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Monitoring industrial  
research:

**The 2010 EU Industrial  
R&D Investment  
SCOREBOARD**

Joint Research Centre

Directorate General Research



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# Summary

This 2010 “EU Industrial R&D Investment Scoreboard” (the *Scoreboard*) presents information on the world’s top 1400 companies ranked by their investments in research and development (R&D). It contains data drawn from the latest available companies’ accounts, i.e. the fiscal year 2009<sup>1</sup>. There are 400 companies based in the EU and 1000 companies based elsewhere.

The global economic and financial crisis that started in 2008 and hit companies worldwide is fully reflected in the company accounts used for the 2010 *Scoreboard*. This was not the case for last year’s edition where only the first effects were visible in indicators like sales, profits and market valuation while R&D investment growth continued, due to the normal operational lag of R&D activities.

The 2010 *Scoreboard* shows the effects of the economic downturn on company financial results and input indicators such as R&D and fixed capital investments. The analysis compares R&D investment figures with the evolution of net sales and profits and highlights the different effects and trends across individual companies, sectors and regions, as well as making comparisons with the previous downturn in 2002-2003. Despite an overall decrease in R&D investment, a number of companies continue to increase R&D investment in order to strengthen their competitive position in preparation for the recovery.

## Key findings

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**In 2009, worldwide corporate R&D investment proved resilient to the global recession, a sign of the strategic importance that the largest corporate investors attach to R&D.**

The 1400 *Scoreboard* companies invested €402.2bn in R&D in 2009, 1.9% less than the previous year. This ends the positive trend of the past four years, when annual growth rates were well above 5%. However, considering how seriously the crisis impacted on companies’ net sales (-10.1%) and profits (-21.0%) and given that most of the R&D investment decisions reflected in this *Scoreboard* were taken in late 2008 (at the height of the financial crisis), this figure suggests that R&D remains a top priority for the largest R&D investing companies (see Figure 1).

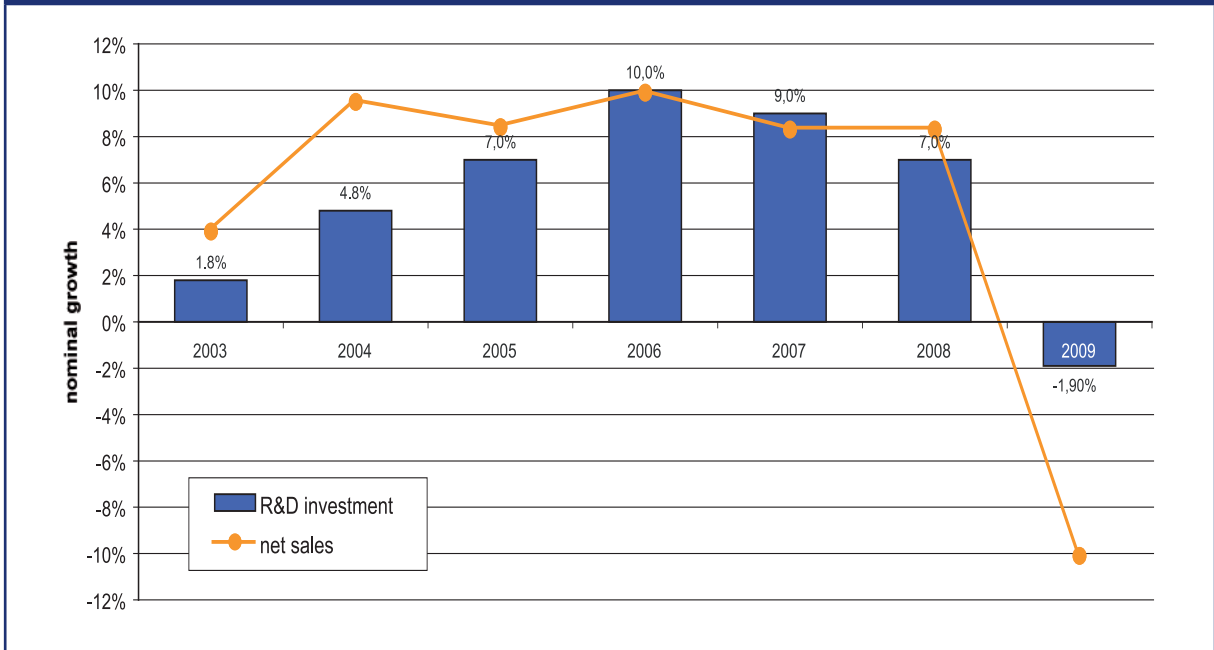
The performance of the top 100 companies accounting for 58% of the total R&D investment in the *Scoreboard* illustrates the effects of the financial crisis:

- This crisis has had a more severe impact than the 2002/03 recession: Of the top 100, 54 companies report a decrease in R&D investment versus 43 in the previous crisis (and 70 companies report reduced sales versus 45 in 2003).
- Of the 46 companies in the top 100 that increased R&D, 19 did so by more than 10% (7 in the Pharmaceuticals sector). Only 2 out of the 19 came from Europe, compared to 8 from the US and 6 from Japan.

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<sup>1</sup> However, due to differences in accounting practices and financial year end dates, the sampling period ranges from late 2008 to mid 2010.

**Figure S1. One-year R&D investment and net sales growth of the *Scoreboard* companies**



*Note: The different Scoreboards are not directly comparable because of changes in the sample composition.*

*Source: The EU Industrial R&D Investment Scoreboards (of 2004, 2005, 2006, 2007, 2008, 2009, 2010). European Commission, JRC/DG RTD.*

**Japanese car maker Toyota remains in first place as the top R&D investor, followed by the Swiss Pharmaceuticals company, Roche. Volkswagen in fourth position remains is the biggest R&D investor in the EU.**

For the first time in the *Scoreboard*, the top two places are held by non-EU and non-US firms. Large drops in profits and sales were observed in the Automobiles sector and companies reacted differently. Toyota and Volkswagen strived to consolidate their R&D investment position, while others, like General Motors and Ford, made significant reductions and dropped out of the top 10.

Five companies from the Pharmaceuticals sector appear in the top ten this year and continue climbing positions, with Roche from Switzerland, now second. This is partly the result of the particular dynamics in this sector, as highlighted in the sectoral analysis below.

Among the companies most affected by the crisis are those of the Automobiles sector: 15 companies reduced R&D, including massive reductions by Ford (-32.4%), Renault (-26.5%) and General Motors (-24.1%). This contrasts with other companies showing a modest reduction of R&D such as Nissan and Toyota, with some even increasing R&D, e.g. Hyundai.

Companies increasing R&D investment in 2009 included companies showing good sales and profits, such as Huawei Technologies (27.8%) and Apple (25.4%), as well as companies whose profits and sales fell substantially, such as Bayer (8.8%) and General Electric (10.1%).

**The overall R&D figures mask significant differences in individual industrial sectors. R&D investment in the Pharmaceuticals sector continues to rise whereas the Automobiles and IT hardware sectors show a substantial decrease.**

The Pharmaceuticals sector consolidated its position as the top R&D investor, increasing R&D by 5.3%. It is also one of the few sectors that managed to increase sales during the crisis (6.4%). Moreover, large pharmaceutical companies are reinforcing their position by increasing their R&D capacity through mergers and acquisitions, often involving biotech firms.

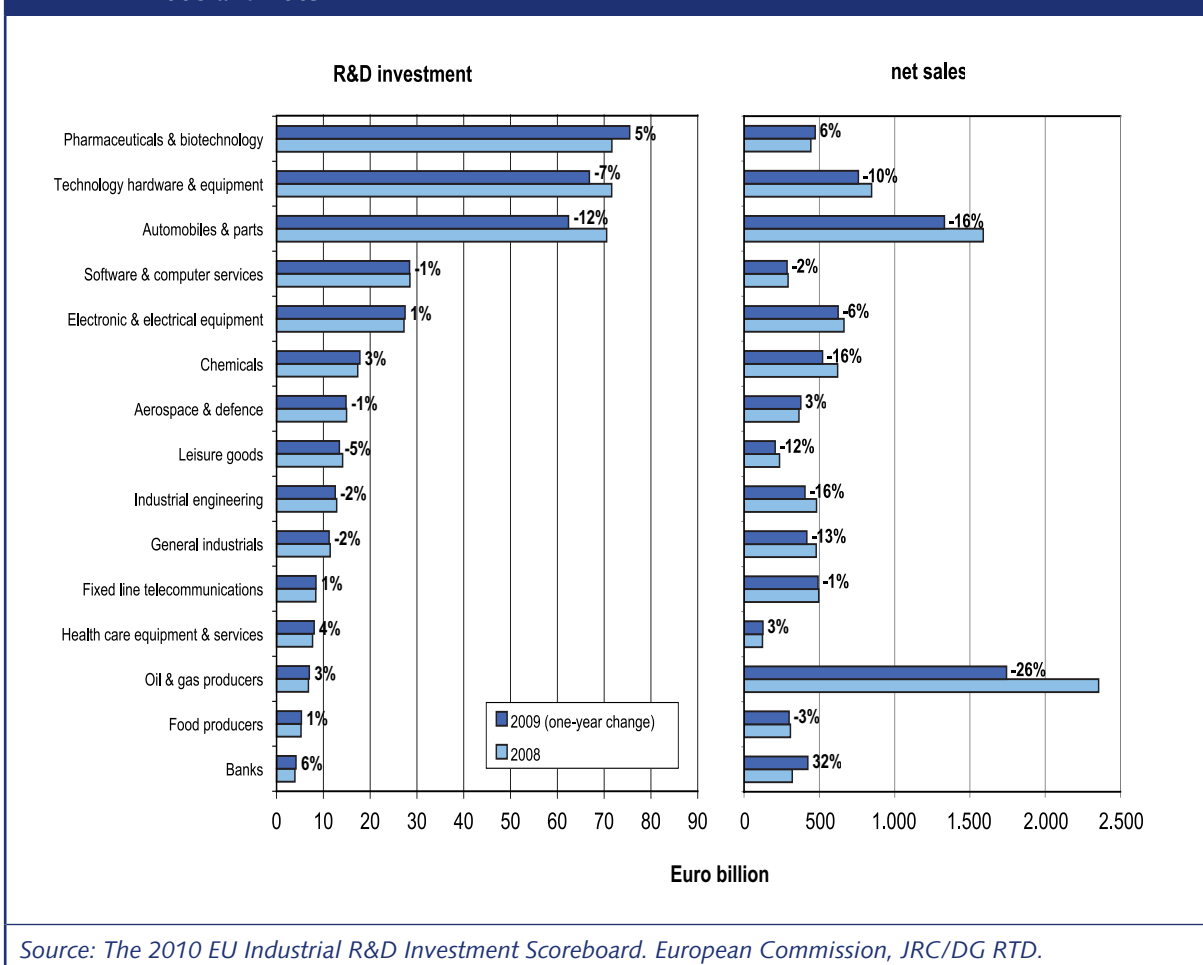
In contrast, Automobiles & Parts sector was severely hit by the crisis, decreasing R&D by 11.6% (as mentioned above, including a number of US and European companies that made significant R&D cuts). R&D investments in Technology Hardware & Equipment also fell significantly (-6.4%).

As can be seen in Figure S2, the reduction in R&D was in parallel with significant drops in net sales for most sectors. However, some managed to increase R&D despite a substantial drop in net sales. The Oil & Gas Producers and Chemicals sectors increased R&D by 2.6% and 2.7%, even though their sales dropped by 26.0% and 16.1%, respectively.

The Alternative Energy sector continued the rapid growth trend seen in the past 3 years, growing in number of companies and size. The *Scoreboard* now includes 15 companies (9 more than last year) fully focused on clean energy technological development. These companies, 13 based in the EU and 2 based elsewhere, invested more than €500 million in R&D in 2009, representing a considerable increase of 28.7% compared with the previous year. It should be noted that important alternative energy investments made by other *Scoreboard* companies are classified under different sectors, e.g. Oil & Gas, General Industrials and Industrial Machinery.



**Figure S2. R&D investment and net sales of the top 10 sectors for the *Scoreboard* companies in 2008 and 2009**



Source: *The 2010 EU Industrial R&D Investment Scoreboard*. European Commission, JRC/DG RTD.

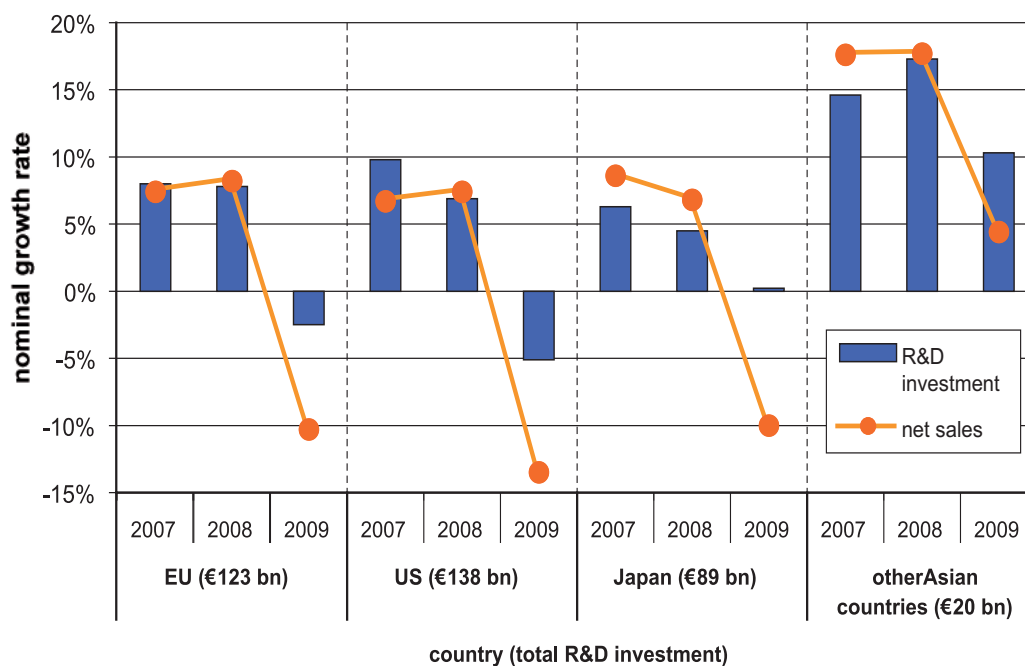
**R&D patterns differed greatly across regions, with US companies showing a bigger drop than their EU counterparts, and some Asian countries strongly increasing R&D.**

EU companies reduced their R&D investment by 2.6%. This is roughly half of the reduction of their US counterparts (-5.1%), despite showing similar drops in sales (around -10%) and a significantly higher drop in profits (-13.0% vs -1.4%). More remarkable still, is the performance of the Japanese companies, which maintained the level of R&D investment of the previous year, despite large drops in sales (around -10%) and a dramatic drop in profits (-88.2%).

In other areas of the world, companies increased both R&D investment and net sales. In some Asian countries, companies continued the trend of high R&D growth seen in recent years, e.g. China (40.0%), India (27.3%), Hong Kong (14.8%), South Korea (9.1%) and Taiwan (3.1%). Companies based in Switzerland also increased their R&D investment (2.5%). See Figure S3.

Companies from Asian economies have increased their presence in the *Scoreboard* this year: China has added 6 companies since last year, Taiwan and South Korea 4 each, Japan 3 and India, Hong Kong and Singapore 2 companies each. However, China has only 21 companies in the *Scoreboard* compared to 26 for South Korea. By contrast, 27 US companies dropped out of the ranking, although the US remains by far the largest R&D contributor with 504 companies.

Figure S3. Growth of R&D investment and net sales in the *Scoreboard*



Other Asian countries include South Korea, Taiwan, China, India and Hong Kong.

Source: The 2010 EU Industrial R&D Investment Scoreboard. European Commission, JRC/DG RTD

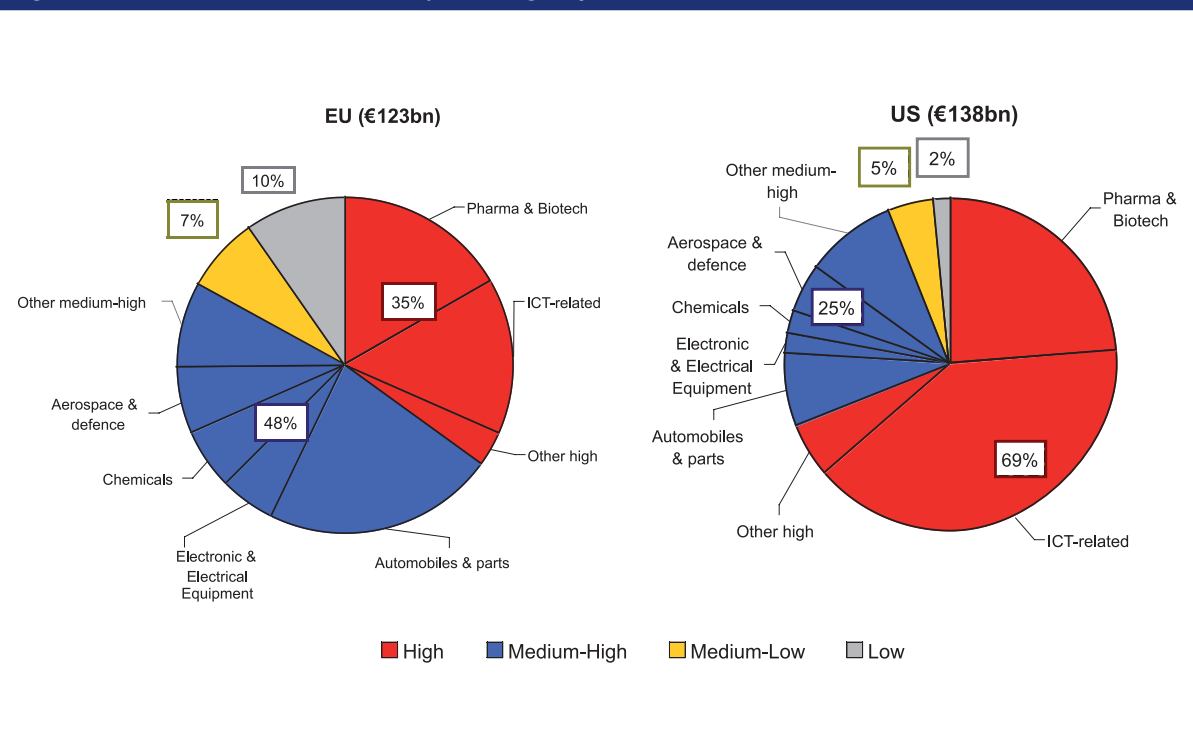
**Notwithstanding the crisis, the world's R&D landscape has maintained its characteristic sector composition, with the US dominating in high R&D-intensive sectors and the EU in medium-high ones.**

The sectoral specialisation of the main regions is largely unaffected by the downturn. EU companies contribute 43.5% of total automotive R&D, and 40.3% for chemicals. In these same sectors, Japanese companies contribute 36.3% and 34.4%, respectively. The US contributes 43.2% of Pharmaceuticals, 48.0% of IT hardware and 74.6% of Software & Computer Services.

If industrial sectors are grouped according to high, medium-high, medium-low and low R&D intensity, it is observed that the medium-high R&D intensive sectors continue to predominate in the EU, accounting for 48%. The most R&D-intensive sectors contribute to 69% of the total R&D for the US, 37.8% for Japan and 34.9% for the EU (see Figure S4).

Over the medium term, the most significant change in sector composition was observed in the US, where the share of Automotive R&D changed from 14% in 2000 to just over 9% in 2010, as shown in the *Scoreboards*. This has partly contributed to the longer-term trend in the US where, over the last 30 to 40 years, the size of the R&D-intensive sectors has increased significantly. Further evidence of the dynamism of US companies is provided by the analysis of the age distribution of companies in high R&D-intensive sectors.

Figure S4. R&D investment shares by sector group



Sectors are split into four groups according to the R&D intensity of the sector worldwide:

**High R&D intensity** sectors (intensity above 5%) include e.g. Pharmaceuticals & biotechnology; Health care equipment & services; Technology hardware & equipment; Software & computer services.

**Medium-high R&D intensity** sectors (between 2% and 5%) include e.g. Electronics & electrical equipment; Automobiles & parts; Aerospace & defence; Industrial engineering & machinery; Chemicals; Personal goods; Household goods; General industrials; Support services.

**Medium-low R&D intensity** sectors (between 1% and 2%) include e.g. Food producers; Beverages; Travel & leisure; Media; Oil equipment; Electricity; Fixed line telecommunications.

**Low R&D intensity** sectors (less than 1%) include e.g. Oil & gas producers; Industrial metals; Construction & materials; Food & drug retailers; Transportation; Mining; Tobacco; Multi-utilities.

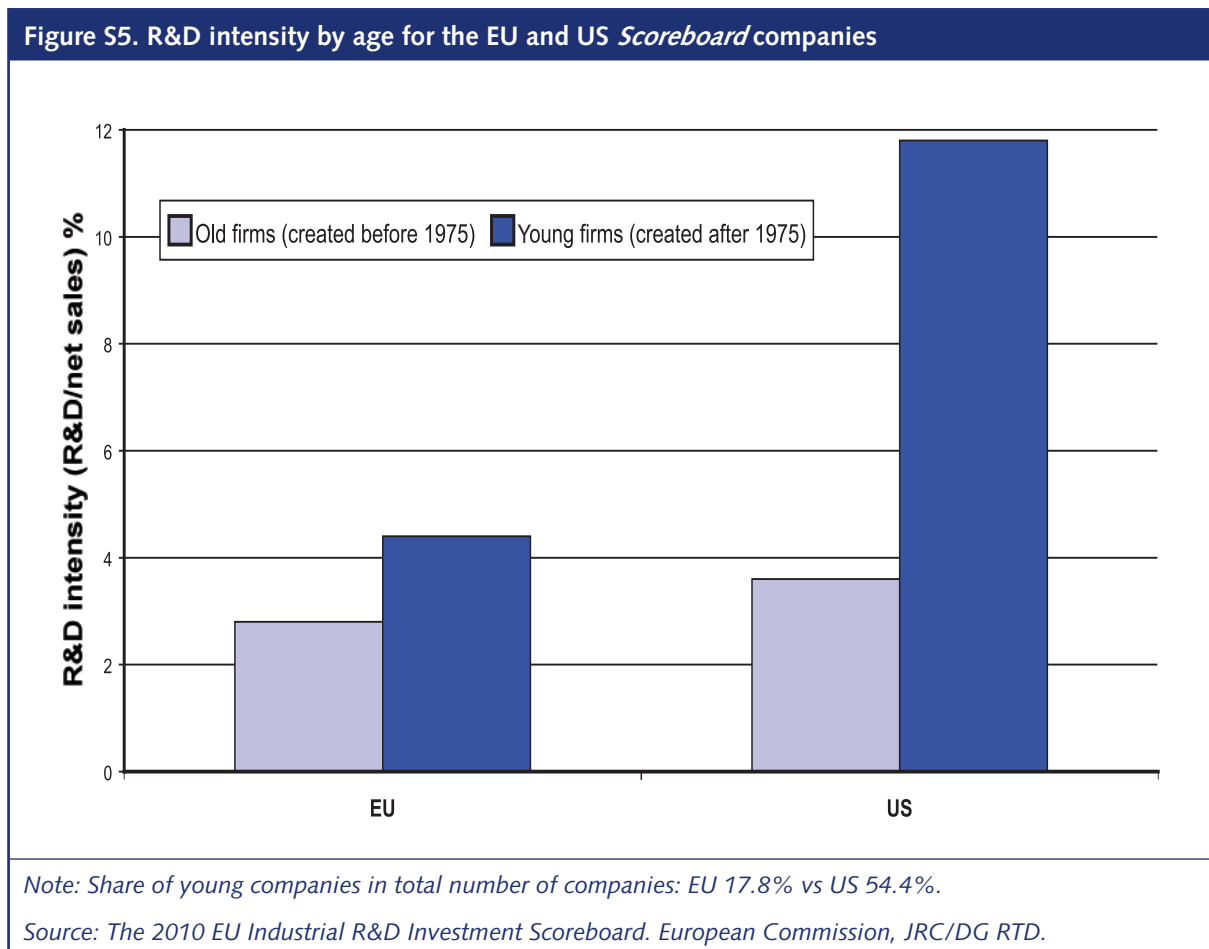
Source: The 2010 EU Industrial R&D Investment Scoreboard. European Commission, JRC/DG RTD.

Considering the age of companies and their R&D intensity, it appears that a large part of the R&D intensity gap between the EU and the US comes from a smaller number of young innovative companies in high R&D-intensity sectors.

As highlighted in previous *Scoreboard* editions, the difference in industrial structure (i.e. the fact that EU high R&D intensity sectors are relatively much smaller than those of their US counterparts) explains most of the EU's aggregate corporate R&D intensity gap with the US. Increasing the number of large European companies in high R&D intensity sectors would therefore help to reach the overall EU R&D intensity targets.

Considering the age of the *Scoreboard* companies as an additional variable in this comparative analysis provides additional insights concerning the origin of the EU's R&D intensity gap. Younger companies (i.e. those created after 1975 but not acquired by other companies) show a higher R&D intensity than older ones (6.1% vs 3.3%), and are much more numerous in the US than in the EU (54.4% vs 17.8%). Moreover, the younger companies based in the EU are less R&D intensive than their US counterparts (4.4% vs 11.8%), see Figure S5.

These observations highlight the smaller number of younger companies in EU high R&D intensity sectors and suggest that differences in the rates of formation and growth of companies may be a major cause of the smaller size of these sectors in the EU compared to the US. Additional analysis of the factors behind these differences in structure and in company dynamics between the EU and the US might help to identify targeted policy measures aimed at boosting R&D corporate investment levels in Europe.

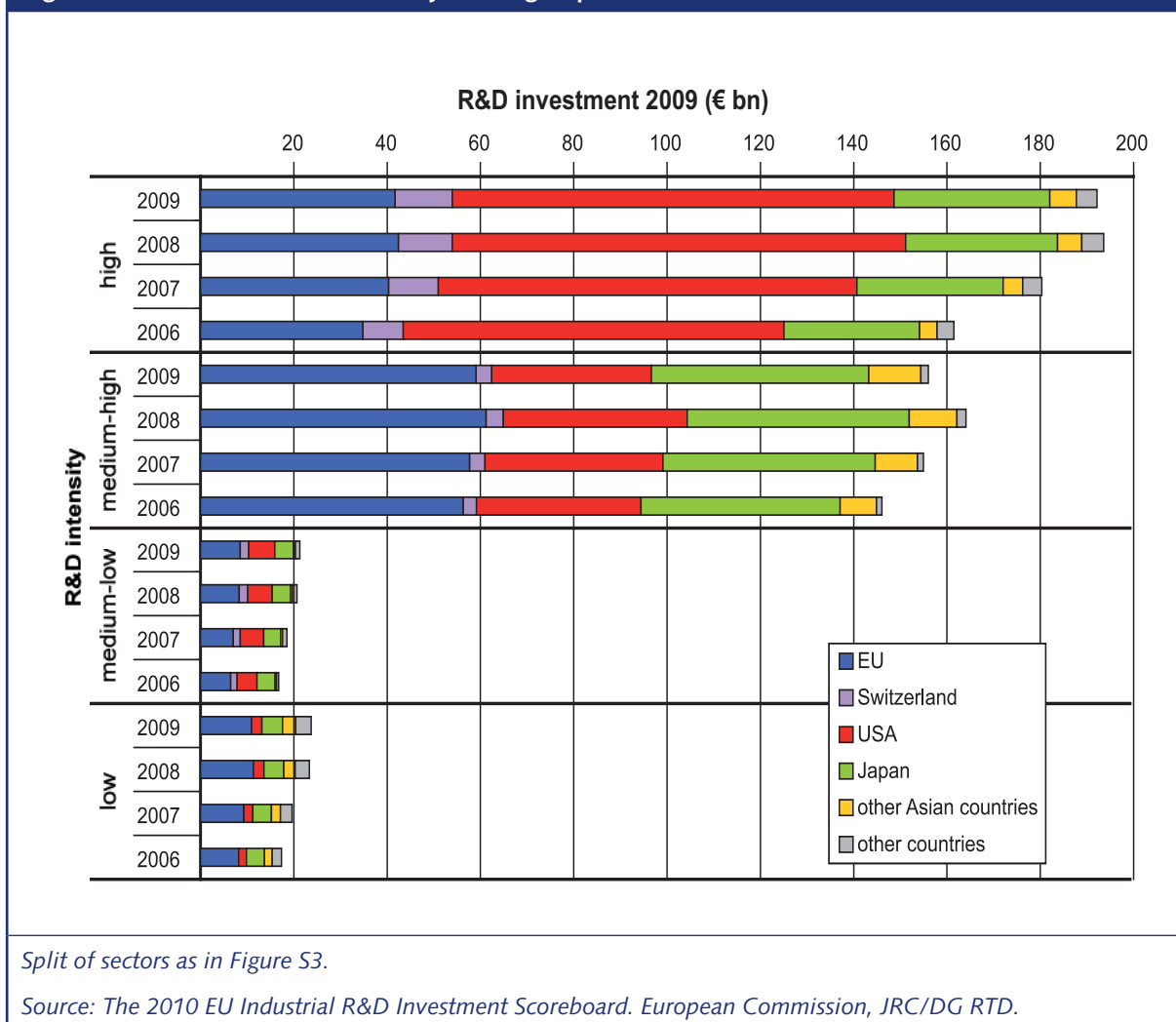


**Meanwhile, other dynamic regions are likely to challenge the EU and the US over the medium term.**

As shown in Figure S6, in other regions, there are increasing R&D activity trends for companies in high and medium-high R&D intensity sectors, in particular. Companies from the Asian region (excluding Japan) clearly increased their share of R&D in these sectors.

Over the medium term, the competitive pressure from these new players will increase for the top EU R&D investors in medium-high R&D intensity sectors, such as Automobiles & Parts. Companies from South Korea have already joined those from Japan as formidable automotive competitors, and new companies from China and India are ready to follow suit. This poses additional challenges for these sectors, which need to keep high levels of R&D investment to remain competitive, and for the EU to keep and attract R&D investment from these sectors.

Figure S6. R&D investment shares by sector group



Recent developments in key sectors determining the future competitiveness of business such as Semiconductors, Software and Biotechnology, illustrate the extent of the challenge facing the EU.

Semiconductors, Software and Biotechnology have a role as technology enablers for the whole value chain of other key sectors, namely for ICT-related industries, transport, health, food and environmental sectors. R&D is an important competitiveness factor for these sectors; in 2009 they had the highest R&D intensity in the *Scoreboard*, Semiconductors (16.8%), Software (14.6%) and Biotechnology (21.2%).

Compared with their main counterparts, EU companies are in a weak position, e.g. in terms of growth and number/weight of companies, with the US dominating in number of companies and total R&D investment in the three sectors. The US companies invested nearly five times more than the EU companies in Semiconductors, four times more in Software and eight times more in Biotechnology.

The economic crisis seems to affect these sectors differently (and the sectors downstream the value chain): Sales and profits of Semiconductors and related industries are negatively affected, whereas in Software, health and food related sectors these figures appear unaffected.

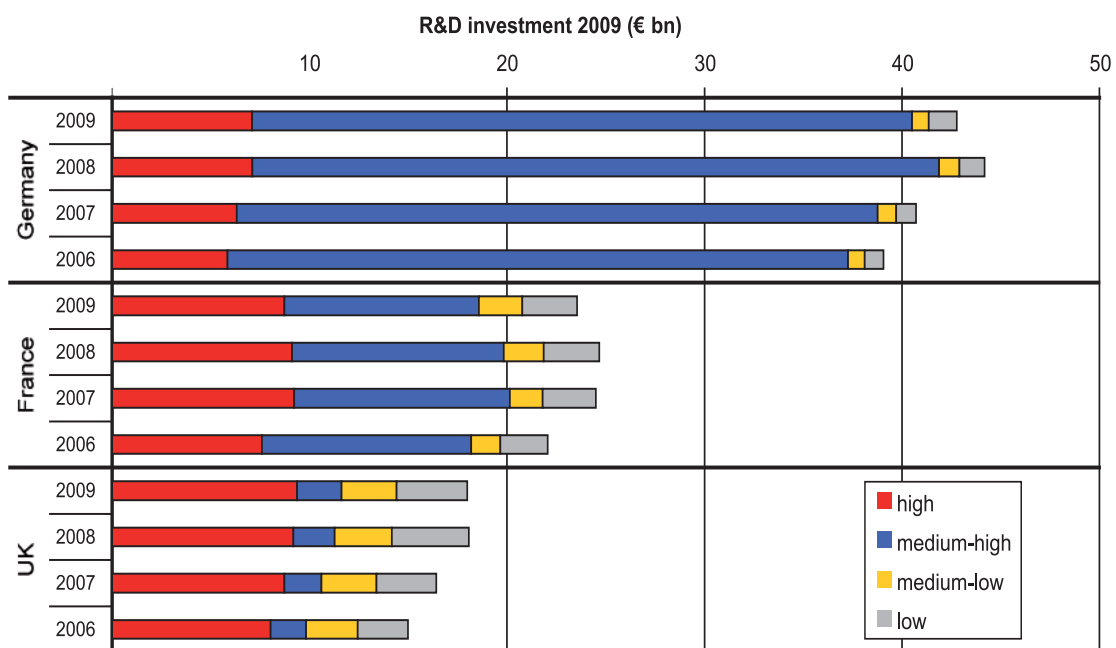
**Within the EU, different R&D growth rates across Member States reflect differences in sector composition. Most of the overall R&D decrease in the EU group comes from countries with a large share of Automotive R&D, e.g. Germany and France, and IT hardware R&D, e.g. Finland and Sweden.**

German, French and UK companies constitute more than two thirds of the total R&D investment of the EU *Scoreboard* companies. The R&D investment decreases shown in Figure S7 for French (-4.5%) and German (-3.2%) companies had an important impact on the EU average (-2.6%). Most of the decrease in R&D for German and French companies was due to Automobiles & Parts companies, where R&D investment dropped by 7.4% and 14.1%, respectively. The UK showed only a 0.6% reduction in R&D, partly due to its small automotive sector. Interestingly, companies from the high R&D intensive sectors maintained or even slightly increased their investments in these three Member States.

For the rest of Member State companies, different R&D investment patterns are observed. Companies from the “leading innovator” Member States such as Sweden and Finland decreased R&D investment by 6.6% and 6.0% respectively, while in Denmark there was an increase of 1.8%. This could be explained by the importance of individual behaviour of a limited number of companies (e.g. Ericsson in Sweden, Nokia in Finland and Lundbeck –from the Pharmaceuticals sector- in Denmark). In both Sweden and Finland, 8 out of the top 10 companies reduced R&D.

The case of *Scoreboard* companies from Spain is also worth mentioning, given the important increase in R&D investment (15.4%), despite the downturn (sales dropped by 6.4%). This is explained by important increases in top Spanish companies such as Telefonica (16%) and Acciona (29%), and the inclusion of top players such as Banco Santander (18%).

**Figure S7. R&D investment shares in Germany, France and the UK, by sector group**



Split of sectors as in Figure S5.

Source: The 2010 EU Industrial R&D Investment Scoreboard. European Commission, JRC/DG RTD.



# 1. Introduction

The 2010 “EU Industrial R&D Investment Scoreboard”<sup>2</sup> (the *Scoreboard*) contains information on the 1000 EU companies<sup>3</sup> and 1000 non-EU companies investing the largest sums in R&D in their latest reporting year. The *Scoreboard* includes data on R&D investment along with other economic and financial data from the last four financial years. For background information on the *Scoreboard* please see Annex 1.

The data for the *Scoreboard* are taken from the companies' latest published accounts, intended to be their fiscal year 2009 accounts (although due to different accounting practices, it includes accounts ending on a range of dates, from late 2008 to early 2010). The approach for collecting data in the *Scoreboard* is explained in detail in Annex 3.

**This report concentrates on the analysis of a sample of companies that are comparable in terms of R&D investment. These are world's top 1400 companies that invested more than about €28 million in R&D in 2009 (400 companies based in the EU and 1000 companies based elsewhere).**

The characteristics of the sample of 1400 companies applied for the analysis are summarised in Table 1. The complete dataset containing the 2000 companies is freely accessible online at: <http://iri.jrc.ec.europa.eu/>.

The global economic and financial crisis that started in late 2008 and affected companies worldwide is illustrated in this report. This crisis which provoked the deepest recession since the Second World War created huge pressure on companies. There were large government rescue packages in Europe and the US in some sectors. These included the UK government taking control of the RBS, one of the largest banks in the world and the US rescue of General Motors as well as several banks. The US TARP (troubled asset relief programme) saved some of the largest financial institutions such as AIG, Citigroup and Bank of America. There were car scrappage schemes to support the automotive industry and the departure of many bank CEOs. Many companies were faced with severe financing problems which meant that they had to rely more on their own financial resources at a time when sales were often falling and cash was scarce. In late 2008, at the peak of the crisis most companies were deciding their R&D budgets for 2009. For this reason and given the severity of the crisis it was expected that a significant reduction in R&D would be seen for the 2009 financial year.

In last year's *Scoreboard*, the first signs of the crisis were observed in companies' results. Indicators first hit by the crisis were sales, profits and market valuation of companies. However, due to the normal lag of industries dynamics, R&D investment growth was still high in 2008. In this year's *Scoreboard*, company data reflect the effects of the crisis, including also input indicators such as R&D and fixed capital investments.

The analysis in this report pays special attention on how the crisis affected companies' R&D activities and results, in particular to what extent R&D investments were affected in comparison with net sales and profits and how R&D investments were affected across regions and industries. Finally, the analysis looks also to highlight positive effects such as those companies that have taken advantage of the crisis to prepare for the upturn by increasing R&D.

2 The EU Industrial R&D Investment Scoreboard is published annually by the European Commission (JRC-IPTS/DG RTD) as part of its Industrial Research Monitoring and Analysis activity (IRMA). Company data were collected by Company Reporting Ltd.

3 The term EU company concerns companies whose ultimate parent has its registered office in a Member State of the EU. Likewise, non-EU company applies when the ultimate parent company is located outside the EU (see also the glossary and definitions in Annex 2 as well as the handling of parent companies and subsidiaries).



## Report structure

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This report is structured as follows:

The present chapter 1 is the introduction of the report.

Chapter 2 describes the overall levels of R&D investment, the performance of the EU and non-EU companies and the main changes that took place in 2009.

Chapter 3 examines the performance of individual companies among the top R&D investors, in particular those with significant R&D growth.

Chapters 4 and 5 analyse the main indicators of the company data aggregated by industrial sectors and world regions respectively, with comparisons between the EU companies and their main competitors.

Finally, chapter 6 presents an analysis of the *Scoreboard* companies according to their age of foundation and how it correlates with their R&D intensity. The main question addressed is whether young companies are more innovative than their older counterparts.

Annex 1 provides background and methodological information about how the *Scoreboard* is prepared.

Annex 2 presents the main characteristics of the full *Scoreboard* dataset.

The data of the *Scoreboard* should be interpreted and dealt with carefully. Box 1 below summarises the main caveats and a full methodological approach of the *Scoreboard*, its scope and the limitations are described in Annex 3.

Finally, the listings of the EU1000 and non-EU1000 companies ranked by their level of R&D investment are provided in Annex 4.

The complete data set is freely accessible online at: <http://iri.jrc.ec.europa.eu/>.

The different rankings in descending order of R&D of the *Scoreboard* dataset in spreadsheet format are accessible at:

- 1. EU dataset ranked by company :**  
[http://iri.jrc.ec.europa.eu/research/docs/2010/vol\\_II\\_1.xls](http://iri.jrc.ec.europa.eu/research/docs/2010/vol_II_1.xls)
- 2. EU dataset ranked by Member State country:**  
[http://iri.jrc.ec.europa.eu/research/docs/2010/vol\\_II\\_2.xls](http://iri.jrc.ec.europa.eu/research/docs/2010/vol_II_2.xls)
- 3. EU dataset ranked by industrial sector: vol\_II\_3.xls**  
[http://iri.jrc.ec.europa.eu/research/docs/2010/vol\\_II\\_3.xls](http://iri.jrc.ec.europa.eu/research/docs/2010/vol_II_3.xls)
- 4. Non-EU dataset ranked by company: vol\_II\_5.xls**  
[http://iri.jrc.ec.europa.eu/research/docs/2010/vol\\_II\\_5.xls](http://iri.jrc.ec.europa.eu/research/docs/2010/vol_II_5.xls)
- 5. Non-EU dataset ranked by country: vol\_II\_6.xls**  
[http://iri.jrc.ec.europa.eu/research/docs/2010/vol\\_II\\_6.xls](http://iri.jrc.ec.europa.eu/research/docs/2010/vol_II_6.xls)
- 6. Non-EU dataset ranked by industrial sector:**  
[http://iri.jrc.ec.europa.eu/research/docs/2010/vol\\_II\\_7.xls](http://iri.jrc.ec.europa.eu/research/docs/2010/vol_II_7.xls)

**Table 1. Profile of the 2010 *Scoreboard* \***

<b>Sample of EU 400 companies</b>	
Companies by country	DE 104 (107); UK 77 (72); FR 59 (61); SE 24 (25); FI 19 (16); DK 23 (25); IT 19 (24); NL 19 (22); ES 14 (11); BE 13 (14); etc.
The 5 most numerous sectors	Industrial Engineering 36 (39); Pharmaceuticals & Biotechnology 33 (30); Software & Computer Services 27 (27); Automobiles & Parts 27 (28); Electronic & Electrical Equipment 23 (22)
Stock market	Listed companies 321 (320); Unlisted companies 79 (80)
<b>Sample of non-EU 1000 companies</b>	
Companies by country	US 504 (531); Japan 259 (256); Taiwan 45 (41); Switzerland 38 (38); South Korea 26 (22); China 21 (15); India 17 (15); Canada 15 (18); etc.
The 5 most numerous sectors	Technology Hardware & Equipment 204 (195); Pharmaceuticals & Biotechnology 112 (133); Electronic & Electrical Equipment 84 (87); Software & Computer Services 88 (89); Chemicals 65 (72)
Stock market	Listed companies 955 (969); Unlisted companies 45 (31)

\* *Figures of last year's Scoreboard in brackets.*

*Source: The 2010 EU Industrial R&D Investment Scoreboard. European Commission, JRC/DG RTD.*

## Box 1. Methodological caveats

- When comparing data from different currency areas it should be remind that Scoreboard data are nominal and expressed in Euros with all foreign currencies converted at the exchange rate of the year-end closing date (31.12.2009). The variation in the exchange rates from the previous year directly affects the ranking of companies, favouring those operating in countries whose currency has appreciated with respect to the other currencies. In this reporting period, the variation of exchange rates of main currencies has been less significant than the ones observed in previous Scoreboards, e.g. the Euro has appreciated by 3% and 6% against the US Dollar and the Japanese yen.

The growth rate of the different indicators for companies operating in markets with different currencies is affected in a different manner. In fact, companies' consolidated accounts have to include the benefits and/or losses due to the appreciation and/or depreciation of their investments abroad. The result is an 'apparent' rate of growth of the given indicator that understates or overstates the actual rate of change. For example, this year the R&D growth rate of companies based in the Euro area with R&D investments in the US and Japan is partly understated because the losses of their overseas investments due to the appreciation of the Euro against the US dollar (from \$1.39 to \$1.43) and the Japanese yen (from ¥126 to ¥133.6)<sup>4</sup>. Conversely, the R&D growth rate of US and Japanese companies is partly overstated due to the benefits of their overseas investments in the Euro area. This happens also within the EU. For example, the R&D growth rate of UK companies is partly understated because the appreciation of the pound sterling against the Euro (from £0.97 to £0.89).

Exchange rates affect also ratios of indicators when companies operate in different currency areas, e.g. R&D intensity (R&D as % of sales), is affected when R&D activities and sales are distributed in different currency areas.

- The different editions of the Scoreboard are not directly comparable because of the year-on-year change in the composition of the sample of companies, i.e. due to newcomers and leavers. Every Scoreboard comprises data of the latest 4 financial years allowing analysis of three year trends for the same sample of companies.
- In most cases, the companies' accounts do not include information on the place where R&D is actually performed; consequently the approach taken in the Scoreboard is to attribute each company's total R&D investment to the country in which the company has its registered office. This should be borne in mind when interpreting the Scoreboard's country classification and analyses.
- Growth in R&D can either be organic, the outcome of acquisitions or a combination of the two. Consequently, mergers and acquisitions or divestments may sometimes underlie sudden changes in specific companies' R&D growth rates and/or positions in the rankings.
- Other important factors to take into account include the difference in the various countries' (or sectors') business cycles which may have a significant impact on companies' investment decisions, and the initial adoption or stricter application of the International Financial Reporting Standards (IFRS)<sup>5</sup>.

4 For example, if an EU company showing R&D growth rate of 5% had 15% of its R&D in the US, the real R&D growth rate of the company would be higher by 0.42 percentage points (due to the US \$ devaluation by 2.8% of its 15% investment :  $0.15 \times 2.8 = 0.42$ ).

5 Since 2005, the European Union requires all listed companies in the EU to prepare their consolidated financial statements according to IFRS (see: EC Regulation No 1606/2002 of the European Parliament and of the Council of 19 July 2002 on the application of international accounting standards at <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32002R1606:EN:HTML>).

## 2. Overall trends in corporate R&D

This chapter provides an overview of changes in the main indicators of the 1400 companies *Scoreboard* companies that invested more than €28 millions in R&D in 2009. It addresses the impact of the financial crisis and resultant economic downturn, in particular, the extent to which industrial R&D investment has been affected by the crisis in comparison with other company indicators such as sales and profits and in comparison with previous recessions.

### Key findings

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- Investment in R&D by the top worldwide 1400 companies only dropped by 1.9% compared with the much larger effect of the crisis on their sales (-10.1%) and profits (-21.0%)
- This crisis has had more impact than the previous recession of 2002/3. Among the top 100 companies, accounting for 58% of the total R&D investment in 2009, 54 companies cut their R&D investments versus 43 in 2003 (69 reduced sales versus 45 in 2003).

### General trends

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The trends on R&D investment and financial performance for the financial year 2009 for the set of 400 companies based in the EU and 1000 companies based abroad are summarised in table 2.

Worldwide and overall, companies reduced their investment in R&D in 2009 although much less than the drop they suffered in net sales. Altogether, the top 1400 companies invested €402.2 billion in the last financial year. This decrease of 1.9% contrasts with a growth of 6.9% in 2008.

However, the decrease in net sales of companies was much stronger at 10.1% although this was partly caused by the reduction in oil prices from their peak in mid-2008.

The reduction of R&D investment by the EU companies was 2.6%, somewhat higher than the 1.6% decrease by the non-EU companies (see Figure 1). The fall of net sales was similar for the two set of companies, at 10.2% and 10.0% respectively (see Table 2).

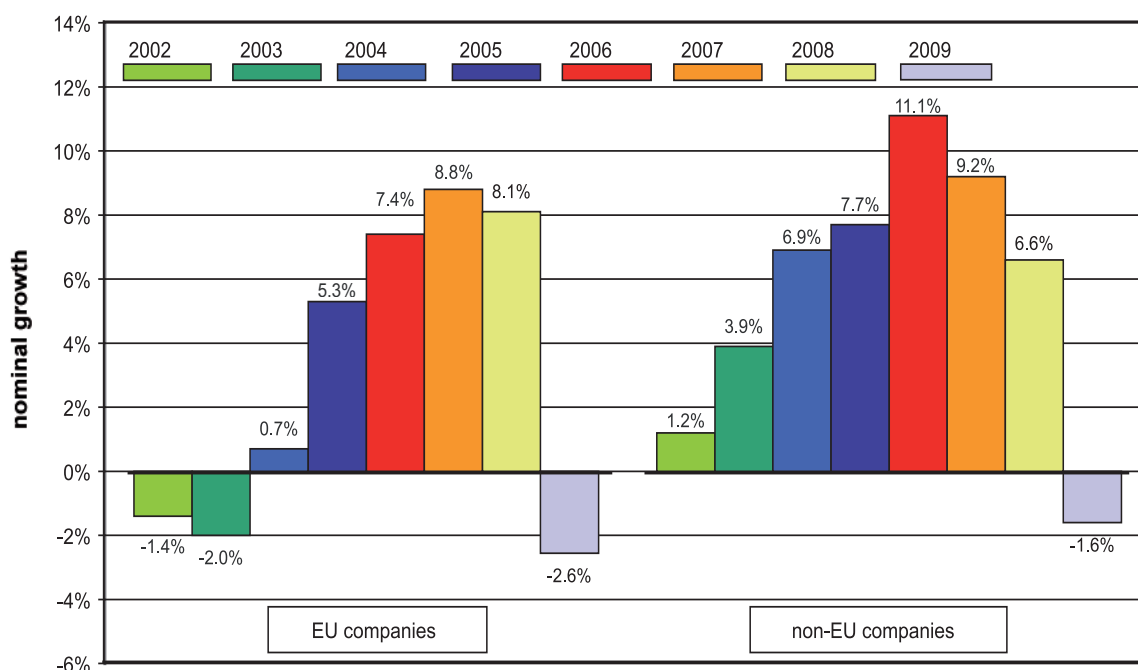
The number of companies that decreased their R&D investment was similar in both EU non-EU groups. Among the top 100 companies of each group, half of the companies reduced their level of R&D and about one third of companies reduced it by more than 5%. But many more EU top 100 companies compared to non-EU top 100 companies showed double digit R&D decreases (24 vs 15).

