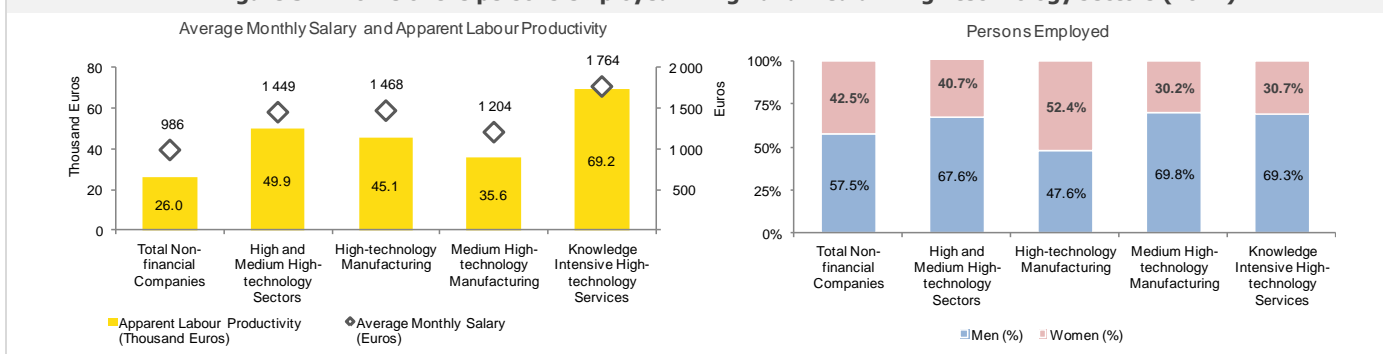
## Knowledge-intensive High-technology Service companies paid almost twice the average salary of the total non-financial companies

High and Medium High-technology Sectors paid, in average, 463 Euros more to employees than the average of the total non-financial companies, and presented an apparent labour productivity almost two fold the total non-financial companies.

Knowledge-intensive High-technology Service companies paid the highest monthly average salary (1.764 Euros per employee) and had the highest apparent labour productivity (69.2 thousand Euros per person employed).

Medium High-technology Manufacturing had the largest share of men in the persons employed (69.8%), well above the average of the total non-financial companies (57.5%). High-technology Manufacturing was an exception with more women (52.4%) than men (47.6%) in the persons employed.

**>> Figure 3 – Profile of the persons employed in High and Medium-high technology sectors (2012)**



Source: Statistics Portugal, IBAS

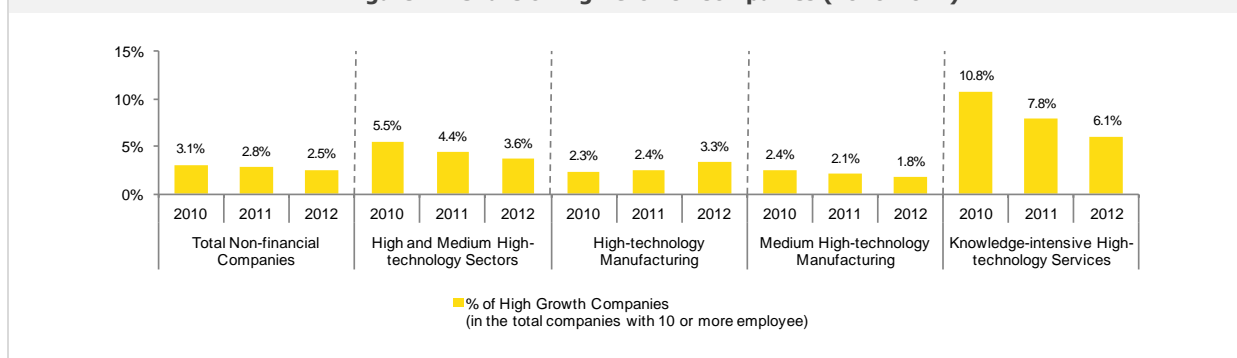
## The share of High Growth Companies is bigger on the High and Medium High-technology Sectors

In the previous Press Release concerning "High Growth Companies: Larger and More Exporting" (7<sup>th</sup> April 2014), some features of High Growth Companies (HGC) were presented. Crossing this type of companies with those that integrate High and Medium High-technology Sectors, we

conclude that, in these sectors, the proportion of HGC was larger than the observed for the total non-financial companies.