Considering the world top 100 companies which account for well over 50% of the total R&D of the *Scoreboard* companies, it is observed that 54 companies reduced R&D over the previous year, giving a first idea of the effects of the economic and financial crisis. This can be compared with the last recession in 2002/03, where the number of companies reducing R&D reached 43 in 2003<sup>6</sup>. Regarding the sales of the top 100 companies, in 2009, 69 companies had reduced sales compared with 45 in 2003. That shows the severity of the recent/ongoing crisis.

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6 According to data from the UK-DTI R&D Scoreboard.

**Figure 1. Growth of R&D investment by EU and non-EU Scoreboard companies**



*Note: The different Scoreboards are not directly comparable because of changes in the sample composition.*

*Source: The EU Industrial R&D Investment Scoreboards (of 2004, 2005, 2006, 2007, 2008, 2009 and 2010). European Commission, JRC/DG RTD.*

Companies also reduced significantly their investments in fixed capital, especially the EU firms more significantly, by 12.1%, compared with the non-EU firms by 4.8%. Firms from the two groups still show similar and falling intensities of capital investments (fixed capital as percentage of net sales). The significant reduction of fixed capital investment is not surprising given that it comes out of cash which may be scarce in a severe recession.

The operating profits of companies, already affected last year, decreased further in 2009 by 13.0% for the EU group and by 25.2% for the non-EU one.

In contrast, Market capitalisation of companies shows signs of recovery in 2010. From mid-August 2009 (after the worst of the recession was over) to mid-August 2010, the market capitalisation of companies increased by 2.5% and 6.0% for the EU and non-EU companies respectively. However, this only represents a partial recovery since for the longer period from August 2008 (just before the collapse of Lehman brothers) to August 2010 market capitalisation decreased substantially (-18.5% vs. -10.3%).

**Table 2. Overall companies in the 2010 Scoreboard**

Factor	World-1400	EU-400	non-EU1000
R&D Investment, € mill	402220.2	122896.8	279323.4
One-year change, %	-1.9	-2.6	-1.6
CAGR <sup>7</sup> 3yr, %	4.8	4.3	5.0
Net Sales, €bn	11564876.0	4399634.3	7165241.7
One-year change, %	-10.1	-10.2	-10.0
CAGR 3yr, %	2.0	1.4	2.4
R&D intensity, %	3.5	2.8	3.9
Operating profits, € mill	910920.0	347782.7	563137.4
One-year change, %	-21.0	-13.0	-25.2
Capex <sup>8</sup> , € mill	815741.7	319177.2	496564.6
Capex / net sales, %	7.3	7.4	7.2
One-year change, %	-7.8	-12.1	-4.8
Market cap <sup>9</sup> , € mill	11241977.7	3520928	7721049
One-year change, %	4.9	2.5	6.0

Note: Calculation of growth rates and ratios include only companies for which data are fully available.

Source: The 2010 EU Industrial R&D Investment Scoreboard. European Commission, JRC/DG RTD.

7 Compound annual growth rate.

8 Fixed capital investment

9 Value of the 1276 Scoreboard companies listed in the stock market (321 EU and 955 non-EU), collected in mid-August each year, i.e. 2010 for this Scoreboard.



# 3. Top R&D investing companies

This chapter describes the performance of individual companies, with a focus on the top R&D investors and how the crisis has affected individual companies in terms of R&D investments, net sales and profits and which companies have managed to maintain or increase R&D in spite of the adverse economic and financial conditions.

## Key findings

- For the first time in the *Scoreboard*, the two top positions are held by non-EU and non US-firms. In first place is Toyota, despite its very large drop in sales and profits and second is Roche that has climbed 16 positions in the R&D ranking since 2004.
- Companies from Asian economies increased their presence in the *Scoreboard*, China by 6, Taiwan and South Korea by 4, Japan by 3 and India, Hong Kong and Singapore by 2. By contrast, 27 US companies left the *Scoreboard*, although the US is still by far the most represented country in the *Scoreboard* with 504 (36%) out of the 1400 companies.
- Many automotive companies reduced R&D considerably, e.g. Ford (-32.4%), Renault (-26.5%) and General Motors (-24.1%) but a few from Asia increased it somewhat, e.g. Hyundai (2%), Suzuki (5.7%) and Mitsubishi (3.5%).
- Companies increasing R&D include not only companies reporting good operational performance in terms of sales and profits such as Huawei Technologies (27.8%), Apple (25.4%) and Oracle (17.6%) but also companies whose profits and sales fell substantially, e.g. Bayer (8.8%) and General Electric (10.1%) and Daiichi Sankyo (12.9%) where profits fell by 294%<sup>10</sup>.

## General trends

The very nature of the *Scoreboard* is concentration of the R&D investment in few top companies. In the 2010 *Scoreboard* there are 81 companies with more than €1bn R&D investment (27 from the EU), 45 with R&D exceeding €2bn (15 from the EU) and 6 with R&D exceeding €5bn (1 from the EU). The top 10 companies account for 13.6% of the total R&D investment by the 1400 *Scoreboard* companies, which is only slightly less than the 14% accounted for in 2005.

The world's top R&D investor in the 2010 *Scoreboard* is Toyota Motor (€6.77bn). The EU and US have three companies in the top 10. The top three EU companies are Volkswagen, the biggest EU R&D investor (€5.79bn), Nokia (€5.0bn) and Sanofi-Aventis (€4.57bn). The three top US companies are Microsoft (€6.07bn), Pfizer (€5.40bn) and Johnson & Johnson (€4.87bn).

The other 3 companies in the top 10 are from Switzerland (Roche with €6.4bn, now the world's second R&D investor, and Novartis with €5.16bn) and from South Korea (Samsung Electronics with €4.51bn).

In 2009, six companies showed negative R&D investment growth among the top 10 compared to 3 in 2003. Companies that increased their level of R&D include three from the pharmaceutical sector and one from the electronic equipment sector.

<sup>10</sup> Daiichi Sankyo (Japan) reported profits in 2008 (€ 1066.34 million) and losses in 2009 (€ 2073.13 million).



Compared with the last recession in 2003 there are now only 2 automotive companies in the top 10 (compared to 5 in 2003) whereas there are now 5 pharmaceutical companies (compared to 2 in 2003).

Going down the ranking we observe further consolidation of R&D investment. The top 50 companies accounted for 42.9% of the total R&D investment by the *Scoreboard* companies (almost half of R&D investment of top 1400 companies), compared to 46.5% accounted for in 2005.

The regional distribution of top 50 companies appears stable among three main world regions (see Figure 2):

- The EU has 16 companies, the same number as in the 2009 *Scoreboard*.
- The US has 19 companies, one more compared to last year (Abbott Laboratories).
- Japan has 12 companies, one less than in last year's *Scoreboard* (Fujitsu).

Thirty companies in the top 50 reduced R&D investment. Among them, fifteen companies reduced R&D by more than 5 % of which nine companies by more than 10%. Companies that had a double digit drop in R&D are from ICT-related equipment, Automobiles and Pharmaceuticals sectors: Ford Motor (-32.9%), General Motors (-24.1%), Motorola (-22.5%), Hewlett-Packard (-20.4%), Canon (-18.6%), BMW (-14.5%), Alcatel-Lucent (-14.3%), Ericsson (-12.1%) and AstraZeneca (-12.0%).

Among the twenty companies that had positive R&D growth, 9 companies increased R&D by more than 5% of which five companies had double digit R&D growth. Companies with double digit R&D growth are from Pharmaceuticals, General industrials and Software sectors: Takeda Pharmaceuticals (64.3%), Merck-US- (21.6%), Oracle (17.6%), Eli Lilly (12.6%) and General Electric (10.1%).

The R&D intensity of companies in the top 50 has increased due to the higher rate of reduction of net sales than that of R&D investment. The EU companies in the top 50 have a higher average R&D intensity (8.3%) than their non-EU counterparts (7.3%).

The EU companies in the top 50 are mainly from the Automobile & Parts (5), Pharmaceuticals (4) and ICT-related sectors (4), whereas the non-EU companies are mainly from IT-related (13), Pharmaceuticals and Biotechnology (10), and Automobile & Parts sectors(6).

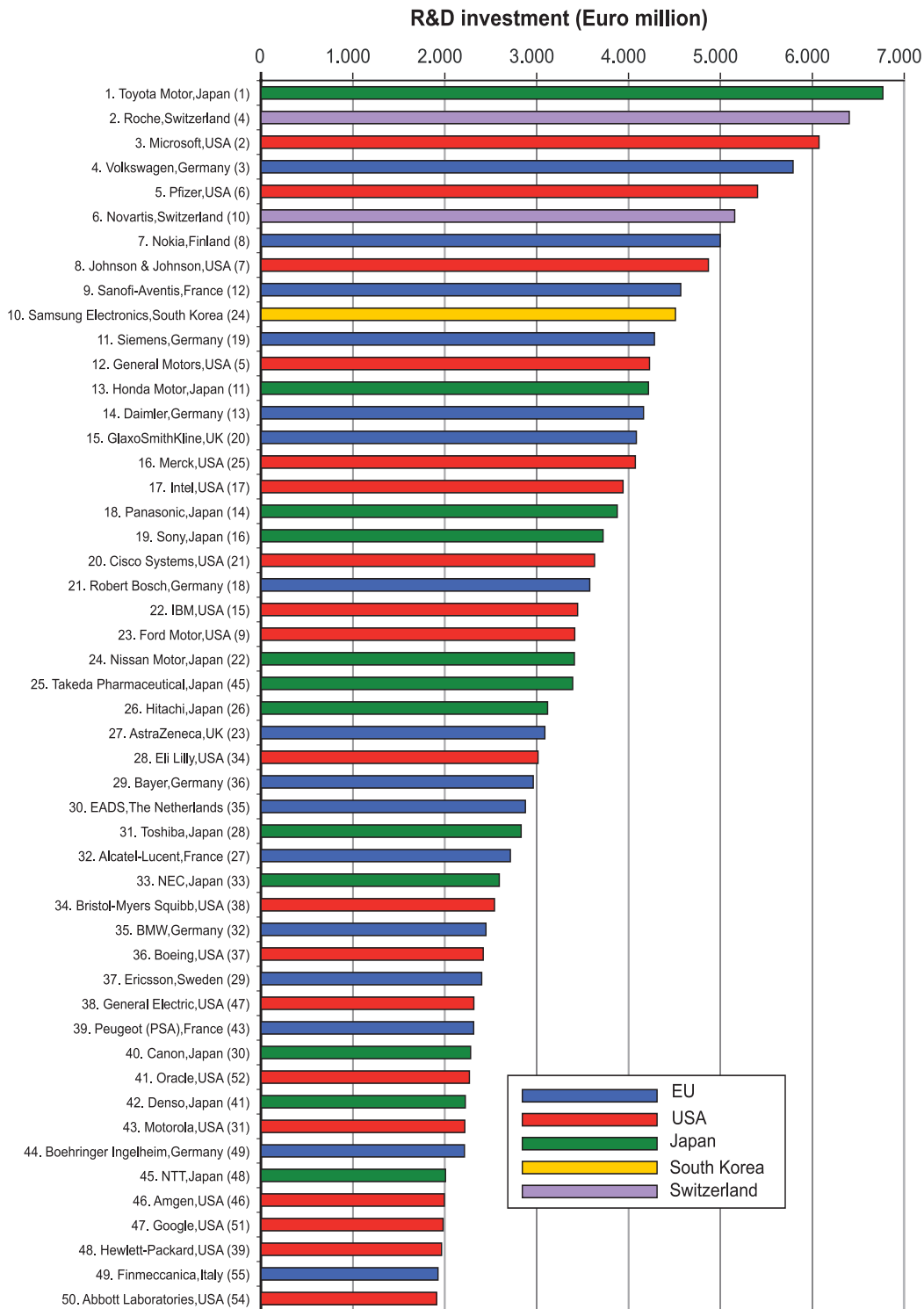
## **R&D changes driven by Mergers and Acquisitions (M&As)**

As reported above for some companies, the growth in R&D investment may either be organic or driven by M&As, or it may be a combination of the two. M&As (or demergers) may take place within or between regions/sectors and can significantly impact the ranking of companies in the *Scoreboard*. While acquisitions are not systematically captured in the *Scoreboard*, some examples reported by companies are provided below. The effect of M&A is also addressed in the next section.

Examples of M&A activity involving top *Scoreboard* companies

- Roche, Switzerland, top 2 company acquired Genentech, US.
- Nokia, Finland, ranked 2 in the EU sample acquired Apertio, UK.
- Sanofi-Aventis, France, ranked 3 in the EU sample acquired Zentiva, Czech Republic.
- Pfizer, USA, ranked 4 in the non-EU sample acquired Wyeth, USA.
- Johnson & Johnson, USA, ranked 6 in the non-EU sample acquired Mentor, USA and Cougar Technology, USA.
- Intel, USA, ranked 11 in the non-EU sample acquired SPSS, USA and Wind River Systems, USA.

**Figure 2. Ranking of the world's top 50 R&D companies by their total R&D investment in the 2010 Scoreboard**



*Note: The number in brackets after the names of the companies indicates the rankings in the past Scoreboard.  
Source: The 2010 EU Industrial R&D Investment Scoreboard, European Commission, JRC/DG RTD*

Examples of M&A activity involving top Scoreboard companies (ctd.)

- Takeda Pharmaceuticals, Japan, ranked 18 in the non-EU sample acquired Millennium Pharmaceuticals, USA.
- Merck & Co, USA and Schering-Plough merged with Schering-Plough becoming the ultimate parent. Schering-Plough was then renamed Merck.
- Volkswagen and Porsche are 'merging', after Porsche failed in its bid to takeover VW.
- BASF, Germany, ranked 23 in the EU sample acquired Ciba, Switzerland.
- Thales, France ranked 38 in the EU sample acquired nCipher, UK.
- Electricité de France, ranked 53 in the EU sample acquired British Energy, UK.
- IBM, USA, ranked 15 in the non-EU sample acquired Ilog, France.
- Nestle, Switzerland, ranked 37 in the non-EU sample acquired WaveLight, Germany.
- Fujitsu, Japan, ranked 35 in the non-EU sample acquired Fujitsu Siemens Computers (now Fujitsu Technology Solutions), The Netherlands.
- Symantec USA, ranked 94 in the non-EU sample acquired MessageLabs, UK.
- Abbott Laboratories, USA, ranked 34 in the non-EU sample acquired Advanced Medical Optics (now Abbott Medical Optics), USA.
- Daiichi Sankyo, Japan, ranked 41 in the non-EU sample acquired Ranbaxy Laboratories, India.
- Dow Chemical, USA, ranked 51 in the non-EU sample acquired Rohm & Haas, USA.
- Bristol-Myers Squibb, USA, ranked 23 in the non-EU sample acquired Medarex, USA.
- Oracle, USA, ranked 27 in the non-EU sample acquired Sun Microsystems, USA.
- Gilead Sciences, USA, ranked 91 in the non-EU sample acquired CV Therapeutics, USA.

## Dynamics of top R&D companies

Every year the configuration of the *Scoreboard* changes because a significant number of companies enter and leave the *Scoreboard*. The 1000 EU firms comprise 126 entries including 48 new firms with a corresponding 126 exits of which 25 are due to mergers. The non-EU sample features 90 new entries of which 26 new firms and the corresponding 90 exits include 27 firms subject to mergers. The profile of the *Scoreboard* including the one-year changes in companies by country and industrial sector is found in Annex 2.

The evolution of the R&D ranking of the top 50 companies since the first EU industrial R&D investment Scoreboard (2004) is shown in Table 3 where the most important movers are highlighted.

The EU companies that improved at least 10 ranks are Boehringer Ingelheim (now 44), Sanofi-Aventis (now 9) and Alcatel-Lucent (now 32). The latter two companies were listed separately in 2004 and are examples of R&D growth driven by M&As.

The non-EU companies that improved at least 20 ranks are Samsung Electronics (now 10), Panasonic (now 18), Takeda Pharmaceutical (now 25), Oracle (now 41) and Google (now 47). Among others, Roche (now 2), Microsoft (now 3), and Novartis (now 6) moved up at least 10 ranks. Acquisitions also played a part here. For example, Roche has acquired Genentech, Pfizer has acquired Wyeth, Oracle has acquired PeopleSoft, Siebel, Portal, Hyperion, Sun, Phase Forward and others in the period 2004 – 2010.

Companies that dropped ten or more ranks but remained within the top 50 are, among others, Daimler (now 15), IBM (now 22), Ford Motor (now 23), Ericsson (now 37), Motorola (now 43), NTT (now 45) and Hewlett-Packard (now 48). Divestments were significant for many of these companies. Examples are DaimlerChrysler divesting Chrysler, Ericsson putting its mobile handsets into a joint venture with Sony and IBM selling its PC division to a Chinese company – Lenovo.

**Table 3. Ranking of the Scoreboard top 50 in the 2004 and 2010 *Scoreboard***

Rank 2010	Company name (sector)	Ranking change compared to 2004
1	Toyota Motor (Automobiles & parts)	up 4
2	Roche (Pharmaceuticals & biotechnology)	up 16
3	Microsoft (Software & computer services)	up 10
4	Volkswagen (Automobiles & parts)	up 4
5	Pfizer (Pharmaceuticals & biotechnology)	down 3
6	Novartis (Pharmaceuticals & biotechnology)	up 14
7	Nokia (Technology hardware & equipment)	up 3
8	Johnson & Johnson (Pharmaceuticals & biotechnology)	up 4
9	<b>Sanofi-Aventis (Pharmaceuticals &amp; biotechnology)</b>	up 46
10	<b>Samsung Electronics (Electronic &amp; electrical equipment)</b>	up 23
11	Siemens (Electronic & electrical equipment)	down 7
12	General Motors (Automobiles & parts)	down 6
13	Honda Motor (Automobiles & parts)	up 3
14	Daimler (Automobiles & parts)	down 11
15	GlaxoSmithKline (Pharmaceuticals & biotechnology)	down 4
16	Merck (Pharmaceuticals & biotechnology)	up 13
17	Intel (Technology hardware & equipment)	down 3
18	<b>Panasonic (Leisure goods)</b>	up 129
19	Sony (Leisure goods)	down 4
20	Cisco Systems (Technology hardware & equipment)	up 11
21	Robert Bosch (Automobiles & parts)	up 5
22	IBM (Software & computer services)	down 13
23	Ford Motor (Automobiles & parts)	down 22
24	Nissan Motor (Automobiles & parts)	up 10
25	<b>Takeda Pharmaceutical (Pharmaceuticals &amp; biotechnology)</b>	up 47
26	Hitachi (Technology hardware & equipment)	down 2
27	AstraZeneca (Pharmaceuticals & biotechnology)	down 2
28	Eli Lilly (Pharmaceuticals & biotechnology)	up 13
29	Bayer (Chemicals)	up 3
30	EADS (Aerospace & defence)	up 5
31	Toshiba (General industrials)	down 1
32	Alcatel-Lucent (Technology hardware & equipment)	up 15
33	NEC (Technology hardware & equipment)	up 7
34	Bristol-Myers Squibb (Pharmaceuticals & biotechnology)	up 8
35	BMW (Automobiles & parts)	down 7
36	Boeing (Aerospace & defence)	up 21
37	Ericsson (Technology hardware & equipment)	down 20
38	General Electric (General industrials)	down 1
39	Peugeot (PSA) (Automobiles & parts)	down 1
40	Canon (Technology hardware & equipment)	down 1
41	<b>Oracle (Software &amp; computer services)</b>	up 30
42	Denso (Automobiles & parts)	up 10
43	Motorola (Technology hardware & equipment)	down 24
44	Boehringer Ingelheim (Pharmaceuticals & biotechnology)	up 18
45	NTT (Fixed line telecommunications)	down 24
46	Amgen (Pharmaceuticals & biotechnology)	up 10
47	<b>Google (Software &amp; computer services)</b>	up more than 1000
48	Hewlett-Packard (Technology hardware & equipment)	down 25
49	Finmeccanica (Aerospace & defence)	up 9
50	Abbott Laboratories (Pharmaceuticals & biotechnology)	up 2

Note: Companies in bold went up more than 30 ranks, and companies shifting more than ten ranks are highlighted in the far right column.

Source: The 2004 and 2010 EU Industrial R&D Investment Scoreboards, European Commission, JRC/DG RTD. European Commission, JRC/DG RTD.



## 4. R&D distribution by industrial sector

This chapter presents the main R&D trends among *Scoreboard* companies aggregated by industrial sectors<sup>11</sup> comparing their level of R&D investment, R&D intensities, rates of R&D growth and the comparison of such trends across world regions. In particular it addresses the impact of the economic crisis and a specific analysis of three important sectors of high R&D intensity - Semiconductors, Software and Biotechnology – which underpin many other major R&D-based sectors.

### Key findings

- The best R&D performance is shown by the Pharmaceuticals sector that consolidates its position as top R&D investor increasing R&D by 5.3% and now accounts for 19% of the R&D of the top 1400 companies. In contrast, Automobile & Parts and Technology Hardware & Equipment sectors cut their R&D by 11.6% and 6.4% respectively.
- In most sectors, the reduction of R&D followed a significant drop in net sales. However, some sectors managed to increase R&D despite a substantial drop in net sales. This is the case of Oil & gas producers and Chemicals sectors that grew R&D by 2.6% and 2.7% respectively even though their sales drop by 26.0% (due to oil prices returning to more normal levels from their short peak of \$147 per barrel in mid-2008) and 16.1% respectively.
- R&D is a main competitiveness factor for key sectors such as Semiconductors, Software and Biotechnology. In 2009 they had the highest R&D intensity in the *Scoreboard*, Semiconductors (16.8%), Software (14.6%) and Biotechnology (21.2%).
- Compared with their main counterparts, EU companies present a weak position in terms of growth and number/weight of companies, i.e. the US dominates in number of companies and total R&D investment in the three sectors. At the individual firm level, there are, however, excellent examples of successful EU companies in all three sectors – but just too few of them.

### General R&D trends

The R&D ranking of the main industrial sectors including the relative R&D share by main world region is illustrated in Figure 3. The specialisation of the main world regions, represented by the share of sectors within the regions' total R&D investment, is given in Figure 4.

R&D investment in the *Scoreboard* remains highly concentrated by sectors: Of the 38 ICB industrial sectors, the top three –Pharmaceuticals & Biotechnology, Technology Hardware & Equipment and Automobiles & Parts– account for 51.7% of the total R&D investment by the *Scoreboard* companies; the top 6 and top 15 sectors constitute, respectively, 70.3% and 92.0% of the total R&D in the *Scoreboard*. Similar concentration of R&D by industrial sector has been observed over the last 8 years.

The ranking within the top 15 sectors has changed. The Aerospace & defence sector took over the seventh position from the Leisure Goods sector and the Banks sector took over the fifteenth position from the Household goods sector.

<sup>11</sup> According to the Industry Classification Benchmark (ICB) applied in the *Scoreboard*. This chapter refers to the sector aggregation at 3-digits level, consisting of 38 industrial sectors. Exception is made on the last section on three sub-sectors that are aggregated at 4-digits level.

The Pharmaceuticals & Biotechnology sector strengthens its top position in the R&D ranking with a share of 18.9% of the total R&D investment by the *Scoreboard* companies. It is followed by the Technology Hardware & Equipment sector with a share of 17.2% and the Automobile & Parts sector with 15.6% (down from 17.1% last year).

By region, companies changed their share of R&D investment in the top 6 sectors as follows: EU companies increased their share in Chemicals, Electronic & Electrical Equipment, Software & Computer Services, Automobiles & Parts and Pharmaceuticals & Biotechnology and decreased its share in Technology Hardware & Equipment; US companies decreased their share in the top 6 sectors; Japanese companies increased their share in Technology Hardware & Equipment, Pharmaceuticals & Biotechnology, Chemicals and Automobiles & Parts and decreased their share in Software & Computer Services and Electronic & Electrical Equipment. Companies from the OC group increased their share in Electronic & Electrical Equipment, Technology Hardware & Equipment, Pharmaceuticals & Biotechnology, Automobiles & Parts and Software & Computer Services and decrease their share in Chemicals sector.

As observed in previous *Scoreboards*, and notwithstanding the crisis, the dominant sectors by R&D are consistently very different in the four geographical groups of companies. The contribution to the total sector R&D by the EU companies is 43.5% to Automobiles & Parts and 40.3% to Chemicals sectors; the US contributes 43.2% to Pharmaceuticals, 48.0% to Technology Hardware & Equipment and 74.6% to Software and Computer Services sectors; Japan contributes 36.3% to Automobiles & Parts and 34.4% to Chemicals sectors; and the Other Countries companies contribute 34.1% to the Electronic & Electric Equipment sector.

There are certain sectors where one company has a very large R&D investment and accounts for a substantial proportion of global R&D in that sector. Examples are Microsoft in Software with almost one third of global 1400 R&D, Samsung Electronics with over one quarter in Electronic Equipment and Siemens with nearly 40% of electrical components.

The 5 most R&D intensive sectors (Pharmaceuticals & Biotechnology, Hardware Technology & Equipment, Software & Computer Services, Leisure Goods and Health Care Equipment & Services), all with an average R&D intensity of over 6%, contribute to 69.0% of the total R&D for the US, 46.2% for the OC group, 37.8% for Japan and only 34.9% for the EU companies.

These figures show that US firms have successfully grown in sectors such as biotechnology, internet & software and semiconductors whereas in mature sectors like automotive Japanese and South Korean firms have developed and are likely to be followed by China and India.

## **R&D growth by industrial sector**

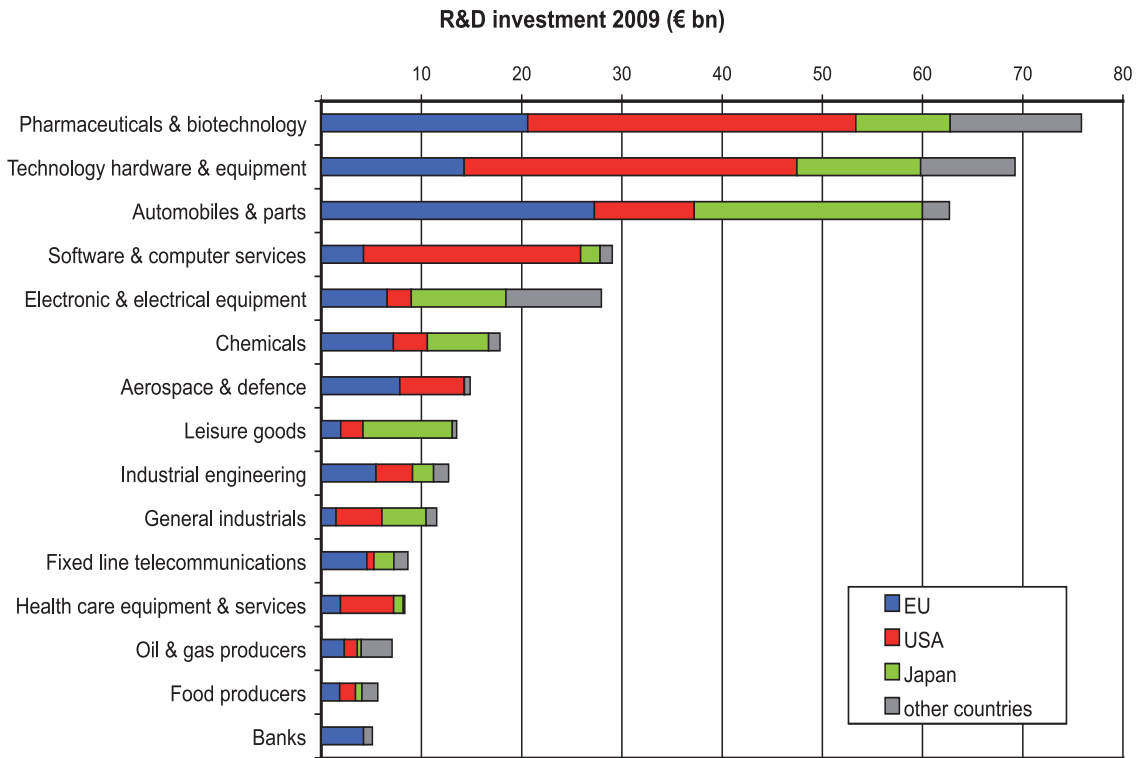
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The actual contribution of an industrial sector to the overall R&D growth of a region depends on its rate of R&D change and the sector's share of total R&D of the region. The amount of R&D investment and the relative shares of the main industrial sectors by region are shown in Figures 3 and 4. The R&D annual growth rate worldwide for the *Scoreboard* companies based in the EU, US and Japan is shown in Table 4.

Overall, the Banks sector (number 15 in the world) shows the highest one-year growth rate (8.7%), followed by Pharmaceuticals & Biotechnology (5.3%) and Health Care Equipment & Services (5.1%). Sectors showing the largest negative one-year R&D growth are Automobiles & Parts (-11.6%), Technology Hardware & Equipment (-6.4%) and Leisure Goods (-4.8%).

Among the companies based in the EU, the Health Care Equipment & Services sector shows the highest one-year growth rate (7.5%) followed by Aerospace & Defence (4.9%) and Leisure Goods (4.7%). EU Sectors

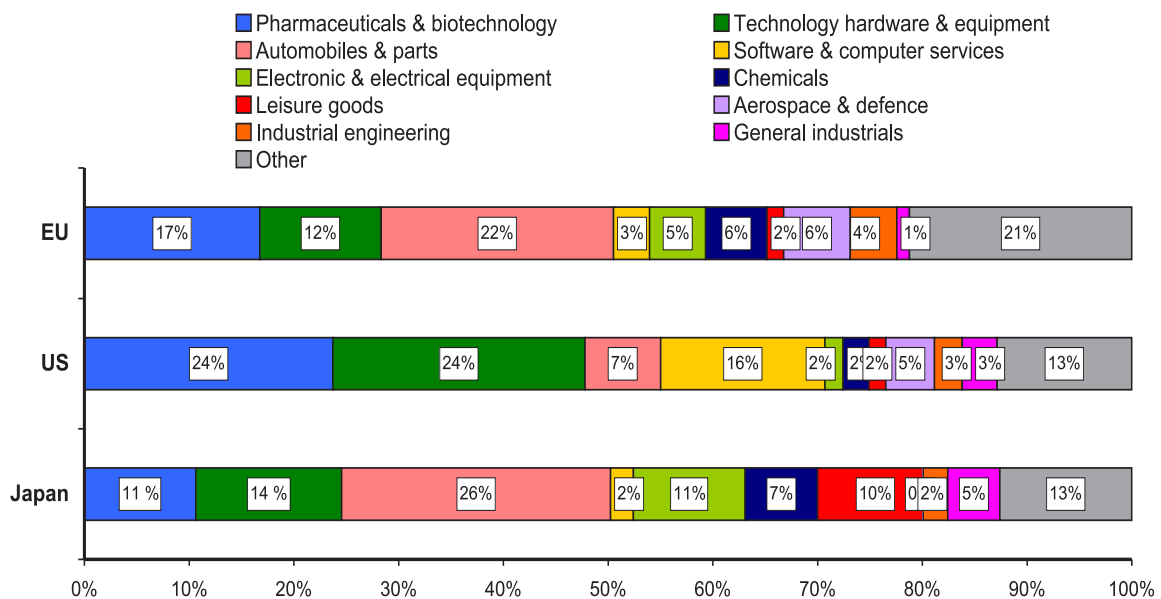
**Figure 3. R&D ranking of industrial sectors and share of main world regions for the world's top 1400 companies in the 2010 Scoreboard**



Note: Ranked by total worldwide R&D investment of the sector.

Source: The 2010 EU Industrial R&D Investment Scoreboard. European Commission, JRC/DG RTD

**Figure 4. R&D shares of sectors of the main world regions**



Source: The 2010 EU Industrial R&D Investment Scoreboard. European Commission, JRC/DG RTD



**Table 4. Ranking of top 15 industrial sectors by overall one-year R&D growth for the EU, US and Japanese companies in the 2010 Scoreboard**

Rank	Sector	One-year R&D growth (%)	EU		US		Japan	
			R&D change (%)		R&D change (%)		R&D change (%)	
			1 year	3 years	1 year	3 years	1 year	3 years
1	Pharmaceuticals & biotechnology	5.3	2.0	6.8	1.8	7.4	26.5	16.8
2	Technology hardware & equipment	-6.4	-9.9	5.3	-7.2	1.8	-5.3	2.7
3	Automobiles & parts	-11.6	-9.3	0.3	-29.3	-9.3	-5.1	2.3
4	Software & computer services	-0.1	1.8	9.1	-1.4	6.6	-3.8	1.1
5	Electronic & electrical equipment	1.1	-1.5	3.9	-7.6	6.3	-0.8	1.6
6	Chemicals	2.7	1.6	-1.7	0.5	3.8	6.3	7.2
7	Aerospace & defence	-1.0	4.9	1.0	-7.2	2.2	-8.4	-1.1
8	Leisure goods	-4.8	4.7	-0.1	-15.8	3.5	-4.5	-1.4
9	Industrial engineering	-1.8	-0.8	7.9	-9.1	5.9	5.9	5.1
10	General industrials	-1.8	3.2	-0.8	0.4	2.4	-3.0	1.6
11	Fixed line telecommunications	1.3	-0.2	5.8	18.5	64.1	-1.1	-4.6
12	Health care equipment & services	5.1	7.5	8.8	3.5	8.1	6.9	10.2
13	Oil & gas producers	2.6	-4.0	8.5	-2.5	11.8	11.0	9.5
14	Food producers	0.8	0.9	3.9	5.7	9.9	2.3	1.9
15	Banks	8.7	1.4	14.1	n.a.	n.a.	n.a.	n.a.
	Top 15 sectors	-2.3	-2.9	3.7	-5.5	3.6	-0.1	3.4
	Rest of 23 sectors	2.4	0.8	12.1	0.5	4.0	1.8	5.8
	All 38 sectors	-1.9	-2.6	4.3	-5.1	3.7	0.0	3.6

Source: *The 2010 EU Industrial R&D Investment Scoreboard. European Commission, JRC/DG RTD*

showing the lowest one-year R&D growth are Technology Hardware & Equipment (-9.9%), Automobiles & Parts (-9.3%) and Oil & Gas Producers (-4.0%).

Among the companies based in the US, the Fixed Line Telecom sector shows the highest one-year growth rate (18.5%) followed by Food producers (5.7%) and Health Care Equipment & Services (3.5%). Sectors showing the lowest one-year R&D growth are Automobiles & Parts (-29.3%), Leisure Goods (15.8%) and Technology Hardware & Equipment (-7.2%).

Among the companies based in Japan, the Pharmaceuticals & Biotechnology sector shows the highest one-year R&D growth rate (26.5%) followed by Oil & Gas Producers (11.0%) and Health Care Equipment & Services (6.9%). Sectors showing the lowest one-year R&D growth are Aerospace & Defence (-8.4%), Technology Hardware & Equipment (-5.3%) and Automobiles & Parts (-5.1%). In previous *Scoreboards*, Japan has had a lower % of its R&D in pharmaceuticals & biotech than the US and EU. The large Japanese increase in R&D for this sector this year despite a 50% drop in profits may indicate that Japanese pharmaceutical companies are targeting growth. There was just one Japanese pharmaceutical company in the world top 100 R&D companies in 2003 (at rank 85); this year there are 4 (one in the top 25 and 4 in top 75).

Some similarities with the last recession in 2002/03 are observed at the sector level. In 2003, the only substantial R&D sector with a big reduction was IT hardware, the largest sector, which was down 10%. The big riser was Pharmaceuticals, up 10%, Electronics was down and health up.

Apart from the top 15 industries, there were important R&D changes in the other sectors: the alternative energy sector, continuing the trend seen in the past 3 years is growing rapidly in number of companies and size. It accounts now 15 companies (9 more than last year) fully concerned with clean energy technological development. These companies, 13 based in the EU and 2 based elsewhere, invested more than €500 million in R&D in 2009, representing a considerable increase of 28.7% compared with the previous year. Other 6 sectors had double-digit R&D growth, including Non Life Insurance, Gas, Water & Multiutilities and Beverages sectors. Sectors reducing R&D by more than 10% were Industrial Transportation, Mining and Food & Drug Retailers.

## R&D intensity by sector

The ranking of Industrial sectors according to worldwide R&D intensity of the main industrial sectors for the 1400 *Scoreboard* companies grouped by main world region is shown in Table 5.

Most industrial sectors increased their R&D intensity because sales decreased more than R&D investment in 2009, the exception being Pharmaceuticals & Biotechnology, Aerospace & Defence and Household goods sectors that showed better on-year change for sales than R&D.

**Table 5. Ranking of industrial sectors by overall R&D intensity for the EU, US and Japanese companies in the 2010 *Scoreboard***

Rank	Sector	Overall sector R&D intensity, %	EU sector R&D intensity, %	US sector R&D intensity, %	Japan sector R&D intensity, %
1	Pharmaceuticals & Biotechnology	15.9	14.6	16.1	20.0
2	Software & Computer Services	9.9	11.8	10.4	4.8
3	Technology Hardware & Equipment	8.7	14.4	9.8	6.6
4	Leisure goods	6.5	7.3	9.6	6.0
5	Health care equipment & services	6.2	4.3	7.2	6.8
6	Automobiles & parts	4.7	5.6	4.1	4.7
7	Electronic & Electrical Equipment	4.4	5.1	4.9	5.4
8	Aerospace & defence	3.9	5.8	3.0	6.3
9	Chemicals	3.4	3.5	2.9	3.9
10	Industrial Engineering	3.1	3.6	3.2	3.0
11	General industrials	2.6	3.1	2.5	4.2
12	Household goods	1.8	1.7	0.8	2.6
13	Fixed line telecommunications	1.7	2.0	1.3	2.2
14	Food producers	1.2	1.1		
15	Oil & gas producers	0.4	0.4	0.3	0.3
	Top 15 sectors	4.3	3.9	5.4	4.8
	Rest of 23 sectors	1.1	0.7	1.9	1.1
	All sectors	3.5	2.8	4.8	3.8

Source: *The 2010 EU Industrial R&D Investment Scoreboard*. European Commission, JRC/DG RTD

Five sectors have R&D intensity<sup>12</sup> of more than 6.0%: Pharmaceuticals & Biotechnology, IT sectors (Software & Computer Services and Technology Hardware & Equipment), Leisure Goods and Health Care Equipment & Services. The sector with the lowest R&D intensity is Oil & Gas Producers (0.4%).

Among the top 15 sectors, the R&D intensity of EU companies is larger than that of the US and Japan in 6 sectors. Those sectors include Software & Computers Services, Technology Hardware & Equipment and Automobiles & Parts. Japanese companies show higher R&D intensity than the EU and the US in 7 sectors, including Pharmaceuticals & Biotechnology, Electronic & Electrical Equipment and Chemicals. The R&D intensity of US companies is higher than that of the EU and Japan in Leisure Goods and Health Care Equipment & Services. This leadership in R&D intensity is not related to the regional strengths which are based on absolute amounts of R&D investment as opposed to R&D/sales ratio which is independent of size.

As observed in previous *Scoreboards*, the overall lower average of R&D intensity of the EU companies is due to their large share of low R&D-intensive sectors as compared to a similar group of non-EU companies. Conversely, the high average R&D intensity of the US companies is due to their considerable weight in high R&D-intensive sectors (see Figures 4 and 5).

## Sector Focus: Semiconductors, Software and Biotechnology

This section describes recent developments in the Semiconductors Software and Biotechnology sectors<sup>13</sup>. These industries are important for R&D and for economies from several perspectives:

- R&D plays an important role for the competitiveness of these industries; in 2009 they had the highest R&D intensity in the *Scoreboard*, Semiconductor (16.8%), Software (14.6%) and Biotechnology (21.2%).
- They have a role as enablers for the whole value-chain of key sectors, namely Semiconductors from ICT-related industries through to automotive, biotechnology for the health, food and environment sectors and software for most sectors.
- Compared with their main counterparts (especially against US companies), EU companies present a weak position both in terms of growth and number/weight of companies.
- The economic crisis seems to affect these sectors (and the sectors downstream the value-chain) differently: Most of the indicators of Semiconductors and related industries are negatively affected whereas Software, health and food related sectors appear unaffected.

### Semiconductors industry

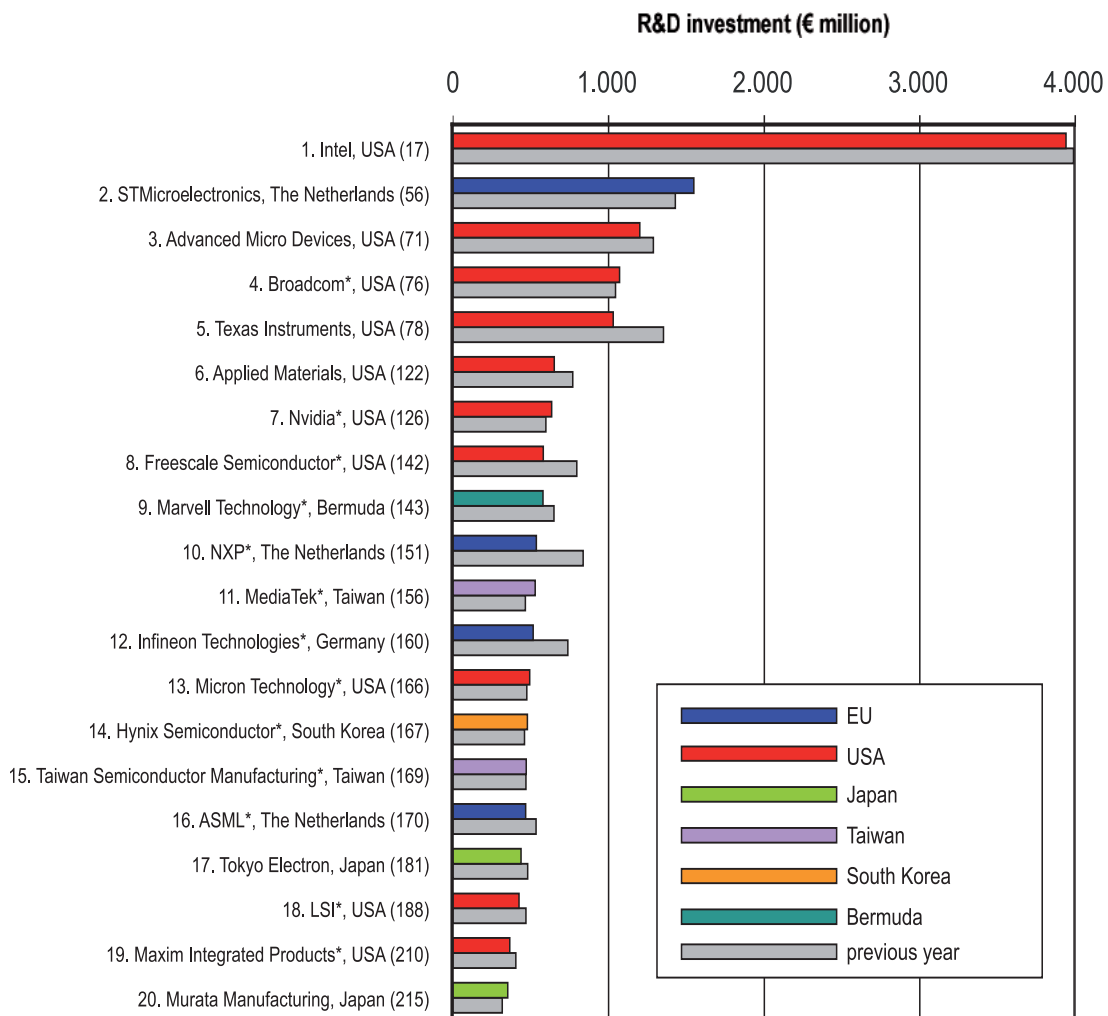
The main indicators of the Semiconductors sector for the EU, the US, Japan and other Asian countries<sup>14</sup> are summarised in Table 6. These companies account for more than 95% of total R&D of the sector. Figure 5 shows the top 20 Semiconductors companies ranked by R&D investment that together also account for a large part of the total R&D of the sector (more than two thirds).

<sup>12</sup> R&D as percentage of net sales

<sup>13</sup> In the ICB classification, Semiconductors Software and Biotechnology are actually a sub-sectors belonging respectively to the Technology Hardware and Equipment sector and the Pharmaceuticals & Biotechnology sectors. Aggregated figures for those sectors are presented and discussed in the previous sections.

<sup>14</sup> Includes companies from Taiwan (12), Singapore (4) and South Korea (1).

**Figure 5. Ranking of the top 20 R&D companies in the semiconductors sector by their total R&D investment in the 2010 Scoreboard**



Note: The number in brackets after the names of the companies indicate the position in the general Scoreboard ranking. Sector groups as in figure S3 of the Summary. For companies with data available for the whole period.

Source: The 2010 EU Industrial R&D Investment Scoreboard. European Commission, JRC/DG RTD

*Main remarks:*

- The US dominates in number of companies and total R&D investment. The R&D share of EU companies is about one fifth that of US ones. In the top 20, there are 10 US companies (including 7 of the world top 8) and only 4 based in the EU. The US has also successfully grown many smaller companies and has a total of 73 companies in this sector compared to just 9 in the EU.
- The R&D intensity of the EU companies is larger than that of their counterparts. This may be partly related to their niches and partly to size (a smaller company has less sales over which to spread the cost of the R&D for a major product family).
- In terms of R&D investment growth, the EU companies are outperformed by their counterparts over the last three years. The R&D investment of Asian companies appears less affected by the economic crisis.
- In terms of sales growth over the last three years, EU companies are also the most affected, followed by the Japanese with the US ones least affected..

**Table 6. Overall performance of *Scoreboard* companies in the Semiconductors sector for the EU, the US, Japan and other Asian countries\***

Factor	EU	USA	Japan	Other Asian countries
No. companies	9	73	11	17
Employees	129764	345360	110083	84002
R&D Investment, € m	3344.4	15457.5	1752.2	2663.8
Change from previous year, %	-11.6	-8.9	-2.0	-1.5
CAGR 3yr, %	-1.4	-0.5	5.2	13.3
Net Sales, € m	15359.1	80864.2	18229.2	24945.5
Change from previous year, %	-27.7	-16.0	-32.1	-3.7
CAGR 3yr, %	-13.9	-5.2	-7.2	-4.2
R&D intensity, %	21.8	19.1	9.6	10.7
Capex intensity, %	6.3	7.0	11.4	18.0
Profitability, %	-14.1	3.9	-12.1	5.6

\* Includes companies from Taiwan (12), Singapore (4) and South Korea (1).

Source: The 2010 EU Industrial R&D Investment Scoreboard. European Commission, JRC/DG RTD.

- Over the last year, the EU and Japanese companies showed a negative Profit & Loss account. In addition, 4 of the top 5 EU companies recorded losses while only 1 of the top 5 US companies recorded a loss.
- In spite of the dominance of US companies, some EU companies control their world market sub-sectors. Examples are ASML world market leader in advanced semiconductor lithography, ARM which dominates the market for mobile processor designs (with a presence in 90% of all mobile devices) and Imagination Technologies which provides graphics chips for Apple and other major companies.

## Software sector

The main indicators of the Software sector for the EU and the US are summarised in Table 7. These companies account for more than 96% of total R&D of the *Scoreboard* sector. Figure 6 shows the top 20 Software companies ranked by R&D investment that together also account for a large part of the total R&D of the sector (about 80%).

*Main remarks:*

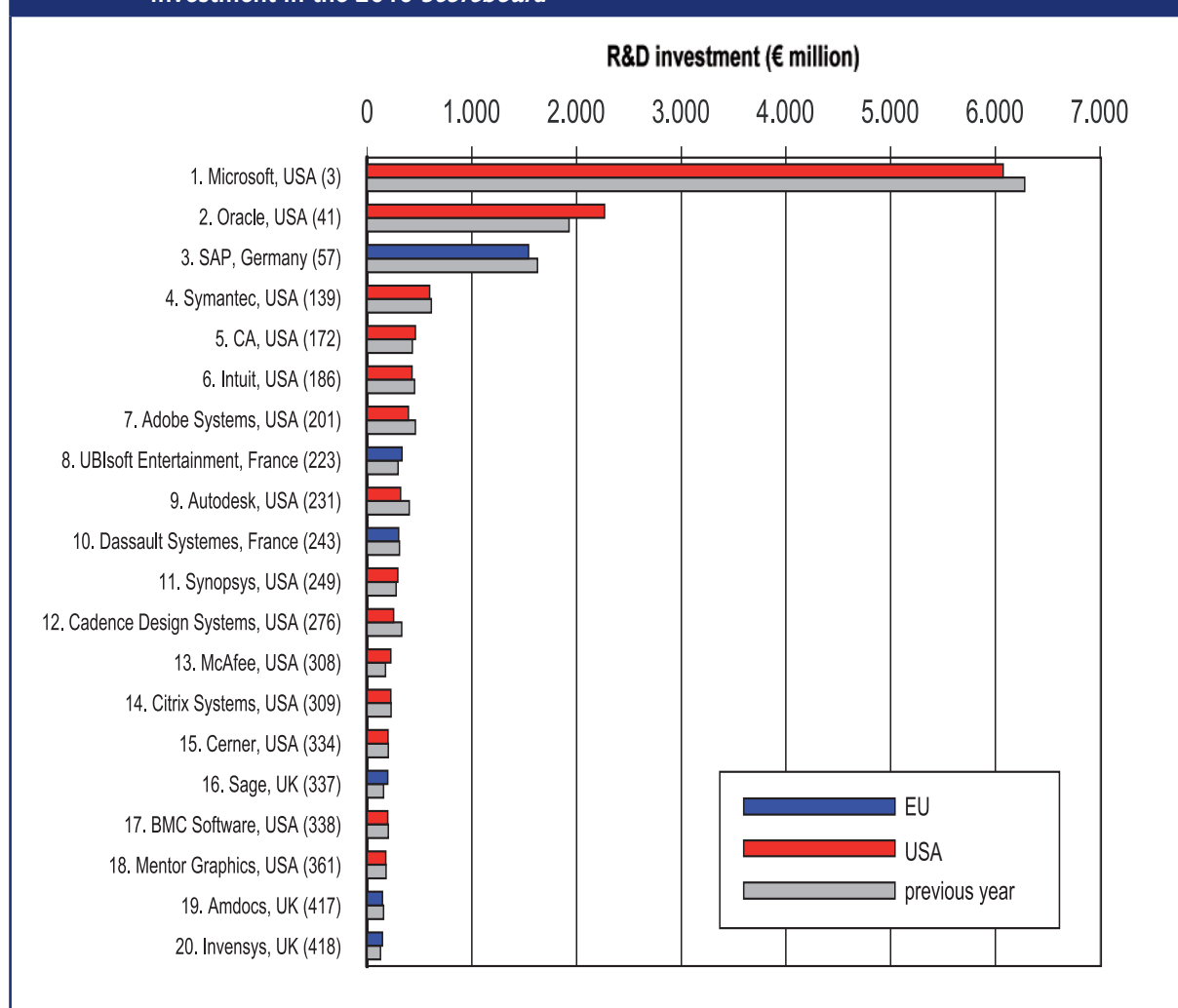
- The US again dominates in number of companies and total R&D investment. The R&D share of US companies is nearly 5 times larger than that of the EU. In the top 20, there are 14 US companies and 6 based in the EU. The largest EU company (SAP) has R&D almost 5 times larger than the second largest. The largest US company (Microsoft) has R&D nearly 3 times larger than the number two.
- The US again has many more companies with 51 overall compared to 19 in the EU
- The average R&D intensity of the EU and US companies is similar.
- In terms of R&D investment growth, the EU companies outperformed their US counterparts over the last three years and seem less affected by the crisis, i.e. in terms of R&D growth over the last year. The trend in sales is the reverse, US companies are ahead of the EU ones in terms of one-year and three-year changes.

**Table 7. Overall performance of *Scoreboard* companies in the Software sector for the EU and the US**

Factor	EU	USA
No. companies	19	51
Employees/company)	148258	369674
R&D Investment, € m	3454.3	14320.6
Change from previous year, %	1.0	0.3
CAGR 3yr, %	8.5	6.7
Net Sales, € m	23662.0	96461.9
Change from previous year, %	-3.4	4.4
CAGR 3yr, %	4.6	7.7
R&D intensity, %	14.6	14.8
Capex intensity, %	1.7	2.8
Profitability, %	17.1	28.8

Source: *The 2010 EU Industrial R&D Investment Scoreboard. European Commission, JRC/DG RTD.*

**Figure 6. Ranking of the top 20 R&D companies in the software sector by their total R&D investment in the 2010 *Scoreboard***



Note: The number in brackets after the names of the companies indicate the position in the general *Scoreboard* ranking. Sector groups as in figure S3 of the Summary. For companies with data available for the whole period.

Source: *The 2010 EU Industrial R&D Investment Scoreboard. European Commission, JRC/DG RTD.*

- US software companies also perform better than EU ones with regard to profitability. The US companies have overall profitability (operating profit as % sales) nearly twice that of the EU companies. EU companies saw profits drop by 7% whereas they increased by 50% for US companies.
- The EU has some excellent software companies with strong positions in their subsectors or niches – there are just too few compared to the US. Examples include SAP in enterprise software, Autonomy in unstructured search and Sage in accounting and customer relationship management software for smaller businesses. Autonomy is one of the few companies to benefit from the financial crisis; legal actions arising from the crisis require companies involved to search vast numbers of emails and voice records – a task that is Autonomy's speciality.

## Biotechnology

The main indicators of the Biotechnology sector for the EU and US companies are summarised in Table 8. These companies account for more than 93% of total R&D of the sector. Figure 7 shows the top 20 Biotechnology companies ranked by R&D investment that together also account for a large part of the total R&D of the sector (more than three quarters).

### *Main remarks:*

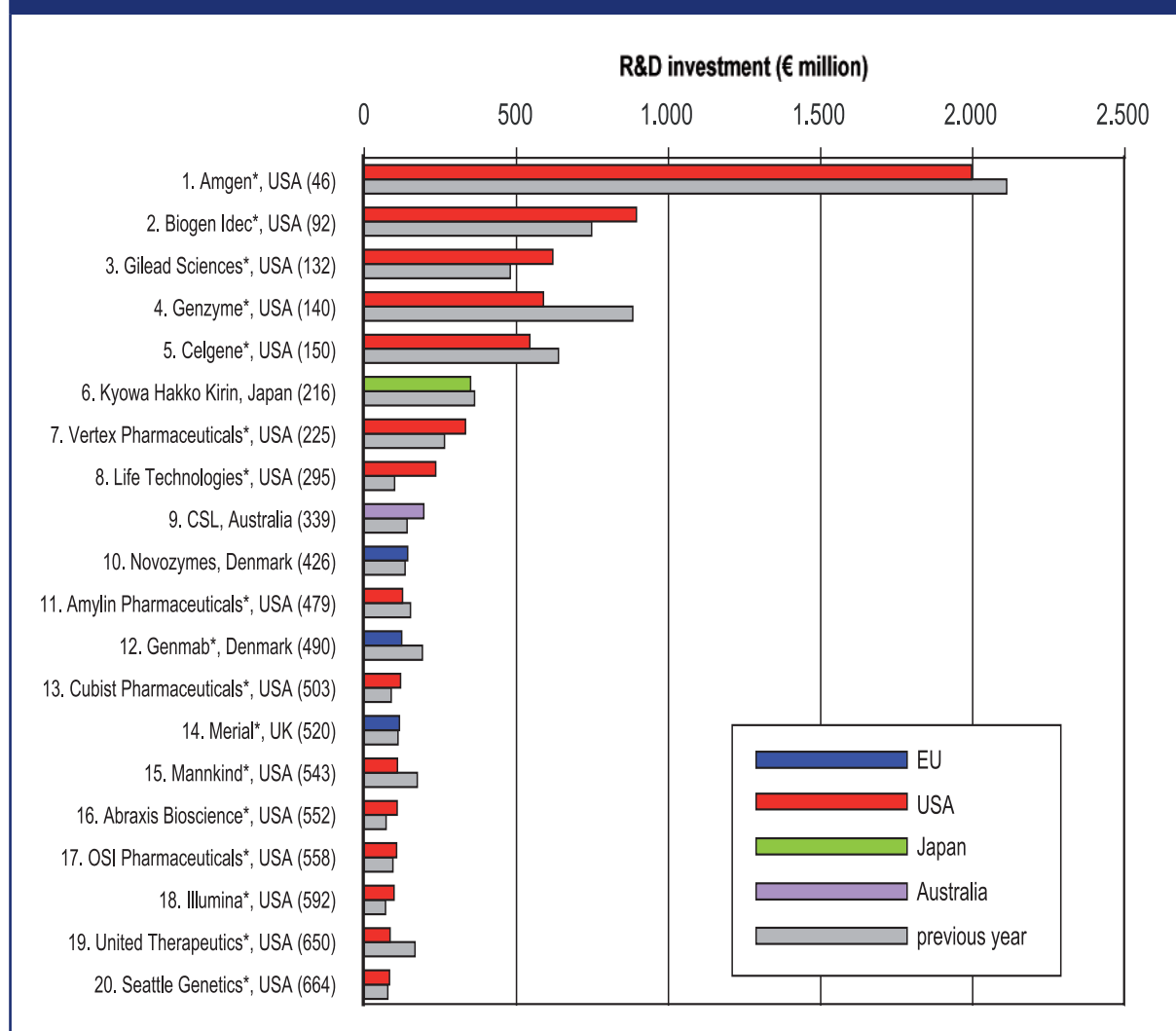
- The US again dominates in number of companies and total R&D investment. The R&D share of EU companies is almost nine times smaller than that of the US one. In the top 20, there are 15 US companies and only 3 based in the EU. The largest EU company is ranked number 10 in the global listing. The US has many more companies in the top 20 too; the global sector contains 48 US companies, 13 from the EU and just 4 others from four different nations.
- The R&D intensity of the US companies (23.9%) is also larger than that of the EU companies (17.1%).
- In terms of R&D investment growth, the EU companies outperformed their US counterparts over the last three years. Over the past year, The R&D investment of the US companies decreased by 1.6% while that of the EU ones increased by 7.9%.
- Both EU and US companies appear unaffected by the crisis in terms of sales. Indeed, over the last three years, they showed a double digit growth of sales and only somewhat lower over the last period.
- However, the US companies have overall profitability (profit as % sales) of nearly 21% whereas the EU companies have 14.2%.
- The EU companies have higher capital intensity than the US ones (10.2% vs. 6.4%).
- However, the EU has some excellent, profitable and growing companies that are world leaders in their fields – there are just too few of them. Examples of such fields include enzymes (Novozymes), vaccines (Crucell) and new drugs based on antibodies (Morphosys). Crucell, for instance, is developing new vaccines for rabies, TB, Malaria and yellow fever together with a universal flu vaccine to deal with all types of flu (seasonal, swine, avian, etc).

**Table 8. Overall performance of *Scoreboard* companies in the Biotechnology sector for the EU and the US**

Factor	EU	USA
No. companies	14	48
Employees	21130	74865
R&D Investment, € m	877.6	7642.7
Change from previous year, %	7.9	-1.6
CAGR 3yr, %	16.6	10.1
Net Sales, € m	5123.2	31996.1
Change from previous year, %	8.4	10.7
CAGR 3yr, %	12.7	13.4
R&D intensity, %	17.1	23.9
Capex intensity, %	10.2	6.4
Profitability, %	14.2	22.0

Source: *The 2010 EU Industrial R&D Investment Scoreboard. European Commission, JRC/DG RTD.*

**Figure 7. Ranking of the top 20 R&D companies in the biotechnology sector by their total R&D investment in the 2010 *Scoreboard***



Note: The number in brackets after the names of the companies indicate the position in the general *Scoreboard* ranking. Sector groups as in figure S3 of the Summary. For companies with data available for the whole period.

Source: *The 2010 EU Industrial R&D Investment Scoreboard. European Commission, JRC/DG RTD*





## 5. R&D distribution by region

This chapter compares the overall R&D performance of the *Scoreboard* companies according to the location of their registered office in the main world regions and within the EU's Member States. The main question addressed is again about the effects of the crisis.

### Key findings

- EU companies have reduced R&D investments less than their US counterparts (-2.6% vs. -5.1%, respectively), despite similar drops in sales (around -10%) and higher drops in profits (-13.0% vs. -1.4%).
- Japanese companies have held the level of R&D investment of the previous year despite the strong drops in sales (around -10%) and very high drops in profits (-88.2%).
- In other areas of the world companies showed a more moderate decrease in R&D investment and net sales. In some Asian countries, companies continued the trend of high R&D growth seen in past years, e.g. China (40.0%), India (27.3%), Hong Kong (14.8%), South Korea (9.1%) and Taiwan (3.1%). Companies based in Switzerland also increased their R&D investment well above the *Scoreboard* average (2.5%).
- Within the EU, there are 10 countries with companies investing more than €2bn R&D and only one other with more than €0.8bn. Of these 10, the largest reductions in R&D were shown by companies based in Sweden (-6.6%), Finland (-6.0%), Belgium (-5.2%) and France (-4.3%). The firms with the best R&D performance come from Italy (-2.2%), UK (-0.6%) and Spain (15.4%). Most companies had significant reductions of their net sales, especially those based in Finland where sales fell by 20%. Profits fell in all the top 10 countries except Denmark, The Netherlands and the UK.

### General trends

The *Scoreboard's* 1400 companies are grouped into four main sets: the top 400 companies from the EU, 504 companies from the US (27 less than last year), 259 from Japan (3 more than last year) and 237 companies from other countries (24 more than last year). Other Countries (OC) includes companies from Taiwan, Switzerland, South Korea, China, India, Canada, Norway, Australia, along with a further 15 countries. The great majority of OC R&D is performed by two groups of countries – other Europe (90% Switzerland) with 36% and other Asia (except Japan) with 42%.

Figure 8 and Table 9 summarise the companies' indicators aggregated by main world region. Table 10 shows the main indicators of countries included in the OC group.

As reported above, the growth rates of R&D investment and net sales of EU companies have been negative, at -2.6% and -10.2% respectively. US companies did worse at -5.1% and -13.3% respectively. Japanese companies kept the same level of R&D investment but had -10.0% growth of net sales. The companies from other countries (OC) have increased R&D investment by 5.8% while showing a negative growth in net sales, -4.8%.

The share of US companies in the total *Scoreboard* R&D investment dropped significantly, from 37.7% to 34.3% whereas the share of EU and other countries (OC) increased respectively by 1.7 and 1.9 percentage points. The Japanese companies maintained a similar share of R&D investment as last year.

Companies in the OC group continued to show the trend of high R&D growth rate observed in past years. This is the case of companies based in emerging markets such as China (39.9%), India (16.6%), South Korea (9.1%) and Taiwan (3.1%). Also Swiss companies, accounting for one third of the R&D investment of the OC group showed a positive R&D growth rate (2.5%).

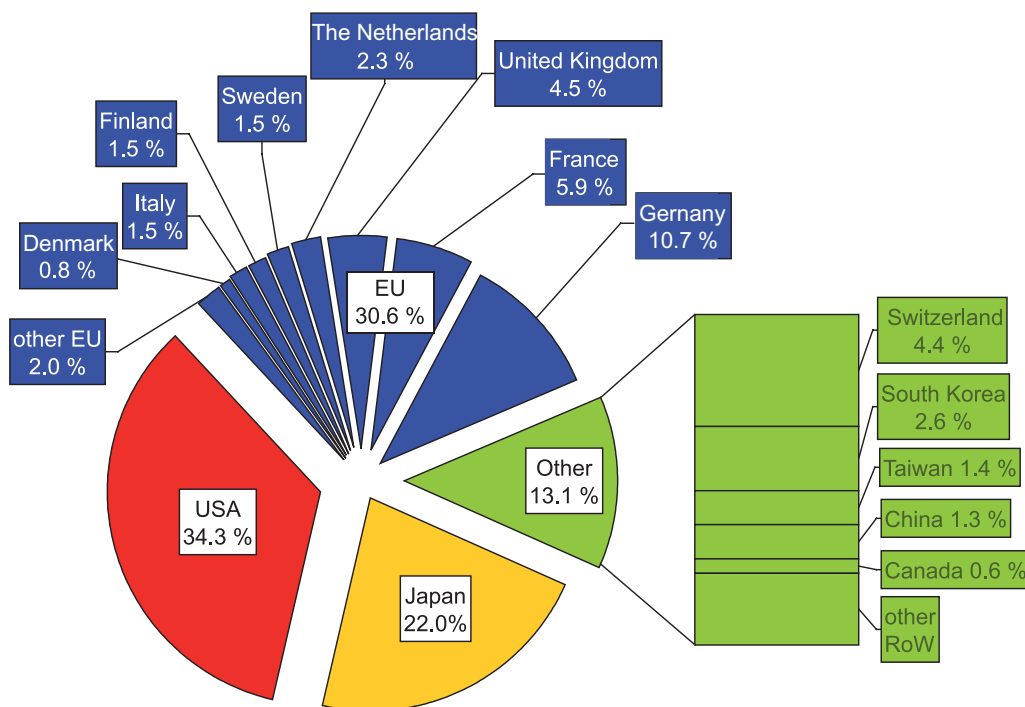
In the world top 100 companies there are 31 EU companies 17 of which reduced R&D, 36 US companies 20 of which reduced R&D and 24 Japanese 15 of which reduced R&D. Two out of the 9 top 100 companies from Other Countries reduced R&D. The effects of the crisis were thus felt roughly equally in the EU, US and Japan. However, amongst the 19 companies in the top 100 that increased R&D by double digit percentages, 8 were from the US, 6 from Japan and just 2 from the EU.

The R&D intensity of companies increased in most regions due to the drop of net sales exceeding that of R&D investment.

Fixed capital expenditures decreased even more than R&D investments in the Triad, in the US by 22%, by 12.1% in the EU and by 5.1% in Japan. In contrast, companies in the OC group increased the level of fixed capital expenditure by 11.3%.

Operating profits dropped across-the-board. Japanese companies showed an aggregate reduction in operating profits of 88.2%, EU companies of 13.0%, other countries companies of 12.4% and US companies of just 1.4%. The big drop in operating profits of companies contrasts with the modest fall in R&D investments. This is especially significant for Japanese companies given the massive drop in their profits and for OC companies that continued to grow their R&D investments despite the significant reduction of profits.

**Figure 8. R&D investment by the top 1400 companies in the 2010 *Scoreboard*, breakdown by main world regions (% of total €422.2bn)**



Source: The 2010 EU Industrial R&D Investment Scoreboard. European Commission, JRC/DG RTD

**Table 9. Overall performance of companies in the 2010 Scoreboard**

Factor	EU	USA	Japan	Other countries
No. of companies	400	504	259	237
R&D Investment, € mill	122896.8	137948.4	88638.8	52736.3
World R&D share, %	30.6	34.3	22.0	13.1
Change from previous year, %	-2.6	-5.1	0.0	5.8
CAGR 3yr, %	4.3	3.7	3.6	12.5
Net Sales, € mill	4399634.3	2881780.4	2318901.6	1964559.7
Change from previous year, %	-10.2	-13.3	-10.0	-4.8
CAGR 3yr, %	1.4	-0.3	1.4	8.7
R&D intensity, %	2.8	4.8	3.8	2.7
Operating Profit, € mill	347782.7	327857.8	20686.4	214593.2
Change from previous year, %	-13.0	-1.4	-88.2	-12.4
Profitability <sup>15</sup>	7.9	11.4	0.9	10.9
Capex, € mill	319177.2	131403.9	161396.3	203764.4
Capex intensity	7.3	4.6	7.0	10.4
Change from previous year, %	-12.1	-22.0	-5.1	11.3
Market Capitalisation, € mill	3520928.4	4123727.0	1254790.7	2342531.6
Change from previous year, %	2.5	10.9	-4.3	3.8

Source: The 2010 EU Industrial R&D Investment Scoreboard. European Commission, JRC/DG RTD.

**Table 10. R&D trends of companies based in the Other Countries group**

Factor	South Korea	Switzerland	Taiwan	Rest of countries	Total OC group
No. of companies	26	38	45	128	237
R&D Investment 2009	10293.8	17883.4	5433.3	19125.7	52736.3
Change from previous year, %	9.1	2.5	3.1	8.1	5.8
CAGR 3yr, %	10.1	10.8	12.3	16.5	12.5
World R&D share	2.6	4.4	1.4	4.8	13.1

Source: The 2010 EU Industrial R&D Investment Scoreboard. European Commission, JRC/DG RTD.

Market capitalisation started to recover in 2010. The change observed from mid-August 2009 to mid-August 2010 was positive for US companies (10.9%), OC companies (3.8%) and for EU companies (2.5%). Japanese companies continued their poor performance in the stock market (-4.3%). It should be underlined that the reporting period for this indicator does not reflect the effects the crisis, which was better represented in the previous *Scoreboard* that covered market capitalisation from mid-August 2008 to mid-August 2009. In that period, EU companies showed a reduction of market capitalisation by 18%, US companies by 19% and Japanese companies by 7%.

<sup>15</sup> Operating profits as percentage of sales.

## Effects of the crisis by region and sector groups

The effects of the crisis on the main *Scoreboard* indicators are examined here, using the aggregation of the 38 industrial sectors into four groups (high, medium-high, medium-low and low R&D intensity, see Box 2).

### Box 2. Grouping of industrial sectors according to R&D intensity (R&D as share of net sales)

**High R&D intensity** sectors (intensity above 5%) include e.g. Pharmaceuticals & biotechnology; Health care equipment & services; Technology hardware & equipment; Software & computer services.

**Medium-high R&D intensity** sectors (between 2% and 5%) include e.g. Electronics & electrical equipment; Automobiles & parts; Aerospace & defence; Industrial engineering & machinery; Chemicals; Personal goods; Household goods; General industrials; Support services.

**Medium-low R&D intensity** sectors (between 1% and 2%) include e.g. Food producers; Beverages; Travel & leisure; Media; Oil equipment; Electricity; Fixed line telecommunications.

**Low R&D intensity** sectors (less than 1%) include e.g. Oil & gas producers; Industrial metals; Construction & materials; Food & drug retailers; Transportation; Mining; Tobacco; Multi-utilities.

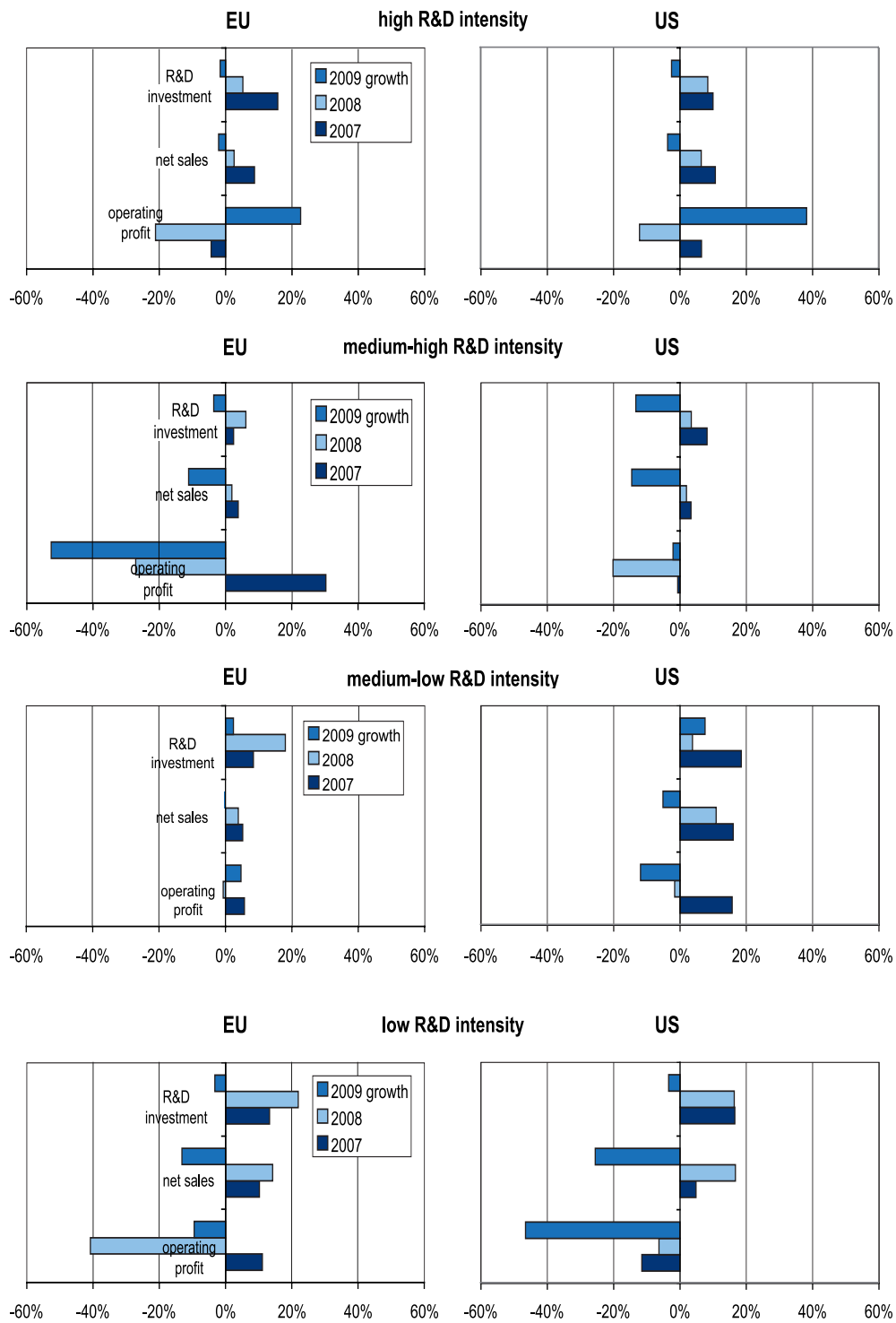
R&D growth of EU companies was above the EU average in high R&D-intensity sectors (-2.0%), positive in the medium-low (3.5%) and below the EU average in low (-4.2%) and medium-high (-3.5%) sectors. For the US companies, R&D growth was above the US average in medium-low (6.6%), high (-2.6%) and low (-3.4%) R&D intensity sectors. Japanese companies had positive R&D growth in high (2.6%), low (3.3%) and medium-low (1.3%) sectors and negative R&D growth in medium-high (-2.1%) sectors. Companies in the Other countries group showed positive R&D growth in medium-low and low sectors (3.3% and 2.5% respectively) and negative R&D growth in medium-high and high R&D intensity sectors (-4.8% and -0.6% respectively).

The growth of net sales by sector groups of R&D-intensity has been negative for EU companies in low (-13.2%), medium-high (-11.1%) and high (-2.4%) R&D intensity sectors and remained unchanged in the medium-low sectors. For US companies, sales decreased strongly in low (-25.5%) and medium-high (-14.5%) R&D intensity sectors. Japanese companies had negative results in medium-high (-15.1%) and high (-11.6%) R&D intensity sectors. Companies from the OC group had negative net sales growth in medium low (-14.5%) and low (-8.9%) R&D intensity sectors, while net sales developed positively in high (3.7%) and medium-high (0.7%) ones.

The changes in operating profits of companies over the last year offer a mixed picture. Those of EU companies increased in high (25.1%) and medium-low R&D intensity (4.7%) sectors and decreased in medium-high (-52.4%) and low (-9.5%) ones. For the US companies, profits increased in high (40.5%) and medium-high (1.1%) R&D intensity sectors and decreased in low (-46.6%) and medium-low (-8.6%) ones. Japanese companies showed worse results in operating profits, with losses in high and medium-high R&D intensity sectors (mostly due to companies from the Automobiles sector) and strong reduction of profits in low (-70.4%) and medium-low (-28.0%) sectors. Companies from the OC group increased profits in high R&D intensity sectors (17.1%) and negative results in medium-high (-21.7%) and low (-17.0%) sectors.

Growth of capital expenditures of EU companies was above the EU average in low (-9.1%) and medium-low (-11.3%) R&D intensity sectors and below the EU average in medium-high (-18.0%) and high (-16.0%) sectors. The US companies followed similar behaviour, showing capital expenditure growth above the US average in low (-10.9%) and medium-low (-14.3%) R&D intensity sectors and below the US average in

**Figure 9. Annual growth rates of main indicators by R&D intensity**



Note: Sector groups as in figure S3 of the Summary. For companies with data available for the whole period.

Source: The 2010 EU Industrial R&D Investment Scoreboard.  
European Commission, JRC/DG RTD

medium-high (-33.2%) and high (-24.1%) sectors. Japanese companies increased capital expenditures in low (5.8%) and medium-low (4.8%) R&D intensity sectors and decreased them in medium-high (-10.2%) and high (-5.5%) sectors. Companies in the OC group increased capital expenditures in low R&D intensity sectors (31.0%) and decreased them in high (-20.0%), medium-high (-17.7%) and medium-low (-8.1%) sectors.

The specific EU/US comparison of the effects of the crisis across sector groups is shown for R&D, net sales and profits in Figure 9. In the high R&D intensity sectors, R&D investment and net sales fell less among the EU companies than the US ones. Operating profits increased in both regions, but much more for the US.

For the medium-high R&D intensity sectors, a similar picture like for the high R&D intensity sectors can be observed. Reductions of R&D and net sales were however larger than in the high R&D intensity group. Operating profits fell sharply for EU companies and only slightly for the US ones.

In the medium-low R&D intensity sectors, R&D investment increased in both regions, but more in the US. The reverse is observed in net sales, which decreased in both regions, but more pronounced in the US. Operating profit, however, increased for EU companies and fell for their US counterparts.

In the low R&D intensity sectors, all three indicators showed reductions both in the EU and the US. In general, the EU companies outperformed the US ones with respect to these indicators.

## R&D trends in Member States of the EU

This section looks at the performance of companies according to the location of their registered office in different EU Member States. In this specific case, the full sample of 1000 EU companies is applied.

Within the EU group, there are 918 companies based in the top 10 Member States that account for 97.2% of the total R&D investment of the EU *Scoreboard* companies (compared with 98.1% in 2008). Within the top 10 countries, the German, French and UK companies constitute more than two thirds of the total R&D investment of the EU (see Table 11). The rest of companies (82) are based in Austria (31), Ireland (16), Portugal (8), and Luxembourg (8), along with a further 7 Member States.

Companies that decreased R&D investment below the EU average (-2.6%) are those based in Sweden (-6.6%), Finland (-6.0%), Belgium (-5.2%), France (-4.3%), The Netherlands (-3.3%) and Germany (-3.2%). Those showing R&D growth above the EU average come from Italy (-2.2%), UK (-0.6%) and, with positive R&D growth, Spain (15.4%) and Denmark (1.8%).

Most of the decrease of R&D in German and French companies was due to companies from automobiles & parts, where R&D investment dropped by 7.4% and 14.1% respectively. The slight R&D reduction showed by the UK is partly due to its small automotive sector. Interestingly, companies from the high R&D intensive sectors maintained or even slightly increased their investments in these three Member States.

Different sector composition explains also the different R&D investment patterns observed in other Member States. For example, companies from "leading innovator" Member States such as Sweden and Finland decreased R&D mainly because of their large share of IT Hardware and companies from Denmark increased R&D mainly because of their important share in Pharmaceuticals and Biotechnology. The overall R&D growth in these 3 countries could be also explained by the importance of individual behaviour of a limited number of companies (e.g. Ericsson in Sweden, Nokia in Finland and Lundbeck –from the Pharma sector- in Denmark). In both Sweden and Finland, 8 out of the top 10 companies reduced R&D.

The case of *Scoreboard* companies from Spain is also worth mentioning given the important increase of R&D investments (15.4%) despite the hit of the crisis (sales drop by 6.4%). This is explained by important increases in top Spanish companies such as Telefonica (16%) and Acciona (29%) and the inclusion of top players such as Banco Santander (18%).

**Table 11. R&D trends of companies based in the top 10 EU Member States\***

Country	No. of companies	R&D Share within EU	One year growth, %	CAGR 3 yr, %
Germany	206 (209)	33.8	-3.2	3.1
France	116 (125)	18.9	-4.3	2.1
UK	246 (247)	15.4	-0.6	6.3
The Netherlands	52 (53)	7.3	-3.3	1.2
Sweden	76 (70)	5.0	-6.6	4.0
Italy	53 (57)	4.9	-2.2	7.4
Finland	56 (58)	4.9	-6.0	8.5
Denmark	46 (47)	2.9	1.8	11.1
Spain	27 (21)	2.2	15.4	16.3
Belgium	40 (39)	1.8	-5.2	3.3
<b>Total EU-10</b>	<b>918 (926)</b>	<b>97.2</b>	<b>-2.9</b>	<b>4.1</b>

\* Figures of the 2009 Scoreboard in brackets.

Source: The 2010 EU Industrial R&D Investment Scoreboard. European Commission, JRC/DG RTD.

If we look at each of these countries' R&D share for all the three focus sectors of biotechnology, semiconductors and software, we find that most of it is accounted for by five countries – the Netherlands, UK, France, Denmark and Germany.

### Trends in R&D intensities of companies based in selected Member States

Between 2003 and 2008, the average R&D intensity of the EU-1000 companies fell as growth in net sales was higher than in R&D investment. In 2009 this trend broke and R&D investment growth was higher than that of net sales, leading to a small increase in R&D intensity from 2.3 to 2.4 % for the EU-1000.

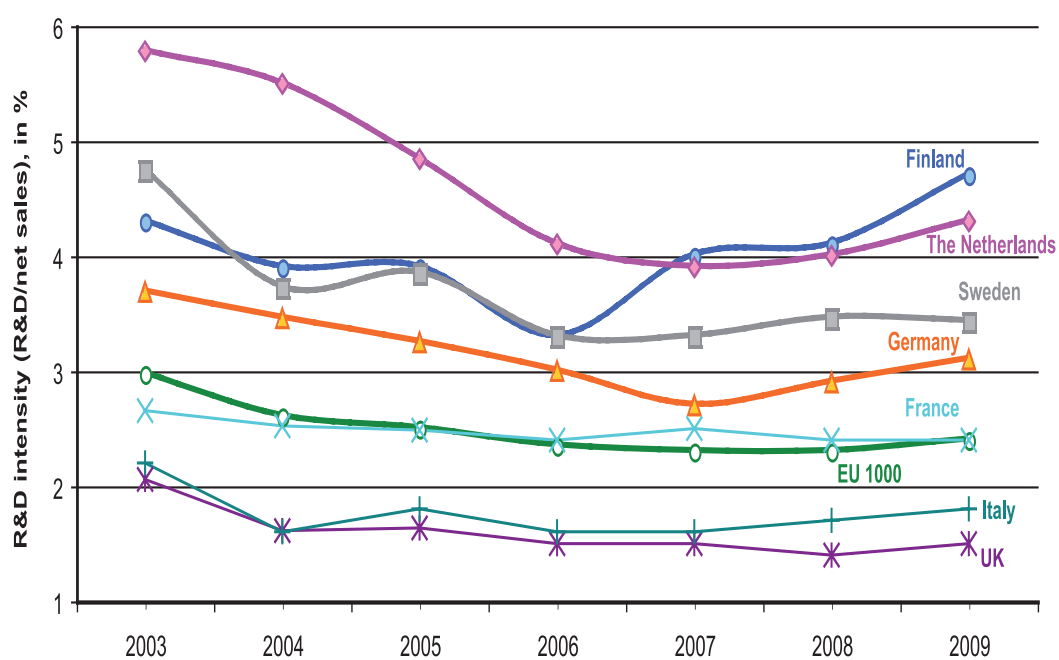
Higher R&D intensity compared to the past year is also observed in most of the Member States in figure 10: Finland (continuing the sharp R&D intensity increase due to Nokia largely maintaining R&D despite falling sales), the Netherlands, Germany, and Italy.

For the French and UK companies, R&D intensity remained practically unchanged compared to 2008.

For the companies from Sweden, R&D intensity fell because Ericsson's R&D investment dropped by more than one fifth while net sales stagnated.



Figure 10. Trends in R&D intensities for EU *Scoreboard* companies in selected Member States



Note: The different Scoreboards are not directly comparable because changes in the sample composition.

Source: The EU Industrial R&D Investment Scoreboards (of 2004, 2005, 2006, 2007, 2008, 2009, 2010). European Commission, JRC/DG RTD

# 6. Are young top R&D firms smaller and more innovative?

## 6.1 Introduction

A wide range of literature, and also our previous *Scoreboards*<sup>16</sup>, has observed the corporate R&D intensity deficit of the EU compared to that of competing economies, especially the US. Results of decomposing the R&D deficit into structural and intrinsic components have been shown to be divergent and highly sensitive to the level of detail at which industries are compared<sup>17</sup>. The EU private R&D deficit compared to the US primarily manifests itself in high R&D intensity sectors, such as ICT goods and services. These sectors are important not only because companies in them invest at a higher R&D intensity but also because in such sectors the link between R&D and productivity is larger and more significant<sup>18</sup>.

The EU is less specialised than the US in these R&D-intensive sectors, many of which showed relatively high-growth since they emerged in the 1990s<sup>19</sup>. The creation and growth of companies in different sectors lays the ground for the later specialisation of the economy. Firm-level evidence for the IT sector, for example, suggests that the EU's R&D deficit may be due to constraints on the rapid growth of new, technology-based entrants in the EU compared to the US<sup>20</sup>.

From such firm-level perspective, the continued business R&D deficit seems a symptom rather than a cause of the EU's weakness in innovation; the cause seems rooted in the structure and dynamics of EU industry and enterprise<sup>21</sup>. In this sense, the EU's innovation gap is a consequence of its industrial structure in which new firms fail to play a significant role in the dynamics of the industry, especially in the high-tech sectors. This is illustrated by their inability to enter markets and to subsequently grow into market leaders. The creative-destruction process encounters significant obstacles in the EU, undermining Europe's growth potential<sup>22</sup>.

16 See e.g. the 2006 and 2007 Scoreboards

17 See: Jaumotte, F. and N. Pain (2005) 'Innovation in the business sector', Economics Department Working Papers no. 459, Organisation for Economic Cooperation and Development.

18 See: Ortega-Argilés R., Piva M, Potters L., and Vivarelli M. (2009), "Is Corporate R&D Investment in High-Tech Sectors More Effective?", European Commission, JRC-IPTS and DGRTD, "IRMA Working Papers Series" No. 03/2009 - JRC50909

19 See: O'Mahoney, M. and B. van Ark (2003) EU productivity and competitiveness: an industry perspective - can Europe resume the catch-up process? Report to the European Commission and also: Moncada, P., C. Ciupagea, K. Smith, A. Tubke and M. Tubbs (2009) 'Does Europe perform too little corporate R&D?' Working Paper on Corporate R&D and Innovation No11/2009, Institute for Prospective Technological Studies

20 Bartelsman et al (2004) found that post-entry performance differs markedly between Europe and the US, which suggests a potential indication of the importance of barriers to firm growth as opposed to barriers to entry. Cohen and Lorenzi (2000) argued that the US economy is a more hospitable environment than the EU for new firms to grow. Based on an analysis of the top 1000 global firms in terms of market capitalisation which were listed in Business Week in 1999, they found that information technology was by far the most important sector for explaining the difference in the total number of new giants between the two regions. Cohen and Lorenzi show that of the 355 US firms included in this list, 33 percent were created after 1950. In contrast, of the 181 EU firms in the list, 14 percent were created after 1950. Information technology accounted for more than 70 percent of the difference between the two geographical regions (Cohen and Lorenzi, 2000, p. 125).

21 This has also been diagnosed in the former EU Research Commissioner Janez Potocnik's KfG (Knowledge for Growth) Expert's Group Report (O'Sullivan, 2007) or van Pottelsberghe (2008).

22 Aghion P., E. Bartelsman, E. Perotti and S. Scarpetta (2008) 'Barriers to exit, experimentation and comparative advantage', RICAFA 2 WP 056, London School of Economics.

This structural EU innovation-deficit story has many supporters, but has received only little thorough empirical investigation. This chapter looks at the R&D profile of young versus old companies in the *Scoreboard* in order to add new evidence. As a first question, it investigates whether 'young' firms are more R&D intensive and more dynamic (higher growth rates of their sales and number of employees) and to what extent they have been differently hit by the current economic crisis compared to 'old' companies.

The second question addressed here concerns the role played by these young firms regarding the EU R&D intensity gap with respect to the US and other regions. The analysis is performed on a 'dataset' of the world largest 1000 companies from this year's *Scoreboard* in terms of R&D investment that account for 96.3% of the total R&D carried out by the 1400 *Scoreboard* companies described in the previous chapters.

The date of establishment<sup>23</sup> is used to distinguish between young firms (those firms created after 1974) and old firms (created before 1975)<sup>24</sup>. As the *Scoreboard* captures the ultimate parent company, all companies regarded here are independent. Hence, 'young firms' are those that have remained independent (without being taken over) since their birth after 1975 and grown to an R&D size substantial enough to be captured by the *Scoreboard*. There are certainly many other 'young' firms that were taken over and are now consolidated in the accounts of larger companies, as well as others that failed to grow to a size where they would be included among the top 1000 R&D investors in the *Scoreboard*. As the dimension of this takeover effect is unknown, the pure numbers of young companies do not tell us very much about the rate of creation of new businesses capable of growing to a substantial size.

The dataset analysed consists of 287 companies from the EU, 340 from the US, 199 from Japan and 174 from other countries (OC)<sup>25</sup>. 51 of the EU companies, 185 of the US companies, 3 of the Japanese companies and 87 from the companies from OC are young. The share of young companies is therefore much lower for the EU (17.8%) compared to the US (54.4%).

## 6.2. The characteristics of young companies

Table 12 shows the distribution of 'young' firms by region and their shares in terms of R&D, net sales and employees. The share of young firms in the dataset (32.6%) is larger than their share in R&D (19.2%), net sales (11.4%) employees (12.6%) and operating profits (15.6%). Young firms are typically smaller, in terms of R&D, sales and employees, than their old counterparts.

The higher share of young firms in R&D as compared to net sales also indicates that young firms have a higher R&D intensity compared to their old counterparts. More precisely, the R&D intensity of young firms (6.1%) is almost twice the one of their old counterpart (3.3%). This suggests that young firms are more likely to be found in high R&D intensity sectors than old firms.

In terms of the average annual growth rate of R&D, net sales, operating profit and number of employees over the period 2006-2009, young R&D firms appear to perform relatively better as compared to old ones. This suggests that the economic crisis has affected these young companies less.

23 The sources used for retrieving the age information are mainly the websites of companies. This has been crosschecked with other databases. To construct the age of the firms we use the very first year of the firms' creation, i.e. ex-nihilo creation. In case of a merger and acquisition (M&A), the oldest age of the merged entities is considered. Despite the fact that some regions and or sectors could be more affected by M&A activities, this choice for defining the age of the companies does appear to affect the results of the analysis presented in this chapter (see Cincera and Veugelers, 2010, for a discussion and for more details).

24 It should be noted that the particular choice of 1975 to separate young and old companies does not make any difference. The main conclusions of the analysis do not change when other years, i.e. 1985, are chosen (Cincera and Veugelers, 2010).

25 Other Countries (OC) includes as most important countries Taiwan (35), Switzerland (30), South Korea (23), China (16), India (12), Canada (10), Australia (8), Norway (7) and Brazil (6).

**Table 12. Importance of young firms in R&D, sales and employment by region**

Share in % of	Young firms	Old firms	Total
Number of firms	32.6	77.4	100
R&D investment	19.2	80.8	100
Net sales	11.4	88.6	100
Operating profit	15.6	84.4	100
Number of employees	12.6	87.4	100
R&D intensity of	6.1	3.3	3.6
Annual growth rate (2006-2009, %) of	Young firms	Old firms	Total
R&D investment	9.6	3.6	4.6
Net Sales	7.7	1.0	1.5
Operating profit	3.5	-9.9	-8.3
Number of employees	5.8	0.9	1.5

Source: The 2010 EU Industrial R&D Investment Scoreboard. European Commission, JRC/DG RTD.

### 6.3. Regional differences in the importance of young firms

As it can be seen from Table 13, more than half of the US firms in the sample are young (54.4%). The share of young firms located in the other countries group is also relatively high (50%). By contrast, in the EU, only one out of five top R&D investors is 'young' (17.8%). For the US, young firms account for 38.6% of total R&D, compared to only 6.2% for the EU. Japan is the 'old' model with almost no young firms among its top R&D companies (1.5%).

At the world level, the R&D intensity of young companies (6.1%) is higher compared to their old counterparts (3.3%). For the US, however, this difference is more important (11.8% against 3.6%). This leads to a higher R&D intensity differential for young US companies as compared to the EU (as can be seen in the bottom of Table 13.) For Japan and the other countries this is not the case. The young firms in the other countries have almost the same R&D intensity like old firms, while in Japan, young firms have a smaller R&D intensity than old ones (4.1% against 1.3%).

In summary, the lower overall R&D intensity of the EU top R&D companies in the dataset compared to the US ones can be explained by the combination of three factors:

- The EU has less young firms than the US (17.8% vs. 54.4%). This matters because these firms have a higher R&D intensity (6.1% vs. 3.3%);
- The EU-based young companies are less R&D intensive than their US counterparts (4.4% vs. 11.8%);
- The EU-based old companies are also less R&D intensive than their US counterparts (2.8% vs. 3.6%).

A further decomposition shows that the fact that the EU-based young firms are less R&D intensive than their US counterparts is the most important factor, accounting for 55% of the total EU-US R&D intensity gap<sup>26</sup>. Furthermore, the fact that there are more young and more R&D intensive companies in the US is mainly due to their relative higher presence in high R&D intensive and quite recent sectors such as Internet, biotechnology and software as compared to the EU and Japan. This is illustrated in Table 14 below.

<sup>26</sup> See Cincera and Veugelers (2010), Young leading innovators and the EU's R&D intensity gap, IPTS CRD&I WP 2010/7, for more details about this decomposition analysis.

**Table 13. Shares and R&D intensity of young firms in R&D, sales and employment by region**

Share of young firms (%) of	World	EU	Japan	OC	US
<b>Total number of firms</b>	32.6	17.8	1.5	50.0	54.4
<b>R&amp;D investment</b>	19.2	6.2	0.5	31.0	38.6
<b>Net sales</b>	11.4	4.1	1.5	32.0	16.1
<b>Operating profit</b>	15.6	5.6	15.6	26.2	19.0
<b>Employees</b>	12.6	3.9	1.8	38.1	17.8
<b>R&amp;D intensity (%) of</b>					
<b>All firms</b>	3.6	2.9	4.0	2.7	4.9
<b>Old firms</b>	3.3	2.8	4.1	2.8	3.6
<b>Young firms</b>	6.1	4.4	1.3	2.6	11.8

Source: *The 2010 EU Industrial R&D Investment Scoreboard. European Commission, JRC/DG RTD.*

## 6.4. Distribution of young companies by sector

A number of industry and services sectors are particularly associated with young top R&D investors. Table 14 illustrates these sectors in which young firms are prominently present. The sectors which have an above-average share of R&D done by young companies are identified as 'young sectors'. These sectors are Internet, biotechnology, software, semiconductors, telecom equipment, computer hardware and health care<sup>27</sup>. Table 12 also covers the electronics, telecom services and pharmaceuticals sectors. These sectors also have a sizeable proportion of young companies, but these companies are much less important in total R&D in these sectors.

Internet is essentially a post-1990 sector, as all companies in this sector are created after 1990. Also biotechnology and software are young sectors, with almost no old companies in the *Scoreboard*. Semiconductors have quite a lot of young companies, but these are smaller in (R&D) size as compared to the older ones in the sector. The same holds for telecom equipment, computer hardware and computer services. The telecom services sector<sup>28</sup> is not particularly characterised by young companies (despite the deregulation in this sector). And these young companies are also smaller in R&D size. Finally despite a share of about one third of young firms in the pharmaceuticals sector, these top R&D spenders represent only 3.9% of total R&D done in this sector.

Young sectors represent about 26.6 % of the R&D performed by the 1000 companies in the dataset. All these young sectors are also high R&D intensive sectors, i.e. their R&D intensity is above twice the total average in the sample.

Table 15 illustrates the higher presence of young US firms in the young, high R&D intensive and most important (in terms of R&D investment) sectors as compared to the EU and Japan.

Finally, Table 16 suggests that young firms are characterised by a higher profitability.

This is however not the case in all sectors especially for firms in young sectors. In terms of regions, both US old and young firms appear to be more profitable than their European counterparts.

<sup>27</sup> It should be noted that food & drug & general retailers, travel & leisure and support services also have a higher share of R&D performed by young companies but the shares of these sectors in total R&D are less than 0.7 percent.

<sup>28</sup> Fixed line + Mobile telecommunications.