Among these sectors, Knowledge-intensive High-technology Services presented the biggest share of HGC (over 6% throughout the three years). However, also in this sector, as in the overall non-financial sector, there was a decrease of this proportion between 2010 and 2012.

**>> Figure 4 – Share of High Growth Companies (2010-2012)**



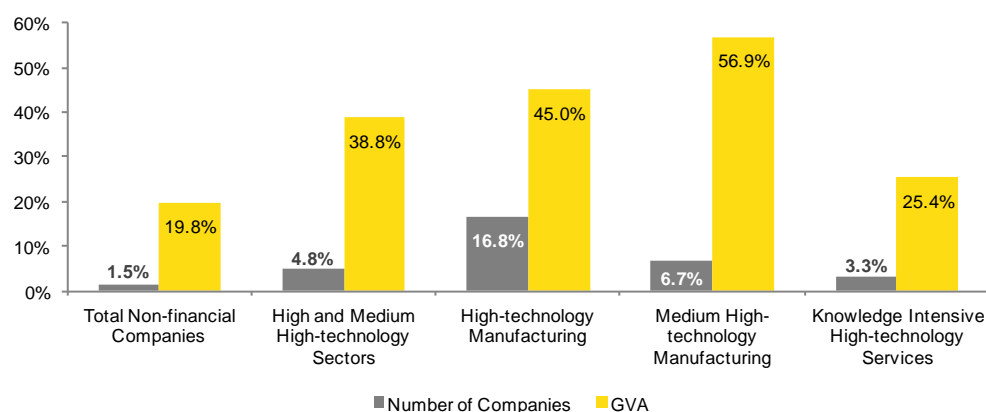
Source: Statistics Portugal, IBAS

**More than half (56.9%) of the Medium High-technology Manufacturing companies' GVA was generated by Inward Foreign Affiliates**

In 2011, 4.8% of the companies in High and Medium High-technology sectors were Inward Foreign Affiliates (IFATS).

High-technology Manufacturing had the highest share of IFATS (16.8%), nonetheless, it was on the Medium High-technology Manufacturing that IFATS contributed the most to the creation of GVA in 2011 (56.9%)

>> Figure 5 – Share and weight on GVA of Inward Foreign Affiliates (2011)



Source: Statistics Portugal, IBAS

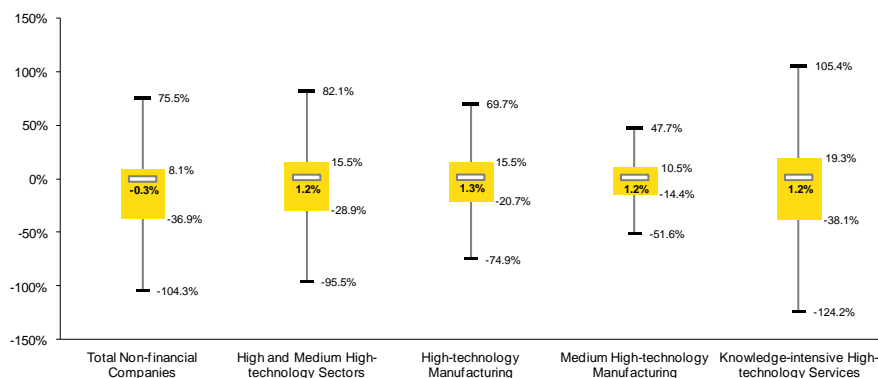
**Return on Equity in the High and Medium High-technology Sectors above the observed in the total non-financial companies**

More than half of the companies in High and Medium High-technology Sectors presented a Return on Equity above

1.2%, above the total non-financial companies, where the median was -0.3%.

It is also observed that the 25% of companies with the highest Return on Equity in the Knowledge-intensive High-technology Services presented a return of over 19.3% while the 25% with the lowest return were below -38.1%.

>> Figure 6 – Return on Equity of companies (2012)<sup>1</sup>



Source: Statistics Portugal, IBAS

<sup>1</sup> In the production of this chart, the values below the first quartile (25%), minus 1.5 times the difference between the third and the first quartile, and the values above the third quartile (75%), plus 1.5 times the difference between the third and the first quartile were excluded.

### The debt ratio of High and Medium High-technology Sectors was lower than on the total non-financial companies

High and Medium High-technology sectors' companies had a lower weight of liabilities on its financial structure, presenting a more reduced debt ratio (0.57) than the observed on the total non-financial companies (0.72).