Table 14. Young firms and their presence by sector

Sector (ICB)	Number of firms	Share of young firms	R&D by young firms	R&D intensity of young firms	R&D intensity of old firms	Share of sector in total R&D
Internet	7	100.0	100.0	13.3	0.0	0.8
Biotechnology	41	87.8	90.4	22.7	9.3	2.1
Software	53	90.6	89.3	14.8	12.7	4.5
Food & drug retailers, & General retailers	9	33.3	66.1	7.0	0.3	0.7
Semiconductors	78	69.2	50.4	17.6	16.4	5.9
Telecom equipment	37	70.3	45.2	13.3	12.4	6.2
Travel & leisure	10	50.0	44.8	1.6	13.4	0.3
Computer hardware	30	70.0	40.9	3.4	4.3	3.8
Health care	40	25.0	27.4	8.3	5.8	2.0
Support services	11	45.5	23.3	1.7	2.7	0.3
<b>Total</b>	<b>1000</b>	<b>32.6</b>	<b>19.2</b>	<b>6.1</b>	<b>3.3</b>	<b>100.0</b>
Computer services	14	57.1	17.4	9.3	5.2	1.8
Leisure goods	25	32.0	13.5	13.1	6.1	3.4
Oil & gas	31	9.7	12.9	0.7	0.5	2.2
Electronics	61	27.9	10.7	2.6	5.5	5.6
Telecom services	21	33.3	10.5	0.9	1.8	2.4
Media	8	25.0	7.2	2.4	2.8	0.6
Industrial machinery	46	8.7	6.9	4.1	2.8	1.3
Electrical hardware	25	24.0	6.6	5.1	4.3	2.7
Construction & materials	23	4.3	5.4	0.8	1.1	0.8
Commercial vehicles	17	11.8	5.0	3.3	3.8	1.6
Other sectors	74	12.2	4.7	3.3	1.2	3.5
Personal goods	13	7.7	4.7	3.2	2.6	0.6
Pharmaceuticals	71	28.2	3.9	15.5	15.5	17.0
General industrials	34	8.8	3.8	1.1	2.8	2.9
Aerospace & defence	33	18.2	2.9	5.2	4.0	3.8
Chemicals	69	7.2	2.7	0.9	3.8	4.4
Automobiles & parts	72	12.5	2.4	2.7	4.8	16.0
Electricity	13	0.0	0.0	0.0	0.7	0.6
Food & Beverages	27	0.0	0.0	0.0	1.7	1.8
Gas, water & multiutilities	7	0.0	0.0	0.0	0.3	0.2

Source: The 2010 EU Industrial R&D Investment Scoreboard. European Commission, JRC/DG RTD.

**Table 15. Young firms and their presence in young sectors and by region**

Number and share of young firms	EU	Japan	OC	USA	EU	Japan	OC	USA
Sector (ICB)	Number				Share (in %)			
Internet	0	0	2	5	0.0	0.0	100.0	100.0
Biotechnology	6	0	1	29	85.7	0.0	50.0	93.5
Software	9	0	7	32	75.0	0.0	100.0	94.1
Semiconductors	4	0	17	33	66.7	0.0	94.4	73.3
Telecommunications equipment	3	0	6	17	37.5	0.0	85.7	81.0
Computer hardware	0	0	11	10	0.0	0.0	91.7	71.4
Health care equipment & services	2	0	1	7	16.7	0.0	50.0	31.8
<b>Total</b>	<b>51</b>	<b>3</b>	<b>87</b>	<b>185</b>	<b>17.8</b>	<b>1.5</b>	<b>50.0</b>	<b>54.4</b>

Source: The 2010 EU Industrial R&D Investment Scoreboard. European Commission, JRC/DG RTD.

**Table 16. Profitability of young and old firms in young sectors and by Region (%)**

Sector (ICB)	EU		Japan		RoW		USA	
	old	young	old	young	old	young	old	young
Internet						41.8*		28.2
Biotechnology	19.5	15.9	6.8		26.0	-456.8*	0.0	25.8
Software	21.5	9.8				26.8	26.6	29.9
Semiconductors	-15.8	-14.8*	-12.3		3.2	5.4	12.3	-6.3
Telecommunications equipment	1.0	1.7*	-5.6		-0.2	14.2	5.0	14.6
Computer hardware	6.4		-3.0		-1.4	0.2	8.3	10.1
Health care equipment & services	14.1	13.1*	-0.7		27.1	25.0*	21.5	-5.6
<b>Total</b>	<b>7.9</b>	<b>10.8</b>	<b>0.7</b>	<b>8.8</b>	<b>11.9</b>	<b>9.0</b>	<b>11.4</b>	<b>13.9</b>

Profitability defined as operating profits divided by net sales (%).

\* Sectors with less than 5 firms should be taken with caution as they are not necessarily representative.

Source: The 2010 EU Industrial R&D Investment Scoreboard. European Commission, JRC/DG RTD.

These findings provide further evidence about the sources of the EU R&D intensity gap with respect to the US, which can be almost explained by the higher number and R&D intensity of young companies in the US. The reason behind this situation can be found in the different specialisation of the US R&D private sector where most young top R&D spenders come from the high-tech sectors such as Internet, biotech or semiconductors<sup>29</sup>.

<sup>29</sup> The EU private R&D deficit as compared to the US as a consequence of the different EU industrial structure and its relative specialisation in medium tech industry sectors is not new (Moncada et al., 2009). The novelty of this analysis comes from the prominent role played by young R&D companies to explain this deficit.

# Annex 1: Background information

The *Scoreboard* is part of the European Commission's monitoring activities to improve the understanding of trends in R&D investment by the private sector and the factors affecting it. It was created in response to the Commission's Research Investment Action Plan<sup>30</sup>, which aims to help close the gap between the EU's R&D investment and that of other developed economies.

The annual publication of the *Scoreboard* is intended to raise awareness of the importance of R&D for businesses and to encourage firms to disclose information about their R&D investments and other intangible assets.

The data for the *Scoreboard* are taken from companies' publicly available audited accounts. As in more than 99 of cases these accounts do not include information on the place where R&D is actually performed, the company's whole R&D investment in the *Scoreboard* is attributed to the country in which it has its registered office<sup>31</sup>. This should be borne in mind when interpreting the *Scoreboard's* country classifications and analyses.

The *Scoreboard's* approach is, therefore, fundamentally different<sup>32</sup> from that of statistical offices or the OECD when preparing Business Enterprise Expenditure on R&D (BERD) data, which are specific to a given territory. The *Scoreboard* data are primarily of interest to those concerned with benchmarking company commitments and performance (e.g. companies, investors and policymakers), while BERD data are primarily used by economists, governments and international organisations interested in the R&D performance of territorial units defined by political boundaries. The two approaches are therefore complementary. The methodological approach of the *Scoreboard*, its scope and limitations are further detailed in Annex 2 below.

## Scope and target audience

The *Scoreboard* is a benchmarking tool which provides reliable up-to-date information on R&D investment and other economic and financial data, with a unique EU-focus. The 2000 companies listed in this year's *Scoreboard* account for about 80<sup>33</sup> of worldwide business enterprise expenditure on R&D (BERD). The data in the *Scoreboard* are published as a four-year time-series to allow further trend analyses to be carried out, for instance, to examine links between R&D and business performance.

The *Scoreboard* is aimed at three main audiences.

- **Companies** can use the *Scoreboard* to benchmark their R&D investments and so find where they stand in the EU and in the global industrial R&D landscape. This information could be of value in shaping business or R&D strategy.

30 "Investing in research: an action plan for Europe", COM(2003)266, [http://europa.eu.int/eur-lex/en/com/cnc/2003/com2003\\_0226en02.pdf](http://europa.eu.int/eur-lex/en/com/cnc/2003/com2003_0226en02.pdf).

31 The registered office is the company address notified to the official company registry. It is normally the place where a company's books are kept.

32 The *Scoreboard* refers to all R&D financed by a company from its own funds, regardless of where the R&D is performed. BERD refers to all R&D activities performed by businesses within a particular sector and territory, regardless of the location of the business's headquarters, and regardless of the sources of finance. The sources of data also differ: the *Scoreboard* collects data from audited financial accounts and reports whereas BERD typically takes a stratified sample, covering all large companies and a representative sample of smaller companies. Additional differences concern the definition of R&D intensity (BERD uses the percentage of R&D in value added, while the *Scoreboard* considers the R&D/Sales ratio) and the sectoral classification (BERD uses NACE (the European statistical classification of economic sectors), while the *Scoreboard* uses the ICB (the International Classification Benchmark)).

33 According to latest Eurostat statistics. However BERD and Scoreboard figures are not directly comparable.



- **Investors and financial analysts** can use the *Scoreboard* to assess investment opportunities and risks.
- **Policy-makers, government and business organisations** can use R&D investment information as an input to policy formulation or other R&D-related actions.

Furthermore, the *Scoreboard* dataset has been made freely accessible so as to encourage further economic and financial analyses and research by any interested parties.

# Annex 2: Profile of the EU R&D Scoreboard

## The sample of the top 1000 EU companies

**Table A2.1. Profile of the 1000 EU companies in the 2010 Scoreboard\***

Companies by country	UK 246 (247); DE 206 (209); FR 116 (125); SE 76 (70); FI 56 (58); IT 53 (57); NL 52 (53); DK 46 (47); BE 40 (39); etc.
The 10 most numerous sectors	Pharmaceuticals & Biotechnology 131 (127); Software & Computer Services 100 (108); Industrial Engineering 95 (96); Electronic & Electrical Equipment 65 (67); Technology Hardware & Equipment 50 (57); Chemicals 49 (47); Automobiles & Parts 42 (47); Food producers 35 (35); Support services 35 (31); Health care Equip. & Services 25 (30).
126 (142) Entries & exits	<p>Entries: R&amp;D threshold €4.37 million (€4.34 m)</p> <ul style="list-style-type: none"> <li>– 48 new companies added to the dataset</li> <li>– 71 companies with R&amp;D above threshold</li> <li>– 7 other reasons</li> </ul> <p>Exits:</p> <ul style="list-style-type: none"> <li>– 25 leavers taken over by another company</li> <li>– 70 companies with R&amp;D below threshold</li> <li>– 31 other reasons</li> </ul>
Stock market	Listed companies 793 (798); Unlisted companies 207 (202)

\* Figures of last year's Scoreboard in brackets.

Source: The 2010 EU Industrial R&D Investment Scoreboard. European Commission, JRC/DG RTD.

## The sample of the top 1000 non-EU companies

**Table A2.2. Profile of the 1000 non-EU companies in the 2010 Scoreboard\***

Companies by country	US 504 (531); Japan 259 (256); Taiwan 45 (41); Switzerland 38 (38); South Korea 26 (22); China 21 (15); India 17 (15); Canada 15 (18); etc.
The 10 most numerous sectors	Technology Hardware & Equipment 204 (195); Pharmaceuticals & Biotechnology 112 (133); Electronic & Electrical Equipment 84 (87); Software & Computer Services 88 (89); Chemicals 65 (72); Automobiles & Parts 62 (61); Industrial Engineering 62 (53); Health Care Equip. & Services 42 (45); Leisure goods 25 (28); General Industrials 29 (27).
90 (134) Entries & exits	<p>Entries: R&amp;D threshold €28.78 million (€34.51m)</p> <ul style="list-style-type: none"> <li>– 26 new companies added to the dataset</li> <li>– 61 companies with R&amp;D above threshold</li> <li>– 1 demergers</li> <li>– 2 other reasons</li> </ul> <p>Exits:</p> <ul style="list-style-type: none"> <li>– 27 leavers taken over by another company</li> <li>– 41 companies with R&amp;D below threshold</li> <li>– 22 other reasons</li> </ul>
Stock market	Listed companies 955 (969); Unlisted companies 45 (31)

\* Figures of last year's Scoreboard in brackets.

Source: The 2010 EU Industrial R&D Investment Scoreboard. European Commission, JRC/DG RTD.



# Annex 3: Methodological notes

The 2010 “EU Industrial R&D Investment Scoreboard” (*Scoreboard*) has been prepared on the basis of information gathered according to the standards set out below.

## Scope of the EU Industrial R&D Investment Scoreboard

The *Scoreboard* has been prepared from companies’ **annual reports and accounts** received by an independent data provider up to and including **3 August 2010**. To prepare the *Scoreboard*, a database of 8437 EU and 2398 non-EU companies’ accounts was screened.

In order to maximise completeness and avoid double counting, the **consolidated group accounts of the ultimate parent company** are used. Companies which are subsidiaries of any other company, such as Alliance & Leicester (UK), Ford Motor Company (UK) or IBM Deutschland (Germany) are not listed separately. Where consolidated group accounts of the ultimate parent company are not available, subsidiaries are included, e.g. Cognis Deutschland (Germany).

For some companies whose accounts are expected close to the cut-off date, **preliminary announcements** are used, e.g. Misys (UK).

In case of a **demerger**, the full history of the continuing entity is included. The history of the demerged company can only go back as far as the date of the demerger to avoid double counting of figures, e.g. NXP (The Netherlands).

In case of an **acquisition or merger**, pro forma figures for the year of acquisition are used along with pro forma comparative figures if available, e.g. GDF-Suez (France).

The R&D investment included in the *Scoreboard* is the cash investment which is funded by the companies themselves. It excludes R&D undertaken under contract for customers such as governments or other companies. It also excludes the companies’ share of any associated company or joint venture R&D investment when disclosed. Where part or all of R&D costs have been capitalised, the additions to the appropriate intangible assets are included to calculate the cash investment and any amortisation eliminated.

The **first time adoption of IFRS**<sup>34</sup>, for example by many listed European companies, gives rise to an information discontinuity because R&D is treated differently. R&D must now be disclosed. R&D capitalisation criteria under IFRS are stricter and, where the criteria are met, the amounts must be capitalised. In some pre-IFRS jurisdictions either one or both of these conditions did not apply. The following was implemented to minimise the impact of transition to IFRS:

- a) The previous year’s figures disclosed in the new IFRS accounts have been used in place of the previous year’s GAAP figures disclosed in the past annual report. The effect is that the discontinuity moves back by one year so that it impacts on the three year growth statistic but not the one year growth statistic.
- b) In most cases, comparative figures are not disclosed, so the previous years’ GAAP figures disclosed in the past annual report were examined to assess whether or not there appears to be a material

<sup>34</sup> Since 2005, the European Union requires all listed companies in the EU to prepare their consolidated financial statements according to IFRS (International Financial Reporting Standards, see: <http://www.iasb.org/>).

component not disclosed. If the non disclosure appeared to be not material it was assumed to be zero and the R&D spending was calculated. If the non disclosure appeared to be material, the R&D spending was treated as unknown and the result is reported as “not available (n/a)”. Companies with “n/a” results are excluded from the aggregate growth statistics.

Companies are allocated to the **country of their registered office**. In some cases this is different from the operational or R&D headquarters. This means that the results are independent of the actual location of the R&D activity. Examples are STMicroelectronics (the Netherlands with operational headquarter in Switzerland) or AstraZeneca (UK, with major R&D sites in Sweden, the UK and the US).

The **data** used for the *Scoreboard* are different from data provided by statistical offices, e.g. BERD data. The *Scoreboard* refers to all R&D financed by a particular company from its own funds, regardless of where that R&D activity is performed. BERD refers to all R&D activities performed by businesses within a particular sector and territory, regardless of the location of the business's headquarters, and regardless of the sources of finance.

Further, the *Scoreboard* collects data from audited financial accounts and reports. BERD typically takes a stratified sample, covering all large companies and a representative sample of smaller companies. Additional differences concern the definition of R&D intensity (BERD uses the percentage of value added, while the *Scoreboard* measures it as the R&D/Sales ratio) and the sectoral classification they use (BERD follows NACE, the European statistical classification of economic sectors, while the *Scoreboard* classifies companies' economic activities according to the ICB classification).

## Sources

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The database from which the *Scoreboard* is drawn consists of information extracted from the audited annual reports and accounts of companies, using rigorous financial reporting practice verification processes.

The companies are those which are identified as having an R&D activity and which either have their accounts publicly available for free (e.g. on the internet or upon request) or at low cost (e.g. at the company registry).

The market capitalisation data have been extracted from Reuters. These reflect the market capitalisation of each company at the close of trading on 13 August 2010.

The source documents, annual reports & accounts, are public domain documents and so the *Scoreboard* is capable of independent replication.

The database is supplemented by data feeds from third party commercial database houses such as Standard & Poor's and Jordan's. Other sources such as FTSE International, Bureau van Dijk's Orbis and Fame databases, Experian, Hemscoff and Thomson Reuters have also been used.

The database contains many times more companies than are listed in the *Scoreboard* to ensure that the top companies by R&D investment can be identified in each case.

The industry sectors are based on the ICB Industry Classification System.

The *Scoreboard* data have been compiled by Company Reporting Ltd and the following sub-contracting collaborating partners: Inno Group (Germany), SPI Sociedade Portuguesa de Inovacao (Portugal), Austrian Institute for SME Research (Austria), West Hungarian Research Institute (Hungary), Slovakian National Agency for SME Development (Slovakia), Thomaz Puh (Slovenia), Entrepreneurship and Economic Development Research Institute EEDRI (Poland), Ioannis Tsalavoutas (Greece), Etlatiето (Research Institute of Finnish Economy, Finland), Stifterverband Wissenschaftsstatistik (Germany).

## Limitations

The approach used in preparing the *Scoreboard* has the following limitations:

### 1. Disclosure

The *Scoreboard* relies on **disclosure of R&D investment** in published annual reports and accounts. Therefore, companies which do not disclose figures for R&D investment or which disclose only figures which are not material enough are not included in the *Scoreboard*. There are few companies which disclose a significant R&D investment only as a percentage figure (often to only one significant figure), e.g. Vallourec, France. These companies are not included in the *Scoreboard*.

Due to different national accounting standards and **disclosure practice**, companies of some countries are less likely than others to disclose R&D investment consistently.

Further, the facilities and possibility to acquire accounts differ considerably from country to country because the organisation of document registration varies between local and central registries as well as the information that can be obtained and the cost to acquire this data.

In some countries, R&D costs are very often integrated with other operational costs and can therefore not be identified separately. For example, companies from many Southern European countries or the new Member States are under-represented in the *Scoreboard*. On the other side, UK companies are over-represented in the *Scoreboard*. For listed companies, country representation will improve with IFRS adoption.

For many **highly diversified companies**, the R&D investment disclosed in their accounts relates only part of their activities, whereas sales, profit before tax and market capitalisation are in respect of all their activities. Unless such groups disclose their R&D investment additional to the other information in segmental analyses, it is not possible to relate the R&D more closely to the results of the individual activities which give rise to it. The impact of this is that some statistics for these groups, e.g. R&D as a percentage of sales, are possibly underestimated and so comparisons with non-diversified groups are limited.

The R&D investment disclosed in some companies' accounts follows the US practice of including **engineering costs** relating to product improvement, e.g. Ingersoll-Rand, Bermuda. Where these engineering costs have been disclosed separately, they have been excluded from the *Scoreboard*. However, the incidence of non-disclosure is uncertain and the impact of this practice is a possible overstatement of some overseas R&D investment figures in comparison with the EU.

Where R&D income can be clearly identified as a result of **customer contracts** it is deducted from the R&D expense stated in the annual report, so that the R&D investment included in the *Scoreboard* excludes R&D undertaken under contract for customers such as governments or other companies. However, the disclosure practise differs and R&D income from customer contracts cannot always be clearly identified. This means a possible overstatement of some R&D investment figures in the *Scoreboard* for companies with directly R&D related income where this is not disclosed in the annual report.

As a result of these disclosure limitations, the *Scoreboard* **cannot set out to capture systematically all companies with R&D activity**. There is evidence to suggest that the distribution of R&D activity is highly skewed towards larger companies, with a "long tail" of smaller companies.

## 2. Measurement

In implementing the definition of R&D, companies exhibit **variability** arising from three principal sources:

- a) Natural variability arises from differing interpretations of the definition. Some companies view a process as an R&D process while other companies may view the same process as an engineering or other process.
- b) Data capture variability arises from differing information systems. Some companies have in place better systems than others for measuring the costs associated with R&D processes.
- c) Fiscal variability arises from fiscal incentives based on the treatment of costs.

## 3. Timing

The accounts of the companies included in the current year set are their **latest published accounts** and are intended to be their fiscal year 2009 accounts. Companies from most countries have discretion in the choice of accounting period end. As a result, the current year set of the 2010 *Scoreboard* can include accounts ending on a range of dates from late 2008 to early 2010. Furthermore, the accounts of some companies are publicly available more promptly than others.

Therefore, the current year set represents a heterogeneous set of timed data.

## 4. Availability

The accounts of companies which are **not listed** on any recognised stock exchange are significantly more difficult to capture. There is considerable variability between countries in relation to the existence of and, where they exist, the administrative procedures and costs associated with capturing accounts. This results in (i) the smaller private companies from the “long tail” being under represented and (ii) a smaller number of significant private enterprises, such as Servier (France) not being represented.

## Interpretation

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There are some fundamental aspects of the *Scoreboard* which affect their interpretation.

### 1. Funding vs. activity

The focus of the *Scoreboard* on R&D investment as reported in group accounts means that the results can be independent of the location of the R&D activity. The *Scoreboard* indicates the level of R&D funded by companies, not all of which is carried out in the country in which the company is registered. This enables inputs such as R&D and Capex investment to be related to outputs such as Sales, Profit, productivity ratios and market capitalisation.

The information in the *Scoreboard* differs therefore from other information such as the Business Enterprise R&D (BERD) data generated by the OECD, Eurostat and by National Statistics Offices.

The BERD data focus on R&D activity within the countries, independent of the source of funding and, at the national level, exclude R&D carried out by companies in other countries. In brief, the distinction can be seen as “funding vs. activity”.

## 2. Growth

At the aggregate level, the growth statistics reflect the growth of the set of companies in the current year set. Companies which may have existed in the base year but which are not represented in the current year set are not part of the *Scoreboard* (a company may continue to be represented in the current year set if it has been acquired by or merged with another).

These are therefore “successful efforts” aggregates rather than economic estimates of market aggregates.

## 3. Currency effects

All foreign currency amounts have been translated at the Euro exchange rates ruling at 31 December 2009 as shown in Table A2.1:

The exchange rate conversion also applies to the historical data. The result is that over time the *Scoreboard* reflects the domestic currency results of the companies rather than economic estimates of current purchasing parity results.

The original domestic currency data can be derived simply by reversing the translations at the rates above. Users can then apply their own preferred current purchasing parity transformation models.

**Table A3.1. Euro exchange rates applied to Scoreboard data of companies based in different currency areas (as of 31 Dec 2009).**

Country	As of 31 Dec 2008	As of 31 Dec 2009
Australia	\$ 1.99	\$ 1.60
Canada	\$ 1.72	\$ 1.50
China	9.48 Renminbi	9.80 Renminbi
Czech Republic	26.84 Koruna	26.41 Koruna
Croatia	7.37 Kuna	7.30 Kuna
Denmark	7.44 Danish Kronor	7.44 Danish Kronor
Hungary	265.85 Forint	270.24 Forint
Iceland	169.33 Iceland Krona	179.60 Iceland Krona
India	67.72 Indian Rupee	66.77 Indian Rupee
Israel	5.25 Shekel	5.44 Shekel
Japan	126.0 Yen	133.57 Yen
Mexico	19.25 Mexican Peso	18.73 Mexican Peso
Norway	9.73 Norwegian Kronor	8.29 Norwegian Kronor
Poland	4.12 Zloty	4.11 Zloty
Russia	42.44 Rouble	43.49 Rouble
South Korea	1750.70 Won	1670.77 Won
Sweden	10.99 Swedish Kronor	10.24 Swedish Kronor
Switzerland	1.48 Swiss Franc	1.48 Swiss Franc
Turkey	2.15 New Lira	2.15 New Lira
UK	£ 0.97	£ 0.89
USA	\$ 1.39	\$ 1.43
Taiwan	\$ 45.61	\$ 45.89



## Glossary of definitions

- 1. Research and Development (R&D) investment** in the *Scoreboard* is the cash investment funded by the companies themselves. It excludes R&D undertaken under contract for customers such as governments or other companies. It also excludes the companies' share of any associated company or joint venture R&D investment. Being that disclosed in the annual report and accounts, it is subject to the accounting definitions of R&D. For example, a definition is set out in International Accounting Standard (IAS) 38 "Intangible assets" and is based on the OECD "Frascati" manual. **Research** is defined as original and planned investigation undertaken with the prospect of gaining new scientific or technical knowledge and understanding. Expenditure on research is recognised as an expense when it is incurred. **Development** is the application of research findings or other knowledge to a plan or design for the production of new or substantially improved materials, devices, products, processes, systems or services before the start of commercial production or use. Development costs are capitalised when they meet certain criteria and when it can be demonstrated that the asset will generate probable future economic benefits. Where part or all of R&D costs have been capitalised, the additions to the appropriate intangible assets are included to calculate the cash investment and any amortisation eliminated.
- 2. Net sales** follow the usual accounting definition of sales, excluding sales taxes and shares of sales of joint ventures & associates. For banks, sales are defined as the "Total (operating) income" plus any insurance income. For insurance companies, sales are defined as "Gross premiums written" plus any banking income.
- 3. R&D intensity** is the ratio between R&D investment and net sales of a given company or group of companies. At the aggregate level, R&D intensity is calculated only by those companies for which data exist for both R&D and net sales in the specified year. The calculation of R&D intensity in the *Scoreboard* is different from than in official statistics, e.g. BERD, where R&D intensity is based on value added instead of net sales.
- 4. Operating profit** is calculated as profit (or loss) before taxation, plus net interest cost (or minus net interest income) minus government grants, less gains (or plus losses) arising from the sale/disposal of businesses or fixed assets.
- 5. One-year growth** is simple growth over the previous year, expressed as a percentage:  $1 \text{ yr growth} = 100 * ((C/B) - 1)$ ; where C = current year amount, and B = previous year amount. 1yr growth is calculated only if data exist for both the current and previous year. At the aggregate level, 1yr growth is calculated only by aggregating those companies for which data exist for both the current and previous year.
- 6. Three-year growth** is the compound annual growth over the previous three years, expressed as a percentage:  $3 \text{ yr growth} = 100 * (((C/B)^{(1/t)} - 1)$ ; where C = current year amount, B = base year amount (where base year = current year - 3), and t = number of time periods (= 3). 3yr growth is calculated only if data exist for the current and base years. At the aggregate level, 3yr growth is calculated only by aggregating those companies for which data exist for the current and base years.
- 7. Capital expenditure (Capex)** is expenditure used by a company to acquire or upgrade physical assets such as equipment, property, industrial buildings. In accounts capital expenditure is added to an asset account (i.e. capitalised), thus increasing the asset's base. It is disclosed in accounts as additions to tangible fixed assets.  
  
Some Japanese companies might include additions to other assets in the capital expenditures disclosed. This may lead to an overstatement of the capital expenditure.
- 8. Number of employees** is the total consolidated average employees or year end employees if average not stated.

9. **R&D per employee** is the simple ratio of R&D investment over employees. At the aggregate level, R&D per employee and the other non-growth statistics are calculated only by aggregating those companies for which data exist for both the numerator and the denominator.
10. **R&D employees** is the number of employees engaged in R&D activities as stated in the annual report.
11. **Market capitalisation** is the share price multiplied by the number of shares issued at a given date. Market capitalisation data have been extracted from both the Financial Times London Share Service and Reuters 3000 Xtra. These reflect the market capitalisation of each company at the close of trading on 13 August 2009. The gross market capitalisation amount is used to take account of those companies for which not all the equity is available on the market.
12. **Market Spread** details sales by destination, distinguishing between Europe, North America (USA and Canada) and the Rest of the World. The definition of Europe is subject to the definitions adopted by the individual companies. In cases in which companies have defined a market spread area as EMEA (Europe, Middle East, Africa), this has been allocated to Europe. When a company has not clearly disclosed the turnover region North America but Americas, this has been allocated to North America.
13. **Industry sectors** are based on the ICB Industry Classification System. The level of disaggregation is generally the three-digit level unless indicated otherwise.



# Annex 4: List of EU1000 and non-EU1000 companies

The following tables provide the list of top R&D investors based in the EU and those based outside the EU, ranked by the level of R&D investment and including companies' net sales, R&D intensity and operating profits.

The full dataset of the 2010 EU industrial R&D investment *Scoreboard* is freely available in the JRC/IPTS website <http://iri.jrc.ec.europa.eu/>.

The data for the EU and the non-EU groups are presented in single tables comprising rankings by companies, industrial sectors and countries. Each listing includes the following company data of the latest four financial years:

- Company identification (name, country of registration, sector of declared activity according to ICB classifications).
- R&D investment
- Net Sales
- Capital expenditure
- Operating profit or loss
- Market capitalisation
- Total number of employees



## Table A2.1 Ranking of the top 1000 EU companies by level of R&D investment

Rank	Company	ICB Sector	Country	R&D Investment		Net Sales	R&D/Net Sales ratio	Operating Profit
				2009	change 09/08	2009	2009	2009
				€m	%	€m	%	% of Net Sales
<b>Top 1000 Companies</b>				<b>129,984.00</b>	<b>-2.6</b>	<b>5,408,387</b>	<b>2.4</b>	<b>7.6</b>
<i>number of companies for calculation</i>				<i>1000</i>	<i>989</i>	<i>1000</i>	<i>991</i>	<i>991</i>
1	Volkswagen	Automobiles & parts (335)	Germany	5,790.00	-2.3	102,398	5.7	2.4
2	Nokia	Telecommunications equipment (9578)	Finland	4,997.00	-6.1	40,984	12.2	2.8
3	Sanofi-Aventis	Pharmaceuticals (4577)	France	4,569.00	0.2	29,785	15.3	24.6
4	Siemens	Electrical components & equipment (2733)	Germany	4,282.00	1.9	76,666	5.6	4.9
5	Daimler	Automobiles & parts (335)	Germany	4,164.00	-6.2	78,924	5.3	-0.3
6	GlaxoSmithKline	Pharmaceuticals (4577)	UK	4,084.44	9.5	31,928	12.8	26.8
7	Robert Bosch	Automobiles & parts (335)	Germany	3,578.00	-8.6	38,174	9.4	-3.0
8	AstraZeneca	Pharmaceuticals (4577)	UK	3,090.26	-12.0	22,863	13.5	34.6
9	Bayer	Chemicals (135)	Germany	2,964.00	8.8	31,168	9.5	9.0
10	EADS	Aerospace & defence (271)	The Netherlands	2,878.00	4.4	42,822	6.7	-1.1
11	Alcatel-Lucent	Telecommunications equipment (9578)	France	2,714.00	-14.3	15,157	17.9	-5.8
12	BMW	Automobiles & parts (335)	Germany	2,448.00	-14.5	47,802	5.1	0.5
13	Ericsson	Telecommunications equipment (9578)	Sweden	2,401.68	-12.1	20,155	11.9	2.4
14	Peugeot (PSA)	Automobiles & parts (335)	France	2,314.00	-2.4	48,417	4.8	-2.8
15	Boehringer Ingelheim	Pharmaceuticals (4577)	Germany	2,215.00	5.0	12,721	17.4	17.7
16	Finmeccanica	Aerospace & defence (271)	Italy	1,926.00	9.0	16,501	11.7	7.0
17	Philips Electronics	Leisure goods (374)	The Netherlands	1,714.00	6.3	23,189	7.4	2.9
18	Fiat	Automobiles & parts (335)	Italy	1,692.00	-14.8	49,298	3.4	0.8
19	Renault	Automobiles & parts (335)	France	1,643.00	-26.5	32,759	5.0	-7.6
20	STMicroelectronics	Semiconductors (9576)	The Netherlands	1,547.92	8.4	5,931	26.1	-16.9
21	SAP	Software (9537)	Germany	1,543.00	-5.2	10,672	14.5	23.8
22	Volvo	Commercial vehicles & trucks (2753)	Sweden	1,512.03	-4.7	21,315	7.1	-8.2
23	BASF	Chemicals (135)	Germany	1,410.00	2.8	50,693	2.8	7.4
24	Continental	Automobiles & parts (335)	Germany	1,405.30	-7.8	20,096	7.0	-5.3
25	Merck	Pharmaceuticals (4577)	Germany	1,344.60	8.9	7,747	17.4	7.8
26	BT	Fixed line telecommunications (653)	UK	1,158.14	-8.0	23,477	4.9	10.1
27	Novo Nordisk	Pharmaceuticals (4577)	Denmark	1,001.06	0.6	6,864	14.6	29.1
28	Unilever	Food producers (357)	UK	891.00	-3.9	39,823	2.2	12.9
29	Vivendi	Media (555)	France	874.00	21.2	27,132	3.2	12.4
30	France Telecom	Fixed line telecommunications (653)	France	862.00	-4.2	50,952	1.7	15.9
31	Banco Santander	Banks (835)	Spain	856.17	17.9	40,502	2.1	22.1
32	Telecom Italia	Fixed line telecommunications (653)	Italy	842.00	19.6	28,324	3.0	17.3
33	Royal Dutch Shell	Oil & gas producers (53)	UK	784.07	-11.1	193,882	0.4	7.0
34	Telefonica	Fixed line telecommunications (653)	Spain	777.00	16.3	56,731	1.4	23.7
35	Porsche	Automobiles & parts (335)	Germany	743.00	-17.4	6,565	11.3	-20.3
36	Schneider	Electrical components & equipment (2733)	France	675.00	-4.7	15,793	4.3	9.3
37	UCB	Pharmaceuticals (4577)	Belgium	674.00	-12.1	3,116	21.6	11.0
38	Thales	Aerospace & defence (271)	France	663.70	16.6	12,731	5.2	-1.3
39	TOTAL	Oil & gas producers (53)	France	650.00	6.2	112,153	0.6	14.5
40	Royal Bank of Scotland	Banks (835)	UK	629.16	-7.1	43,546	1.4	-6.7
41	SAFRAN	Aerospace & defence (271)	France	629.00	3.3	10,599	5.9	4.3
42	Valeo	Automobiles & parts (335)	France	620.00	-21.1	7,499	8.3	0.7
43	ALSTOM	Industrial machinery (2757)	France	613.00	-1.3	19,650	3.1	8.5
44	L'Oreal	Personal goods (376)	France	609.20	4.8	17,473	3.5	13.2
45	ZF	Automobiles & parts (335)	Germany	606.00	-9.6	9,371	6.5	-4.2
46	Solvay	Chemicals (135)	Belgium	566.00	-2.1	8,485	6.7	9.1
47	NXP	Semiconductors (9576)	The Netherlands	535.26	-35.9	2,678	20.0	-19.3
48	HSBC	Banks (835)	UK	531.77	-0.1	54,802	1.0	9.0

Rank	Company	IGB Sector	Country	R&D Investment		Net Sales	R&D/Net Sales ratio	Operating Profit
				2009	change 09/08	2009	2009	2009
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<b>Top 1000 Companies</b>				<b>129,984.00</b>	<b>-2.6</b>	<b>5,408,387</b>	<b>2.4</b>	<b>7.6</b>
<i>number of companies for calculation</i>				<i>1000</i>	<i>989</i>	<i>1000</i>	<i>991</i>	<i>991</i>
49	Rolls-Royce	Aerospace & defence (271)	UK	530.11	-3.9	11,721	4.5	11.3
50	Infineon Technologies	Semiconductors (9576)	Germany	515.00	-30.2	3,674	14.0	-17.9
51	Michelin	Automobiles & parts (335)	France	506.00	1.4	14,807	3.4	3.0
52	ASML	Semiconductors (9576)	The Netherlands	466.76	-12.6	1,596	29.2	-6.3
53	Electricite de France	Electricity (753)	France	438.00	4.0	66,336	0.7	11.4
54	MAN	Commercial vehicles & trucks (2753)	Germany	433.00	2.1	12,461	3.5	-1.7
55	Deutsche Telekom	Fixed line telecommunications (653)	Germany	432.00	-29.6	64,602	0.7	9.4
56	AREVA	Electricity (753)	France	414.00	-25.3	14,003	3.0	2.2
57	BP	Oil & gas producers (53)	UK	409.11	-1.3	166,760	0.2	10.1
58	Henkel	Household goods & home construction (372)	Germany	399.00	3.1	13,573	2.9	8.0
59	DSM	Chemicals (135)	The Netherlands	397.00	0.8	7,866	5.0	2.3
60	Lundbeck	Pharmaceuticals (4577)	Denmark	396.18	32.0	1,847	21.4	20.9
61	Saint-Gobain	Construction & materials (235)	France	394.00	2.3	37,786	1.0	3.2
62	Shire	Pharmaceuticals (4577)	UK	390.22	16.2	2,098	18.6	20.1
63	Hella	Automobiles & parts (335)	Germany	347.48	-2.6	3,285	10.6	1.8
64	Vodafone	Mobile telecommunications (657)	UK	341.03	8.2	50,053	0.7	21.5
65	UBIsoft Entertainment	Software (9537)	France	334.13	13.3	871	38.4	-14.4
66	Danske Bank	Banks (835)	Denmark	324.95	-5.0	12,075	2.7	5.3
67	AKZO Nobel	Chemicals (135)	The Netherlands	318.00	-4.8	13,893	2.3	6.4
68	Covidien	Health care equipment & services (453)	Ireland	305.26	28.4	7,441	4.1	18.7
69	Accenture	Support services (279)	Ireland	303.13	11.5	16,149	1.9	11.4
70	Dassault Systemes	Software (9537)	France	302.50	-2.3	1,251	24.2	15.4
71	Barclays	Banks (835)	UK	297.13	-3.6	35,810	0.8	16.0
72	Evonik Industries	General industrials (272)	Germany	296.00	-3.0	13,076	2.3	6.7
73	ThyssenKrupp	Industrial metals & mining (175)	Germany	290.00	-10.8	40,563	0.7	-4.7
74	Carl Zeiss	Health care equipment & services (453)	Germany	284.00	-11.5	2,101	13.5	-6.9
75	BSH Bosch und Siemens Hausgerate	Household goods & home construction (372)	Germany	271.00	3.4	8,405	3.2	6.7
76	BAE Systems	Aerospace & defence (271)	UK	263.37	9.9	22,931	1.1	4.4
77	Societe Generale	Banks (835)	France	251.00	-19.3	21,730	1.2	3.7
78	WAM Acquisition	Computer services (9533)	Spain	250.59	10.3	2,461	10.2	22.4
79	MAHLE	Automobiles & parts (335)	Germany	246.47	-13.8	3,864	6.4	-6.4
80	Nycomed	Pharmaceuticals (4577)	Luxembourg	245.53	-16.2	3,109	7.9	9.3
81	Dassault Aviation	Aerospace & defence (271)	France	241.84	-11.3	3,421	7.1	9.6
82	Fresenius	Health care equipment & services (453)	Germany	240.00	15.9	14,164	1.7	14.5
83	Vestas Wind Systems	Alternative energy (58)	Denmark	239.00	7.2	6,636	3.6	13.0
84	Sandvik	Industrial machinery (2757)	Sweden	235.54	-1.3	7,022	3.4	-1.9
85	Rabobank	Banks (835)	The Netherlands	221.00	36.4	11,275	2.0	23.1
86	Oce (now part of Canon, Japan)	Electronic office equipment (9574)	The Netherlands	218.32	-14.4	2,648	8.2	-0.7
87	GDF SUEZ	Gas, water & multiutilities (757)	France	218.00	71.7	79,908	0.3	9.7
88	RWE	Gas, water & multiutilities (757)	Germany	214.00	1.9	46,617	0.5	16.2
89	Portugal Telecom	Fixed line telecommunications (653)	Portugal	213.00	42.0	6,677	3.2	20.5
90	Intesa Sanpaolo	Banks (835)	Italy	211.00	22.0	18,418	1.1	19.7
91	Eni	Oil & gas producers (53)	Italy	207.00	-4.2	83,227	0.2	15.0
92	Behr	Automobiles & parts (335)	Germany	206.00	-18.9	2,468	8.3	-7.7
92	Danone	Food producers (357)	France	206.00	4.0	14,982	1.4	13.7
94	Reed Elsevier	Media (555)	UK	201.47	55.7	6,833	2.9	13.1
95	Rheinmetall	Automobiles & parts (335)	Germany	198.00	-0.5	3,420	5.8	0.5
96	Sage	Software (9537)	UK	196.51	25.0	1,620	12.1	19.3
97	Electrolux	Household goods & home construction (372)	Sweden	194.35	-4.8	10,653	1.8	3.2

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<i>number of companies for calculation</i>				<i>1000</i>	<i>989</i>	<i>1000</i>	<i>991</i>	<i>991</i>
98	Elan	Pharmaceuticals (4577)	Ireland	180.51	-10.3	572	31.6	-8.9
99	Diehl Stiftung & Co KG	General industrials (272)	Germany	179.80	14.2	2,129	8.4	2.7
100	Ingersoll-Rand	Industrial machinery (2757)	Ireland	179.39	95.6	9,196	2.0	6.7
101	Voith	General industrials (272)	Germany	177.96	1.2	5,083	3.5	4.3
102	ArcelorMittal	Industrial metals & mining (175)	Luxembourg	176.33	-14.2	45,378	0.4	-2.5
103	Indra Sistemas	Computer services (9533)	Spain	175.02	5.2	2,513	7.0	11.4
104	L'Air Liquide	Chemicals (135)	France	173.00	-9.6	11,976	1.4	16.5
105	Legrand	Electrical components & equipment (2733)	France	171.60	-6.2	3,578	4.8	14.6
106	BAT	Tobacco (378)	UK	171.08	10.1	15,991	1.1	32.2
107	Tognum	Industrial machinery (2757)	Germany	167.80	16.5	2,529	6.6	6.6
108	Danfoss	Industrial machinery (2757)	Denmark	165.03	3.5	3,447	4.8	-7.7
109	Wacker-Chemie	Chemicals (135)	Germany	164.00	0.5	3,719	4.4	0.6
110	Ipsen	Pharmaceuticals (4577)	France	162.10	18.2	1,112	14.6	15.2
111	Atlas Copco	Industrial machinery (2757)	Sweden	155.99	-7.0	6,224	2.5	14.2
112	Trumpf	General industrials (272)	Germany	154.70	2.7	1,663	9.3	3.5
113	Knorr-Bremse	Industrial machinery (2757)	Germany	152.61	-10.9	2,761	5.5	5.5
114	Lafarge	Construction & materials (235)	France	152.00	-5.0	15,884	1.0	13.4
115	Essilor International	Health care equipment & services (453)	France	151.22	4.6	3,268	4.6	17.8
116	Agfa-Gevaert	Electronic equipment (2737)	Belgium	151.00	-15.6	2,755	5.5	6.0
117	Maxingvest	General retailers (537)	Germany	149.00	-1.3	8,906	1.7	8.1
118	Freudenberg	General industrials (272)	Germany	148.40	-7.5	4,201	3.5	-4.4
119	Vattenfall	Electricity (753)	Sweden	148.18	-11.3	20,050	0.7	13.5
120	Thomson (now Technicolor)	Electronic equipment (2737)	France	148.00	-42.4	4,098	3.6	1.1
120	Wartsila	Industrial machinery (2757)	Finland	148.00	22.3	5,260	2.8	11.1
122	Kerry	Food producers (357)	Ireland	147.76	0.2	4,521	3.3	7.4
123	Bouygues	Construction & materials (235)	France	147.00	5.8	31,353	0.5	7.0
124	B Braun Melsungen	Health care equipment & services (453)	Germany	146.76	5.1	4,028	3.6	10.2
125	Amdocs	Software (9537)	UK	146.63	-6.7	1,995	7.3	12.6
126	Invensys	Software (9537)	UK	146.32	14.0	2,524	5.8	10.2
127	Veolia Environnement	Gas, water & multiutilities (757)	France	146.20	43.9	34,961	0.4	5.1
128	TomTom	Electronic equipment (2737)	The Netherlands	145.71	1.6	1,480	9.8	14.7
129	BioMerieux	Health care equipment & services (453)	France	143.00	7.8	1,223	11.7	16.7
130	UniCredit	Banks (835)	Italy	142.45	-50.0	27,082	0.5	7.9
130	Novozymes	Biotechnology (4573)	Denmark	142.45	6.5	1,135	12.5	19.5
130	DONG Energy	Oil & gas producers (53)	Denmark	142.45	-7.9	6,620	2.2	6.0
133	NDS	Software (9537)	UK	141.60	2.1	567	25.0	5.8
134	Reckitt Benckiser	Household goods & home construction (372)	UK	137.31	16.2	8,726	1.6	24.4
135	Zodiac Aerospace	Aerospace & defence (271)	France	137.23	1.9	2,206	6.2	10.6
136	Pirelli	Automobiles & parts (335)	Italy	137.00	-12.2	4,462	3.1	2.7
137	Arkema	Chemicals (135)	France	136.00	-9.3	4,444	3.1	-1.3
138	Umicore	Chemicals (135)	Belgium	135.70	-19.1	6,952	2.0	2.0
139	Dragerwerk	Health care equipment & services (453)	Germany	135.09	0.0	1,911	7.1	4.2
140	Rio Tinto	Mining (177)	UK	134.51	-37.1	29,150	0.5	16.0
141	Almirall	Pharmaceuticals (4577)	Spain	133.33	35.8	925	14.4	18.3
142	ING	Life insurance (857)	The Netherlands	132.00	-68.6	48,226	0.3	-3.2
143	Chiesi Farmaceutici	Pharmaceuticals (4577)	Italy	131.66	22.1	872	15.1	12.4
144	Commerzbank	Banks (835)	Germany	128.00	481.8	10,948	1.2	-42.6
144	Deutsche Bank	Banks (835)	Germany	128.00	178.3	27,893	0.5	18.6
146	Tesco	Food & drug retailers (533)	UK	124.93	-42.2	64,052	0.2	5.5
147	Claas	Commercial vehicles & trucks (2753)	Germany	124.80	9.7	2,901	4.3	4.7



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<b>Top 1000 Companies</b>				<b>129,984.00</b>	<b>-2.6</b>	<b>5,408,387</b>	<b>2.4</b>	<b>7.6</b>
<i>number of companies for calculation</i>				<i>1000</i>	<i>989</i>	<i>1000</i>	<i>991</i>	<i>991</i>
148	Vilmorin	Food producers (357)	France	123.20	12.2	1,002	12.3	8.3
149	Genmab	Biotechnology (4573)	Denmark	123.01	-35.7	84	145.7	-118.1
150	Heidelberger Druckmaschinen	Industrial machinery (2757)	Germany	120.75	-35.1	2,306	5.2	-6.9
150	SKF	Industrial machinery (2757)	Sweden	120.75	3.2	5,488	2.2	5.7
152	ZF Lenksysteme	Automobiles & parts (335)	Germany	117.90	0.2	2,197	5.4	-4.4
153	ARM	Semiconductors (9576)	UK	117.68	36.3	343	34.3	14.9
154	Merz	Pharmaceuticals (4577)	Germany	117.11	47.8	590	19.9	23.0
155	Misys	Software (9537)	UK	116.94	4.3	880	13.3	15.9
156	CSR	Telecommunications equipment (9578)	UK	116.82	9.7	419	27.9	-2.6
157	SAAB	Aerospace & defence (271)	Sweden	116.55	-17.0	2,406	4.8	5.6
158	MTU Aero Engines	Aerospace & defence (271)	Germany	116.30	25.1	2,611	4.5	9.3
159	Merial	Biotechnology (4573)	UK	115.28	3.8	1,857	6.2	25.5
160	Hexagon	Industrial machinery (2757)	Sweden	111.08	-9.3	1,153	9.6	12.3
161	Anheuser-Busch Inbev	Beverages (353)	Belgium	110.82	113.1	25,618	0.4	27.9
162	Metso	Industrial machinery (2757)	Finland	110.00	-14.7	5,016	2.2	5.7
163	Danisco	Food producers (357)	Denmark	109.66	13.5	1,842	6.0	6.1
164	voestalpine	Industrial metals & mining (175)	Austria	108.80	-2.9	8,550	1.3	4.1
165	BHP Billiton	Mining (177)	UK	108.72	-36.1	34,994	0.3	24.1
166	RSA Insurance	Nonlife insurance (853)	UK	108.05	37.1	8,394	1.3	7.5
167	Smith & Nephew	Health care equipment & services (453)	UK	108.03	2.0	2,629	4.1	19.6
168	Metro	General retailers (537)	Germany	108.00	-19.4	65,580	0.2	2.4
169	Gesteira	Health care equipment & services (453)	Sweden	107.47	23.2	2,227	4.8	13.5
170	Giesecke & Devrient	Support services (279)	Germany	106.95	-4.5	1,684	6.4	8.1
171	GKN	Automobiles & parts (335)	UK	106.92	-2.1	4,753	2.2	1.3
172	Gemalto	Electronic equipment (2737)	The Netherlands	104.60	6.3	1,633	6.4	8.4
173	Grundfos	Industrial machinery (2757)	Denmark	104.07	-15.6	2,293	4.5	5.8
174	Wincor Nixdorf	Computer services (9533)	Germany	103.25	-1.2	2,250	4.6	7.7
175	LyondellBasell Industries	Chemicals (135)	Luxembourg	101.06	-25.3	21,486	0.5	-8.1
176	Lanxess	Chemicals (135)	Germany	101.00	4.1	5,057	2.0	2.7
177	Smiths	General industrials (272)	UK	100.40	23.0	2,999	3.3	12.9
178	Cobham	Aerospace & defence (271)	UK	99.50	25.2	2,116	4.7	15.2
179	Cooper Industries	Electrical components & equipment (2733)	Ireland	98.34	-0.5	3,533	2.8	10.7
180	Johnson Matthey	Chemicals (135)	UK	98.14	5.7	8,823	1.1	3.1
181	Krones	Industrial machinery (2757)	Germany	97.47	-16.3	1,865	5.2	-2.3
182	Benteler	General industrials (272)	Germany	95.80	-22.3	4,564	2.1	-0.7
183	Italtel	Telecommunications equipment (9578)	Italy	93.93	-9.2	468	20.1	-6.3
184	Acciona	Construction & materials (235)	Spain	92.20	29.3	7,873	1.2	10.0
185	TeliaSonera	Fixed line telecommunications (653)	Sweden	92.05	-16.3	10,656	0.9	27.9
186	Symrise	Chemicals (135)	Germany	91.09	-3.0	1,362	6.7	11.4
187	Iberdrola	Electricity (753)	Spain	90.53	23.8	24,559	0.4	18.1
188	Nordea Bank	Banks (835)	Sweden	90.00	-29.1	9,073	1.0	33.9
189	Abengoa	General industrials (272)	Spain	89.72	167.5	4,147	2.2	9.6
190	Deutsche Borse	Other financials (877)	Germany	89.20	-14.7	2,159	4.1	29.2
191	Linde	Chemicals (135)	Germany	89.00	-14.4	11,211	0.8	10.2
192	Krka	Pharmaceuticals (4577)	Slovenia	88.28	4.2	953	9.3	24.8
193	Borealis	Chemicals (135)	Austria	88.00	6.0	4,714	1.9	0.9
193	Enel	Electricity (753)	Italy	88.00	29.4	62,404	0.1	16.4
193	Deutsche Post	Industrial transportation (277)	Germany	88.00	-31.8	47,835	0.2	0.8
196	Gedeon Richter	Pharmaceuticals (4577)	Hungary	87.21	28.1	988	8.8	18.5
197	Orion Oyj	Pharmaceuticals (4577)	Finland	87.10	-8.9	772	11.3	26.8

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198	Assa Abloy	Construction & materials (235)	Sweden	86.97	0.1	3,421	2.5	12.7
199	Autonomy	Software (9537)	UK	86.08	37.9	516	16.7	36.8
200	adidas	Personal goods (376)	Germany	86.00	6.2	10,381	0.8	4.9
201	DEUTZ	Industrial machinery (2757)	Germany	85.80	16.9	863	9.9	-10.9
202	Dexia	Banks (835)	Belgium	85.00	-6.6	6,124	1.4	22.9
202	Korber	General industrials (272)	Germany	85.00	-6.6	1,612	5.3	5.0
202	SNCF	Industrial transportation (277)	France	85.00	-11.5	24,882	0.3	-3.5
205	KWS SAAT	Food producers (357)	Germany	84.52	7.0	717	11.8	10.1
206	Ingenico	Electronic equipment (2737)	France	83.60	23.8	701	11.9	6.9
207	EPCOS (now part of TDK, Japan)	Electronic equipment (2737)	Germany	82.17	5.8	1,147	7.2	-7.1
207	Software	Software (9537)	Germany	82.17	7.8	847	9.7	25.7
209	Cadbury (now part of Kraft Foods, USA)	Food producers (357)	UK	81.04	12.5	6,840	1.2	8.6
210	E.ON	Gas, water & multiutilities (757)	Germany	81.00	-20.6	81,909	0.1	10.4
211	Pace	Telecommunications equipment (9578)	UK	80.71	20.4	1,276	6.3	6.1
212	Salzgitter	Industrial metals & mining (175)	Germany	80.66	-15.6	7,818	1.0	-5.4
213	Eberspaecher	Automobiles & parts (335)	Germany	79.20	-4.1	1,342	5.9	-3.5
214	KPN	Fixed line telecommunications (653)	The Netherlands	79.00	5.3	13,451	0.6	20.8
215	CGGVeritas	Oil equipment, services & distribution (57)	France	76.40	32.9	2,233	3.4	-7.2
216	Stora Enso	Forestry & paper (173)	Finland	76.30	-4.9	8,945	0.9	-7.1
217	KBC	Banks (835)	Belgium	76.00	-29.0	5,310	1.4	-52.4
217	Rhodia	Chemicals (135)	France	76.00	-7.3	4,031	1.9	3.0
219	Schott	Construction & materials (235)	Germany	75.48	5.6	2,270	3.3	-5.3
220	Qiagen	Biotechnology (4573)	The Netherlands	75.20	10.9	704	10.7	18.1
221	SCA	Forestry & paper (173)	Sweden	75.07	19.8	10,821	0.7	7.3
222	Repsol YPF	Oil & gas producers (53)	Spain	75.00	-9.6	45,883	0.2	6.9
223	Meggitt	Aerospace & defence (271)	UK	74.28	11.1	1,295	5.7	20.2
224	Burelle	Automobiles & parts (335)	France	73.60	-34.4	2,464	3.0	2.6
225	Serco	Support services (279)	UK	72.48	1.3	4,468	1.6	5.4
226	William Demant	Health care equipment & services (453)	Denmark	72.17	7.8	766	9.4	20.2
227	ALTANA	Chemicals (135)	Germany	71.57	-0.7	1,182	6.1	4.0
228	Lloyds Banking	Banks (835)	UK	70.91	-21.2	50,982	0.1	2.3
228	British Sky Broadcasting	Media (555)	UK	70.91	18.9	6,032	1.2	12.0
230	IMMSI	Automobiles & parts (335)	Italy	70.00	-5.7	1,614	4.3	4.5
231	Bang & Olufsen	Leisure goods (374)	Denmark	69.83	-1.9	375	18.6	-17.7
232	Eidos (now part of Square Enix of Europe) !	Leisure goods (374)	UK	69.78	-14.1	119	58.6	-110.2
233	Fagor Electrodomesticos	Household goods & home construction (372)	Spain	69.53	24.2	1,412	4.9	0.9
234	Recordati	Pharmaceuticals (4577)	Italy	69.45	18.0	748	9.3	21.2
235	Husqvarna	Industrial machinery (2757)	Sweden	67.84	20.7	3,326	2.0	4.6
236	Wendel	Other financials (877)	France	66.70	3.4	4,964	1.3	-24.0
237	LFB	Pharmaceuticals (4577)	France	66.57		352	18.9	5.1
238	Intercell	Biotechnology (4573)	Austria	66.29	44.3	62	107.5	-52.7
239	Leoni	Electrical components & equipment (2733)	Germany	66.14	-24.0	2,160	3.1	-5.6
240	Sorin	Health care equipment & services (453)	Italy	65.63	5.6	690	9.5	6.2
241	GEA	Industrial machinery (2757)	Germany	65.59	11.0	4,411	1.5	5.8
242	Spectris	Electrical components & equipment (2733)	UK	65.50	2.1	886	7.4	8.7
243	Suez Environnement	Support services (279)	France	65.00	33.2	12,296	0.5	6.7
244	Marks & Spencer	General retailers (537)	UK	64.04	-52.1	10,733	0.6	8.8

Rank	Company	IGB Sector	Country	R&D Investment		Net Sales	R&D/Net Sales ratio	Operating Profit
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<b>Top 1000 Companies</b>				<b>129,984.00</b>	<b>-2.6</b>	<b>5,408,387</b>	<b>2.4</b>	<b>7.6</b>
<i>number of companies for calculation</i>				<i>1000</i>	<i>989</i>	<i>1000</i>	<i>991</i>	<i>991</i>
245	Nexans	Electrical components & equipment (2733)	France	64.00	1.6	5,045	1.3	2.7
246	Biovitrum (now Swedish Orphan Biovitrum)	Biotechnology (4573)	Sweden	63.95	48.7	127	50.5	1.1
247	Bekaert	Industrial metals & mining (175)	Belgium	63.43	-7.4	2,437	2.6	10.9
248	Alfa Laval	Industrial machinery (2757)	Sweden	63.25	-0.9	2,542	2.5	15.5
249	ASM International	Semiconductors (9576)	The Netherlands	62.81	-16.3	591	10.6	-4.4
250	Heraeus	Industrial metals & mining (175)	Germany	62.80	35.6	16,220	0.4	1.1
251	Lottomatica	Travel & leisure (575)	Italy	62.40	-0.2	2,177	2.9	16.7
252	Gameloft	Software (9537)	France	62.31	-11.8	122	51.1	3.4
253	Kone	Industrial machinery (2757)	Finland	62.00	6.3	4,744	1.3	12.1
254	Barco	Electronic equipment (2737)	Belgium	61.19	-21.5	639	9.6	-11.5
255	Arques Industries	Other financials (877)	Germany	60.71	70.9	3,492	1.7	-4.5
256	GN Store Nord	Telecommunications equipment (9578)	Denmark	60.34	-15.4	636	9.5	-0.5
257	BIAL	Pharmaceuticals (4577)	Portugal	59.75	72.5	146	40.8	13.0
258	Groupe SEB	Household goods & home construction (372)	France	59.00	19.9	3,176	1.9	7.6
259	Stada Arzneimittel	Pharmaceuticals (4577)	Germany	58.65	-4.1	1,569	3.7	12.2
260	Technip	Oil equipment, services & distribution (57)	France	58.50	30.3	6,456	0.9	6.7
261	PUMA	Personal goods (376)	Germany	58.10	5.4	2,461	2.4	7.8
262	Caixa Geral de Depositos	Banks (835)	Portugal	58.02	0.4	2,891	2.0	13.0
263	BBC	Media (555)	UK	56.39	4.8	5,056	1.1	-1.6
264	Sick	Electronic equipment (2737)	Germany	56.31	-21.9	597	9.4	1.6
265	Akka Technologies	Support services (279)	France	56.22	114.9	333	16.9	5.0
266	LCH Clearnet	Other financials (877)	UK	56.00	225.9	573	9.8	51.2
267	Dyson James	Household goods & home construction (372)	UK	55.30	-6.1	707	7.8	14.3
268	ICAP	Other financials (877)	UK	55.15	75.0	1,833	3.0	12.0
269	FrieslandCampina	Food producers (357)	The Netherlands	55.00	7.8	8,160	0.7	3.3
270	Tomkins	General industrials (272)	UK	54.78	-15.2	2,913	1.9	0.5
271	McLaren	Travel & leisure (575)	UK	54.66	220.0	298	18.3	-8.5
272	Crucell	Biotechnology (4573)	The Netherlands	54.60	4.9	338	16.1	10.1
273	Zeltia	Pharmaceuticals (4577)	Spain	54.14	-6.8	123	43.9	-24.1
274	Sopra	Computer services (9533)	France	53.60	7.0	1,095	4.9	5.7
275	Warner Chilcott	Pharmaceuticals (4577)	Ireland	53.48	53.6	1,001	5.3	20.2
276	SMA Solar Technology	Alternative energy (58)	Germany	53.47	61.5	934	5.7	24.4
277	Fincantieri	Commercial vehicles & trucks (2753)	Italy	53.46	12.5	2,806	1.9	1.3
277	Spirent Communications	Telecommunications equipment (9578)	UK	53.46	4.9	306	17.5	20.4
279	Tieto	Computer services (9533)	Finland	53.10	-8.3	1,706	3.1	3.9
280	Belgacom	Fixed line telecommunications (653)	Belgium	53.00	29.3	5,922	0.9	21.2
281	Kontron	Computer hardware (9572)	Germany	50.56	7.1	469	10.8	6.4
282	Amer Sports	Leisure goods (374)	Finland	50.40	-6.7	1,533	3.3	2.8
283	HeidelbergCement	Construction & materials (235)	Germany	50.10	-4.8	11,117	0.5	6.2
284	Industria de Turbo Propulsores	Aerospace & defence (271)	Spain	50.00	-31.0	483	10.3	8.1
285	Trelleborg	General industrials (272)	Sweden	49.49	4.3	2,641	1.9	2.8
286	Andritz	Industrial machinery (2757)	Austria	49.25	-3.9	3,198	1.5	4.6
287	Infogrames Entertainment (now Atari)	Software (9537)	France	49.20	-0.2	296	16.6	-67.8
288	Coloplast	Health care equipment & services (453)	Denmark	48.78	-6.0	1,185	4.1	15.8
289	Zumtobel	Electronic equipment (2737)	Austria	48.66	11.5	1,117	4.4	-4.3
290	Biotest	Pharmaceuticals (4577)	Germany	48.46	12.0	483	10.0	11.9

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291	Elekta	Health care equipment & services (453)	Sweden	48.42	25.6	653	7.4	12.4
292	Robin Hood	Pharmaceuticals (4577)	Malta	48.34	6.1	458	10.6	25.3
293	Sud-Chemie	Chemicals (135)	Germany	48.20	2.1	1,072	4.5	8.8
294	Laird	Electrical components & equipment (2733)	UK	48.17	9.7	595	8.1	1.6
295	Telekom Austria	Fixed line telecommunications (653)	Austria	48.11	5.5	4,802	1.0	7.0
296	UPM-Kymmene	Forestry & paper (173)	Finland	48.00	-2.0	7,719	0.6	4.4
297	Neopost	Electronic office equipment (9574)	France	47.80	0.2	913	5.2	25.7
298	Cognis	Chemicals (135)	Germany	47.00	-16.1	2,584	1.8	7.5
299	Koenig & Bauer	Industrial machinery (2757)	Germany	46.70	-13.8	1,050	4.4	0.1
300	LEGO	Leisure goods (374)	Denmark	45.83	5.9	1,567	2.9	24.9
301	Unit 4 Agresso	Software (9537)	The Netherlands	45.01	-6.1	383	11.7	8.5
302	WestLB	Banks (835)	Germany	45.00	25.0	2,051	2.2	-24.1
302	Christian Dior	Personal goods (376)	France	45.00	4.7	17,745	0.3	17.8
304	NicOx	Pharmaceuticals (4577)	France	44.90	-36.9	1	4,012.1	-5,539.3
305	RBC Dexia Investor Services	Other financials (877)	UK	44.75	0.7	670	6.7	10.8
306	Gildemeister	Industrial machinery (2757)	Germany	44.35	-8.7	1,181	3.8	2.7
307	IMI	Industrial machinery (2757)	UK	44.01	2.4	2,017	2.2	11.2
308	Kemira	Chemicals (135)	Finland	43.90	-33.9	2,500	1.8	6.0
309	Tenaris	Oil equipment, services & distribution (57)	Luxembourg	43.70	-18.9	5,693	0.8	22.9
310	Prysmian	Electrical components & equipment (2733)	Italy	43.00	-4.4	3,731	1.2	10.4
311	Sartorius	Electronic equipment (2737)	Germany	42.92	-9.8	602	7.1	3.5
312	Hugo Boss	Personal goods (376)	Germany	42.59	-10.3	1,562	2.7	10.1
313	FLSmidth	Construction & materials (235)	Denmark	42.33	17.5	3,111	1.4	9.5
314	Gamesa	Industrial machinery (2757)	Spain	41.86	30.6	3,187	1.3	5.5
315	Simcorp	Software (9537)	Denmark	41.78	0.8	180	23.2	22.5
316	Bank of Ireland	Banks (835)	Ireland	41.33	-26.2	6,748	0.6	-35.8
317	ADVA	Telecommunications equipment (9578)	Germany	41.32	0.9	233	17.7	1.0
318	Northgate Information Solutions	Computer services (9533)	UK	41.30		727	5.7	2.5
319	Vectura	Pharmaceuticals (4577)	UK	40.97	12.7	45	90.8	-38.2
320	NeuroSearch	Biotechnology (4573)	Denmark	40.65	14.8	11	357.7	-436.2
321	Somfy	Electrical components & equipment (2733)	France	40.33	9.4	761	5.3	13.6
322	ALK-Abello	Pharmaceuticals (4577)	Denmark	40.32	4.9	260	15.5	9.0
323	Antisoma	Biotechnology (4573)	UK	40.25	99.0	28	141.8	-97.7
324	ACS	Construction & materials (235)	Spain	40.04	-29.9	17,443	0.2	9.2
325	Norddeutsche Landesbank Girozentrale	Banks (835)	Germany	40.00	122.2	2,136	1.9	-4.3
326	Imagination Technologies	Semiconductors (9576)	UK	39.81	13.7	91	43.7	12.5
327	Pearson	Media (555)	UK	39.39	20.7	6,330	0.6	13.4
328	Wustenrot & Württembergische	Nonlife insurance (853)	Germany	39.28	10.5	5,187	0.8	5.6
329	Egis Pharmaceuticals	Pharmaceuticals (4577)	Hungary	39.17	11.3	427	9.2	12.7
330	Swedish Road Administration	Industrial transportation (277)	Sweden	39.10	23.9	1,238	3.2	-22.5
331	Cookson	General industrials (272)	UK	39.06	13.0	2,207	1.8	1.3
332	Cargotec	Industrial machinery (2757)	Finland	39.00	-17.5	2,581	1.5	0.0
332	Eramet	Industrial metals & mining (175)	France	39.00	-32.8	2,689	1.5	-9.9
334	NKT	Electrical components & equipment (2733)	Denmark	38.95	0.1	1,571	2.5	3.4
335	JCB Service	Commercial vehicles & trucks (2753)	UK	38.94	15.7	2,264	1.7	2.3

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<b>Top 1000 Companies</b>				<b>129,984.00</b>	<b>-2.6</b>	<b>5,408,387</b>	<b>2.4</b>	<b>7.6</b>
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336	Ultra Electronics	Aerospace & defence (271)	UK	38.85	4.3	733	5.3	10.9
337	Jungheinrich	Commercial vehicles & trucks (2753)	Germany	38.73	-0.8	1,677	2.3	-4.2
338	SGL Carbon	Chemicals (135)	Germany	38.20	5.5	1,226	3.1	2.3
339	Sophos	Software (9537)	UK	38.04	35.8	141	27.0	-17.9
340	Avio	Aerospace & defence (271)	Italy	37.98	-27.9	1,702	2.2	8.3
341	Novomatic	Travel & leisure (575)	Austria	37.21	34.4	1,229	3.0	12.3
342	Neste Oil Corporaion	Oil & gas producers (53)	Finland	37.00	0.0	9,636	0.4	3.3
343	ElringKlinger	Automobiles & parts (335)	Germany	36.88	-2.7	579	6.4	10.5
344	Axis	Computer hardware (9572)	Sweden	36.10	25.6	225	16.1	15.5
345	CSM	Food producers (357)	The Netherlands	35.30	-1.9	2,556	1.4	5.6
346	Morphosys	Biotechnology (4573)	Germany	35.01	49.6	81	43.2	14.0
347	Delhaize	Food & drug retailers (533)	Belgium	35.00	-2.8	19,952	0.2	4.7
348	Rockwool International	Construction & materials (235)	Denmark	34.94	23.8	1,501	2.3	5.4
349	EnBW Energie Baden-Wuerttemberg	Electricity (753)	Germany	34.80	18.8	15,564	0.2	11.4
350	John Lewis	General retailers (537)	UK	34.67	-19.4	7,580	0.5	5.8
351	Betfair	Travel & leisure (575)	UK	34.52	6.1	330	10.5	12.7
352	KSB	Industrial machinery (2757)	Germany	34.35	8.5	1,893	1.8	9.5
353	KUKA	Industrial machinery (2757)	Germany	34.28	-8.5	902	3.8	-5.9
354	London Stock Exchange	Other financials (877)	UK	34.10	-13.9	682	5.0	30.1
355	Renishaw	Electronic equipment (2737)	UK	34.05	10.8	193	17.7	1.4
356	Haldex	Automobiles & parts (335)	Sweden	33.97	13.0	549	6.2	-5.3
357	Meda	Pharmaceuticals (4577)	Sweden	33.77	-10.4	1,286	2.6	22.0
358	De'Longhi	Household goods & home construction (372)	Italy	33.60	5.0	1,379	2.4	6.7
359	Nemetschek	Software (9537)	Germany	33.58	0.7	136	24.8	15.4
360	Sudzucker	Food producers (357)	Germany	33.50	-6.9	5,718	0.6	6.9
361	Wilo	Industrial machinery (2757)	Germany	33.24	1.6	926	3.6	9.7
362	KTM Power Sports	Automobiles & parts (335)	Austria	33.02	-28.5	455	7.3	-15.7
363	Cegecim	Computer services (9533)	France	32.75	0.2	874	3.7	11.6
364	Auriga Industries	Chemicals (135)	Denmark	32.69	1.2	731	4.5	0.1
365	Centrica	Gas, water & multiutilities (757)	UK	32.64	1,350.0	27,372	0.1	4.4
366	Paul Hartmann	Health care equipment & services (453)	Germany	32.20	23.4	1,560	2.1	5.7
367	Genus	Biotechnology (4573)	UK	32.19	55.4	316	10.2	12.4
368	Grammer	Automobiles & parts (335)	Germany	32.18	-25.4	727	4.4	-3.3
369	Pharmathen	Pharmaceuticals (4577)	Greece	32.16	7.3	89	36.0	15.2
370	Jenoptik	Industrial machinery (2757)	Germany	32.14	-16.0	474	6.8	-4.7
371	Latecoere	Aerospace & defence (271)	France	32.00	14.3	449	7.1	-23.0
371	Munich Re	Nonlife insurance (853)	Germany	32.00	23.1	47,417	0.1	8.1
371	Benetton	Personal goods (376)	Italy	32.00	-8.6	2,049	1.6	9.9
374	Funkwerk	Mobile telecommunications (657)	Germany	31.63	10.1	218	14.5	-21.3
375	Experian	Support services (279)	UK	31.36	2.3	2,704	1.2	20.1
376	Lantmannen	Food producers (357)	Sweden	31.04	19.5	3,426	0.9	0.5
377	Energia de Portugal	Electricity (753)	Portugal	31.00	29.2	12,198	0.3	16.4
377	KPMG Europe	Support services (279)	UK	31.00	-22.5	3,495	0.9	12.7
379	Plastic Logic	Electrical components & equipment (2733)	UK	30.89	134.4	0		
380	Expro Holdings UK 3	Oil equipment, services & distribution (57)	UK	30.57	10.2	710	4.3	-5.2
380	SkillsSoft	Software (9537)	Ireland	30.57	-12.0	220	13.9	32.8
382	BTG	Biotechnology (4573)	UK	30.39	25.0	111	27.4	1.0
383	Dialog Semiconductor	Semiconductors (9576)	UK	30.14	13.4	152	19.9	12.8
384	Dako	Biotechnology (4573)	Denmark	30.11	36.8	237	12.7	10.4
385	Fortum	Electricity (753)	Finland	30.00	11.1	5,435	0.6	32.6

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386	Guerbet	Pharmaceuticals (4577)	France	29.84	20.9	335	8.9	7.9
387	Auburn Acquisitions (aka TI Automotive)	Automobiles & parts (335)	UK	29.83	15.7	1,552	1.9	-1.8
388	Ion Beam Applications	Health care equipment & services (453)	Belgium	29.74	9.1	359	8.3	-1.1
389	CompuGROUP (now CompuGROUP Medical)	Computer services (9533)	Germany	29.58	16.8	293	10.1	8.5
390	Tate & Lyle	Food producers (357)	UK	29.26	-7.1	4,060	0.7	-0.4
391	Intralot	Travel & leisure (575)	Greece	29.23	115.3	904	3.2	12.5
392	Micro Focus International	Software (9537)	UK	29.17	20.0	191	15.2	33.2
393	Aixtron	Semiconductors (9576)	Germany	29.07	13.3	303	9.6	19.2
394	Rautaruukki	Industrial metals & mining (175)	Finland	29.00	7.4	1,950	1.5	-17.1
395	CEGID	Software (9537)	France	28.80	13.0	249	11.6	10.6
396	Punch International	Industrial machinery (2757)	Belgium	28.49	55.9	342	8.3	13.9
397	centrotherm photovoltaics	Alternative energy (58)	Germany	28.41	69.4	509	5.6	7.6
398	F-Secure	Computer services (9533)	Finland	28.28	16.0	125	22.6	18.5
399	Servier R&D	Biotechnology (4573)	UK	28.25	26.5	32	88.3	4.3
400	Nordex	Alternative energy (58)	Germany	28.15	34.9	1,183	2.4	3.5
401	Nationwide	Other financials (877)	UK	28.14	150.0	2,441	1.2	15.7
402	Vaisala	Electronic equipment (2737)	Finland	27.80	15.4	232	12.0	5.2
403	ELMOS Semiconductor	Semiconductors (9576)	Germany	27.52	5.1	124	22.2	-12.4
404	Lifecycle Pharma	Biotechnology (4573)	Denmark	27.17	-23.3	0	8,159.8	-11,281.1
405	Stork	Industrial machinery (2757)	The Netherlands	27.07	26.8	1,626	1.7	1.7
406	SBM Offshore	Oil equipment, services & distribution (57)	The Netherlands	27.00	15.2	2,061	1.3	9.9
406	Accor	Travel & leisure (575)	France	27.00	22.7	7,065	0.4	-0.6
408	ThromboGenics	Biotechnology (4573)	Belgium	26.53	74.0	4	629.7	-376.3
408	Option	Telecommunications equipment (9578)	Belgium	26.53	-28.4	147	18.0	-36.9
410	Fidessa	Software (9537)	UK	26.45	13.3	268	9.9	12.5
411	LM Glasfiber (now LM Wind Power)	Alternative energy (58)	Denmark	26.37	5.4	777	3.4	6.7
412	Wolfson Microelectronics	Semiconductors (9576)	UK	26.35	-5.3	85	31.2	-13.0
413	Bavarian Nordic	Biotechnology (4573)	Denmark	26.23	315.3	10	261.0	-456.2
414	Poste Italiane	Industrial transportation (277)	Italy	26.13	-37.4	19,584	0.1	7.9
415	Parrot	Telecommunications equipment (9578)	France	26.03	-3.6	168	15.4	4.4
416	Octapharma Nordic	Pharmaceuticals (4577)	Sweden	25.96	53.3	703	3.7	27.7
417	Wittington Investments (aka Associated British Foods)	Food producers (357)	UK	25.89	9.5	10,504	0.2	6.5
417	Rexam	General industrials (272)	UK	25.89	-4.2	5,477	0.5	1.2
419	CS Communication & Systemes	Computer services (9533)	France	25.56	22.8	206	12.4	-11.8
420	Logica	Computer services (9533)	UK	25.55	33.5	4,166	0.6	2.3
421	IMA Industria Macchine Automatiche	Industrial machinery (2757)	Italy	25.42	8.5	506	5.0	12.4
422	COFIDE	General industrials (272)	Italy	25.08	-8.5	4,267	0.6	2.9
423	Datalogic	Electronic equipment (2737)	Italy	25.03	7.8	312	8.0	-2.0
424	Charter International	Industrial machinery (2757)	UK	24.99	19.4	1,867	1.3	5.9
425	Wacker Neuson	Industrial machinery (2757)	Germany	24.95	-4.5	597	4.2	-19.2
426	Nexter	Aerospace & defence (271)	France	24.80	37.8	579	4.3	11.7
427	Barilla	Food producers (357)	Italy	24.72	-29.3	4,535	0.5	4.7
428	Q-Cells	Alternative energy (58)	Germany	24.70	-19.0	802	3.1	-102.9
429	CHR Hansen	Pharmaceuticals (4577)	Denmark	24.57	-7.2	514	4.8	20.7
430	Severn Trent	Gas, water & multiutilities (757)	UK	24.54	15.3	1,918	1.3	29.6

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431	Glen Electric	Household goods & home construction (372)	UK	24.47	8.3	991	2.5	7.6
432	BIC	Household goods & home construction (372)	France	24.22	-13.7	1,563	1.5	13.4
433	Halma	Electronic equipment (2737)	UK	24.05	-6.7	517	4.7	18.3
434	Pohjolan Voima	Electricity (753)	Finland	24.00	8.1	988	2.4	-4.3
434	Metsaliitto	Forestry & paper (173)	Finland	24.00	-4.0	4,837	0.5	-8.8
436	Eppendorf	Health care equipment & services (453)	Germany	23.88	-1.0	433	5.5	16.7
437	Gothaer	Nonlife insurance (853)	Germany	23.80	88.9	3,244	0.7	3.2
438	Homag	Industrial machinery (2757)	Germany	23.76	-10.0	524	4.5	-3.8
439	Croda International	Chemicals (135)	UK	23.75	19.9	1,064	2.2	10.3
439	Edwards	Industrial machinery (2757)	UK	23.75	-25.2	431	5.5	-7.3
441	Duerr	Industrial machinery (2757)	Germany	23.70	-1.5	1,078	2.2	0.6
441	Anglo American	Mining (177)	UK	23.70	-5.6	14,537	0.2	13.5
443	Wanderer-Werke	Industrial machinery (2757)	Germany	23.69	17.8	552	4.3	-9.8
444	AVEVA	Software (9537)	UK	23.58	-23.4	167	14.1	33.2
445	Posten Norden	Industrial transportation (277)	Sweden	23.43	860.2	4,267	0.5	7.1
446	Arcandor	General retailers (537)	Germany	23.36	-40.3	20,025	0.1	-2.2
447	BE Semiconductor Industries	Semiconductors (9576)	The Netherlands	23.25	48.0	148	15.7	4.4
448	LKAB	Mining (177)	Sweden	23.13	-23.1	1,128	2.1	5.7
449	Symphogen	Biotechnology (4573)	Denmark	23.01	11.5	5	500.3	-557.4
450	Pharming	Biotechnology (4573)	The Netherlands	22.70	12.2	0	6,776.7	-8,540.0
451	Old Mutual	Life insurance (857)	UK	22.51	-75.6	20,726	0.1	1.6
452	Exact	Software (9537)	The Netherlands	22.36	6.2	233	9.6	19.5
453	IBS	Software (9537)	Sweden	22.32	11.4	178	12.6	-18.1
454	Fuchs Petrolub	Chemicals (135)	Germany	22.20	-2.2	1,178	1.9	15.3
455	Saft	Electrical components & equipment (2733)	France	22.00	4.3	559	3.9	9.8
456	GfK	Support services (279)	Germany	21.80	-5.1	1,165	1.9	8.0
457	Itella	Industrial transportation (277)	Finland	21.70	-4.0	1,820	1.2	2.6
458	Topdanmark	Nonlife insurance (853)	Denmark	21.64	335.2	1,596	1.4	15.7
459	Ahlstrom	Chemicals (135)	Finland	21.60	-9.2	1,596	1.4	-1.1
459	Indesit	Household goods & home construction (372)	Italy	21.60	16.8	2,613	0.8	4.4
461	BRE Bank	Banks (835)	Poland	21.53	4.4	694	3.1	7.3
462	Obrascon Huarte Lain	Construction & materials (235)	Spain	21.39	100.7	4,390	0.5	10.1
462	National Grid	Gas, water & multiutilities (757)	UK	21.39	90.0	15,743	0.1	23.3
464	Konecranes	Industrial machinery (2757)	Finland	21.30	16.4	1,671	1.3	5.6
465	Atlantia	Industrial transportation (277)	Italy	21.23	18.6	3,611	0.6	44.4
466	Teollisuuden Voima	Electricity (753)	Finland	21.20	2.9	305	6.9	1.3
467	Boliden	Mining (177)	Sweden	21.18	-42.3	2,698	0.8	13.1
468	Melexis	Semiconductors (9576)	Belgium	21.03	-11.7	129	16.3	-4.2
469	Bull	Computer hardware (9572)	France	21.00	-8.7	1,110	1.9	1.2
470	Industrial and Financial Systems	Software (9537)	Sweden	20.99	6.4	253	8.3	7.6
471	Evotec	Pharmaceuticals (4577)	Germany	20.94	-50.8	43	49.0	-97.9
472	Enrichment Technology	Industrial machinery (2757)	UK	20.93	44.8	268	7.8	0.3
473	LeasePlan	Other financials (877)	The Netherlands	20.92	27.1	5,990	0.3	3.4
474	Austria Technologie & Systemtechnik	Electrical components & equipment (2733)	Austria	20.68	140.8	372	5.6	-7.5
475	Cez	Electricity (753)	Czech Republic	20.64	91.9	7,436	0.3	34.5
476	Same Deutz-Fahr	Commercial vehicles & trucks (2753)	Italy	20.57	-23.8	876	2.3	-4.4

Rank	Company	ICB Sector	Country	R&D Investment		Net Sales	R&D/Net Sales ratio	Operating Profit
				2009	change 09/08	2009	2009	2009
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<b>Top 1000 Companies</b>				<b>129,984.00</b>	<b>-2.6</b>	<b>5,408,387</b>	<b>2.4</b>	<b>7.6</b>
<i>number of companies for calculation</i>				<i>1000</i>	<i>989</i>	<i>1000</i>	<i>991</i>	<i>991</i>
477	K+S	Chemicals (135)	Germany	20.52	4.6	3,574	0.6	6.5
478	Active Biotech	Biotechnology (4573)	Sweden	20.37	3.6	1	1,938.1	-2,039.3
478	Kofax	Software (9537)	UK	20.37	4.0	209	9.7	3.9
480	Renovo	Biotechnology (4573)	UK	20.34	-2.6	6	356.8	-454.4
481	888	Travel & leisure (575)	UK	20.26	-11.0	172	11.8	11.1
482	Eniro	Media (555)	Sweden	20.21	27.8	642	3.1	10.5
483	Force India Formula One	Travel & leisure (575)	UK	20.16	-6.8	42	48.4	-87.9
484	RHI	Industrial machinery (2757)	Austria	20.10	-8.2	1,237	1.6	4.7
485	austriamicrosystems	Semiconductors (9576)	Austria	19.98	-22.0	137	14.6	-18.8
486	bwin Interactive Entertainment	Travel & leisure (575)	Austria	19.88	116.8	356	5.6	13.5
487	Transgene	Biotechnology (4573)	France	19.83	9.1	6	357.1	-604.5
488	Seco Tools	Industrial machinery (2757)	Sweden	19.82	-10.2	477	4.2	6.3
489	MGI Coutier	Automobiles & parts (335)	France	19.70	-6.6	358	5.5	6.1
490	Santaris Pharma	Biotechnology (4573)	Denmark	19.54	-32.3	10	200.3	-136.3
491	Hunter Douglas	Household goods & home construction (372)	The Netherlands	19.52	-20.0	1,656	1.2	3.9
491	SSAB	Industrial metals & mining (175)	Sweden	19.52	-20.0	2,913	0.7	-6.5
493	Bioinvent	Biotechnology (4573)	Sweden	19.21	-3.6	8	244.0	-222.6
494	A-Tec Industries	Industrial machinery (2757)	Austria	19.15	-5.1	3,009	0.6	4.9
495	Diageo	Beverages (353)	UK	19.13	0.0	10,480	0.2	27.9
495	NATS	Industrial transportation (277)	UK	19.13	-35.1	864	2.2	17.1
497	Eureko	Life insurance (857)	The Netherlands	19.00	-50.0	23,671	0.1	6.4
497	Talanx	Nonlife insurance (853)	Germany	19.00	-44.1	19,868	0.1	7.1
499	James Hardie Industries	Construction & materials (235)	Ireland	18.89	13.9	784	2.4	-1.3
500	B&C Industrieholding	Other financials (877)	Austria	18.80	2.7	2,079	0.9	9.7
501	Xchanging	Support services (279)	UK	18.77	74.1	845	2.2	3.3
502	Thrane & Thrane	Telecommunications equipment (9578)	Denmark	18.74	-8.8	141	13.3	10.9
503	Miba	Automobiles & parts (335)	Austria	18.70	-2.1	312	6.0	4.3
504	TDC	Fixed line telecommunications (653)	Denmark	18.68	10.3	5,104	0.4	16.9
505	Demag Cranes	Industrial machinery (2757)	Germany	18.63	5.9	1,048	1.8	1.3
506	Danieli	Industrial machinery (2757)	Italy	18.50	-47.1	2,018	0.9	6.5
506	Intec Telecom Systems	Software (9537)	UK	18.50	10.5	189	9.8	14.0
508	Vossloh	Commercial vehicles & trucks (2753)	Germany	18.40	7.0	1,174	1.6	11.1
509	Napp Pharmaceutical	Pharmaceuticals (4577)	UK	18.36	45.9	259	7.1	7.9
510	Terma	Aerospace & defence (271)	Denmark	18.33	-8.7	150	12.2	0.2
511	BAUER	Construction & materials (235)	Germany	18.21	-7.8	1,097	1.7	7.6
512	Otto	General retailers (537)	Germany	18.17	23.2	10,465	0.2	0.7
513	Telekomunikacja Polska	Fixed line telecommunications (653)	Poland	18.02	21.3	4,033	0.4	12.4
514	Valio	Food producers (357)	Finland	18.00	11.1	1,787	1.0	2.2
514	Outokumpu	Industrial metals & mining (175)	Finland	18.00	-10.0	2,642	0.7	-17.6
516	Ellaktor	Construction & materials (235)	Greece	17.96	517.1	2,269	0.8	10.0
517	Outotec	Industrial machinery (2757)	Finland	17.90	-11.4	878	2.0	6.5
518	WET Automotive Systems	Automobiles & parts (335)	Germany	17.83	-10.2	158	11.3	0.8
519	Muhlbauer	Semiconductors (9576)	Germany	17.68	-0.1	160	11.0	5.5
520	Unibel	Food producers (357)	France	17.61	-4.6	2,221	0.8	6.7
521	Singulus Technologies	Industrial machinery (2757)	Germany	17.60	-12.3	115	15.3	-63.7
522	Vacon	Electrical components & equipment (2733)	Finland	17.56	3.3	272	6.5	8.3
523	Ark Therapeutics	Biotechnology (4573)	UK	17.52	-5.5	3	525.0	-752.8
524	Kapsch TrafficCom	Support services (279)	Austria	17.50	23.1	216	8.1	18.4
525	Manitou BF	Commercial vehicles & trucks (2753)	France	17.42	-23.0	684	2.5	-21.5



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<b>Top 1000 Companies</b>				<b>129,984.00</b>	<b>-2.6</b>	<b>5,408,387</b>	<b>2.4</b>	<b>7.6</b>
<i>number of companies for calculation</i>				<i>1000</i>	<i>989</i>	<i>1000</i>	<i>991</i>	<i>991</i>
526	Psion	Computer hardware (9572)	UK	17.35	12.6	191	9.1	-1.6
527	MediGene	Biotechnology (4573)	Germany	17.32	-30.9	38	45.7	-57.3
528	Eurand	Pharmaceuticals (4577)	The Netherlands	17.22	19.6	121	14.3	-3.8
529	Soitec	Semiconductors (9576)	France	17.19	5.6	209	8.2	-16.2
530	Micronic Laser Systems (now Micronic Mydata)	Semiconductors (9576)	Sweden	17.15	-0.3	81	21.2	-17.6
531	Sword	Computer services (9533)	France	17.08	-1.4	181	9.5	17.6
532	Clipper Windpower	Electricity (753)	UK	16.88	12.5	518	3.3	-32.2
533	Terna	Electricity (753)	Italy	16.70		1,516	1.1	48.1
534	Schaltbau	Commercial vehicles & trucks (2753)	Germany	16.64	-1.1	270	6.2	8.4
535	Vetoquinol	Pharmaceuticals (4577)	France	16.53	19.0	252	6.6	10.2
536	Aliaxis	Construction & materials (235)	Belgium	16.50	-12.5	1,921	0.9	6.2
536	LISI	Industrial machinery (2757)	France	16.50	6.5	695	2.4	3.2
536	Orexo	Pharmaceuticals (4577)	Sweden	16.50	-26.8	23	71.6	-42.0
539	RM	Software (9537)	UK	16.47	11.0	390	4.2	4.5
540	Seton House	Aerospace & defence (271)	UK	16.43	-39.2	408	4.0	-5.6
541	Q-Med	Health care equipment & services (453)	Sweden	16.38	-27.4	133	12.3	18.5
541	Inmarsat	Mobile telecommunications (657)	UK	16.38	205.2	724	2.3	34.2
543	Kesa Electricals	General retailers (537)	UK	16.32	6.0	5,576	0.3	-1.2
544	Nolato	Chemicals (135)	Sweden	16.30	-21.6	254	6.4	6.1
544	Huhtamaki	General industrials (272)	Finland	16.30	3.2	2,038	0.8	6.1
546	Intrum Justitia	Other financials (877)	Sweden	16.27	22.1	403	4.0	14.3
547	Deutsche Bahn	Travel & leisure (575)	Germany	16.00	0.0	29,335	0.1	5.0
548	G4S	Support services (279)	UK	15.98	25.7	7,934	0.2	5.7
549	DSG International	General retailers (537)	UK	15.87	1,181.9	9,616	0.2	1.8
550	Actia	Electronic equipment (2737)	France	15.84	-6.0	224	7.1	-1.7
551	Engineering Ingegneria Informatica	Computer services (9533)	Italy	15.80		716	2.2	8.3
551	DiaSorin	Pharmaceuticals (4577)	Italy	15.80	5.5	304	5.2	34.3
553	Biocompatibles International	Health care equipment & services (453)	UK	15.74	24.4	30	52.7	-29.5
554	Veritas	Automobiles & parts (335)	Germany	15.71	-22.9	377	4.2	1.1
555	Roth & Rau	Alternative energy (58)	Germany	15.70	319.8	198	7.9	6.8
556	Morgan Crucible	Electrical components & equipment (2733)	UK	15.64	41.8	1,061	1.5	6.2
556	Fives	Industrial machinery (2757)	France	15.64	2.7	1,283	1.2	0.5
558	Perstorp	Chemicals (135)	Sweden	15.62	45.5	1,224	1.3	-2.2
559	VocaLink	Support services (279)	UK	15.53	-53.8	186	8.3	2.1
560	Uponor	Construction & materials (235)	Finland	15.50	-16.7	734	2.1	4.5
561	Vanderlande Industries	Industrial machinery (2757)	The Netherlands	15.48	4.7	549	2.8	7.8
562	CMC Markets	Other financials (877)	UK	15.31	-2.2	217	7.0	-6.9
563	Sapura	Telecommunications equipment (9578)	UK	15.21	-11.7	89	17.1	12.2
564	Faiveley Transport	Commercial vehicles & trucks (2753)	France	15.20	2.3	876	1.7	13.5
564	YIT	Construction & materials (235)	Finland	15.20	-20.0	3,452	0.4	4.8
564	Fimalac	Other financials (877)	France	15.20	-14.8	559	2.7	18.1
567	Geox	Personal goods (376)	Italy	15.13	-0.9	865	1.7	13.5
567	Archimedes Pharma	Pharmaceuticals (4577)	UK	15.13	-21.2	24	64.1	-99.5
569	DSV	Industrial transportation (277)	Denmark	15.05	143.5	4,849	0.3	2.7
570	Franz Haniel & Cie	Food & drug retailers (533)	Germany	15.00	0.0	24,524	0.1	1.2
571	Hansen Transmissions International	Alternative energy (58)	Belgium	14.94	12.2	532	2.8	-1.2
572	SSL International	Personal goods (376)	UK	14.86	11.9	903	1.6	15.7
573	Basware	Software (9537)	Finland	14.78	-4.7	93	16.0	12.8

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<b>Top 1000 Companies</b>				<b>129,984.00</b>	<b>-2.6</b>	<b>5,408,387</b>	<b>2.4</b>	<b>7.6</b>
<i>number of companies for calculation</i>				<i>1000</i>	<i>989</i>	<i>1000</i>	<i>991</i>	<i>991</i>
574	Oxford Instruments	Electronic equipment (2737)	UK	14.74	-19.6	238	6.2	4.8
574	Vitec	Industrial machinery (2757)	UK	14.74	4.8	355	4.2	0.8
574	Cattles	Other financials (877)	UK	14.74	-27.6	631	2.3	-132.9
577	Elektrobit	Electronic equipment (2737)	Finland	14.71	-62.2	154	9.6	-2.1
578	ITV	Media (555)	UK	14.63	-35.0	2,115	0.7	10.1
579	Constantia Packaging	General industrials (272)	Austria	14.60	-0.2	1,704	0.9	8.2
580	Tecnomen Lifetree	Telecommunications equipment (9578)	Finland	14.51	-6.1	53	27.2	-27.7
581	Velti	Software (9537)	UK	14.49	104.6	63	23.1	12.5
582	OMV	Oil & gas producers (53)	Austria	14.44	5.8	17,917	0.1	8.0
583	MBDA	Aerospace & defence (271)	UK	14.41	40.7	812	1.8	4.4
584	Recticel	Chemicals (135)	Belgium	14.19	-20.0	1,277	1.1	2.3
585	Arup	Support services (279)	UK	14.18	21.2	1,000	1.4	5.2
586	Tekla	Software (9537)	Finland	14.17	-3.8	50	28.3	13.0
587	ESI	Software (9537)	France	14.16	-1.8	75	18.8	6.1
588	Leica Camera	Leisure goods (374)	Germany	14.11	-9.3	158	8.9	4.4
589	Nutreco	Food producers (357)	The Netherlands	14.10	-6.6	4,512	0.3	3.1
590	Omega Pharma	Pharmaceuticals (4577)	Belgium	14.00	32.3	814	1.7	12.1
591	Carraro	Automobiles & parts (335)	Italy	13.99	-5.5	487	2.9	-10.2
592	TKH	Electrical components & equipment (2733)	The Netherlands	13.98	6.1	724	1.9	1.8
593	Tessenderlo	Chemicals (135)	Belgium	13.90	-2.8	2,094	0.7	-7.3
594	Radiall	Telecommunications equipment (9578)	France	13.88	0.8	160	8.7	-7.9
595	IDS Scheer	Software (9537)	Germany	13.87	-3.0	350	4.0	7.5
596	Newron Pharmaceuticals	Biotechnology (4573)	Italy	13.86	9.0	1	1,465.3	-2,764.5
597	Gewiss	Electrical components & equipment (2733)	Italy	13.81	-13.7	276	5.0	10.4
597	SAES Getters	Electronic equipment (2737)	Italy	13.81	-21.8	130	10.6	-11.3
599	De La Rue	Support services (279)	UK	13.73	-17.0	632	2.2	19.4
600	WMF	Household goods & home construction (372)	Germany	13.68	-1.9	800	1.7	4.6
601	Anite	Computer services (9533)	UK	13.62	-30.2	134	10.2	8.3
602	Standard Life	Life insurance (857)	UK	13.51	-33.3	20,065	0.1	1.1
602	ProStrakan	Pharmaceuticals (4577)	UK	13.51	13.2	89	15.2	-13.8
604	Beta Systems Software	Software (9537)	Germany	13.49	2.6	81	16.6	1.7
605	Metris (now Nikon Metrology) (now part of Nikon, Japan)	Electronic equipment (2737)	Belgium	13.45	48.4	87	15.4	-12.8
606	Sperian Protection	General industrials (272)	France	13.42	-3.5	660	2.0	7.1
607	Isagro	Chemicals (135)	Italy	13.38	-2.6	193	6.9	-1.3
608	AGRANA	Food producers (357)	Austria	13.35	6.8	1,989	0.7	4.4
609	Prima Industrie	Industrial machinery (2757)	Italy	13.32	-32.3	232	5.7	-2.6
610	Oxford Biomedica	Pharmaceuticals (4577)	UK	13.28	-47.5	22	61.7	-30.1
611	KMD	Computer services (9533)	Denmark	13.20	19.6	514	2.6	4.1
611	Schouw	General industrials (272)	Denmark	13.20	-7.1	1,196	1.1	3.5
613	Enea	Software (9537)	Sweden	13.19	-9.1	76	17.4	-0.5
614	Domino Printing Sciences	Electronic equipment (2737)	UK	13.13	-15.0	288	4.6	11.4
615	Royal Ten Cate	General industrials (272)	The Netherlands	13.10	50.6	842	1.6	3.0
616	OHB Technology	Aerospace & defence (271)	Germany	13.00	-22.0	287	4.5	6.3
616	Tarkett	Construction & materials (235)	France	13.00	-14.5	2,069	0.6	1.9
616	Sequana	Forestry & paper (173)	France	13.00	8.3	4,200	0.3	1.4
616	TNT	Industrial transportation (277)	The Netherlands	13.00	-64.9	10,278	0.1	5.8
620	Comptel	Software (9537)	Finland	12.99	-6.3	75	17.3	1.4