Companies in these sectors had a better capacity to generate a gross operating surplus to cover interest expenses (an interest coverage ratio of 5.24 against 2.41 of the total non-financial companies in 2012).

The current liquidity ratio of the Knowledge-intensive High-technology Services (0.8) was lower than the observed in the total non-financial sectors (1.19). On the High and Medium High-technology Manufacturing this ratio was higher (1.30 and 1.31 respectively).

>> Figure 7 – Main financial ratios of companies (2012)

	Liabilities 10 <sup>6</sup> EUR	Of which: Current Liabilities	Debt Ratio	Current Liquidity	Interest Coverage Rate
		%			
Total Non-financial Companies	366 010	55.0	0.72	1.19	2.41
High and Medium High-technology Sectors	27 573	53.2	0.57	1.04	5.24
High-technology Manufacturing	1 840	65.0	0.63	1.30	4.77
Medium High-technology Manufacturing	8 241	69.7	0.61	1.31	6.04
Knowledge-intensive High-technology Services	17 492	44.2	0.55	0.80	5.00

Source: Statistics Portugal, IBAS

### High and Medium High-technology Sectors' companies were increasingly exporting

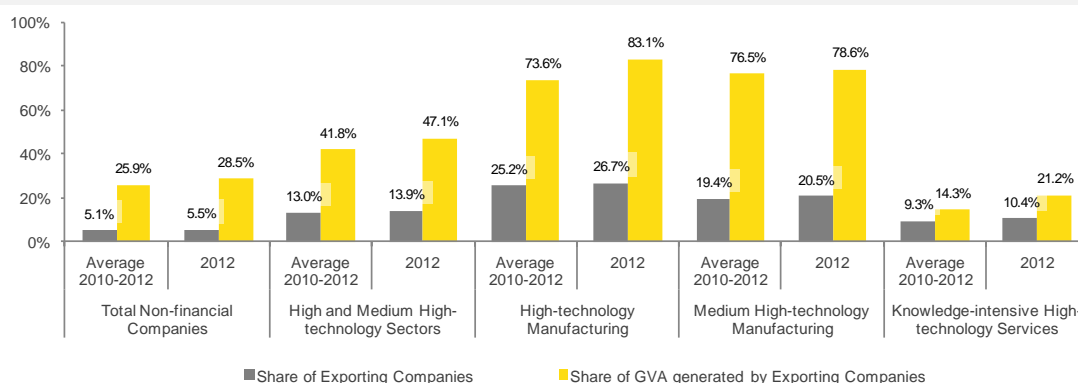
The share of exporting companies (see Methodological Note) in High and Medium High-technology Sectors grew between 2010 and 2012, reaching 13.9% in the latter year, above the 13.0% observed as the three year average.

In 2012, the total High and Medium High-technology Sectors had an above average share of exporting companies (13.9% in relation to 5.5%). The exporting capacity of the

High and Medium High-technology sectors stood out, with 26.7% and 20.5% of the companies, respectively, being considered as exporting companies.

Exporting companies presented an increased importance on their contribution to the respective sectors' GVA. In 2012, the highest weight was observed in the High and Medium High-technology Manufacturing sectors, where 83.1% and 78.6%, respectively, of the total GVA was generated by exporting companies.

>> Figure 8 – Exporting profile of companies (2010-2012)



Source: Statistics Portugal, IBAS



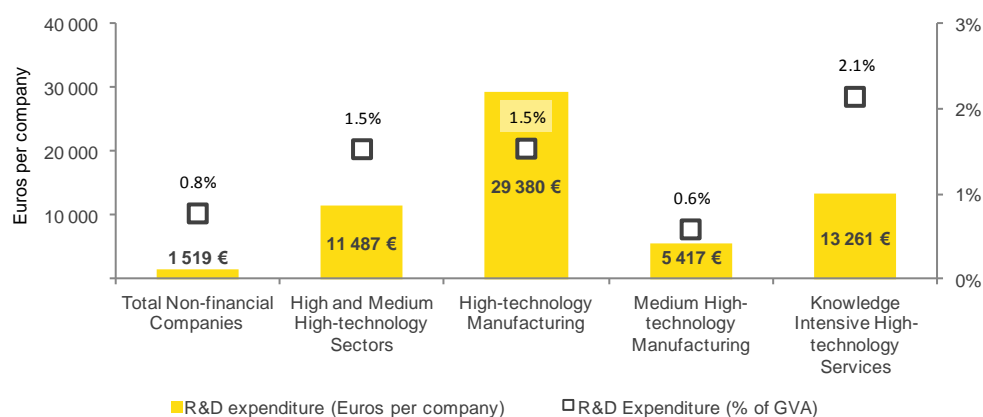
### High-technology Manufacturing with the largest investment in R&D per company