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621	4SC	Biotechnology (4573)	Germany	12.98	19.8	2	697.6	-900.4
622	Amsterdam Molecular Therapeutics	Biotechnology (4573)	The Netherlands	12.89	-0.1	0		
622	e2v Technologies	Electronic equipment (2737)	UK	12.89	-28.6	227	5.7	-5.7
624	Baxi	Construction & materials (235)	UK	12.87	18.2	1,057	1.2	5.3
625	Ricardo	Support services (279)	UK	12.83	25.3	213	6.0	4.4
626	SABCA	Aerospace & defence (271)	Belgium	12.69	337.8	143	8.9	10.3
627	Alizyme	Biotechnology (4573)	UK	12.63	-63.9	2	605.1	-633.1
628	BEIG Topco (aka Birds Eye)	Food producers (357)	UK	12.62	-63.3	1,220	1.0	9.7
629	Amper	Telecommunications equipment (9578)	Spain	12.59	13.3	286	4.4	-1.5
630	Solar	Electrical components & equipment (2733)	Denmark	12.50	166.0	1,431	0.9	1.7
631	Palfinger	Industrial machinery (2757)	Austria	12.47	22.8	505	2.5	-0.9
632	Amarin	Biotechnology (4573)	UK	12.43	41.7	0		
632	Vernalis	Biotechnology (4573)	UK	12.43	-20.9	15	84.8	-79.0
632	SDL	Software (9537)	UK	12.43	37.3	193	6.4	13.7
635	Premier Foods	Food producers (357)	UK	12.38	-5.2	3,019	0.4	6.4
636	CAF	Commercial vehicles & trucks (2753)	Spain	12.37	106.4	1,258	1.0	10.8
637	Carlsberg	Beverages (353)	Denmark	12.36	-4.2	7,980	0.2	14.4
638	EVS Broadcast Equipment	Electronic equipment (2737)	Belgium	12.34	21.5	77	16.1	46.5
639	Nykredit Realkredit	Banks (835)	Denmark	12.23	59.6	2,108	0.6	1.1
640	Manz Automation	Industrial machinery (2757)	Germany	12.14	87.7	86	14.1	-19.0
641	Biotie Therapies	Biotechnology (4573)	Finland	12.13	50.7	6	215.6	-331.5
642	CeWe Color	General retailers (537)	Germany	12.12	1.6	410	3.0	4.8
643	Urenco	Electricity (753)	UK	12.10	68.1	1,121	1.1	44.6
644	Karo Bio	Biotechnology (4573)	Sweden	12.03	-24.2	1	2,091.5	-2,667.3
645	Nokian Tyres	Automobiles & parts (335)	Finland	12.00	-4.0	799	1.5	12.7
645	SNPE	Chemicals (135)	France	12.00	0.0	609	2.0	18.5
647	Flamel Technologies	Biotechnology (4573)	France	11.86	-14.4	29	40.4	-43.4
648	Hikma Pharmaceuticals	Pharmaceuticals (4577)	UK	11.74	-24.0	444	2.6	16.9
649	Oriflame Cosmetics	Personal goods (376)	Luxembourg	11.72	2.0	1,317	0.9	11.0
650	Svenska Handelsbanken	Banks (835)	Sweden	11.71	-30.2	3,230	0.4	41.6
650	Sensata Technologies	Electronic equipment (2737)	The Netherlands	11.71	-56.1	792	1.5	5.0
652	TopoTarget	Biotechnology (4573)	Denmark	11.69	-74.9	6	197.9	-304.6
653	P&i Personal & Informatik	Software (9537)	Germany	11.66	-4.8	63	18.4	24.2
654	Mouchel	Support services (279)	UK	11.64	119.4	833	1.4	-1.4
655	SkyePharma	Pharmaceuticals (4577)	UK	11.59	-29.0	63	18.4	24.5
656	Medivir	Pharmaceuticals (4577)	Sweden	11.58	-7.8	3	461.8	-544.4
657	VTI Technologies	Electronic equipment (2737)	Finland	11.55	-5.7	54	21.6	-28.5
658	Credito Agricola Financial	Banks (835)	Portugal	11.49	1,771.3	612	1.9	24.6
659	PSI	Software (9537)	Germany	11.46	17.8	147	7.8	4.9
660	Skanditek (now part of Bure Equity)	Other financials (877)	Sweden	11.44	0.2	73	15.8	9.7
661	Chroma Therapeutics	Biotechnology (4573)	UK	11.34	-13.4	0		
662	Montupet	Automobiles & parts (335)	France	11.32	33.0	261	4.3	-10.6
663	NEOVIA Financial	Other financials (877)	UK	11.31	35.9	45	25.1	-14.9
664	Willex	Biotechnology (4573)	Germany	11.27	-43.8	13	89.6	-105.7
665	Linos	Electronic equipment (2737)	Germany	11.26	15.5	89	12.6	1.8
665	BG	Oil & gas producers (53)	UK	11.26	-9.1	11,495	0.1	38.9
667	FJA (now COR & FJA)	Software (9537)	Germany	11.21	51.2	68	16.4	2.4

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<b>Top 1000 Companies</b>				<b>129,984.00</b>	<b>-2.6</b>	<b>5,408,387</b>	<b>2.4</b>	<b>7.6</b>
<i>number of companies for calculation</i>				<i>1000</i>	<i>989</i>	<i>1000</i>	<i>991</i>	<i>991</i>
668	Chicago Bridge & Iron Company	Industrial machinery (2757)	The Netherlands	11.19	-20.3	3,176	0.4	6.9
669	ARC International (now part of Virage Logic, USA)	Semiconductors (9576)	UK	11.11	28.3	19	57.9	-54.6
670	N Brown	General retailers (537)	UK	11.03	18.1	777	1.4	14.1
671	Raymarine	Electronic equipment (2737)	UK	11.00	-35.6	117	9.4	-19.2
672	Weir	Industrial machinery (2757)	UK	10.92	-1.0	1,565	0.7	13.5
673	Copenhagen Airports	Industrial transportation (277)	Denmark	10.81	55.8	393	2.8	36.3
674	Yule Catto	Chemicals (135)	UK	10.79	-5.8	595	1.8	4.1
675	Ablynx	Biotechnology (4573)	Belgium	10.75	-4.5	28	38.3	-84.7
676	Vislink	Telecommunications equipment (9578)	UK	10.72	4.6	107	10.1	-0.2
677	Prayon	Chemicals (135)	Belgium	10.69	21.1	545	2.0	-3.7
678	Trevi Finanziaria Industriale	Construction & materials (235)	Italy	10.67	9.5	1,006	1.1	11.7
678	Chalkfree	Electronic equipment (2737)	UK	10.67	53.5	231	4.6	14.4
680	Picanol	Industrial machinery (2757)	Belgium	10.63	451.5	250	4.2	-11.3
681	Trinity Biotech	Health care equipment & services (453)	Ireland	10.58	-4.9	88	12.1	11.1
681	Marzotto	Personal goods (376)	Italy	10.58	-9.3	245	4.3	-12.9
683	CNP	Other financials (877)	Belgium	10.56	-18.1	12,641	0.1	4.3
684	Patria	Aerospace & defence (271)	Finland	10.50	-60.2	540	1.9	3.7
684	Dynaction	Chemicals (135)	France	10.50	-10.3	153	6.9	-0.8
684	Elisa	Mobile telecommunications (657)	Finland	10.50	-3.7	1,430	0.7	18.6
687	Rational	Household goods & home construction (372)	Germany	10.40	-22.4	314	3.3	28.8
688	Innate Pharma	Biotechnology (4573)	France	10.38	71.6	3	313.8	-602.3
689	Chemring	Aerospace & defence (271)	UK	10.35	55.9	567	1.8	21.3
689	Hoganas	Industrial metals & mining (175)	Sweden	10.35	-12.4	446	2.3	6.4
689	Delcam	Software (9537)	UK	10.35	4.6	36	28.9	2.6
692	Glanbia	Food producers (357)	Ireland	10.33	1.9	1,830	0.6	9.0
693	R Stahl	Electrical components & equipment (2733)	Germany	10.31	29.9	203	5.1	6.2
694	Nedap	Electronic equipment (2737)	The Netherlands	10.25	-4.5	115	8.9	1.1
695	EL EN	Electronic equipment (2737)	Italy	10.24	-12.2	147	7.0	-9.8
696	Dynea	Chemicals (135)	Finland	10.20	-6.4	527	1.9	-8.7
697	Isra Vision	Industrial machinery (2757)	Germany	10.19	-5.2	58	17.5	15.9
698	SolarWorld	Alternative energy (58)	Germany	10.15	-4.9	1,013	1.0	13.3
699	Intercytx (now Regenerative Medicine Assets)	Biotechnology (4573)	UK	10.14	-6.3	0	53,389.5	-73,647.4
700	Cobra Automotive Technologies	Automobiles & parts (335)	Italy	10.13	-10.5	105	9.6	-13.9
700	International Power	Electricity (753)	UK	10.13	-18.2	4,126	0.2	38.2
700	PricewaterhouseCoopers	Support services (279)	UK	10.13	50.0	2,530	0.4	30.3
703	IHC Merwede	Commercial vehicles & trucks (2753)	The Netherlands	10.10	26.3	1,126	0.9	6.9
704	Ballast Nedam	Construction & materials (235)	The Netherlands	10.00		1,384	0.7	1.2
705	freenet	Internet (9535)	Germany	9.99	79.0	3,971	0.3	2.8
706	Premier Farnell	Support services (279)	UK	9.90	10.0	895	1.1	9.0
707	Lansforsakringar	Banks (835)	Sweden	9.89	-34.8	678	1.5	10.0
708	Bioton	Pharmaceuticals (4577)	Poland	9.88	-38.1	70	14.2	-199.2
709	Spyker Cars	Automobiles & parts (335)	The Netherlands	9.80	61.3	7	148.3	-292.4
710	Innovation	Software (9537)	UK	9.76	15.0	175	5.6	-12.5
710	PiroNet NDH	Software (9537)	Germany	9.76	17.7	60	16.2	12.2
712	Oxagen	Biotechnology (4573)	UK	9.75	31.0	0		

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713	Infovista	Software (9537)	France	9.72	-8.1	45	21.5	1.7
714	Telit Communications	Telecommunications equipment (9578)	UK	9.69	10.4	64	15.2	-3.5
715	Ebro Puleva	Food producers (357)	Spain	9.68	-16.4	2,353	0.4	7.2
716	Aldata Solution	Software (9537)	Finland	9.66	4.7	68	14.3	-7.0
717	NIBE Industrier	Household goods & home construction (372)	Sweden	9.60	1.3	561	1.7	11.0
717	Laboratorios Farmaceuticos Rovi	Pharmaceuticals (4577)	Spain	9.60	24.1	142	6.8	13.8
719	Brembo	Automobiles & parts (335)	Italy	9.59	-30.3	826	1.2	1.2
720	Cosmo Pharmaceuticals	Pharmaceuticals (4577)	Italy	9.49	17.6	27	35.5	15.6
721	Vivalis	Biotechnology (4573)	France	9.44	5.6	3	305.0	-80.3
722	Villeroy & Boch	Construction & materials (235)	Germany	9.39	-8.4	715	1.3	-12.1
723	Atria	Food producers (357)	Finland	9.38	-5.3	1,316	0.7	2.2
724	Magix	Software (9537)	Germany	9.37	5.3	35	26.9	8.8
724	Swedish Match	Tobacco (378)	Sweden	9.37	9.1	1,434	0.7	24.4
726	Tikkurila	Chemicals (135)	Finland	9.36	-10.0	530	1.8	9.0
727	Senior	Aerospace & defence (271)	UK	9.34	12.2	608	1.5	11.3
728	OncoMethylome Sciences	Biotechnology (4573)	Belgium	9.29	10.9	1	901.2	-1,575.9
729	Rosenbauer International	Commercial vehicles & trucks (2753)	Austria	9.20	35.3	542	1.7	5.3
729	Elia System Operator	Electricity (753)	Belgium	9.20	1.1	734	1.3	31.1
729	Unibet	Travel & leisure (575)	Malta	9.20	-20.0	156	5.9	23.7
732	Cardo	Construction & materials (235)	Sweden	9.18	-13.8	861	1.1	6.2
733	Lafuma	Personal goods (376)	France	9.11	5.4	255	3.6	3.1
734	Novabase	Computer services (9533)	Portugal	9.10	-18.0	241	3.8	6.3
735	UNIQA	Nonlife insurance (853)	Austria	9.04	64.0	5,536	0.2	1.5
736	Spirax-Sarco Engineering	Industrial machinery (2757)	UK	9.02	22.8	584	1.5	15.2
737	BioAlliance Pharma	Pharmaceuticals (4577)	France	9.01	-31.1	8	119.5	-205.4
738	Lucite International (now part of Mitsubishi Chemical, Japan)	Chemicals (135)	UK	9.00	-11.1	996	0.9	-12.5
738	Finatis	Food & drug retailers (533)	France	9.00	-43.8	29,055	0.0	4.0
738	Rallye	Food & drug retailers (533)	France	9.00	-43.8	27,478	0.0	4.5
738	Sodexo	Travel & leisure (575)	France	9.00	50.0	14,681	0.1	5.2
742	HKScan	Food producers (357)	Finland	8.90	-32.1	2,125	0.4	2.5
742	Fiskars	Household goods & home construction (372)	Finland	8.90	6.0	663	1.3	15.9
742	Francotyp-Postalia	Industrial machinery (2757)	Germany	8.90	-16.7	129	6.9	-12.8
742	Wirecard	Support services (279)	Germany	8.90	-3.3	229	3.9	24.7
746	QinetiQ	Aerospace & defence (271)	UK	8.89	-32.5	1,829	0.5	-2.2
746	Movetis	Biotechnology (4573)	The Netherlands	8.89	-30.0	0	37,050.0	-65,237.5
746	Lectra	Software (9537)	France	8.89	-15.7	153	5.8	-7.9
749	INDUS	General industrials (272)	Germany	8.86	-11.3	773	1.1	6.7
749	Orc Software	Software (9537)	Sweden	8.86	-5.8	69	12.9	29.4
751	Glaston	Industrial machinery (2757)	Finland	8.79	-25.8	152	5.8	-36.5
752	Dairy Crest	Food producers (357)	UK	8.78	160.0	1,834	0.5	5.8
753	Wavin	Construction & materials (235)	The Netherlands	8.75	-14.1	1,160	0.8	2.9
754	Corporacion IBV Participaciones	General industrials (272)	Spain	8.69	11.6	1,096	0.8	5.9
755	Fiberweb	Support services (279)	UK	8.67	8.4	511	1.7	1.6
756	Espirito Santo Financial	Banks (835)	Luxembourg	8.63	3.8	2,727	0.3	18.4
757	FACC	Aerospace & defence (271)	Austria	8.59	-33.8	265	3.2	-10.9
758	Zealand Pharma	Biotechnology (4573)	Denmark	8.58	-22.8	3	252.1	-331.3

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759	SAF-HOLLAND	Commercial vehicles & trucks (2753)	Luxembourg	8.50	-25.3	420	2.0	-7.1
760	Readsoft	Software (9537)	Sweden	8.46	-2.1	60	14.0	2.0
761	Manutan International	Support services (279)	France	8.45	22.6	489	1.7	5.1
762	Amino Technologies	Telecommunications equipment (9578)	UK	8.42	51.0	28	29.6	-34.7
763	Axis-Shield	Biotechnology (4573)	UK	8.40	3.4	109	7.7	9.9
764	ExonHit Therapeutics	Biotechnology (4573)	France	8.33	-10.0	5	170.2	-197.5
765	Cision	Support services (279)	Sweden	8.30	-16.7	145	5.7	-17.4
766	Paion	Biotechnology (4573)	Germany	8.25	48.3	2	538.3	-847.7
767	GeoSentric	Telecommunications equipment (9578)	Finland	8.21	100.9	2	329.6	-623.8
768	VKR	Construction & materials (235)	Denmark	8.20	90.7	2,087	0.4	9.5
768	Sodra	Forestry & paper (173)	Sweden	8.20	-5.6	1,630	0.5	2.4
770	Martifer	Construction & materials (235)	Portugal	8.19	-20.9	792	1.0	18.4
771	TELES	Internet (9535)	Germany	8.18	37.6	24	33.6	-58.9
772	PV Crystalox Solar	Alternative energy (58)	UK	8.17	20.2	237	3.4	16.6
773	Grifols	Pharmaceuticals (4577)	Spain	8.15	55.0	913	0.9	24.6
774	RHJ International	Other financials (877)	Belgium	8.11	-58.9	1,556	0.5	22.1
775	Wagon	Automobiles & parts (335)	UK	8.10	-49.3	804	1.0	2.2
775	Head	Leisure goods (374)	The Netherlands	8.10	-12.0	319	2.5	0.5
775	Financiere De L'odet	Other financials (877)	France	8.10	-14.7	6,071	0.1	3.0
778	Landesbank Berlin	Banks (835)	Germany	8.00	2,566.7	1,531	0.5	22.1
778	Mondi	Forestry & paper (173)	UK	8.00	-20.0	5,257	0.2	3.1
778	Munters	Industrial machinery (2757)	Sweden	8.00	-3.5	637	1.3	4.8
781	Cohort	Aerospace & defence (271)	UK	7.97	28.8	88	9.0	8.5
782	Vantia	Pharmaceuticals (4577)	UK	7.90	88.5	0		
783	Hoft & Wessel	Electronic equipment (2737)	Germany	7.88	0.4	94	8.4	2.9
784	Augusta Technologie	Electrical components & equipment (2733)	Germany	7.83	15.6	107	7.4	7.9
785	Royal Cosun	Food producers (357)	The Netherlands	7.80	-10.3	1,758	0.4	5.3
785	Gunnebo	General retailers (537)	Sweden	7.80	-4.9	663	1.2	-1.3
787	Nexus	Software (9537)	Germany	7.79	3.6	40	19.3	3.4
788	TT electronics	Electrical components & equipment (2733)	UK	7.77	-33.0	562	1.4	-2.7
788	Beazley	Nonlife insurance (853)	UK	7.77	109.1	1,019	0.8	11.1
790	GERRY WEBER International	Personal goods (376)	Germany	7.73	-8.9	594	1.3	12.2
790	TUI	Travel & leisure (575)	Germany	7.73	-52.0	19,085	0.0	-1.7
792	Ratos	Other financials (877)	Sweden	7.71	-22.6	2,573	0.3	5.2
793	Asseco Poland	Software (9537)	Poland	7.70	41.6	743	1.0	17.2
794	Norkom	Software (9537)	Ireland	7.69	-1.2	49	15.6	11.9
795	Chloride	Electrical components & equipment (2733)	UK	7.66	6.2	378	2.0	9.9
795	GW Pharmaceuticals	Pharmaceuticals (4577)	UK	7.66	-34.8	27	28.2	4.2
797	Martin-Baker (Engineering)	Aerospace & defence (271)	UK	7.64	0.1	183	4.2	30.5
798	Kewill	Software (9537)	UK	7.61	1.2	63	12.0	4.7
799	Etex	Construction & materials (235)	Belgium	7.58	-9.0	1,797	0.4	6.9
800	Interpump	Industrial machinery (2757)	Italy	7.57	-7.5	343	2.2	8.0
801	Aero Inventory	Aerospace & defence (271)	UK	7.53		307	2.5	21.2
802	Photo-Me	Leisure goods (374)	UK	7.51	-10.9	254	3.0	-4.1
803	Fabasoft	Software (9537)	Austria	7.48	-4.1	23	32.1	9.8
804	GFI Informatique	Computer services (9533)	France	7.43	2.8	726	1.0	-8.6
804	McBride	Household goods & home construction (372)	UK	7.43	11.9	892	0.8	3.5

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804	Sportingbet	Travel & leisure (575)	UK	7.43	135.7	1,791	0.4	1.3
807	Beijer Electronics	Electronic equipment (2737)	Sweden	7.42	-14.6	106	7.0	5.8
808	Hymmer	Automobiles & parts (335)	Germany	7.35	75.5	654	1.1	-6.4
808	Genfit	Biotechnology (4573)	France	7.35	-9.5	6	126.5	-111.4
810	TiGenix	Biotechnology (4573)	Belgium	7.32	-20.6	0	15,906.5	-33,328.3
811	Aalborg Industries	Industrial machinery (2757)	Denmark	7.26	115.1	371	2.0	15.7
812	Hermle Berthold	Industrial machinery (2757)	Germany	7.23	-19.4	127	5.7	6.5
813	Analytik Jena	Biotechnology (4573)	Germany	7.21	27.6	71	10.1	4.5
814	Tom Tailor	Personal goods (376)	Germany	7.20	-5.5	300	2.4	5.3
815	Pfeiffer Vacuum Technology	Industrial machinery (2757)	Germany	7.17	5.5	182	3.9	20.8
816	Oxford Nanopore Technologies	Biotechnology (4573)	UK	7.14	36.8	0		
817	Centrotec Sustainable	Chemicals (135)	Germany	7.10	-4.8	467	1.5	3.8
817	Quantel	Electronic equipment (2737)	UK	7.10	-20.8	44	16.1	8.9
819	Avecia Holdings	Biotechnology (4573)	UK	7.09	-18.2	60	11.8	-20.2
819	Debenhams	General retailers (537)	UK	7.09	40.0	2,156	0.3	9.5
821	Jetter	Industrial machinery (2757)	Germany	7.02	-13.1	29	24.5	-6.9
822	Komerční banka	Banks (835)	Czech Republic	7.01	-22.3	1,251	0.6	40.5
823	Aareal Bank	Banks (835)	Germany	7.00	-30.0	599	1.2	14.5
823	FAES Farma	Biotechnology (4573)	Spain	7.00	-30.8	195	3.6	13.0
823	Red Electrica De Espana	Electricity (753)	Spain	7.00	66.7	1,200	0.6	44.7
823	Lufthansa	Travel & leisure (575)	Germany	7.00	-36.4	22,283	0.0	0.1
827	Provident Financial	Other financials (877)	UK	6.98	0.0	918	0.8	15.4
828	Minster Pharmaceuticals (now part of Proximagen)	Pharmaceuticals (4577)	UK	6.97	43.0	0		
829	Schuler	Industrial machinery (2757)	Germany	6.96	23.9	823	0.8	-6.6
830	AMG Advanced Metallurgical	Industrial metals & mining (175)	The Netherlands	6.95	21.0	652	1.1	-7.1
831	Tipp24	Travel & leisure (575)	Germany	6.92	-25.0	90	7.7	25.7
832	Channel Four Television	Media (555)	UK	6.87	-47.9	935	0.7	0.5
833	Plethora Solutions	Pharmaceuticals (4577)	UK	6.81	-29.4	20	34.1	53.6
834	KWH	General industrials (272)	Finland	6.80	-6.8	467	1.5	2.6
835	Nanogate	Chemicals (135)	Germany	6.75	8.6	11	63.1	-24.0
836	Devro	Food producers (357)	UK	6.73	16.0	248	2.7	13.8
837	Agennix	Biotechnology (4573)	Germany	6.72	29.8	8	86.7	-185.0
838	Frontier Silicon	Leisure goods (374)	UK	6.71	-32.6	18	36.9	-23.3
838	Net Insight	Telecommunications equipment (9578)	Sweden	6.71	-2.1	23	29.5	14.6
840	Wolford	Personal goods (376)	Austria	6.67	-13.2	144	4.6	2.8
841	Aurubis	Industrial metals & mining (175)	Germany	6.66	48.3	6,687	0.1	-0.4
842	Elementis	Chemicals (135)	UK	6.64	28.3	409	1.6	-7.3
842	Intelligent Energy	Electrical components & equipment (2733)	UK	6.64	4.1	5	129.9	-184.1
844	Elexis	Industrial machinery (2757)	Germany	6.61	-21.6	126	5.2	4.0
845	Leifheit	Household goods & home construction (372)	Germany	6.59	-8.0	273	2.4	3.0
846	Efore	Electronic equipment (2737)	Finland	6.54	-12.9	64	10.2	-2.1
847	MITIE	Support services (279)	UK	6.53	-38.9	1,936	0.3	4.7
848	Txt E-Solutions	Software (9537)	Italy	6.52	-6.9	48	13.7	-10.6
849	Rocla (now part of Mitsubishi Caterpillar Forklift, The Netherlands)	Commercial vehicles & trucks (2753)	Finland	6.50	44.4	127	5.1	1.6
849	BWT	Gas, water & multiutilities (757)	Austria	6.50	16.1	401	1.6	7.1
849	JC Decaux	Media (555)	France	6.50	-25.3	1,919	0.3	4.8

Rank	Company	ICB Sector	Country	R&D Investment		Net Sales	R&D/Net Sales ratio	Operating Profit
				2009	change 09/08	2009	2009	2009
				€m	%	€m	%	% of Net Sales
<b>Top 1000 Companies</b>				<b>129,984.00</b>	<b>-2.6</b>	<b>5,408,387</b>	<b>2.4</b>	<b>7.6</b>
<i>number of companies for calculation</i>				<i>1000</i>	<i>989</i>	<i>1000</i>	<i>991</i>	<i>991</i>
852	Maconomy	Software (9537)	Denmark	6.49	-0.6	30	22.0	5.2
853	IdaTech	Electrical components & equipment (2733)	UK	6.46	78.5	5	141.5	-511.3
854	SUSS MicroTec	Semiconductors (9576)	Germany	6.45	-46.5	120	5.4	-2.3
855	ClearSpeed Technology	Semiconductors (9576)	UK	6.41	-11.4	1	1,165.6	-2,438.4
856	SYGNIS Pharma	Biotechnology (4573)	Germany	6.39	-20.9	0	2,545.8	-3,839.0
856	Sanochemia Pharmazeutika	Pharmaceuticals (4577)	Austria	6.39	44.6	30	21.6	-18.5
856	Cast	Software (9537)	France	6.39	-1.5	27	23.3	9.4
859	Vandemoortele	Food producers (357)	Belgium	6.33	7.7	1,228	0.5	2.8
860	update software	Software (9537)	Austria	6.28	-7.8	31	20.0	-6.3
861	Alterian	Software (9537)	UK	6.24	32.3	43	14.6	17.4
862	Global Graphics	Software (9537)	France	6.21	-7.5	9	66.4	-14.3
863	Northern Foods	Food producers (357)	UK	6.19	-31.2	1,100	0.6	2.7
863	Brit Insurance Holdings	Nonlife insurance (853)	The Netherlands	6.19	-1.8	1,804	0.3	7.3
865	Archos	Leisure goods (374)	France	6.17	-5.4	58	10.7	-29.7
866	CIE Automotive	Automobiles & parts (335)	Spain	6.15	-46.5	1,149	0.5	4.4
867	AB Science	Biotechnology (4573)	France	6.10	-0.7	0	609,900.0	-1,056,700.0
868	Taminco	Chemicals (135)	Belgium	6.08	41.1	587	1.0	13.5
868	Forensic Science Service	Support services (279)	UK	6.08	53.0	142	4.3	-13.7
868	Imtech	Support services (279)	The Netherlands	6.08	35.7	4,321	0.1	4.9
871	Ceres Power	Alternative energy (58)	UK	6.03	28.1	1	562.8	-976.3
872	Cap Gemini	Computer services (9533)	France	6.00		8,371	0.1	4.0
872	MVV Energie	Gas, water & multiutilities (757)	Germany	6.00	-33.3	3,161	0.2	-0.9
872	Brisa	Industrial transportation (277)	Portugal	6.00	15.4	645	0.9	50.5
875	United Biscuits	Food producers (357)	UK	5.97	6.0	1,352	0.4	10.7
876	Allergy Therapeutics	Pharmaceuticals (4577)	UK	5.96	-67.5	42	14.0	-16.5
877	Intershop Communications	Software (9537)	Germany	5.95	78.6	36	16.7	4.9
877	Mensch und Maschine Software	Software (9537)	Germany	5.95	-21.9	163	3.6	-1.6
879	Macro 4 (now part of Unicom, USA)	Software (9537)	UK	5.91	2.4	33	18.1	1.8
880	Gamma	Industrial machinery (2757)	The Netherlands	5.90	37.2	723	0.8	-3.8
880	IRIS	Software (9537)	Belgium	5.90	1.3	103	5.7	4.3
882	Fugro	Oil equipment, services & distribution (57)	The Netherlands	5.89	-26.1	2,053	0.3	17.7
883	Torotrak	Automobiles & parts (335)	UK	5.88	-0.8	9	68.4	2.8
883	Anoto	Computer hardware (9572)	Sweden	5.88	-27.9	20	29.3	-10.6
885	Sagentia	Support services (279)	UK	5.87	-16.3	27	21.9	-14.9
886	Fagerhult	Electrical components & equipment (2733)	Sweden	5.86	7.0	238	2.5	4.3
887	Haulotte	Commercial vehicles & trucks (2753)	France	5.85	0.6	202	2.9	-31.4
887	Allen & Overy	Support services (279)	UK	5.85	36.8	1,227	0.5	39.6
887	Inspired Gaming	Travel & leisure (575)	UK	5.85	-24.9	98	6.0	9.7
890	Arseus	Health care equipment & services (453)	Belgium	5.81	3.7	391	1.5	7.6
891	Osterreichische Bundesbahnen	Travel & leisure (575)	Austria	5.80	3.6	3,798	0.2	-25.9
892	Opcon	Industrial machinery (2757)	Sweden	5.78	64.4	67	8.6	4.4
893	Elica	Household goods & home construction (372)	Italy	5.77	-2.8	335	1.7	0.1
894	AGI Therapeutics	Pharmaceuticals (4577)	Ireland	5.76	-48.1	0	2,584.8	-3,385.2
895	Hogg Robinson	Support services (279)	UK	5.74	54.6	368	1.6	8.7
896	Netia	Fixed line telecommunications (653)	Poland	5.73	-41.3	367	1.6	0.4



Rank	Company	IGB Sector	Country	R&D Investment		Net Sales	R&D/Net Sales ratio	Operating Profit
				2009	change 09/08	2009	2009	2009
				€m	%	€m	%	% of Net Sales
<b>Top 1000 Companies</b>				<b>129,984.00</b>	<b>-2.6</b>	<b>5,408,387</b>	<b>2.4</b>	<b>7.6</b>
<i>number of companies for calculation</i>				<i>1000</i>	<i>989</i>	<i>1000</i>	<i>991</i>	<i>991</i>
896	White Young Green (now WYG)	Support services (279)	UK	5.73	-1.9	294	1.9	-47.3
898	Silence Therapeutics	Biotechnology (4573)	UK	5.71	-24.4	2	294.5	-438.5
899	DekaBank Deutsche Girozentrale	Banks (835)	Germany	5.70	-51.3	1,679	0.3	29.7
899	Globo	Software (9537)	UK	5.70	21.8	23	24.2	17.7
901	Innovia Films	Chemicals (135)	UK	5.68	-9.5	373	1.5	5.6
901	Martin Dawes Systems	Computer services (9533)	UK	5.68	31.6	31	18.1	4.1
903	Skanska	Construction & materials (235)	Sweden	5.66	-17.1	13,354	0.0	3.8
903	Cerep	Pharmaceuticals (4577)	France	5.66	-16.5	26	21.4	-7.0
905	Norbrook Laboratories	Pharmaceuticals (4577)	UK	5.63	5.6	125	4.5	4.4
906	Bond International Software	Software (9537)	UK	5.62	7.8	37	15.3	1.0
907	Randex Laboratories	Biotechnology (4573)	UK	5.61	-10.0	60	9.4	16.5
907	Lombard Medical Technologies	Health care equipment & services (453)	UK	5.61	-33.8	3	211.2	-343.0
909	Raisio	Food producers (357)	Finland	5.60	-3.4	409	1.4	5.7
910	Telegraaf Media	Media (555)	The Netherlands	5.58	-24.7	619	0.9	8.9
911	Gas Turbine Efficiency	Industrial machinery (2757)	UK	5.56	14.5	26	21.5	-14.2
912	Ubiquisys	Telecommunications equipment (9578)	UK	5.55	-19.1	4	138.7	-268.5
913	USU Software	Software (9537)	Germany	5.53	5.6	34	16.2	1.3
914	Clarity Commerce Solutions	Software (9537)	UK	5.52	37.7	21	25.7	7.8
914	Camelot (now Camelot UK Lotteries)	Travel & leisure (575)	UK	5.52	81.5	5,100	0.1	1.3
916	PKC	Electronic equipment (2737)	Finland	5.50	-5.2	202	2.7	0.2
916	RCS MediaGroup	Media (555)	Italy	5.50	12.2	2,206	0.2	-4.6
918	METabolic EXplorer	Chemicals (135)	France	5.48	62.5	2	365.5	-287.4
918	Microgen	Computer services (9533)	UK	5.48	-13.0	39	14.2	10.4
920	ATOSS Software	Software (9537)	Germany	5.47	9.7	29	18.8	19.0
921	RaySearch Laboratories	Health care equipment & services (453)	Sweden	5.46	16.3	8	66.8	48.8
922	Aerocrine	Health care equipment & services (453)	Sweden	5.42	-11.0	10	56.2	-85.0
923	Pescanova	Food producers (357)	Spain	5.40	10.2	1,473	0.4	5.9
924	Hamburger Hafen Und Logistik	Industrial transportation (277)	Germany	5.34	-47.9	991	0.5	16.4
925	Hochtief	Construction & materials (235)	Germany	5.30	1.8	18,166	0.0	3.6
925	Ige+Xao	Software (9537)	France	5.30	0.0	22	23.8	15.5
927	Invision Software	Software (9537)	Germany	5.29	-0.9	12	44.2	-58.4
928	Greencore	Food producers (357)	Ireland	5.28	-21.6	1,104	0.5	3.9
929	Basler	Electrical components & equipment (2733)	Germany	5.27	-34.1	34	15.7	-22.4
930	TUV SUD	General retailers (537)	Germany	5.23	26.0	1,427	0.4	8.2
930	DADA	Internet (9535)	Italy	5.23	7.2	155	3.4	2.6
932	Dialight	Electrical components & equipment (2733)	UK	5.22	49.4	87	6.0	7.1
933	STRATEC Biomedical Systems	Health care equipment & services (453)	Germany	5.19	-14.0	80	6.5	18.1
934	BSS	Support services (279)	UK	5.18	-37.8	1,522	0.3	3.7
935	AF	Support services (279)	Sweden	5.17		457	1.1	8.1
936	Sava	Chemicals (135)	Slovenia	5.15	32.5	173	3.0	-7.0
936	Emak	Household goods & home construction (372)	Italy	5.15	10.1	195	2.6	7.1
938	Twintec	Automobiles & parts (335)	Germany	5.11	1.7	46	11.1	3.8
939	Deutsche Steinzeug	Construction & materials (235)	Germany	5.10	-13.6	192	2.7	-2.3

Rank	Company	ICB Sector	Country	R&D Investment		Net Sales	R&D/Net Sales ratio	Operating Profit
				2009	change 09/08	2009	2009	2009
				€m	%	€m	%	% of Net Sales
			<b>Top 1000 Companies</b>	<b>129,984.00</b>	<b>-2.6</b>	<b>5,408,387</b>	<b>2.4</b>	<b>7.6</b>
			<i>number of companies for calculation</i>	<i>1000</i>	<i>989</i>	<i>1000</i>	<i>991</i>	<i>991</i>
940	Betsson	Travel & leisure (575)	Sweden	5.07	18.0	127	4.0	24.4
941	Kabel Deutschland	Media (555)	Germany	5.06	30.8	1,502	0.3	13.2
942	Solar Millennium	Alternative energy (58)	Germany	5.04	11,356.8	201	2.5	18.6
943	Nordzucker	Food producers (357)	Germany	5.03	561.1	1,806	0.3	3.6
944	Deutsche Postbank	Banks (835)	Germany	5.00		3,144	0.2	-12.7
944	Strabag	Construction & materials (235)	Austria	5.00	0.0	12,552	0.0	2.1
944	Larox	Industrial machinery (2757)	Finland	5.00	-31.1	150	3.3	-1.4
944	Havenbedrijf Rotterdam	Industrial transportation (277)	The Netherlands	5.00	0.0	507	1.0	43.3
948	Lindab International	Construction & materials (235)	Sweden	4.98	-17.7	685	0.7	3.6
949	LPKF Laser & Electronics	Electronic equipment (2737)	Germany	4.95	-2.0	51	9.8	11.9
949	Nipson Digital Printing Systems	Media (555)	UK	4.95	21.8	31	16.1	-49.3
949	Epsilon Net	Software (9537)	Greece	4.95	0.1	9	52.6	22.4
952	Vistaprint	Support services (279)	The Netherlands	4.93	-19.8	360	1.4	11.8
953	Würth	General industrials (272)	Germany	4.90	-54.2	7,522	0.1	3.5
953	Veikkaus	Travel & leisure (575)	Finland	4.90	-2.0	1,485	0.3	31.3
955	Systemair	Industrial machinery (2757)	Sweden	4.88	0.0	325	1.5	10.6
955	Stena	Travel & leisure (575)	Sweden	4.88	56.2	2,727	0.2	13.8
957	MLS Multimedia	Software (9537)	Greece	4.87	25.4	15	32.9	18.5
958	Ambu	Health care equipment & services (453)	Denmark	4.84	40.5	118	4.1	8.7
958	Sioen Industries	Personal goods (376)	Belgium	4.84	-12.8	264	1.8	-2.4
960	Anglo Design	Electronic equipment (2737)	UK	4.81	-12.3	69	6.9	-4.9
961	Ercros	Chemicals (135)	Spain	4.80	-14.6	570	0.8	-9.1
961	Evalis (now part of InVivo) !	Food producers (357)	France	4.80	6.7	1,027	0.5	0.9
963	CENIT AG Systemhaus	Computer services (9533)	Germany	4.76	30.5	86	5.5	4.3
963	Telesoft Technologies	Telecommunications equipment (9578)	UK	4.76	8.9	15	31.9	7.7
965	Ponsse	Commercial vehicles & trucks (2753)	Finland	4.75	-35.7	147	3.2	-11.0
965	Dechra Pharmaceuticals	Pharmaceuticals (4577)	UK	4.75	12.8	394	1.2	5.0
967	MolMed	Biotechnology (4573)	Italy	4.73	5.7	2	196.2	-833.2
967	Scottish and Southern Energy	Electricity (753)	UK	4.73	-4.5	24,255	0.0	8.7
967	Aegis	Media (555)	UK	4.73	110.0	1,515	0.3	8.5
970	Thiakis	Pharmaceuticals (4577)	UK	4.71	40.9	0	4,759.6	-6,512.1
971	Epigenomics	Biotechnology (4573)	Germany	4.70	-31.8	4	110.4	-242.8
971	Nordkalk	Chemicals (135)	Finland	4.70	-6.0	277	1.7	9.8
971	Uzin Utz	Construction & materials (235)	Germany	4.70	2.2	172	2.7	7.7
974	Itesoft	Software (9537)	France	4.67	26.5	20	23.0	0.5
974	PartyGaming	Travel & leisure (575)	UK	4.67	139.4	310	1.5	-5.0
976	Deceuninck	Construction & materials (235)	Belgium	4.66	32.6	506	0.9	-2.5
977	Systar	Software (9537)	France	4.64	7.5	18	25.9	-2.1
978	Scapa	Chemicals (135)	UK	4.62	2.5	199	2.3	-0.9
978	Recipharm	Pharmaceuticals (4577)	Sweden	4.62	14.3	185	2.5	3.2
980	Diamyd Medical	Pharmaceuticals (4577)	Sweden	4.61	13.2	0	4,267.6	-7,625.9
981	Jensen	Industrial machinery (2757)	Belgium	4.60	-9.8	175	2.6	6.2
982	Bulgarian Telecommunication	Fixed line telecommunications (653)	Bulgaria	4.59		501	0.9	7.7
982	Investment AB Kinnevik	Other financials (877)	Sweden	4.59	-19.0	820	0.6	196.7
984	Hamworthy	Industrial machinery (2757)	UK	4.58	39.6	241	1.9	9.1
985	Bene	Household goods & home construction (372)	Austria	4.54	-23.8	179	2.5	-8.0
985	Sinosoft Technology	Software (9537)	UK	4.54	70.6	10	44.9	17.7
987	Mologen	Biotechnology (4573)	Germany	4.50	2.3	0	8,490.6	-12,550.9

Rank	Company	IGB Sector	Country	R&D Investment		Net Sales	R&D/Net Sales ratio	Operating Profit
				2009	change 09/08	2009	2009	2009
				€m	%	€m	%	% of Net Sales
<b>Top 1000 Companies</b>				<b>129,984.00</b>	<b>-2.6</b>	<b>5,408,387</b>	<b>2.4</b>	<b>7.6</b>
<i>number of companies for calculation</i>				<i>1000</i>	<i>989</i>	<i>1000</i>	<i>991</i>	<i>991</i>
987	Balfour Beatty	Construction & materials (235)	UK	4.50	0.0	10,078	0.0	3.3
987	FFEI	Electronic equipment (2737)	UK	4.50	30.5	22	20.7	17.4
987	Nicolas Correa	Industrial machinery (2757)	Spain	4.50	18.4	48	9.3	-11.1
987	SHL	Support services (279)	UK	4.50	-13.6	98	4.6	-0.8
987	Studsvik	Support services (279)	Sweden	4.50	2.9	119	3.8	-3.0
993	Victrix	Chemicals (135)	UK	4.48	9.8	117	3.8	24.2
993	Niscayah	Support services (279)	Sweden	4.48	50.5	744	0.6	6.5
995	Bulgari	General retailers (537)	Italy	4.43	-5.2	927	0.5	-2.1
996	Merrion Pharmaceuticals	Pharmaceuticals (4577)	Ireland	4.41	13.1	6	69.6	-28.7
997	CNP Assurances	Life insurance (857)	France	4.40	-13.7	48,078	0.0	3.3
998	Germany 1 Acquisition (now 3w Power)	Alternative energy (58)	Luxembourg	4.39		110	4.0	-16.5
998	Medasys	Software (9537)	France	4.39	29.3	22	19.5	7.7
1000	Bioxell (now part of Cosmo Pharmaceuticals)	Biotechnology (4573)	Italy	4.37	-56.3	0		

**Table A2.1 Ranking of the top 1000 non-EU companies by level of R&D investment**

Rank	Company	ICB Sector	Country	R&D Investment		Net Sales	R&D/Net Sales ratio	Operating Profit
				2009	change 09/08	2009	2009	2009
				€m	%	€m	%	% of Net Sales
<b>Top 1000 Companies</b>				<b>279,322.91</b>	<b>-1.6</b>	<b>7,165,241</b>	<b>3.9</b>	<b>7.9</b>
<i>number of companies for calculation</i>				<i>1000</i>	<i>998</i>	<i>999</i>	<i>998</i>	<i>998</i>
1	Toyota Motor	Automobiles & parts (335)	Japan	6,768.46	-5.7	153,697	4.4	-3.2
2	Roche	Pharmaceuticals (4577)	Switzerland	6,401.86	9.1	33,072	19.4	25.0
3	Microsoft	Software (9537)	USA	6,073.20	-3.3	43,548	13.9	38.6
4	Pfizer	Pharmaceuticals (4577)	USA	5,404.13	-2.4	34,854	15.5	21.3
5	Novartis	Pharmaceuticals (4577)	Switzerland	5,156.02	2.5	30,852	16.7	23.2
6	Johnson & Johnson	Pharmaceuticals (4577)	USA	4,868.87	-7.8	43,139	11.3	26.0
7	Samsung Electronics	Electronic equipment (2737)	South Korea	4,510.01	8.0	83,191	5.4	9.3
8	General Motors	Automobiles & parts (335)	USA	4,229.08	-24.1	80,113	5.3	-7.7
9	Honda Motor	Automobiles & parts (335)	Japan	4,216.44	-4.2	74,950	5.6	1.4
10	Merck	Pharmaceuticals (4577)	USA	4,073.66	21.6	19,116	21.3	56.6
11	Intel	Semiconductors (9576)	USA	3,939.84	-1.2	24,482	16.1	15.6
12	Panasonic	Leisure goods (374)	Japan	3,877.41	-6.6	58,137	6.7	-5.0
13	Sony	Leisure goods (374)	Japan	3,723.07	-4.5	57,148	6.5	-3.0
14	Cisco Systems	Telecommunications equipment (9578)	USA	3,629.70	1.1	25,172	14.4	19.9
15	IBM	Computer services (9533)	USA	3,445.71	-9.9	66,738	5.2	19.1
16	Ford Motor	Automobiles & parts (335)	USA	3,415.04	-32.9	82,454	4.1	2.6
17	Nissan Motor	Automobiles & parts (335)	Japan	3,410.02	-0.4	63,164	5.4	-3.1
18	Takeda Pharmaceutical	Pharmaceuticals (4577)	Japan	3,391.78	64.3	11,517	29.5	20.3
19	Hitachi	Computer hardware (9572)	Japan	3,118.30	-2.7	74,869	4.2	-1.8
20	Eli Lilly	Pharmaceuticals (4577)	USA	3,015.34	12.6	15,219	19.8	25.3
21	Toshiba	General industrials (272)	Japan	2,831.89	-3.8	49,820	5.7	-5.0
22	NEC	Computer hardware (9572)	Japan	2,594.33	-1.6	31,561	8.2	-6.3
23	Bristol-Myers Squibb	Pharmaceuticals (4577)	USA	2,541.77	1.7	15,078	16.9	29.8
24	Boeing	Aerospace & defence (271)	USA	2,418.41	0.9	47,588	5.1	3.1
25	General Electric	General industrials (272)	USA	2,316.65	10.1	107,979	2.1	18.0
26	Canon	Electronic office equipment (9574)	Japan	2,280.42	-18.6	24,026	9.5	7.0
27	Oracle	Software (9537)	USA	2,267.87	17.6	18,692	12.1	33.6
28	Denso	Automobiles & parts (335)	Japan	2,224.63	-4.6	23,528	9.5	-2.5
29	Motorola	Telecommunications equipment (9578)	USA	2,218.38	-22.5	15,377	14.4	-0.2
30	NTT	Fixed line telecommunications (653)	Japan	2,007.89	-1.1	77,983	2.6	10.9
31	Amgen	Biotechnology (4573)	USA	1,996.06	-5.5	10,205	19.6	37.6
32	Google	Internet (9535)	USA	1,981.44	1.8	16,483	12.0	35.2
33	Hewlett-Packard	Computer hardware (9572)	USA	1,964.69	-20.4	79,837	2.5	8.8
34	Abbott Laboratories	Pharmaceuticals (4577)	USA	1,912.24	2.0	21,441	8.9	24.7
35	Fujitsu	Computer services (9533)	Japan	1,870.92	-3.4	35,135	5.3	-2.3
36	Qualcomm	Telecommunications equipment (9578)	USA	1,700.55	7.0	7,259	23.4	21.2
37	Nestle	Food producers (357)	Switzerland	1,497.48	-5.0	72,560	2.1	14.6
38	Sharp	Electronic equipment (2737)	Japan	1,463.82	-0.3	21,316	6.9	-7.5
39	FUJIFILM	Electronic equipment (2737)	Japan	1,430.51	1.9	18,225	7.8	1.2
40	Procter & Gamble	Household goods & home construction (372)	USA	1,424.56	-8.2	55,545	2.6	21.2
41	Daiichi Sankyo	Pharmaceuticals (4577)	Japan	1,381.57	12.9	6,305	21.9	-32.9
42	LG	Electronic equipment (2737)	South Korea	1,366.47	21.3	54,001	2.5	5.5
43	EMC	Computer hardware (9572)	USA	1,363.65	-4.5	9,775	13.9	10.1
44	Hyundai Motor	Automobiles & parts (335)	South Korea	1,337.60	2.0	54,743	2.4	7.2
45	Huawei Technologies	Telecommunications equipment (9578)	China	1,334.01	27.8	15,217	8.8	13.8
46	Advanced Micro Devices	Semiconductors (9576)	USA	1,199.45	-6.9	3,766	31.9	12.2
47	Astellas Pharma	Pharmaceuticals (4577)	Japan	1,190.81	18.3	7,230	16.5	25.0
48	Eisai	Pharmaceuticals (4577)	Japan	1,168.71	13.1	5,853	20.0	9.9

Rank	Company	IGB Sector	Country	R&D Investment		Net Sales	R&D/Net Sales ratio	Operating Profit
				2009	change 09/08	2009	2009	2009
				€m	%	€m	%	% of Net Sales
<b>Top 1000 Companies</b>				<b>279,322.91</b>	<b>-1.6</b>	<b>7,165,241</b>	<b>3.9</b>	<b>7.9</b>
<i>number of companies for calculation</i>				<i>1000</i>	<i>998</i>	<i>999</i>	<i>998</i>	<i>998</i>
49	United Technologies	Aerospace & defence (271)	USA	1,085.84	-12.0	36,537	3.0	12.3
50	Broadcom	Semiconductors (9576)	USA	1,069.76	2.5	3,130	34.2	1.3
51	Dow Chemical	Chemicals (135)	USA	1,039.85	13.9	31,324	3.3	4.8
52	Texas Instruments	Semiconductors (9576)	USA	1,028.69	-23.9	7,267	14.2	19.1
53	Medtronic	Health care equipment & services (453)	USA	1,017.54	7.7	11,024	9.2	26.6
54	PetroChina	Oil & gas producers (53)	China	1,009.36	27.4	104,058	1.0	14.2
55	Mitsubishi Electric	Electrical components & equipment (2733)	Japan	997.35	-3.0	27,439	3.6	3.4
56	Amazon.com	General retailers (537)	USA	994.54	17.0	17,081	5.8	4.7
57	Caterpillar	Commercial vehicles & trucks (2753)	USA	990.36	-17.8	22,578	4.4	2.1
58	Sumitomo Chemical	Chemicals (135)	Japan	981.67	24.4	13,388	7.3	-1.9
59	Apple	Computer hardware (9572)	USA	978.51	25.4	25,464	3.8	20.7
60	DuPont	Chemicals (135)	USA	960.39	-1.1	18,197	5.3	10.2
61	Mitsubishi Chemical	Chemicals (135)	Japan	956.80	14.0	21,779	4.4	-1.5
62	Ricoh	Electronic office equipment (9574)	Japan	931.38	-1.3	15,660	5.9	2.3
63	Honeywell	General industrials (272)	USA	926.94	-13.8	21,541	4.3	10.9
64	Yahoo!	Internet (9535)	USA	906.15	-5.2	4,502	20.1	5.9
65	Biogen Idec	Biotechnology (4573)	USA	894.23	19.7	3,051	29.3	29.4
66	Telstra	Fixed line telecommunications (653)	Australia	883.80	-6.5	15,988	5.5	25.8
67	Aisin Seiki	Automobiles & parts (335)	Japan	868.40	0.6	16,579	5.2	-0.5
68	Suzuki Motor	Automobiles & parts (335)	Japan	860.67	5.7	22,496	3.8	2.2
69	Electronic Arts	Leisure goods (374)	USA	856.55	-9.6	2,547	33.6	-19.3
70	Monsanto	Food producers (357)	USA	765.25	12.0	8,182	9.4	25.9
71	ABB	Electrical components & equipment (2733)	Switzerland	763.85	-5.3	22,161	3.4	13.0
72	Mitsubishi Heavy	General industrials (272)	Japan	758.63	-6.1	25,272	3.0	1.7
73	Forest Laboratories	Pharmaceuticals (4577)	USA	734.28	59.3	2,866	25.6	22.3
74	Exxon Mobil	Oil & gas producers (53)	USA	731.80	24.0	210,130	0.3	11.7
75	Boston Scientific	Health care equipment & services (453)	USA	721.34	2.9	5,707	12.6	-11.1
76	Mazda Motor	Automobiles & parts (335)	Japan	718.47	-16.1	18,985	3.8	-2.6
77	AT&T	Fixed line telecommunications (653)	USA	687.19	18.5	85,737	0.8	18.2
78	Vale	Mining (177)	Brazil	683.71	-9.6	16,247	4.2	26.0
79	Deere	Commercial vehicles & trucks (2753)	USA	680.92	3.6	16,108	4.2	10.3
80	Research In Motion	Telecommunications equipment (9578)	Canada	672.44	40.9	10,422	6.5	21.7
81	Syngenta	Chemicals (135)	Switzerland	669.07	-0.9	7,661	8.7	16.0
82	Seagate Technology	Computer hardware (9572)	Cayman Islands	664.19	-7.3	6,834	9.7	-27.1
83	Gazprom	Oil & gas producers (53)	Russia	655.82	43.0	68,768	1.0	30.7
84	Applied Materials	Semiconductors (9576)	USA	651.03	-15.4	3,494	18.6	-10.2
85	Bridgestone	Automobiles & parts (335)	Japan	642.10	-8.0	19,443	3.3	2.3
86	Baxter International	Health care equipment & services (453)	USA	639.10	5.6	8,755	7.3	23.0
87	Nvidia	Semiconductors (9576)	USA	633.42	6.2	2,318	27.3	-3.1
88	eBay	General retailers (537)	USA	633.16	8.4	6,083	10.4	16.7
89	Delphi Automotive	Automobiles & parts (335)	USA	627.25	-52.6	7,153	8.8	-0.9
90	ZTE	Telecommunications equipment (9578)	China	624.56	45.6	6,153	10.2	6.4
91	Gilead Sciences	Biotechnology (4573)	USA	620.05	29.1	4,887	12.7	50.3
92	Seiko Epson	Electronic office equipment (9574)	Japan	614.34	-1.0	8,404	7.3	-8.1
93	Konica Minolta	Electronic office equipment (9574)	Japan	613.18	0.7	7,096	8.6	4.2
94	Symantec	Software (9537)	USA	597.28	-2.6	4,171	14.3	16.5
95	Genzyme	Biotechnology (4573)	USA	588.86	-33.3	3,147	18.7	10.8
96	3M	General industrials (272)	USA	584.04	-1.5	16,116	3.6	20.8
97	Freescale Semiconductor	Semiconductors (9576)	USA	580.56	-26.9	2,445	23.7	-35.1
98	Marvell Technology	Semiconductors (9576)	Bermuda	577.20	-10.9	1,957	29.5	11.9

Rank	Company	ICB Sector	Country	R&D Investment		Net Sales	R&D/Net Sales ratio	Operating Profit
				2009	change 09/08	2009	2009	2009
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<b>Top 1000 Companies</b>				<b>279,322.91</b>	<b>-1.6</b>	<b>7,165,241</b>	<b>3.9</b>	<b>7.9</b>
<i>number of companies for calculation</i>				<i>1000</i>	<i>998</i>	<i>999</i>	<i>998</i>	<i>998</i>
99	Hon Hai Precision Industry	Electronic equipment (2737)	Taiwan	568.34	10.2	42,692	1.3	4.4
100	Sanyo Electric	Electronic equipment (2737)	Japan	564.75	5.1	13,830	4.1	-3.4
101	Schlumberger	Oil equipment, services & distribution (57)	USA	558.95	-2.1	15,822	3.5	18.0
101	Teva Pharmaceutical Industries	Pharmaceuticals (4577)	Israel	558.95	2.0	9,687	5.8	17.3
103	Sumitomo Electric	Electrical components & equipment (2733)	Japan	546.43	1.0	15,886	3.4	2.1
104	Celgene	Biotechnology (4573)	USA	544.39	-14.8	1,875	29.0	33.5
105	Nortel Networks	Telecommunications equipment (9578)	Canada	527.59	-51.9	3,800	13.9	10.9
106	China Railway Construction	Construction & materials (235)	China	527.02	194.0	35,219	1.5	2.4
107	MediaTek	Semiconductors (9576)	Taiwan	527.00	13.7	2,517	20.9	31.9
108	Olympus	Health care equipment & services (453)	Japan	524.14	6.2	7,343	7.1	-6.9
109	Lockheed Martin	Aerospace & defence (271)	USA	522.71	-38.5	31,494	1.7	10.2
110	Juniper Networks	Telecommunications equipment (9578)	USA	516.93	1.4	2,311	22.4	9.4
111	Isuzu Motors	Commercial vehicles & trucks (2753)	Japan	506.84	12.3	10,666	4.8	1.0
112	Xerox	Electronic office equipment (9574)	USA	496.92	-4.9	10,579	4.7	5.7
113	Kyocera	Electrical components & equipment (2733)	Japan	493.61	7.0	8,449	5.8	4.0
114	Allergan	Pharmaceuticals (4577)	USA	492.05	-11.5	3,139	15.7	20.1
115	Micron Technology	Semiconductors (9576)	USA	491.92	3.8	3,652	13.5	-32.6
116	Hynix Semiconductor	Semiconductors (9576)	South Korea	478.05	4.1	4,732	10.1	-4.4
117	Petroleo Brasileiro	Oil & gas producers (53)	Brazil	474.62	-27.6	64,028	0.7	23.5
118	Taiwan Semiconductor Manufacturing	Semiconductors (9576)	Taiwan	470.53	0.5	6,444	7.3	31.7
119	Yamaha Motor	Automobiles & parts (335)	Japan	464.66	-27.1	8,637	5.4	-14.6
120	CA	Software (9537)	USA	462.77	6.9	3,034	15.3	28.8
121	Nikon	Leisure goods (374)	Japan	460.34	5.3	6,586	7.0	4.5
122	Kirin	Beverages (353)	Japan	458.18	14.5	14,365	3.2	3.8
123	Asahi Kasei	Chemicals (135)	Japan	455.55	8.3	11,628	3.9	1.7
124	Agilent Technologies	Electronic equipment (2737)	USA	447.44	-8.8	3,123	14.3	1.5
125	Sega Sammy	Travel & leisure (575)	Japan	446.77	-8.7	3,213	13.9	-4.7
126	Danaher	Electronic equipment (2737)	USA	440.92	-12.8	7,795	5.7	13.8
127	Activision Blizzard	Leisure goods (374)	USA	436.99	-20.6	2,982	14.7	-0.5
128	Tokyo Electron	Semiconductors (9576)	Japan	436.37	-8.8	3,804	11.5	1.1
129	Dell	Computer hardware (9572)	USA	434.90	-5.9	36,870	1.2	4.1
130	TDK	Electronic equipment (2737)	Japan	431.57	0.4	5,446	7.9	-9.8
131	Intuit	Software (9537)	USA	430.60	-5.0	2,218	19.4	21.4
132	Northrop Grumman	Aerospace & defence (271)	USA	425.14	5.9	24,596	1.7	7.6
133	LSI	Semiconductors (9576)	USA	423.96	-9.5	1,547	27.4	-5.8
134	Chevron	Oil & gas producers (53)	USA	420.26	-27.8	116,670	0.4	10.6
135	Pioneer	Electronic equipment (2737)	Japan	410.19	-7.8	4,184	9.8	-17.7
136	Thomson Reuters	Media (555)	Canada	403.53	13.5	9,058	4.5	9.2
137	Komatsu	Commercial vehicles & trucks (2753)	Japan	402.30	8.2	15,136	2.7	7.7
138	Shionogi	Pharmaceuticals (4577)	Japan	395.46	31.1	1,703	23.2	12.9
139	Dainippon Sumitomo Pharma	Pharmaceuticals (4577)	Japan	395.44	11.7	1,977	20.0	11.6
140	Adobe Systems	Software (9537)	USA	393.87	-14.6	2,053	19.2	22.9
141	Raytheon	Aerospace & defence (271)	USA	393.78	9.3	17,341	2.3	12.2
142	St Jude Medical	Health care equipment & services (453)	USA	390.13	5.3	3,263	12.0	23.5
143	China Petroleum & Chemicals	Oil & gas producers (53)	China	389.58	11.4	137,316	0.3	2.7

Rank	Company	IGB Sector	Country	R&D Investment		Net Sales	R&D/Net Sales ratio	Operating Profit
				2009	change 09/08	2009	2009	2009
				€m	%	€m	%	% of Net Sales
<b>Top 1000 Companies</b>				<b>279,322.91</b>	<b>-1.6</b>	<b>7,165,241</b>	<b>3.9</b>	<b>7.9</b>
<i>number of companies for calculation</i>				<i>1000</i>	<i>998</i>	<i>999</i>	<i>998</i>	<i>998</i>
144	Toray Industries	Chemicals (135)	Japan	373.98	9.0	11,017	3.4	-0.4
145	Tyco Electronics	Electrical components & equipment (2733)	Switzerland	373.56	1.1	7,330	5.1	-33.5
146	NetApp	Computer hardware (9572)	USA	373.36	7.5	2,740	13.6	12.5
147	OMRON	Electronic equipment (2737)	Japan	366.09	-5.1	4,696	7.8	-6.3
148	Maxim Integrated Products	Semiconductors (9576)	USA	363.55	-9.7	1,147	31.7	1.1
149	General Dynamics	Aerospace & defence (271)	USA	362.41	9.7	22,289	1.6	11.5
150	Korea Electric Power	Electricity (753)	South Korea	360.76	-2.5	20,346	1.8	4.8
151	Western Digital	Computer hardware (9572)	USA	354.75	9.7	5,194	6.8	7.0
152	Japan Tobacco	Tobacco (378)	Japan	354.09	4.7	51,151	0.7	4.2
153	Murata Manufacturing	Semiconductors (9576)	Japan	350.61	10.8	3,923	8.9	-2.9
154	Kyowa Hakko Kirin	Biotechnology (4573)	Japan	349.18	-3.6	3,086	11.3	6.8
155	Automatic Data Processing	Support services (279)	USA	348.27	-5.0	6,180	5.6	20.5
156	Kao	Personal goods (376)	Japan	345.33	2.3	9,555	3.6	7.7
157	Nippon Steel	Industrial metals & mining (175)	Japan	342.86	1.0	35,710	1.0	6.3
158	Asahi Glass	Construction & materials (235)	Japan	336.58	19.3	8,596	3.9	3.7
159	Kraft Foods	Food producers (357)	USA	332.44	-4.4	28,147	1.2	13.7
160	Vertex Pharmaceuticals	Biotechnology (4573)	USA	332.24	26.0	71	467.9	-602.6
161	Corning	Telecommunications equipment (9578)	USA	324.08	-8.8	3,760	8.6	38.0
162	ASUSTeK Computer	Computer hardware (9572)	Taiwan	323.97	3.3	13,295	2.4	3.0
163	Fuji Heavy Industries	Automobiles & parts (335)	Japan	320.66	-17.7	10,824	3.0	-1.9
164	Emerson Electric	Electrical components & equipment (2733)	USA	320.60	0.4	14,577	2.2	12.5
165	Autodesk	Software (9537)	USA	318.85	-20.6	1,194	26.7	4.1
166	Whirlpool	Household goods & home construction (372)	USA	317.11	4.4	11,917	2.7	3.0
167	Nintendo	Leisure goods (374)	Japan	316.34	14.2	13,765	2.3	30.1
168	Tokyo Electric Power	Electricity (753)	Japan	315.12	8.5	44,078	0.7	0.2
169	McKesson	Food & drug retailers (533)	USA	314.32	3.0	75,760	0.4	1.9
170	JFE	Industrial metals & mining (175)	Japan	313.97	6.2	29,260	1.1	8.8
171	Actelion	Pharmaceuticals (4577)	Switzerland	312.94	23.9	1,195	26.2	19.1
172	Analog Devices	Semiconductors (9576)	USA	311.55	-18.1	1,411	22.1	14.1
173	Mitsui Chemicals	Chemicals (135)	Japan	304.17	-3.6	11,137	2.7	-3.4
174	Navistar International	Commercial vehicles & trucks (2753)	USA	301.78	13.9	8,063	3.7	5.0
175	Alps Electric	Electrical components & equipment (2733)	Japan	301.74	-4.6	4,035	7.5	-11.2
176	Rohm	Semiconductors (9576)	Japan	301.64	21.9	2,374	12.7	-10.5
177	Synopsys	Software (9537)	USA	294.75	6.3	948	31.1	15.8
178	POSCO	Industrial metals & mining (175)	South Korea	293.04	-1.3	22,059	1.3	9.5
179	PepsiCo	Beverages (353)	USA	288.54	6.7	30,130	1.0	19.5
180	Ono Pharmaceutical	Pharmaceuticals (4577)	Japan	287.49	-1.5	1,022	28.1	26.1
181	Kawasaki Heavy Industries	General industrials (272)	Japan	286.41	5.6	10,022	2.9	0.7
182	Liebherr-International	Commercial vehicles & trucks (2753)	Switzerland	284.70	-13.7	6,961	4.1	6.2
183	Becton Dickinson	Health care equipment & services (453)	USA	284.44	3.0	5,030	5.7	23.3
184	Teijin	Chemicals (135)	Japan	281.72	3.7	7,063	4.0	-2.6
185	Shin-Etsu Chemical	Chemicals (135)	Japan	280.52	-21.8	8,990	3.1	19.9
186	Textron	Aerospace & defence (271)	USA	279.48	-15.8	7,351	3.8	1.0
187	Yokogawa Electric	Electronic equipment (2737)	Japan	278.72	-8.9	2,819	9.9	-1.6
188	Baker Hughes	Oil equipment, services & distribution (57)	USA	276.69	-6.8	6,735	4.1	7.6
189	Brother Industries	Computer hardware (9572)	Japan	275.95	8.0	3,610	7.6	2.3

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<b>Top 1000 Companies</b>				<b>279,322.91</b>	<b>-1.6</b>	<b>7,165,241</b>	<b>3.9</b>	<b>7.9</b>
<i>number of companies for calculation</i>				<i>1000</i>	<i>998</i>	<i>999</i>	<i>998</i>	<i>998</i>
190	Cephalon	Pharmaceuticals (4577)	USA	275.60	9.2	1,528	18.0	15.7
191	Eaton	General industrials (272)	USA	275.29	-5.3	8,275	3.3	3.8
192	PPG Industries	Chemicals (135)	USA	270.42	-14.0	8,530	3.2	6.1
193	Mitsubishi Motors	Automobiles & parts (335)	Japan	268.08	3.5	14,775	1.8	-1.9
194	SanDisk	Semiconductors (9576)	USA	267.74	-10.7	2,486	10.8	16.8
195	Givaudan	Personal goods (376)	Switzerland	262.28	-6.7	2,669	9.8	11.7
196	Lexmark	Computer hardware (9572)	USA	261.56	-11.3	2,704	9.7	5.4
197	KLA-Tencor	Semiconductors (9576)	USA	258.89	-9.4	1,060	24.4	-38.1
198	Australia & New Zealand Banking	Banks (835)	Australia	257.62	43.7	8,239	3.1	33.3
199	Dai Nippon Printing	Media (555)	Japan	255.38	-4.1	11,865	2.2	-1.4
200	Cadence Design Systems	Software (9537)	USA	254.53	-22.9	594	42.8	-15.2
201	Ajinomoto	Food producers (357)	Japan	252.79	2.7	8,912	2.8	1.5
202	Cummins	Commercial vehicles & trucks (2753)	USA	252.30	-14.2	7,527	3.4	6.4
203	Toyota Industries	Automobiles & parts (335)	Japan	251.90	-8.4	11,861	2.1	-3.2
204	Statoil	Oil & gas producers (53)	Norway	250.11	-7.6	55,775	0.4	26.3
205	Eastman Kodak	Leisure goods (374)	USA	248.11	-28.9	5,301	4.7	-1.4
206	Rockwell Collins	Aerospace & defence (271)	USA	247.42	-10.1	3,115	7.9	19.7
207	Brocade Communications	Telecommunications equipment (9578)	USA	247.28	38.8	1,361	18.2	1.1
208	KT	Fixed line telecommunications (653)	South Korea	241.46	5.3	11,761	2.1	4.7
209	Elpida Memory	Electrical components & equipment (2733)	Japan	241.38	7.7	2,478	9.7	-53.6
210	Xilinx	Semiconductors (9576)	USA	237.70	-4.0	1,180	20.2	23.4
211	Life Technologies	Biotechnology (4573)	USA	234.94	136.6	2,286	10.3	12.0
212	Goodyear	Automobiles & parts (335)	USA	234.87	-7.9	11,361	2.1	-0.2
213	Stryker	Health care equipment & services (453)	USA	234.31	-8.6	4,686	5.0	23.7
214	Johnson Controls	Automobiles & parts (335)	USA	234.17	-20.8	19,861	1.2	0.1
215	Philip Morris International	Tobacco (378)	USA	233.48	0.3	17,448	1.3	40.1
216	Kobe Steel	Industrial metals & mining (175)	Japan	232.30	3.0	16,301	1.4	2.4
217	Harman International Industries	Leisure goods (374)	USA	231.18	-16.2	2,015	11.5	-17.7
218	Prithvi Information Solutions	Computer services (9533)	India	228.72	92.2	296	77.3	-0.1
219	Visteon	Automobiles & parts (335)	USA	228.60	-24.4	4,659	4.9	4.1
219	Daikin Industries	Construction & materials (235)	Japan	228.60	-4.8	9,002	2.5	4.6
221	Fuji Electric	Electrical components & equipment (2733)	Japan	227.55	-2.8	5,740	4.0	-5.7
222	Halliburton	Oil equipment, services & distribution (57)	USA	226.51	-0.3	10,228	2.2	13.4
223	SK	Oil equipment, services & distribution (57)	South Korea	226.49	-13.4	5,322	4.3	48.0
224	McAfee	Software (9537)	USA	226.07	28.7	1,343	16.8	11.7
225	Citrix Systems	Software (9537)	USA	225.45	-1.7	1,125	20.0	10.9
226	Autoliv	Automobiles & parts (335)	USA	224.70	-12.2	3,569	6.3	1.3
227	SunGard Data Systems	Computer services (9533)	USA	221.63	-2.2	3,839	5.8	-10.2
228	Commonwealth Bank of Australia	Banks (835)	Australia	220.64	168.7	10,326	2.1	39.1
229	Toyota Boshoku	Automobiles & parts (335)	Japan	216.87	-8.7	7,335	3.0	1.6
230	Toppan Printing	Media (555)	Japan	215.56	-3.2	12,108	1.8	1.1
231	National Australia Bank	Banks (835)	Australia	214.37	59.8	10,516	2.0	29.7
232	Dongfeng Motor	Automobiles & parts (335)	Hong Kong	213.06	43.9	9,368	2.3	8.7
233	Kimberly-Clark	Personal goods (376)	USA	209.78	1.3	13,322	1.6	14.8



Rank	Company	IGB Sector	Country	R&D Investment		Net Sales	R&D/Net Sales ratio	Operating Profit
				2009	change 09/08	2009	2009	2009
				€m	%	€m	%	% of Net Sales
<b>Top 1000 Companies</b>				<b>279,322.91</b>	<b>-1.6</b>	<b>7,165,241</b>	<b>3.9</b>	<b>7.9</b>
<i>number of companies for calculation</i>				<i>1000</i>	<i>998</i>	<i>999</i>	<i>998</i>	<i>998</i>
234	Calsonic Kansei	Automobiles & parts (335)	Japan	206.47	-1.3	5,012	4.1	-3.2
235	Taisho Pharmaceutical	Pharmaceuticals (4577)	Japan	206.06	11.2	1,918	10.7	7.4
236	NIDEC	Electrical components & equipment (2733)	Japan	201.87	-10.4	4,650	4.3	9.0
237	KDDI	Mobile telecommunications (657)	Japan	201.86	37.8	26,184	0.8	11.6
238	Lam Research	Semiconductors (9576)	USA	200.91	-11.0	778	25.8	-25.3
239	Parker Hannifin	Industrial machinery (2757)	USA	200.84	12.9	7,185	2.8	7.7
240	Cerner	Software (9537)	USA	198.76	-2.1	1,165	17.1	17.2
241	Kubota	General industrials (272)	Japan	196.82	6.1	8,291	2.4	8.4
242	BMC Software	Software (9537)	USA	196.19	-2.7	1,332	14.7	26.5
243	CSL	Biotechnology (4573)	Australia	195.32	38.4	2,897	6.7	26.0
244	Pegatron	Computer hardware (9572)	Taiwan	195.31	38.3	11,725	1.7	2.3
245	Compal Electronics	Electronic equipment (2737)	Taiwan	194.38	18.6	14,715	1.3	3.0
246	Mylan	Pharmaceuticals (4577)	USA	191.84	-13.2	3,549	5.4	10.7
247	Sekisui Chemical	Household goods & home construction (372)	Japan	190.31	-1.2	6,994	2.7	1.7
248	National Semiconductor	Semiconductors (9576)	USA	190.06	-10.9	989	19.2	22.8
249	IHI	Industrial machinery (2757)	Japan	188.14	4.2	10,392	1.8	0.0
250	Colgate-Palmolive	Personal goods (376)	USA	187.48	6.3	10,682	1.8	23.7
251	Tellabs	Telecommunications equipment (9578)	USA	187.27	-12.0	1,063	17.6	6.2
252	Quanta Computer	Computer hardware (9572)	Taiwan	186.95	17.3	18,299	1.0	3.0
253	Toyoda Gosei	Automobiles & parts (335)	Japan	185.95	-4.4	4,091	4.5	1.9
254	Beckman Coulter	Health care equipment & services (453)	USA	185.67	-4.9	2,272	8.2	7.1
255	Onex	General industrials (272)	Canada	184.81	-29.3	16,508	1.1	1.6
256	Doosan	General industrials (272)	South Korea	183.23	24.5	12,274	1.5	0.6
257	HTC	Electronic equipment (2737)	Taiwan	182.44	-10.5	3,149	5.8	16.9
258	Altera	Semiconductors (9576)	USA	181.35	1.0	833	21.8	25.5
259	Wistron	Computer hardware (9572)	Taiwan	180.57	28.9	11,912	1.5	2.1
260	ITT	General industrials (272)	USA	179.88	5.6	7,600	2.4	8.3
261	Mentor Graphics	Software (9537)	USA	178.10	-1.8	559	31.8	-0.3
262	Advantest	Semiconductors (9576)	Japan	177.53	-22.3	574	30.9	-68.6
263	China Communications Construction	Construction & materials (235)	China	177.33	59.8	23,166	0.8	5.5
264	Expedia	Travel & leisure (575)	USA	175.63	5.0	2,060	8.5	17.1
265	Tata Motors	Automobiles & parts (335)	India	175.38	-20.7	13,857	1.3	2.5
266	United Microelectronics	Semiconductors (9576)	Taiwan	175.29	-2.8	1,991	8.8	-0.5
267	Hilti	Construction & materials (235)	Liechtenstein	174.56	1.4	2,592	6.7	4.1
268	Yamaha	Leisure goods (374)	Japan	173.82	-6.6	3,438	5.1	-2.2
269	China South Locomotive	Commercial vehicles & trucks (2753)	China	173.18	68.8	4,657	3.7	5.0
270	Sepracor (now part of Sumitomo Chemical, Japan)	Pharmaceuticals (4577)	USA	172.02	-6.4	901	19.1	3.3
271	Thermo Fisher Scientific	Health care equipment & services (453)	USA	171.52	-1.2	7,046	2.4	10.4
272	Avago Technologies	Semiconductors (9576)	Singapore	170.75	-7.5	1,034	16.5	3.2
273	Harris	Telecommunications equipment (9578)	USA	169.71	-11.5	3,903	4.3	3.5
274	Hospira	Pharmaceuticals (4577)	USA	167.62	12.6	2,704	6.2	12.5
275	Goodrich	Aerospace & defence (271)	USA	166.57	-15.8	4,660	3.6	13.5
276	Garmin	Leisure goods (374)	Cayman Islands	166.14	15.7	2,054	8.1	26.8
277	Sumitomo Metal Industries	Industrial metals & mining (175)	Japan	165.61	10.0	13,808	1.2	11.6
278	Exelixis	Pharmaceuticals (4577)	USA	163.58	-8.8	106	154.7	-80.3
279	Nitto Denko	Chemicals (135)	Japan	162.58	-1.7	4,327	3.8	1.2
280	Kudelski	Electronic equipment (2737)	Switzerland	159.59	6.8	710	22.5	6.5

Rank	Company	ICB Sector	Country	R&D Investment		Net Sales	R&D/Net Sales ratio	Operating Profit
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<b>Top 1000 Companies</b>				<b>279,322.91</b>	<b>-1.6</b>	<b>7,165,241</b>	<b>3.9</b>	<b>7.9</b>
<i>number of companies for calculation</i>				<i>1000</i>	<i>998</i>	<i>999</i>	<i>998</i>	<i>998</i>
281	JSR	Chemicals (135)	Japan	157.68	10.2	2,639	6.0	5.8
282	Showa Denko	Chemicals (135)	Japan	155.30	3.3	5,077	3.1	-6.5
283	General Mills	Food producers (357)	USA	151.93	4.8	10,312	1.5	17.6
284	SK Telecom	Mobile telecommunications (657)	South Korea	151.92	4.4	8,725	1.7	11.4
285	Chi Mei Optoelectronics (now part of Chimei Innolux)	Electrical components & equipment (2733)	Taiwan	151.19	-2.0	6,932	2.2	0.5
286	Elbit Systems	Aerospace & defence (271)	Israel	151.07	17.2	1,974	7.7	8.2
287	Lenovo	Computer hardware (9572)	Hong Kong	149.39	-2.6	11,573	1.3	1.3
288	Furukawa Electric	General industrials (272)	Japan	148.95	0.5	7,732	1.9	-0.9
289	Metallurgical Corporation of China	General industrials (272)	China	148.03	42.0	16,847	0.9	4.9
290	Atmel	Semiconductors (9576)	USA	147.78	-18.5	848	17.4	-10.3
291	International Game Technology	Travel & leisure (575)	USA	147.61	-5.0	1,473	10.0	14.4
292	Delta Electronics	Electronic equipment (2737)	Taiwan	146.93	4.6	2,717	5.4	9.9
293	SAIC Motor	Automobiles & parts (335)	China	145.78		14,255	1.0	6.4
294	Zimmer	Health care equipment & services (453)	USA	143.15	5.9	2,854	5.0	24.9
295	Ssangyong Motor	Automobiles & parts (335)	South Korea	142.83	52.2	1,493	9.6	-28.0
296	Kansai Electric Power	Electricity (753)	Japan	142.54	-2.9	20,884	0.7	1.2
297	OC Oerlikon	General industrials (272)	Switzerland	141.59	-38.1	1,999	7.1	-20.1
298	NCR	Computer hardware (9572)	USA	140.78	-4.3	3,214	4.4	-1.8
299	Koito Manufacturing	Automobiles & parts (335)	Japan	140.75	-9.6	2,996	4.7	2.0
300	Takata	Automobiles & parts (335)	Japan	140.61	-17.1	2,886	4.9	-1.8
301	PACCAR	Commercial vehicles & trucks (2753)	USA	138.83	-41.7	5,636	2.5	1.9
302	ON Semiconductor	Semiconductors (9576)	USA	138.55	-15.0	1,233	11.2	7.8
303	Illinois Tool Works	Industrial machinery (2757)	USA	138.37	-5.8	9,690	1.4	9.7
304	Santen Pharmaceutical	Pharmaceuticals (4577)	Japan	138.19	42.6	761	18.2	14.9
305	Swisscom	Fixed line telecommunications (653)	Switzerland	137.54	119.4	8,091	1.7	22.6
306	Weatherford International	Oil equipment, services & distribution (57)	Switzerland	135.66	1.0	6,152	2.2	7.5
307	International Flavors & Fragrances	Personal goods (376)	USA	135.10	-8.9	1,621	8.3	14.5
308	AU Optronics	Electronic equipment (2737)	Taiwan	134.79	15.9	7,830	1.7	-7.0
309	Sumitomo Rubber Industries	Automobiles & parts (335)	Japan	134.63	-7.1	3,927	3.4	4.1
310	Tokai Rika	Automobiles & parts (335)	Japan	134.06	-2.3	2,526	5.3	0.4
311	AGCO	Commercial vehicles & trucks (2753)	USA	133.74	-1.3	4,621	2.9	3.0
312	Pitney Bowes	Electronic office equipment (9574)	USA	133.39	-10.0	3,881	3.4	16.5
313	Watson Pharmaceuticals	Pharmaceuticals (4577)	USA	132.77	16.0	1,947	6.8	14.1
314	Ciena	Telecommunications equipment (9578)	USA	132.64	8.7	455	29.2	-89.6
315	ConocoPhillips	Oil & gas producers (53)	USA	132.42	-9.1	104,083	0.1	6.6
316	Hoya	Electronic equipment (2737)	Japan	131.99	1.2	3,400	3.9	5.6
317	NGK Spark Plug	Automobiles & parts (335)	Japan	131.59	0.8	2,187	6.0	-14.0
318	Parametric Technology	Software (9537)	USA	131.38	3.6	654	20.1	1.7
319	Namco Bandai	Leisure goods (374)	Japan	131.11	-0.4	3,192	4.1	4.2
320	Polaris Software Lab	Software (9537)	India	130.32	-1.7	203	64.3	14.0
321	NTN	Industrial machinery (2757)	Japan	130.28	16.0	3,946	3.3	-1.0
322	China Coal Energy	Mining (177)	China	129.65	15.5	5,430	2.4	18.7
323	Linear Technology	Semiconductors (9576)	USA	129.52	-5.7	675	19.2	42.5
324	Endo Pharmaceuticals	Pharmaceuticals (4577)	USA	129.16	68.1	1,018	12.7	27.5
325	Kaneka	Chemicals (135)	Japan	128.79	3.6	3,366	3.8	0.0

Rank	Company	IGB Sector	Country	R&D Investment		Net Sales	R&D/Net Sales ratio	Operating Profit
				2009	change 09/08	2009	2009	2009
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<b>Top 1000 Companies</b>				<b>279,322.91</b>	<b>-1.6</b>	<b>7,165,241</b>	<b>3.9</b>	<b>7.9</b>
<i>number of companies for calculation</i>				<i>1000</i>	<i>998</i>	<i>999</i>	<i>998</i>	<i>998</i>
326	Sybase (now part of SAP, Germany)	Software (9537)	USA	128.48	-6.7	816	15.7	24.2
327	Terumo	Health care equipment & services (453)	Japan	128.46	8.9	2,267	5.7	17.6
328	Hitachi Kokusai Electric	Electronic equipment (2737)	Japan	127.77	-4.2	963	13.3	-9.0
329	Novell	Software (9537)	USA	126.41	-8.5	601	21.0	-24.8
330	Hasbro	Leisure goods (374)	USA	126.28	-5.3	2,835	4.5	14.5
330	Cypress Semiconductor	Semiconductors (9576)	USA	126.28	-6.4	465	27.1	-21.9
332	Kellogg	Food producers (357)	USA	126.15	0.0	8,764	1.4	15.8
333	OKI Electric	Telecommunications equipment (9578)	Japan	125.96	-7.7	4,085	3.1	-5.6
334	Amylin Pharmaceuticals	Biotechnology (4573)	USA	125.89	-17.3	529	23.8	-23.0
335	3Com (now part of Hewlett-Packard)	Telecommunications equipment (9578)	USA	125.44	-12.9	918	13.7	11.4
336	CR Bard	Health care equipment & services (453)	USA	125.17	-9.8	1,767	7.1	26.5
337	Idemitsu Kosan	Oil & gas producers (53)	Japan	124.38	7.2	28,438	0.4	2.0
338	Dover	Industrial machinery (2757)	USA	124.27	-5.8	4,064	3.1	10.1
339	Chartered Semiconductor	Semiconductors (9576)	Singapore	123.96	11.3	1,158	10.7	-2.7
340	Palm (now part of Hewlett-Packard)	Computer hardware (9572)	USA	123.51	-12.6	513	24.1	-41.6
341	Altria	Tobacco (378)	USA	123.36	-23.7	16,417	0.8	25.7
342	East Japan Railway	Travel & leisure (575)	Japan	122.80	4.8	20,191	0.6	15.8
343	DST Systems	Computer services (9533)	USA	122.73	13.5	1,546	7.9	14.8
344	Teradata	Computer services (9533)	USA	122.66	10.0	1,191	10.3	19.5
345	Kuraray	Chemicals (135)	Japan	122.47	7.3	2,821	4.3	4.6
346	Edwards Lifesciences	Health care equipment & services (453)	USA	122.31	26.1	921	13.3	16.4
347	Dainippon Screen Mfg	Semiconductors (9576)	Japan	120.33	-1.1	1,640	7.3	-11.2
348	JS	Construction & materials (235)	Japan	119.62	2.1	7,837	1.5	1.2
349	Mindtree	Software (9537)	India	119.56	14.6	194	61.6	14.1
350	Mattel	Leisure goods (374)	USA	119.39	-9.9	3,785	3.2	13.3
351	Hyundai Mobis	Automobiles & parts (335)	South Korea	119.14	64.1	10,313	1.2	12.1
352	Cubist Pharmaceuticals	Biotechnology (4573)	USA	118.88	34.7	392	30.3	24.3
353	JDS Uniphase	Telecommunications equipment (9578)	USA	118.55	-9.6	902	13.1	-71.5
354	Rockwell Automation	Industrial machinery (2757)	USA	118.48	-11.1	3,020	3.9	7.6
355	Koc	General industrials (272)	Turkey	118.38	-19.4	19,733	0.6	8.1
356	Alcoa	Industrial metals & mining (175)	USA	117.78	-31.3	13,064	0.9	-7.8
357	Synthes	Health care equipment & services (453)	USA	117.33	-0.9	2,366	5.0	34.3
358	Cardinal Health	Food & drug retailers (533)	USA	116.46	9.3	69,425	0.2	1.9
359	OneSteel	Industrial metals & mining (175)	Australia	115.58	22.7	4,539	2.5	5.9
360	Inventec	Computer hardware (9572)	Taiwan	115.53	1.4	9,697	1.2	1.3
361	BYD	Electronic equipment (2737)	China	115.41	12.1	4,029	2.9	11.3
362	Teradyne	Semiconductors (9576)	USA	114.88	-23.9	571	20.1	-14.9
363	SMC	Industrial machinery (2757)	Japan	114.57	-8.1	2,122	5.4	15.4
364	Yokohama Rubber	Automobiles & parts (335)	Japan	114.37	-0.1	3,873	3.0	-0.3
365	Shiseido	Personal goods (376)	Japan	114.12	4.6	5,168	2.2	5.6
366	Bio-Rad Laboratories	Health care equipment & services (453)	USA	114.01	2.5	1,244	9.2	13.0
367	Nippon Mining (now part of JX)	Oil & gas producers (53)	Japan	113.03	28.4	30,434	0.4	-1.7
368	Fujikura	Electrical components & equipment (2733)	Japan	112.22	7.1	4,295	2.6	-1.9
369	Semiconductor Manufacturing	Semiconductors (9576)	China	112.04	57.2	746	15.0	-97.1
370	TOFAS	Automobiles & parts (335)	Turkey	111.22	-19.0	2,372	4.7	4.8

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<b>Top 1000 Companies</b>				<b>279,322.91</b>	<b>-1.6</b>	<b>7,165,241</b>	<b>3.9</b>	<b>7.9</b>
<i>number of companies for calculation</i>				<i>1000</i>	<i>998</i>	<i>999</i>	<i>998</i>	<i>998</i>
371	Mitsubishi Rayon (now part of Mitsubishi Chemical)	Chemicals (135)	Japan	110.97	18.5	2,583	4.3	-11.4
372	Shanghai Electric	Industrial machinery (2757)	Hong Kong	110.70	11.8	5,883	1.9	4.4
373	DIC	Chemicals (135)	Japan	110.27	-5.5	6,980	1.6	1.9
374	Mitsubishi Gas Chemical	Chemicals (135)	Japan	110.11	8.4	3,351	3.3	1.8
375	Tatung	Electrical components & equipment (2733)	Taiwan	109.86	-14.3	2,587	4.2	-33.5
376	Integrated Device Technology	Semiconductors (9576)	USA	109.76	-2.3	373	29.4	-7.0
377	Meiji Seika Kaisha (now part of Meiji)	Food producers (357)	Japan	109.25	-1.2	3,100	3.5	2.0
378	Swatch	Personal goods (376)	Switzerland	109.23	-5.3	3,467	3.2	17.7
379	Red Hat	Software (9537)	USA	109.18	11.8	521	20.9	14.8
380	Mannkind	Biotechnology (4573)	USA	108.95	-37.6	0		
381	BorgWarner	Automobiles & parts (335)	USA	108.17	-24.6	2,761	3.9	1.8
382	TRW Automotive	Automobiles & parts (335)	USA	108.03	-24.8	8,094	1.3	2.9
383	Tosoh	Chemicals (135)	Japan	107.81	5.9	5,491	2.0	-2.4
384	Abraxis Bioscience	Biotechnology (4573)	USA	107.76	49.3	250	43.1	-30.7
385	Molex	Electronic equipment (2737)	USA	107.33	-3.3	2,096	5.1	4.6
386	Pou Chen	Personal goods (376)	Taiwan	106.72	-6.2	4,498	2.4	8.6
387	OSI Pharmaceuticals (now part of Astellas Pharma, Japan)	Biotechnology (4573)	USA	105.83	12.2	299	35.4	35.4
388	UBE Industries	Chemicals (135)	Japan	105.74	3.9	5,126	2.1	3.3
389	Chubu Electric Power	Electricity (753)	Japan	105.18	0.0	18,791	0.6	2.2
390	Hyundai Heavy Industries	Commercial vehicles & trucks (2753)	South Korea	104.29	-1.1	17,510	0.6	8.8
391	PMC-Sierra	Semiconductors (9576)	USA	103.97	-5.4	346	30.1	11.3
392	Novellus Systems	Semiconductors (9576)	USA	103.92	-32.1	445	23.3	-11.8
393	Bharat Heavy Electricals	Industrial machinery (2757)	India	103.34	48.8	3,968	2.6	15.3
394	Lubrizol	Chemicals (135)	USA	102.94	-1.3	3,196	3.2	18.0
395	Varian Medical Systems	Health care equipment & services (453)	USA	102.71	8.7	1,550	6.6	20.8
396	Salesforce.com	Software (9537)	USA	102.45	34.0	910	11.3	8.7
397	National Instruments	Electronic equipment (2737)	USA	101.45	-4.6	472	21.5	7.1
398	Clariant	Chemicals (135)	Switzerland	101.14	-18.5	4,459	2.3	-0.4
399	Intersil	Semiconductors (9576)	USA	101.10	1.0	426	23.7	6.8
400	Huntsman	Chemicals (135)	USA	101.06	-5.8	5,410	1.9	-0.9
401	Sanken Electric	Semiconductors (9576)	Japan	100.83	-1.5	1,101	9.2	-6.2
402	Quest Software	Software (9537)	USA	100.62	-5.9	485	20.8	12.0
403	RUAG	Aerospace & defence (271)	Switzerland	100.39	20.7	1,143	8.8	-6.6
404	EMBRAER	Aerospace & defence (271)	Brazil	100.36	-26.9	3,810	2.6	6.3
405	Harley-Davidson	Automobiles & parts (335)	USA	99.73	-12.5	3,333	3.0	4.1
406	Tencent	Internet (9535)	China	99.64	73.5	1,270	7.8	47.3
407	Mahindra & Mahindra	Automobiles & parts (335)	India	99.58	28.9	3,475	2.9	21.3
408	Saudi Basic Industries	Chemicals (135)	Saudi Arabia	98.42	-7.3	19,151	0.5	11.4
409	Bombardier	Aerospace & defence (271)	Canada	98.27	-17.5	13,497	0.7	5.4
409	Smith International	Oil equipment, services & distribution (57)	USA	98.27	9.0	5,728	1.7	7.3
411	Samsung Techwin	Leisure goods (374)	South Korea	98.08	41.3	2,166	4.5	0.1
412	llumina	Biotechnology (4573)	USA	98.00	40.7	464	21.1	19.0
413	TOTO	Construction & materials (235)	Japan	97.99	9.1	3,478	2.8	-3.4
414	Sumitomo Bakelite	Chemicals (135)	Japan	97.92	1.3	1,590	6.2	-5.3
415	Funai Electric	Electronic equipment (2737)	Japan	97.75	-11.7	2,267	4.3	-0.9
416	Icahn Enterprises	General industrials (272)	USA	97.57	-1.4	4,269	2.3	19.4

Rank	Company	IGB Sector	Country	R&D Investment		Net Sales	R&D/Net Sales ratio	Operating Profit
				2009	change 09/08	2009	2009	2009
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<b>Top 1000 Companies</b>				<b>279,322.91</b>	<b>-1.6</b>	<b>7,165,241</b>	<b>3.9</b>	<b>7.9</b>
<i>number of companies for calculation</i>				<i>1000</i>	<i>998</i>	<i>999</i>	<i>998</i>	<i>998</i>
417	RF Micro Devices	Semiconductors (9576)	USA	96.85	-18.6	682	14.2	10.8
418	Eastman Chemical	Chemicals (135)	USA	95.48	-13.3	3,517	2.7	6.1
419	QLogic	Telecommunications equipment (9578)	USA	95.36	2.7	383	24.9	18.5
420	Trimble Navigation	Electronic equipment (2737)	USA	95.23	-7.8	785	12.1	7.8
421	Spansion	Semiconductors (9576)	USA	95.10	-68.4	983	9.7	-35.2
422	Logitech International	Computer hardware (9572)	Switzerland	94.65	5.5	1,371	6.9	4.0
423	Casio Computer	Leisure goods (374)	Japan	94.56	-14.4	3,878	2.4	-5.3
424	Endress & Hauser	Electronic equipment (2737)	Switzerland	94.11	6.0	1,096	8.6	7.7
425	Lonza	Chemicals (135)	Switzerland	93.04	-9.2	1,814	5.1	8.9
426	Nippon Oil (now part of JX)	Oil & gas producers (53)	Japan	92.17	-3.0	55,320	0.2	-5.1
427	Atheros Communications	Semiconductors (9576)	USA	91.02	7.4	378	24.1	3.7
428	Emulex	Computer hardware (9572)	USA	90.46	0.4	264	34.3	0.3
429	Nippon Shokubai	Chemicals (135)	Japan	90.45	8.1	2,164	4.2	-1.0
430	Daicel Chemical Industries	Chemicals (135)	Japan	90.18	0.4	2,830	3.2	2.5
431	Lite-On Technology	Computer hardware (9572)	Taiwan	89.52	-17.5	4,053	2.2	5.7
432	Black & Decker (now part of Stanley Black & Decker)	Household goods & home construction (372)	USA	89.07	-12.5	3,328	2.7	5.3
433	NGK Insulators	General industrials (272)	Japan	89.01	-2.3	2,045	4.4	9.1
434	Tokuyama	Chemicals (135)	Japan	88.88	6.4	2,253	3.9	-0.8
435	Onyx Pharmaceuticals	Pharmaceuticals (4577)	USA	88.87	74.5	175	50.7	8.0
436	Mitsubishi Materials	Industrial metals & mining (175)	Japan	88.73	1.5	10,662	0.8	1.3
437	Telenor	Mobile telecommunications (657)	Norway	88.07	-27.3	11,815	0.7	17.8
438	Anritsu	Electronic equipment (2737)	Japan	87.62	-17.1	628	13.9	-1.7
439	Sasol	Oil & gas producers (53)	South Africa	87.27	21.2	13,046	0.7	18.8
440	Sunplus Technology	Semiconductors (9576)	Taiwan	87.23	-13.6	389	22.4	2.6
441	Arris	Telecommunications equipment (9578)	USA	86.81	10.7	772	11.2	13.5
442	TOPCON	Health care equipment & services (453)	Japan	86.76	13.9	843	10.3	-9.4
442	Realtek Semiconductor	Semiconductors (9576)	Taiwan	86.76	-32.9	442	19.6	11.3
444	Ibiden	Electrical components & equipment (2733)	Japan	86.53	7.2	2,316	3.7	0.2
445	Kissei Pharmaceutical	Pharmaceuticals (4577)	Japan	86.52	1.7	483	17.9	4.1
446	Skyworks Solutions	Semiconductors (9576)	USA	86.42	-15.1	559	15.4	9.2
447	DnB NOR	Banks (835)	Norway	85.78	19.7	4,528	1.9	29.3
448	Itron	Electronic equipment (2737)	USA	85.25	1.3	1,176	7.2	2.1
449	United Therapeutics	Biotechnology (4573)	USA	85.16	-48.9	258	33.0	7.2
450	Bruker	Health care equipment & services (453)	USA	84.96	-6.9	777	10.9	11.9
451	Zeon	Chemicals (135)	Japan	84.75	-7.8	2,013	4.2	0.5
452	Avid Technology	Media (555)	USA	84.32	-18.6	438	19.2	-11.1
453	Microchip Technology	Semiconductors (9576)	USA	84.21	4.6	661	12.7	26.8
454	GSI Commerce	Computer services (9533)	USA	83.76	15.6	700	12.0	1.0
455	Norsk Hydro	Industrial metals & mining (175)	Norway	83.25	13.9	8,133	1.0	-1.1
455	RealNetworks	Software (9537)	USA	83.25	5.1	392	21.2	-43.5
457	Nuance Communications	Software (9537)	USA	83.24	3.9	662	12.6	6.8
458	Seattle Genetics	Biotechnology (4573)	USA	83.03	7.4	36	229.3	-163.3
459	Techtronic Industries	Electrical components & equipment (2733)	Hong Kong	82.99	3.0	2,156	3.8	4.2
460	Dana	Automobiles & parts (335)	USA	82.94	-43.5	3,644	2.3	-7.3
461	Newell Rubbermaid	Household goods & home construction (372)	USA	82.52	-0.9	3,887	2.1	10.2
462	Tyco International	General industrials (272)	Switzerland	82.24	-7.1	12,015	0.7	-8.7