High-technology Manufacturing companies presented a research and development (R&D) expenditure well above the remaining sectors under analysis, investing close to

EUR 30 000 per year per company, in relation to about EUR 1 500 observed in the total non-financial companies.

Knowledge-intensive High-technology Services presented, however, an higher R&D expenditure as share of the GVA, reaching 2.1% in 2012.

>> Figure 9 – R&D expenditure of companies (2012)



Source: Statistics Portugal, IBAS

## INTERNATIONAL COMPARISON

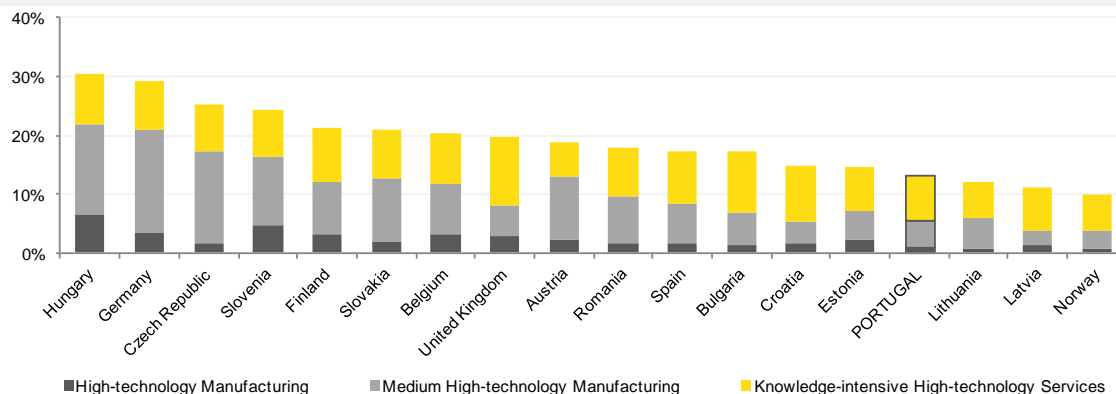
### Weight of the High and Medium High-technology Sectors in the Portuguese GVA was one of the lowest among European countries

In 2011, for the set of countries with available information, Hungary and Germany stood out as the countries where High and Medium High-technology Sectors

contributed the most to the GVA of the non-financial sector (30.4% and 29.5% respectively), partly due to the strength of the automotive industries in these countries.

Portugal was among the countries with the lowest weight of these sectors in the total GVA of the non-financial companies (13.4%).

>> Figure 14 – Weight on the GVA of High and Medium High-technology Sectors in the total non-financial companies' (2011)



Source: Eurostat

## KNOWLEDGE-INTENSIVE HIGH-TECHNOLOGY SERVICES

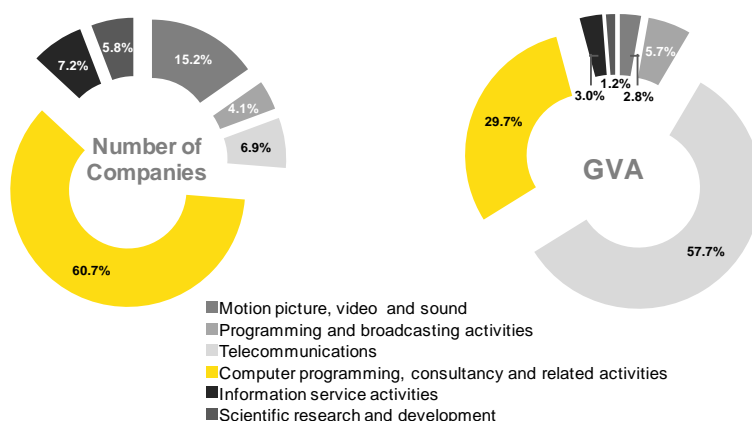
Knowledge-intensive High-technology Services stood out in the High and Medium High-technology sectors, having been responsible for a relevant part of the performance observed.

The largest share of companies in the Knowledge-intensive High-technology Services (60.7%) were on

Computer Programming and Consultancy activities, with a significant contribution to the total GVA of the sector (29.7%).

Over EUR 2.600 million of GVA generated in this sector (57.7%) came, however, from Telecommunications, where 5 large companies accounted for over 88% of this value.

>> **Figure 10 – Share and weight on GVA of Knowledge-intensive High-technology Services (2012)**



Source: Statistics Portugal, IBAS

**Number of companies in Telecommunications registered an annual average increase of 15.2% between 2010 and 2012**

All the activities comprised in the Knowledge-intensive High-technology Services grew in number of companies between 2010 and 2012, with a total annual average

growth of 7.3%, while the total non-financial companies decreased at an annual average of 0.9% in the same period.

The activities with a higher growth rate between 2010 and 2012 were Telecommunications and Information Service Activities (15.2% and 10.7% per year on average, respectively).

>> **Figure 11 – Number of companies in Knowledge-intensive High-technology Services (2010-2012)**

	Number of Companies						
	2010		2011		2012		Average Annual Variation
	Nº	Var.	Nº	Var.	Nº	Var.	
Total Non-financial Companies	360 279	-1.6%	360 588	0.1%	353 611	-1.9%	-0.9%
Knowledge-intensive High-technology Services	6 529	2.7%	7 134	9.3%	7 515	5.3%	7.3%
Motion picture, video and sound	1 078	-2.0%	1 133	5.1%	1 146	1.1%	3.1%
Programming and broadcasting activities	304	-0.7%	308	1.3%	307	-0.3%	0.5%
Telecommunications	393	7.4%	473	20.4%	522	10.4%	15.2%
Computer programming, consultancy and related activities	3 904	2.9%	4 321	10.7%	4 561	5.6%	8.1%
Information service activities	442	6.3%	475	7.5%	542	14.1%	10.7%
Scientific research and development	408	8.2%	424	3.9%	437	3.1%	3.5%

Source: Statistics Portugal, IBAS



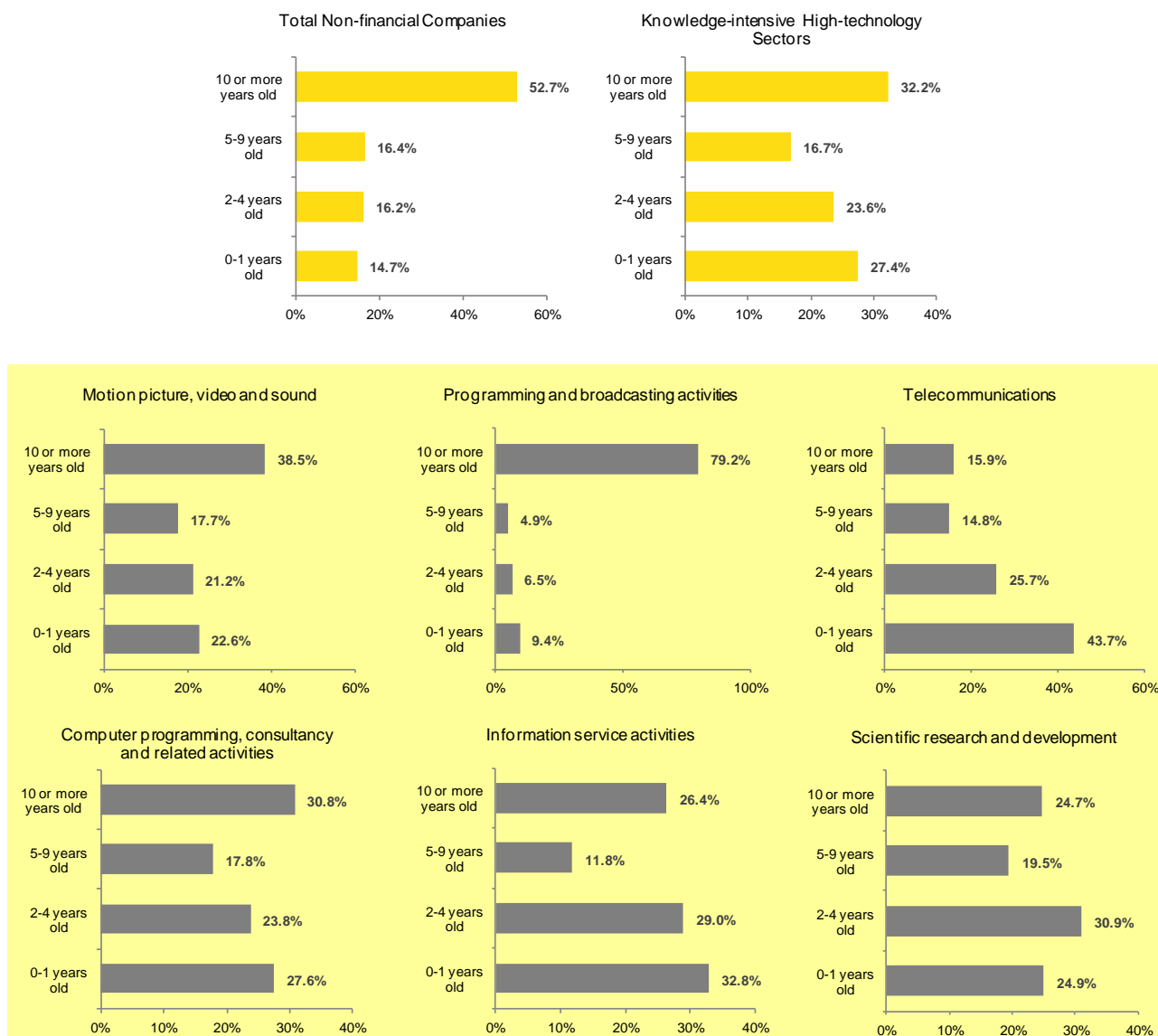
**Nearly 80% of the Programming and Broadcasting companies were 10 or more years old**

In 2012, companies in the Knowledge-intensive High-technology Services had a younger age structure than the total non-financial companies (32.2% of the companies were above 10 years old, compared to 52.7% in the total non-financial companies).

Programming and Broadcasting Activities had the oldest companies among Knowledge-intensive High-technology Services sectors, with the great majority (79.2%) being 10 or more years old, a much larger share than in any of the remaining sectors.

Telecommunications, on the other hand, had the largest share of new companies in 2012 (43.7% of the companies were under 2 years old), being also the activity with the smallest proportion of companies above 10 or more years (15.9%).

**>> Figure 12 – Age of companies in Knowledge-intensive High-technology Sectors (2012)**



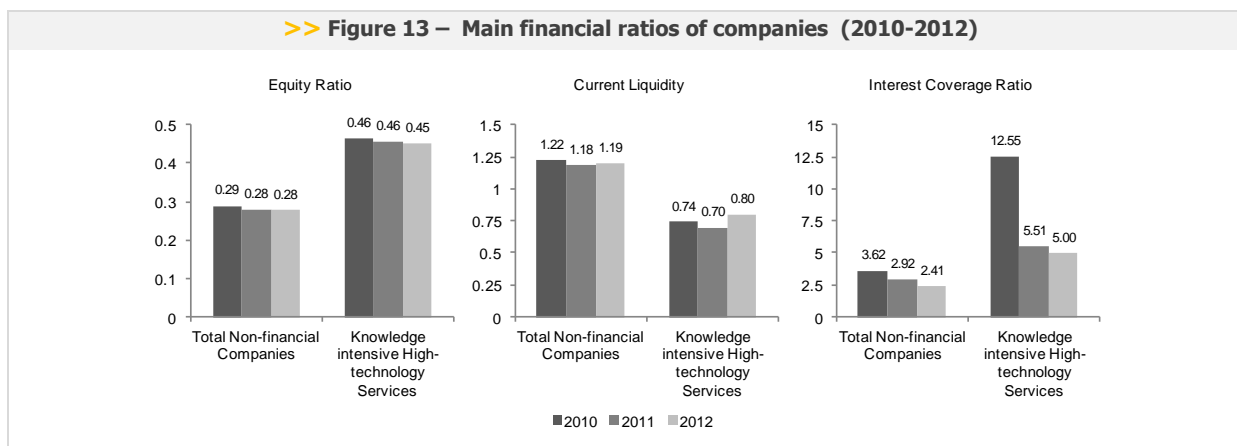
Source: Statistics Portugal, IBAS

**Financial ratios of the Knowledge-intensive High-technology Services followed the trend of the total non-financial companies**

The main financial ratios of the Knowledge-intensive High-technology Services' companies developed on a par with the total non-financial companies.

The equity ratio remained stable for the three years under analysis, being higher on the Knowledge-intensive High-technology Services (0.45 in 2012) than on the overall non-financial companies (0.28 in 2012). Current liquidity improved in relation to 2011 in both cases, while the companies' capacity to generate results to cover interest related costs has decreased.

>> **Figure 13 – Main financial ratios of companies (2010-2012)**



Source: Statistics Portugal, IBAS

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PRESS RELEASES

- [High growth companies: larger and more exporting](#)  
*7<sup>th</sup> April 2014*
- [Foreign Affiliates in Portugal - 2011](#)  
*27<sup>th</sup> September 2013*
- [Entrepreneurship in Portugal-Business Demography Indicators - 2004 - 2007](#)  
*26<sup>th</sup> June 2009*

PUBLICATIONS

- [Enterprises in Portugal - 2012](#)

**Methodological note:**

Statistics Portugal disseminates the main statistical findings characterizing the structure and evolution of High and Medium High-technology Sectors in Portugal between 2010 and 2012.

The disseminated statistical data was obtained from the Integrated Business Accounts System (IBAS), which results from a business statistics integration process, based on administrative data, with a focus on the Simplified Business Information (IES).

In this study, only companies from section A to S (except K and O) of NACE-Rev.2 were considered.

The classification of companies in High and Medium High-technology Sectors followed the aggregation defined by Eurostat in the context of High-technology Industry and Knowledge-intensive Services:

**High and Medium High-technology Sectors:** Comprise companies in High-technology Manufacturing, Medium High-technology Manufacturing and in Knowledge-intensive High-technology Services sectors.

**High-technology Manufacturing:** Companies belonging to divisions 21 and 26 and groups 303 of NACE Rev.2

**Medium High-technology Manufacturing:** Companies belonging to divisions 20, 27, 28 e 29 and groups 254, 302, 304, 309 and 325 of NACE Rev.2

**Knowledge-intensive High-technology Services:** Companies belonging to divisions 59, 60, 61, 62, 63 and 72 of NACE Rev.2

**High Growth Companies** correspond to companies with an average annual growth, over a three year period, higher than 20%. This growth can be measured by number of employees or turnover.

It was considered as **exporting companies** those with exports of goods and services that comply with the following criteria:

- Companies where at least 50% of the turnover originates from exports of goods and/or services or,
- Companies where at least 10% of the turnover originates from exports of goods and/or services and the total value of exports exceeds 150.000€.

**Main concepts:**

**1<sup>st</sup> Quartile** – The first quartile is the value observed to the company whose position corresponds to 25% of the sorted list of observations (i.e. where 25% of the companies have a lower value than this and 75% higher)

**Median** – The second quartile, or median, corresponds to 50% of the sorted list of observations. Half of the companies have an higher value than the median and half lower.

**3<sup>rd</sup> Quartile** – The third quartile is the value observed to the company whose position corresponds to 75% of the sorted list of observations (i.e. where 75% of the companies have a lower value than this and 25% higher).

**Economic and financial ratios:**

**Apparent labour productivity** =  $GVA / \text{Number of persons employed}$

**Average Monthly Salary** =  $(\text{Salary}/\text{Number of Employees}) / 14 \text{ Months}$

**Current Liquidity** =  $\text{Current Assets}/\text{Current Liabilities}$

**Debt Ratio** =  $\text{Total Liabilities}/\text{Total Assets}$

**Equity Ratio** =  $\text{Shareholder's equity} / \text{Assets}$

**Interest Coverage Ratio** =  $\text{Gross Operating Surplus}/\text{Interest}$

**Research and Development expenditure (R&D) per company** =  $\text{Expenditure in development projects and computer programmes}/\text{Number of companies}$

**Return on Equity** =  $\text{Net profit} / \text{Equity} * 100$

**Acronyms:**

**GVA:** Gross value added (cost of factors)

**GVA:** Gross value added (market prices)

**HGC:** High Growth Companies

**IBAS:** Integrated Business Accounts System

**IFATS:** Inward Foreign Affiliates

**NACE Rev.2:** European Classification of Economic Activities, Revision 2

**Q1:** First quartile

**Q3:** Third quartile

**R&D:** Research and development