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<b>Top 1000 Companies</b>				<b>279,322.91</b>	<b>-1.6</b>	<b>7,165,241</b>	<b>3.9</b>	<b>7.9</b>
<i>number of companies for calculation</i>				<i>1000</i>	<i>998</i>	<i>999</i>	<i>998</i>	<i>998</i>
463	Medicines	Pharmaceuticals (4577)	USA	81.97	11.2	282	29.1	-6.3
464	Polycom	Telecommunications equipment (9578)	USA	81.94	-13.1	674	12.2	7.2
465	Samsung Heavy Industries	Construction & materials (235)	South Korea	81.61	24.0	7,838	1.0	6.4
466	KB Financial	Banks (835)	South Korea	81.33	91.4	4,682	1.7	7.0
467	Open Text	Software (9537)	Canada	80.96	9.7	548	14.8	12.3
468	Systemex	Health care equipment & services (453)	Japan	80.64	16.8	837	9.6	13.2
469	Galenica	Pharmaceuticals (4577)	Switzerland	80.27	34.8	1,963	4.1	9.1
470	NSK	Support services (279)	Japan	80.04	4.4	4,848	1.7	2.3
471	Sumitomo Heavy Industries	Industrial machinery (2757)	Japan	80.02	8.4	4,813	1.7	5.6
472	Toyobo	Chemicals (135)	Japan	79.88	-1.9	2,750	2.9	-5.0
473	Millipore (now part of Merck, Germany)	Health care equipment & services (453)	USA	79.85	11.7	1,153	6.9	16.8
474	Netflix	General retailers (537)	USA	79.83	27.4	1,164	6.9	11.3
475	Campbell Soup	Food producers (357)	USA	79.45	-0.9	5,287	1.5	15.5
475	Clorox	Household goods & home construction (372)	USA	79.45	2.7	3,798	2.1	18.3
477	Incyte	Biotechnology (4573)	USA	79.23	-22.0	6	1,227.1	-1,940.7
478	NHK Spring	Industrial machinery (2757)	Japan	78.92	18.9	3,301	2.4	2.4
479	Kyorin	Pharmaceuticals (4577)	Japan	78.84	-2.7	680	11.6	5.1
480	Citizen	Electronic equipment (2737)	Japan	78.81	-2.5	2,222	3.5	-10.8
481	Nippon Sheet Glass	Construction & materials (235)	Japan	78.80	-32.2	5,535	1.4	-5.3
482	Advanced Semiconductor Engineering	Semiconductors (9576)	Taiwan	78.71	-6.8	1,869	4.2	11.3
483	Inverness Medical Innovations (now Alere)	Health care equipment & services (453)	USA	78.65	0.9	1,409	5.6	7.0
484	Biomarin Pharmaceutical	Biotechnology (4573)	USA	78.57	134.9	226	34.7	2.5
485	Nippon Kayaku	Chemicals (135)	Japan	78.45	-2.7	1,006	7.8	5.1
486	VeriSign	Software (9537)	USA	78.38	-8.9	875	9.0	27.6
487	Georg Fischer	Industrial machinery (2757)	Switzerland	78.21	-18.9	1,959	4.0	-7.0
488	Chunghwa Picture Tubes	Electronic equipment (2737)	Taiwan	77.68	-18.1	1,262	6.2	-64.4
489	Oji Paper	Forestry & paper (173)	Japan	77.45	-10.8	9,487	0.8	0.8
490	Electronics For Imaging	Computer hardware (9572)	USA	77.24	-21.1	280	27.6	-16.7
491	Kyushu Electric Power	Electricity (753)	Japan	77.05	5.1	11,411	0.7	5.7
492	Denki Kagaku Kogyo	Chemicals (135)	Japan	77.00	6.0	2,502	3.1	0.6
493	Zoran	Semiconductors (9576)	USA	76.80	-2.1	265	29.0	-9.7
494	Orbital Sciences	Aerospace & defence (271)	USA	76.49	113.5	784	9.8	4.4
495	TriQuint Semiconductor	Semiconductors (9576)	USA	76.28	19.6	456	16.7	2.6
496	Qisda	Computer hardware (9572)	Taiwan	75.82	-4.9	3,272	2.3	-0.1
497	TIBCO Software	Software (9537)	USA	75.75	2.0	433	17.5	14.3
498	Nanya Technology	Semiconductors (9576)	Taiwan	74.93	-46.2	930	8.1	-46.4
499	CommScope	Electrical components & equipment (2733)	USA	74.89	-20.3	2,108	3.6	7.9
500	Kajima	Construction & materials (235)	Japan	74.82	3.7	14,588	0.5	0.0
501	Biovail	Pharmaceuticals (4577)	Canada	74.32	55.7	572	13.0	21.4
502	Arena Pharmaceuticals	Pharmaceuticals (4577)	USA	74.12	-47.4	7	1,023.9	-1,277.6
503	HORIBA	Electronic equipment (2737)	Japan	73.60	-7.8	783	9.4	4.5
504	Schindler	Industrial machinery (2757)	Switzerland	73.49	9.0	8,557	0.9	7.6
505	Silicon Laboratories	Semiconductors (9576)	USA	72.76	3.2	307	23.7	15.1
506	Yaskawa Electric	Electronic equipment (2737)	Japan	72.66	-0.3	2,622	2.8	4.9
507	SEI Investments	Other financials (877)	USA	72.41	-11.6	739	9.8	33.8

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<b>Top 1000 Companies</b>				<b>279,322.91</b>	<b>-1.6</b>	<b>7,165,241</b>	<b>3.9</b>	<b>7.9</b>
<i>number of companies for calculation</i>				<i>1000</i>	<i>998</i>	<i>999</i>	<i>998</i>	<i>998</i>
508	F5 Networks	Telecommunications equipment (9578)	USA	72.25	-1.4	455	15.9	18.7
509	Yamatake	Electronic equipment (2737)	Japan	72.14	-2.1	1,768	4.1	7.1
510	Hisamitsu Pharmaceutical	Pharmaceuticals (4577)	Japan	71.98	-14.4	933	7.7	26.8
511	Osaka Gas	Gas, water & multiutilities (757)	Japan	71.89	-5.7	9,933	0.7	5.6
512	ArvinMeritor	Automobiles & parts (335)	USA	71.79	-24.3	3,218	2.2	-8.3
513	Human Genome Sciences	Biotechnology (4573)	USA	71.57	-47.1	192	37.2	2.2
514	BE Aerospace	Aerospace & defence (271)	USA	71.51	-21.9	1,350	5.3	15.3
515	Tohoku Electric Power	Electricity (753)	Japan	71.27	3.6	13,800	0.5	0.2
515	Hamamatsu Photonics	Electronic equipment (2737)	Japan	71.27	-6.3	539	13.2	4.2
517	Aristocrat Leisure	Travel & leisure (575)	Australia	71.11	-3.2	570	12.5	-22.6
518	Unisys	Computer services (9533)	USA	71.02	-21.0	3,204	2.2	7.2
519	Taisei	Construction & materials (235)	Japan	70.87	1.8	12,287	0.6	-2.2
520	Minebea	Industrial machinery (2757)	Japan	70.81	-4.9	1,918	3.7	3.7
521	Asahi Breweries	Beverages (353)	Japan	69.94	2.9	11,024	0.6	5.5
522	Tekelec	Telecommunications equipment (9578)	USA	69.93	-0.3	327	21.4	14.9
523	Novatek Microelectronics	Electronic equipment (2737)	Taiwan	69.90	12.4	589	11.9	14.7
524	Winbond Electronics	Semiconductors (9576)	Taiwan	69.77	-10.3	582	12.0	-22.2
525	Moog	Aerospace & defence (271)	USA	69.71	-8.7	1,289	5.4	8.1
526	Fairchild Semiconductor	Semiconductors (9576)	USA	69.49	-11.7	828	8.4	-3.8
527	Intuitive Surgical	Health care equipment & services (453)	USA	69.35	25.4	733	9.5	35.9
528	Kongsberg Gruppen	Aerospace & defence (271)	Norway	69.25	10.6	1,667	4.2	9.1
529	Yakult Honsha	Food producers (357)	Japan	69.24	3.3	2,197	3.2	2.6
530	Chunghwa Telecom	Fixed line telecommunications (653)	Taiwan	69.14	0.9	4,322	1.6	28.7
531	Zymogenetics	Biotechnology (4573)	USA	69.13	-21.7	95	72.4	-23.4
532	TPO Displays (now part of Chimei Innolux)	Electrical components & equipment (2733)	Taiwan	69.09	19.3	725	9.5	-5.8
533	PerkinElmer	Electronic equipment (2737)	USA	69.00	-8.4	1,166	5.9	8.1
534	Glory	Industrial machinery (2757)	Japan	68.91	-4.3	1,093	6.3	6.4
535	Crane	Industrial machinery (2757)	USA	68.79	-28.4	1,531	4.5	9.5
536	King Pharmaceuticals	Pharmaceuticals (4577)	USA	68.76	-32.0	1,238	5.6	13.4
537	Tokyo Gas	Gas, water & multiutilities (757)	Japan	68.61	-7.9	12,429	0.6	4.5
538	WMS Industries	Travel & leisure (575)	USA	68.58	23.2	492	13.9	19.3
539	International Rectifier	Semiconductors (9576)	USA	68.45	-7.2	516	13.3	-35.1
540	Shimadzu	Electronic equipment (2737)	Japan	68.40	3.9	2,043	3.3	6.0
541	Gen-Probe	Biotechnology (4573)	USA	68.34	21.8	347	19.7	24.1
542	Lion	Personal goods (376)	Japan	67.81	6.3	2,410	2.8	3.3
543	Infinera	Semiconductors (9576)	USA	67.73	20.8	215	31.4	-28.9
544	Tenneco	Automobiles & parts (335)	USA	67.60	34.7	3,240	2.1	2.0
545	Avocent (now part of Emerson Electric)	Computer hardware (9572)	USA	67.41	10.1	458	14.7	4.8
546	Powerchip Semiconductor (now Powerchip Technology)	Semiconductors (9576)	Taiwan	67.35	-6.0	782	8.6	-55.6
547	Ashland	Chemicals (135)	USA	66.91	84.6	5,649	1.2	4.5
548	Rieter	Industrial machinery (2757)	Switzerland	66.55	-19.3	1,319	5.0	-9.5
549	Keyence	Electronic equipment (2737)	Japan	66.50	8.6	1,238	5.4	39.3
550	Hydro-Quebec	Electricity (753)	Canada	66.48	0.0	8,200	0.8	51.6
551	China Railway	Construction & materials (235)	China	66.36	105.7	34,046	0.2	2.4
552	Nektar Therapeutics	Biotechnology (4573)	USA	66.29	-9.8	50	132.2	-131.1
553	Ebara	Industrial machinery (2757)	Japan	66.10	-18.3	3,752	1.8	-1.1
554	Finisar	Telecommunications equipment (9578)	USA	66.05	2.9	444	14.9	1.7

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<i>number of companies for calculation</i>				<i>1000</i>	<i>998</i>	<i>999</i>	<i>998</i>	<i>998</i>
555	Rovi	Software (9537)	USA	65.95	39.8	337	19.6	7.6
556	Hologic	Health care equipment & services (453)	USA	65.74	15.9	1,141	5.8	-123.4
557	Toyo Tire	Automobiles & parts (335)	Japan	65.61	-8.9	2,458	2.7	-2.0
558	Mochida Pharmaceutical	Pharmaceuticals (4577)	Japan	65.58	2.0	563	11.7	18.0
559	Biomet	Health care equipment & services (453)	USA	65.17	13.7	1,745	3.7	-14.9
560	Hanjin Heavy Industries	Construction & materials (235)	South Korea	65.07	15.3	1,932	3.4	10.3
561	Dongfang Electric	Industrial machinery (2757)	China	65.03	29.3	3,344	1.9	4.9
562	Progress Software	Software (9537)	USA	65.00	6.2	344	18.9	10.3
563	FMC	Chemicals (135)	USA	64.68	-1.1	1,970	3.3	12.2
564	Alkermes	Pharmaceuticals (4577)	USA	64.29	94.7	124	51.7	-24.3
565	Kinetic Concepts	Health care equipment & services (453)	USA	64.18	21.4	1,389	4.6	22.2
566	Verigy	Semiconductors (9576)	Singapore	64.12	-10.7	225	28.5	-39.3
567	Tokyo Ohka Kogyo	Chemicals (135)	Japan	63.95	5.5	627	10.2	-6.3
568	Disco	Semiconductors (9576)	Japan	63.88	2.4	398	16.1	1.5
569	FLIR Systems	Aerospace & defence (271)	USA	63.63	1.5	799	8.0	30.5
569	Valspar	Construction & materials (235)	USA	63.63	-5.4	2,007	3.2	10.0
571	VIA Technologies	Semiconductors (9576)	Taiwan	63.60		121	52.6	-52.1
572	Taiyo Yuden	Semiconductors (9576)	Japan	63.37	-4.8	1,388	4.6	-11.4
573	Avery Dennison	Chemicals (135)	USA	63.21	-3.5	4,149	1.5	-11.9
574	Energizer	Electrical components & equipment (2733)	USA	63.07	-1.3	2,788	2.3	15.3
575	Lawson Software	Software (9537)	USA	62.91	9.6	513	12.3	7.5
576	MiTAC International	Electronic equipment (2737)	Taiwan	62.81	13.7	1,378	4.6	0.3
577	Rigel Pharmaceuticals	Pharmaceuticals (4577)	USA	62.72	-17.9	1	11,992.4	-14,930.0
578	Tokai Rubber Industries	Chemicals (135)	Japan	62.67	5.8	2,054	3.1	1.7
578	Shimano	Leisure goods (374)	Japan	62.67	-10.5	1,398	4.5	8.4
580	Check Point Software Technologies	Software (9537)	Israel	62.55	-2.1	644	9.7	44.8
581	Mettler-Toledo International	Industrial machinery (2757)	USA	62.51	-12.3	1,205	5.2	14.5
582	ULVAC	Electronic equipment (2737)	Japan	62.47	-2.8	1,676	3.7	1.1
583	CPFL Energia	Gas, water & multiutilities (757)	Brazil	62.37	97.5	6,274	1.0	14.0
584	Salix Pharmaceuticals	Pharmaceuticals (4577)	USA	62.35	16.8	162	38.4	-17.2
585	Infosys Technologies	Software (9537)	India	62.16	67.3	3,406	1.8	30.6
586	Cheil Industries	Chemicals (135)	South Korea	61.95	14.4	2,550	2.4	4.5
587	Electric Power Development	Electricity (753)	Japan	61.88	3.1	5,278	1.2	7.8
588	Brunswick	Leisure goods (374)	USA	61.68	-27.6	1,935	3.2	-21.2
589	Macronix International	Semiconductors (9576)	Taiwan	61.63	-12.4	585	10.5	22.0
590	Applied Micro Circuits	Semiconductors (9576)	USA	61.40	4.0	143	42.8	-15.4
591	Kpit Cummins Infosystems	Computer services (9533)	India	61.27	-8.4	110	55.9	18.2
592	Hyosung	General industrials (272)	South Korea	61.06	2.5	5,991	1.0	6.0
593	THQ	Leisure goods (374)	USA	60.80	-20.1	627	9.7	-1.1
594	Cochlear	Health care equipment & services (453)	Australia	60.49	23.1	435	13.9	25.0
595	Air Products and Chemicals	Chemicals (135)	USA	60.15	-18.4	5,841	1.0	11.5
596	Daifuku	Industrial machinery (2757)	Japan	60.03	15.1	1,813	3.3	6.2
597	NewMarket	Chemicals (135)	USA	59.99	5.3	1,066	5.6	16.9
598	Mitsui Mining & Smelting	Industrial metals & mining (175)	Japan	59.98	-3.6	3,198	1.9	-12.3
599	Ecolab	Chemicals (135)	USA	59.94	0.0	4,112	1.5	11.5
600	Lear	Automobiles & parts (335)	USA	59.88	-24.0	6,823	0.9	13.2
601	Investment Technology	Other financials (877)	USA	59.87	7.0	441	13.6	12.5



Rank	Company	IGB Sector	Country	R&D Investment		Net Sales	R&D/Net Sales ratio	Operating Profit
				2009	change 09/08	2009	2009	2009
				€m	%	€m	%	% of Net Sales
<b>Top 1000 Companies</b>				<b>279,322.91</b>	<b>-1.6</b>	<b>7,165,241</b>	<b>3.9</b>	<b>7.9</b>
<i>number of companies for calculation</i>				<i>1000</i>	<i>998</i>	<i>999</i>	<i>998</i>	<i>998</i>
602	Dr Reddy's Laboratories	Pharmaceuticals (4577)	India	59.68	-2.6	1,026	5.8	9.0
603	Core Projects & Technologies	Support services (279)	India	59.65	48.9	101	58.8	29.0
604	NOK	Automobiles & parts (335)	Japan	59.53	-13.1	3,494	1.7	1.2
605	Eclipsys	Software (9537)	USA	59.31	6.9	362	16.4	1.8
606	Zebra Technologies	Electronic equipment (2737)	USA	59.30	0.0	560	10.6	8.4
607	Blue Coat Systems	Software (9537)	USA	59.19	10.8	346	17.1	7.9
608	Hankook Tire	Automobiles & parts (335)	South Korea	59.17	4.3	3,080	1.9	12.0
609	Shimizu	Construction & materials (235)	Japan	58.91	-7.8	14,132	0.4	0.6
610	Nippon Shinyaku	Pharmaceuticals (4577)	Japan	58.79	-0.6	472	12.5	11.5
611	Sonova	Health care equipment & services (453)	Switzerland	58.68	12.5	1,012	5.8	27.1
612	Japan Radio	Electronic equipment (2737)	Japan	58.42	-7.4	920	6.4	0.8
613	Japan Aviation Electronics Industry	Aerospace & defence (271)	Japan	58.22	-8.4	921	6.3	-1.4
614	Roper Industries	Electronic equipment (2737)	USA	58.13	-4.6	1,429	4.1	19.5
615	ADTRAN	Telecommunications equipment (9578)	USA	58.05	1.8	337	17.2	21.6
616	Daiwa House Industry	Household goods & home construction (372)	Japan	58.04	-1.5	12,660	0.5	1.0
617	Samsung C&T	Electronic equipment (2737)	South Korea	57.88	3.9	11,072	0.5	5.0
618	Kaken Pharmaceutical	Pharmaceuticals (4577)	Japan	57.62	13.0	621	9.3	11.8
619	Orkla	General industrials (272)	Norway	57.43	-5.9	6,614	0.9	-3.6
620	AvtoVAZ	Automobiles & parts (335)	Russia	57.32	-79.1	2,373	2.4	-46.8
621	Sierra Wireless	Telecommunications equipment (9578)	Canada	57.25	70.1	367	15.6	-7.2
622	Sumco	Semiconductors (9576)	Japan	57.21	-22.8	1,634	3.5	-57.8
623	Alexion Pharmaceuticals	Biotechnology (4573)	USA	57.09	31.1	270	21.2	22.5
624	Estee Lauder	Personal goods (376)	USA	56.87	0.9	5,104	1.1	6.0
625	Altus Pharmaceuticals	Biotechnology (4573)	USA	56.73	93.4	2	3,766.7	-4,589.6
626	Sealed Air	General industrials (272)	USA	56.59	-5.1	2,957	1.9	11.3
627	Fiserv	Support services (279)	USA	56.45	9.5	2,841	2.0	23.2
628	Adeka	Chemicals (135)	Japan	56.20	1.3	1,319	4.3	2.4
629	ConAgra Foods	Food producers (357)	USA	56.17	17.0	9,047	0.6	13.2
630	TPV Technology	Electronic equipment (2737)	Bermuda	55.86	19.0	5,598	1.0	2.3
631	Varian Semiconductor Equipment	Semiconductors (9576)	USA	55.80	-28.0	252	22.1	-11.8
632	Lukoil	Oil & gas producers (53)	Russia	55.76	-15.8	47,410	0.1	14.9
633	ANSYS	Software (9537)	USA	55.66	11.5	360	15.4	35.5
634	China Telecom	Fixed line telecommunications (653)	China	55.64	11.2	21,375	0.3	11.2
635	Juki	Industrial machinery (2757)	Japan	55.48	-5.8	583	9.5	-11.2
636	CNOOC	Oil & gas producers (53)	Hong Kong	55.05	6.3	10,739	0.5	38.5
637	West Japan Railway	Travel & leisure (575)	Japan	55.02	9.4	9,548	0.6	10.1
638	Nice-Systems	Software (9537)	Israel	54.85	-1.3	406	13.5	6.5
638	Convergys	Support services (279)	USA	54.85	23.2	1,970	2.8	-3.1
640	Woodward Governor	Industrial machinery (2757)	USA	54.74	7.0	997	5.5	10.8
641	Informatica	Software (9537)	USA	54.61	8.0	349	15.6	18.1
642	First Solar	Alternative energy (58)	USA	54.47	133.2	1,440	3.8	32.7
643	Cameron International	Oil equipment, services & distribution (57)	USA	54.44	13.8	3,640	1.5	14.0
644	Obayashi	Construction & materials (235)	Japan	54.42	4.6	12,596	0.4	1.1
645	Aastra Technologies	Telecommunications equipment (9578)	Canada	54.39	-16.5	554	9.8	7.1
646	Perrigo	Pharmaceuticals (4577)	USA	54.31	7.9	1,461	3.7	11.0
647	Regeneron Pharmaceuticals	Biotechnology (4573)	USA	54.27	-9.3	264	20.5	-19.5
648	Standard Microsystems	Semiconductors (9576)	USA	54.15	4.8	215	25.2	-4.5
649	Isis Pharmaceuticals	Biotechnology (4573)	USA	54.03	26.2	85	63.8	-22.7

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			<b>Top 1000 Companies</b>	<b>279,322.91</b>	<b>-1.6</b>	<b>7,165,241</b>	<b>3.9</b>	<b>7.9</b>
			<i>number of companies for calculation</i>	<i>1000</i>	<i>998</i>	<i>999</i>	<i>998</i>	<i>998</i>
650	ACI Worldwide	Software (9537)	USA	54.02	111.1	283	19.1	10.3
651	Affymetrix	Biotechnology (4573)	USA	53.91	-8.8	228	23.6	-10.1
652	OmniVision Technologies	Semiconductors (9576)	USA	53.88	-8.9	420	12.8	1.8
653	Bally Technologies	Travel & leisure (575)	USA	53.86	27.0	616	8.7	24.0
654	Akamai Technologies	Internet (9535)	USA	53.78	7.7	599	9.0	26.2
655	Waters	Health care equipment & services (453)	USA	53.77	-5.4	1,045	5.1	26.3
656	NCsoft	Internet (9535)	South Korea	53.70	7.7	208	25.9	8.0
657	Toyo Ink Manufacturing	Chemicals (135)	Japan	53.41	-5.5	1,795	3.0	0.1
658	Buhler	Industrial machinery (2757)	Switzerland	53.06	-4.4	1,161	4.6	7.1
659	Eltek	Telecommunications equipment (9578)	Norway	52.98	38.3	697	7.6	-0.2
660	Israel	General industrials (272)	Israel	52.97	-14.6	8,710	0.6	2.8
661	Alliant Techsystems	Aerospace & defence (271)	USA	52.90	-6.9	3,351	1.6	10.7
662	United Online	Internet (9535)	USA	52.84	19.0	690	7.7	15.2
663	Sanden	Automobiles & parts (335)	Japan	52.56	2.2	1,622	3.2	-7.5
664	WABCO	Automobiles & parts (335)	USA	52.41	-19.1	1,039	5.0	0.9
664	Cytec Industries	Chemicals (135)	USA	52.41	-7.8	1,944	2.7	1.1
666	Celanese	Chemicals (135)	USA	52.27	-6.3	3,542	1.5	5.9
667	Meiji Dairies (now part of Meiji)	Food producers (357)	Japan	52.00	-2.5	5,326	1.0	1.8
668	Rinnai	Household goods & home construction (372)	Japan	51.99	6.1	1,772	2.9	6.1
668	Nalco	Support services (279)	USA	51.99	0.8	2,611	2.0	10.8
670	Meidensha	General industrials (272)	Japan	51.95	6.3	1,488	3.5	-0.3
671	Riverbed Technology	Telecommunications equipment (9578)	USA	51.90	19.8	275	18.9	2.6
672	Opnext	Semiconductors (9576)	USA	51.68	37.2	222	23.2	-24.2
673	Praxair	Chemicals (135)	USA	51.57	-23.7	6,242	0.8	18.1
674	Nissin Kogyo	Automobiles & parts (335)	Japan	51.54	-5.9	1,395	3.7	6.6
675	Makita	Household goods & home construction (372)	Japan	51.53	16.2	2,201	2.3	17.0
676	Fair Isaac	Software (9537)	USA	51.52	-5.3	440	11.7	19.2
677	Basilea Pharmaceutica	Biotechnology (4573)	Switzerland	51.48	-20.3	18	287.8	-456.8
678	Airvana (now part of 72 Mobile Holdings LLC)	Telecommunications equipment (9578)	USA	51.35	-1.5	45	114.1	-80.0
679	Netlogic Microsystems	Semiconductors (9576)	USA	51.32	42.7	122	42.1	-28.4
680	SK Energy	Oil & gas producers (53)	South Korea	51.24	7.9	26,256	0.2	1.9
681	Bucher Industries	Commercial vehicles & trucks (2753)	Switzerland	51.17	-2.8	1,444	3.5	1.1
682	Innolux Display (now Chimei Innolux)	Electronic equipment (2737)	Taiwan	51.12	15.5	3,589	1.4	-1.8
683	Oshkosh	Commercial vehicles & trucks (2753)	USA	51.09	-20.3	3,787	1.3	-18.4
684	Gerdau	Industrial metals & mining (175)	Brazil	50.98	-31.6	10,611	0.5	3.1
685	Inventec Appliances	Leisure goods (374)	Taiwan	50.94	-2.1	1,512	3.4	3.1
686	Micro-Star International	Computer hardware (9572)	Taiwan	50.88	-4.3	1,791	2.8	0.3
687	Roland	Leisure goods (374)	Japan	50.71	0.5	752	6.7	6.1
688	Totvs	Software (9537)	Brazil	50.58	70.0	395	12.8	18.1
689	Reliance Industries	Oil & gas producers (53)	India	50.43	9.2	22,649	0.2	11.7
690	Array BioPharma	Biotechnology (4573)	USA	50.41	5.1	17	289.5	-481.1
691	Sika	Chemicals (135)	Switzerland	50.37	0.8	2,801	1.8	8.4
691	Coretronic	Leisure goods (374)	Taiwan	50.37	15.2	1,687	3.0	3.8
693	Diebold	Computer hardware (9572)	USA	50.20	-8.9	1,911	2.6	4.2
694	Lexicon Pharmaceuticals	Biotechnology (4573)	USA	50.11	-11.7	7	672.0	-864.6
695	Medicis Pharmaceutical	Pharmaceuticals (4577)	USA	50.02	-28.2	399	12.5	23.1
696	Xyratex	Computer hardware (9572)	Bermuda	49.97	-17.9	605	8.3	-1.4
697	Digital River	Internet (9535)	USA	49.74	39.4	281	17.7	15.8

Rank	Company	IGB Sector	Country	R&D Investment		Net Sales	R&D/Net Sales ratio	Operating Profit
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<b>Top 1000 Companies</b>				<b>279,322.91</b>	<b>-1.6</b>	<b>7,165,241</b>	<b>3.9</b>	<b>7.9</b>
<i>number of companies for calculation</i>				<i>1000</i>	<i>998</i>	<i>999</i>	<i>998</i>	<i>998</i>
697	Cree	Semiconductors (9576)	USA	49.74	21.3	395	12.6	5.4
697	Himax Technologies	Semiconductors (9576)	Cayman Islands	49.74	-18.5	483	10.3	6.3
700	Sun Pharmaceutical Industries	Pharmaceuticals (4577)	India	49.73	16.1	640	7.8	42.2
701	ADC Telecommunications	Telecommunications equipment (9578)	USA	49.65	-14.7	772	6.4	-43.0
702	Talecris Biotherapeutics	Biotechnology (4573)	USA	49.64	7.9	1,069	4.6	22.5
703	Pall	Industrial machinery (2757)	USA	49.63	-0.6	1,623	3.1	12.8
704	LTX-Credence	Semiconductors (9576)	USA	49.60	54.6	96	51.8	-100.6
705	Vivus	Biotechnology (4573)	USA	49.54	-7.7	35	142.0	-109.3
706	Cabot	Chemicals (135)	USA	49.48	-4.1	1,563	3.2	-2.6
707	Bobst	Industrial machinery (2757)	Switzerland	49.22	-24.4	712	6.9	-16.7
708	Aeroflex	Electronic equipment (2737)	USA	49.01	-9.3	418	11.7	-2.9
709	Enzon Pharmaceuticals	Biotechnology (4573)	USA	48.94	20.9	129	38.0	3.0
710	CSG Systems International	Software (9537)	USA	48.87	4.2	349	14.0	13.3
711	WR Grace	Chemicals (135)	USA	48.86	-15.2	1,969	2.5	3.2
712	Quantum	Computer hardware (9572)	USA	48.75	-0.8	475	10.3	4.3
713	K-V Pharmaceutical	Biotechnology (4573)	USA	48.70	49.8	232	21.0	-103.2
713	TerreStar	Mobile telecommunications (657)	USA	48.70	-5.0	2	2,930.4	-6,627.9
715	Ishihara Sangyo Kaisha	Chemicals (135)	Japan	48.68	0.7	784	6.2	4.9
716	Nippon Paper	Forestry & paper (173)	Japan	48.66	0.2	8,895	0.5	-0.9
717	McCormick	Food producers (357)	USA	48.09	9.4	2,225	2.2	14.7
718	NOF	Food producers (357)	Japan	47.56	7.6	1,125	4.2	1.9
719	Silicon Image	Semiconductors (9576)	USA	47.55	-19.6	105	45.3	-77.8
720	Synaptics	Software (9537)	USA	47.41	35.8	330	14.4	12.7
721	Reynolds American	Tobacco (378)	USA	47.39	15.3	5,868	0.8	21.0
722	Harbin Power Equipment	Industrial machinery (2757)	China	47.33	-1.8	2,923	1.6	2.2
723	Orbotech	Electronic equipment (2737)	Israel	47.30	-11.4	263	18.0	-3.0
723	Marel Food Systems (now Marel)	Industrial machinery (2757)	Iceland	47.30	27.7	532	8.9	3.1
725	Fortune Brands	Construction & materials (235)	USA	47.25	-4.8	4,666	1.0	7.5
726	FEI	Semiconductors (9576)	USA	47.18	-3.8	402	11.7	5.2
727	Taiwan Power	Electricity (753)	Taiwan	47.16	6.1	10,182	0.5	2.2
728	Proton	Automobiles & parts (335)	Malaysia	47.12	73.3	1,320	3.6	-6.9
729	Jack Henry & Associates	Support services (279)	USA	47.10	0.8	520	9.1	21.2
730	Tandberg (now part of Cisco Systems, USA)	Telecommunications equipment (9578)	Norway	47.04	33.4	564	8.3	21.8
731	LINTEC	Chemicals (135)	Japan	47.03	0.3	1,459	3.2	3.8
732	VeriFone (now VeriFone Systems)	Computer hardware (9572)	USA	47.01	-15.8	589	8.0	-15.2
733	Chugoku Electric Power	Electricity (753)	Japan	46.93	1.5	8,787	0.5	-0.4
734	Rambus	Semiconductors (9576)	USA	46.87	-11.8	79	59.5	-67.1
735	American Axle & Manufacturing	Automobiles & parts (335)	USA	46.70	-21.2	1,060	4.4	-13.6
736	Dolby Laboratories	Media (555)	USA	46.49	7.5	501	9.3	50.2
736	Avon Products	Personal goods (376)	USA	46.49	-4.7	7,236	0.6	9.7
738	China National Materials	Construction & materials (235)	China	46.47	258.3	3,100	1.5	8.2
739	Esterline Technologies	Aerospace & defence (271)	USA	46.19	-23.7	993	4.6	13.1
739	BJ Services (now part of Baker Hughes)	Oil equipment, services & distribution (57)	USA	46.19	-8.0	2,894	1.6	5.2
741	Fonterra Co-operative	Food producers (357)	New Zealand	46.15	2.1	8,132	0.6	6.0
742	Weichai Power	Automobiles & parts (335)	China	45.96	18.6	3,600	1.3	13.5
743	Tessera Technologies	Semiconductors (9576)	USA	45.92	7.0	209	22.0	41.1

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744	InterMune	Biotechnology (4573)	USA	45.91	-23.7	34	135.2	-193.9
745	Cymer	Semiconductors (9576)	USA	45.87	-31.8	214	21.4	5.8
746	Compuware	Software (9537)	USA	45.86	2.3	622	7.4	22.9
747	Constellation Software	Software (9537)	Canada	45.74	36.1	305	15.0	5.2
748	Tokyo Seimitsu	Semiconductors (9576)	Japan	45.61	-20.5	342	13.3	-20.2
749	Kureha	Chemicals (135)	Japan	45.56	-7.0	1,076	4.2	4.6
750	Terex	Commercial vehicles & trucks (2753)	USA	45.44	-8.4	3,628	1.3	-6.1
751	IDEXX Laboratories	Health care equipment & services (453)	USA	45.39	-7.9	719	6.3	17.0
752	Central Glass	Construction & materials (235)	Japan	45.32	-4.4	1,367	3.3	-0.6
753	Cray	Computer hardware (9572)	USA	45.12	24.1	198	22.8	-0.3
754	IAC/InterActiveCorp	Internet (9535)	USA	44.82	-1.8	959	4.7	-82.5
755	Amada	Industrial machinery (2757)	Japan	44.79	-13.5	1,690	2.6	9.1
756	Nippon Light Metal	Industrial metals & mining (175)	Japan	44.71	1.9	4,148	1.1	-5.0
757	Natura Cosmetics	Personal goods (376)	Brazil	44.70	7.9	1,696	2.6	21.8
758	Seikagaku	Pharmaceuticals (4577)	Japan	44.66	5.5	204	21.9	16.8
759	Interdigital	Semiconductors (9576)	USA	44.61	-36.8	207	21.5	38.3
760	Amphenol	Electrical components & equipment (2733)	USA	44.59	-6.0	1,965	2.3	17.2
761	Renewable Energy	Alternative energy (58)	Norway	44.52	43.8	1,105	4.0	-21.6
762	Secom	Support services (279)	Japan	44.49	2.6	5,157	0.9	9.7
763	Take-Two Interactive Software	Software (9537)	USA	44.43	-0.3	675	6.6	-13.4
764	Computershare	Other financials (877)	Australia	44.34	-1.8	1,042	4.3	25.3
765	ARIAD Pharmaceuticals	Biotechnology (4573)	USA	44.22	24.8	6	764.2	-961.7
766	Kongsberg Automotive	Automobiles & parts (335)	Norway	44.20	6.5	623	7.1	-7.4
767	JohnsonDiversey (now Diversey)	Household goods & home construction (372)	USA	44.14	-5.6	2,168	2.0	4.3
767	Sumitomo Metal Mining	Mining (177)	Japan	44.14	-3.5	5,943	0.7	4.2
769	Osiris Therapeutics	Biotechnology (4573)	USA	44.09	-9.5	35	124.5	-51.8
770	UTStarcom	Telecommunications equipment (9578)	USA	44.08	-55.9	269	16.4	-57.8
771	AOL	Internet (9535)	USA	44.05	-8.1	2,270	1.9	14.1
772	Nufarm	Chemicals (135)	Australia	44.02	20.5	1,678	2.6	6.7
773	USHIO	Electronic equipment (2737)	Japan	44.00	13.2	905	4.9	3.4
773	Richemont	General retailers (537)	Switzerland	44.00	4.8	5,177	0.8	16.2
775	ResMed	Health care equipment & services (453)	USA	43.95	4.2	642	6.8	20.5
776	TiVo	Leisure goods (374)	USA	43.94	1.5	166	26.5	-11.0
777	Mindray Medical International	Health care equipment & services (453)	Cayman Islands	43.93	21.3	442	9.9	24.4
778	Sigma-Aldrich	Chemicals (135)	USA	43.91	-2.3	1,497	2.9	23.3
778	Polaris Industries	Leisure goods (374)	USA	43.91	-18.7	1,091	4.0	9.9
780	Theravance	Pharmaceuticals (4577)	USA	43.53	-10.4	17	256.2	-333.8
781	Ichikoh Industries	Automobiles & parts (335)	Japan	43.36	-2.6	764	5.7	-8.9
782	L-3 Communications	Aerospace & defence (271)	USA	43.21	-27.9	10,883	0.4	10.6
783	Komori	Industrial machinery (2757)	Japan	43.18	-4.0	834	5.2	1.7
784	Baidu	Internet (9535)	Cayman Islands	43.15	47.6	454	9.5	37.1
785	Creative Technology	Computer hardware (9572)	Singapore	43.03	-3.3	325	13.2	-25.3
786	Dendreon	Biotechnology (4573)	USA	42.92	23.0	0	61,317.1	-99,604.3
786	Vestel Elektronik Sanayi Ticaret	Leisure goods (374)	Turkey	42.92	2.5	2,160	2.0	7.8
788	Harmonic	Telecommunications equipment (9578)	USA	42.82	12.8	223	19.2	-4.0
789	Sauer-Danfoss	Industrial machinery (2757)	USA	42.81	-25.9	808	5.3	-16.4
790	Coherent	Electronic equipment (2737)	USA	42.80	-17.3	304	14.1	-7.5
791	Sulzer	Industrial machinery (2757)	Switzerland	42.75	6.4	2,259	1.9	9.4

Rank	Company	IGB Sector	Country	R&D Investment		Net Sales	R&D/Net Sales ratio	Operating Profit
				2009	change 09/08	2009	2009	2009
				€m	%	€m	%	% of Net Sales
<b>Top 1000 Companies</b>				<b>279,322.91</b>	<b>-1.6</b>	<b>7,165,241</b>	<b>3.9</b>	<b>7.9</b>
<i>number of companies for calculation</i>				<i>1000</i>	<i>998</i>	<i>999</i>	<i>998</i>	<i>998</i>
792	Hexion Specialty Chemicals	Chemicals (135)	USA	42.51	-16.4	2,809	1.5	7.9
792	Owens Corning	Construction & materials (235)	USA	42.51	-11.6	3,347	1.3	4.0
794	Geely Automobile	Automobiles & parts (335)	Hong Kong	42.48	24.9	1,436	3.0	9.9
795	Mori Seiki	Industrial machinery (2757)	Japan	42.47	24.7	1,177	3.6	2.7
796	Albemarle	Chemicals (135)	USA	42.46	-9.5	1,398	3.0	10.0
797	Belden	Electrical components & equipment (2733)	USA	42.42	21.5	986	4.3	1.7
798	Teledyne Technologies	Aerospace & defence (271)	USA	42.37	-7.3	1,230	3.4	9.4
799	Noritz	Household goods & home construction (372)	Japan	42.32	-6.9	1,357	3.1	0.4
799	Actel	Semiconductors (9576)	USA	42.32	-7.5	133	31.9	-12.9
801	JEOL	Electronic equipment (2737)	Japan	42.25	-13.0	628	6.7	-3.8
802	Sonus Networks	Telecommunications equipment (9578)	USA	41.72	-17.1	159	26.3	-4.3
803	Kansai Paint	Chemicals (135)	Japan	41.57	-3.5	1,722	2.4	5.7
804	Intermec	Computer hardware (9572)	USA	41.51	-7.7	459	9.0	-3.0
805	Nippon Soda	Chemicals (135)	Japan	41.30	-2.5	1,131	3.7	7.2
806	Advanced Digital Broadcast	Electronic equipment (2737)	Switzerland	41.23	-14.4	266	15.5	5.1
807	Manitowoc	Commercial vehicles & trucks (2753)	USA	41.12	47.5	2,636	1.6	-14.7
808	Powerwave Technologies	Electrical components & equipment (2733)	USA	41.06	-24.1	396	10.4	0.1
809	Owens-Illinois	General industrials (272)	USA	40.98	-11.7	4,925	0.8	7.7
810	SPX	Electrical components & equipment (2733)	USA	40.91	-12.6	3,440	1.2	3.0
811	Singapore Technologies Engineering	Aerospace & defence (271)	Singapore	40.83	9.4	2,754	1.5	9.9
812	Nisshin Seifun	Food producers (357)	Japan	40.79	6.1	3,494	1.2	4.6
813	Extreme Networks	Telecommunications equipment (9578)	USA	40.55	-9.6	234	17.3	0.3
814	GS Yuasa	Electrical components & equipment (2733)	Japan	40.40	13.2	2,122	1.9	3.7
815	Suzuken	Food & drug retailers (533)	Japan	40.36	-0.9	12,288	0.3	0.8
816	Pentair	Industrial machinery (2757)	USA	40.34	-7.3	1,877	2.1	8.1
817	FormFactor	Semiconductors (9576)	USA	40.08	-12.2	94	42.5	-108.4
818	Nipro	Health care equipment & services (453)	Japan	40.07	-13.6	1,317	3.0	8.1
819	Veeco Instruments	Electronic equipment (2737)	USA	40.03	-4.8	265	15.1	-2.0
820	Metall Zug	Household goods & home construction (372)	Switzerland	39.91	-0.4	519	7.7	7.5
821	Geron	Biotechnology (4573)	USA	39.84	9.6	1	3,311.9	-4,137.3
822	Eizo Nanao	Computer hardware (9572)	Japan	39.72	-15.0	558	7.1	2.4
823	Emergent BioSolutions	Biotechnology (4573)	USA	39.71	13.9	164	24.3	17.1
824	Nichias	General industrials (272)	Japan	39.67	-0.9	1,117	3.6	2.8
825	Modine Manufacturing	Automobiles & parts (335)	USA	39.66	-29.4	906	4.4	0.0
826	Aloka	Health care equipment & services (453)	Japan	39.63	9.8	367	10.8	5.2
827	VTech	Telecommunications equipment (9578)	Hong Kong	39.59	-0.2	1,068	3.7	14.6
828	Clinical Data	Health care equipment & services (453)	USA	39.58	28.7	9	418.0	-625.2
829	Varian (now part of Agilent Technologies)	Health care equipment & services (453)	USA	39.33	-21.4	562	7.0	7.3
830	Scotts Miracle-Gro	Household goods & home construction (372)	USA	39.24	61.3	2,189	1.8	8.5
830	Alibaba.com	Internet (9535)	Cayman Islands	39.24	106.1	396	9.9	23.6
832	Nuvoton Technology	Electrical components & equipment (2733)	Taiwan	39.23	72.3			
833	DSP	Semiconductors (9576)	USA	39.13	-24.0	148	26.5	-10.8

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<i>number of companies for calculation</i>				<i>1000</i>	<i>998</i>	<i>999</i>	<i>998</i>	<i>998</i>
834	Lattice Semiconductor	Semiconductors (9576)	USA	39.12	-18.2	136	28.9	-3.9
835	Nisshin Steel	Industrial metals & mining (175)	Japan	39.10	-4.5	4,622	0.8	-2.9
836	Daewoo Shipbuilding & Marine	Commercial vehicles & trucks (2753)	South Korea	38.94	22.1	7,447	0.5	4.3
837	Hyundai Engineering & Construction	Construction & materials (235)	South Korea	38.85	34.9	5,553	0.7	6.5
838	Hill-Rom	Health care equipment & services (453)	USA	38.82	-5.8	967	4.0	-27.6
839	Fuji Machine Manufacturing	Electronic equipment (2737)	Japan	38.71	19.1	520	7.4	5.8
840	Hong Leong Asia	Construction & materials (235)	Singapore	38.57	35.8	2,208	1.7	6.7
841	Shikoku Electric Power	Electricity (753)	Japan	38.55	2.7	4,755	0.8	9.1
842	Hannstar Display	Leisure goods (374)	Taiwan	38.53	20.3	1,108	3.5	-27.4
843	Church & Dwight	Household goods & home construction (372)	USA	38.40	7.6	1,757	2.2	17.0
844	CAE	Industrial machinery (2757)	Canada	38.23	18.8	1,105	3.5	14.7
845	Curtiss-Wright	Aerospace & defence (271)	USA	38.09	10.1	1,261	3.0	9.7
846	Sekisui House	Household goods & home construction (372)	Japan	38.08	-17.8	10,131	0.4	-3.4
847	Taiheiyo Cement	Construction & materials (235)	Japan	38.00	-1.6	6,527	0.6	-2.2
848	Nippon Electric Glass	Electronic equipment (2737)	Japan	37.82	-1.1	2,513	1.5	20.5
849	Thoratec	Health care equipment & services (453)	USA	37.79	2.4	261	14.5	12.6
850	McDermott International	Construction & materials (235)	USA	37.78	35.2	4,316	0.9	8.6
851	Halozyme Therapeutics	Biotechnology (4573)	USA	37.65	36.6	10	395.1	-427.6
852	Ixia	Computer services (9533)	USA	37.62	9.7	124	30.3	-16.8
853	Dentsply International	Health care equipment & services (453)	USA	37.36	2.5	1,505	2.5	17.6
854	MKS Instruments	Semiconductors (9576)	USA	37.32	-31.8	287	13.0	-58.5
855	Kulicke & Soffa	Semiconductors (9576)	USA	37.28	-10.7	157	23.7	-22.6
856	Plantronics	Telecommunications equipment (9578)	USA	37.17	-26.0	437	8.5	9.9
857	EXEDY	Automobiles & parts (335)	Japan	37.04	8.8	1,248	3.0	6.2
858	Sanyo Chemical Industries	Chemicals (135)	Japan	37.00	5.6	970	3.8	-1.0
859	Trident Microsystems	Semiconductors (9576)	USA	36.95	0.8	53	70.0	-77.5
860	MSCI	Other financials (877)	USA	36.94	-6.2	309	12.0	29.7
861	Gigabyte Technology	Computer hardware (9572)	Taiwan	36.83	19.7	1,035	3.6	4.4
862	American Medical Systems	Health care equipment & services (453)	USA	36.77	14.1	362	10.2	27.7
863	Sigma Designs	Semiconductors (9576)	USA	36.69	20.9	144	25.5	1.8
863	Websense	Software (9537)	USA	36.69	-0.9	219	16.8	1.1
865	AO Smith	Construction & materials (235)	USA	36.66	8.5	1,388	2.6	6.6
866	Visma	Software (9537)	Norway	36.40	1,996.5	408	8.9	15.6
867	ViroPharma	Biotechnology (4573)	USA	36.30	-21.4	216	16.8	10.3
868	Savient Pharmaceuticals	Biotechnology (4573)	USA	36.05	-6.8	2	1,747.5	-3,149.1
869	Impax Laboratories	Biotechnology (4573)	USA	35.96	-12.5	250	14.4	19.7
869	Cipla	Pharmaceuticals (4577)	India	35.96	3.2	803	4.5	25.8
871	Starent Networks (now part of Cisco Systems)	Telecommunications equipment (9578)	USA	35.93	32.6	177	20.3	20.5
872	Auxilium Pharmaceuticals	Pharmaceuticals (4577)	USA	35.82	-5.7	114	31.3	-32.7
872	Micronas Semiconductor	Semiconductors (9576)	Switzerland	35.82	-56.6	163	22.0	-74.3
874	Conexant Systems	Semiconductors (9576)	USA	35.79	-59.0	145	24.6	-10.2
875	Advent Software	Software (9537)	USA	35.78	-6.4	194	18.4	11.1
876	JDA Software	Software (9537)	USA	35.77	-4.7	269	13.3	10.3
877	FMC Technologies	Oil equipment, services & distribution (57)	USA	35.75	13.2	3,070	1.2	12.0

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<b>Top 1000 Companies</b>				<b>279,322.91</b>	<b>-1.6</b>	<b>7,165,241</b>	<b>3.9</b>	<b>7.9</b>
<i>number of companies for calculation</i>				<i>1000</i>	<i>998</i>	<i>999</i>	<i>998</i>	<i>998</i>
878	Blackboard	Software (9537)	USA	35.66	13.3	263	13.6	5.4
879	Inspire Pharmaceuticals	Biotechnology (4573)	USA	35.64	17.9	64	55.5	-40.8
880	MSC Software (now part of Symphony Technology)	Software (9537)	USA	35.59	-0.1	177	20.1	-2.1
881	Synta Pharmaceuticals	Pharmaceuticals (4577)	USA	35.58	-37.4	101	35.4	55.0
882	Weyerhaeuser	Construction & materials (235)	USA	35.54	-20.3	3,853	0.9	-12.1
883	Matrix Laboratoires	Pharmaceuticals (4577)	India	35.53	98.2	341	10.4	11.3
884	Ezaki Glico	Food producers (357)	Japan	35.46	0.7	2,164	1.6	0.6
885	Alvarion	Telecommunications equipment (9578)	Israel	35.40	-14.9	171	20.7	-5.2
886	Vishay Intertechnology	Electrical components & equipment (2733)	USA	35.37	-19.7	1,423	2.5	-1.9
887	SeaChange International	Software (9537)	USA	35.31	17.7	141	25.1	1.1
888	Mindspeed Technologies	Semiconductors (9576)	USA	35.30	-9.9	88	40.0	-15.6
889	Ironwood Pharmaceuticals	Pharmaceuticals (4577)	USA	35.25	22.1	25	140.1	-203.3
890	AMETEK	Electronic equipment (2737)	USA	35.20	-12.2	1,462	2.4	17.3
891	NACCO Industries	Industrial machinery (2757)	USA	35.13	-19.4	1,610	2.2	2.1
892	Ashok Leyland	Commercial vehicles & trucks (2753)	India	35.06	-11.8	1,085	3.2	7.7
893	AptarGroup	General industrials (272)	USA	34.99	-17.5	1,284	2.7	10.7
894	Sycamore Networks	Telecommunications equipment (9578)	USA	34.94	5.8	47	74.4	-106.6
895	Nihon Kohden	Health care equipment & services (453)	Japan	34.87	-0.1	817	4.3	7.4
896	Archer Daniels Midland	Food producers (357)	USA	34.85	2.0	48,234	0.1	4.0
896	Comtech Telecommunications	Telecommunications equipment (9578)	USA	34.85	23.6	409	8.5	13.1
898	Shinko Electric Industries	Semiconductors (9576)	Japan	34.82	5.8	1,052	3.3	-6.9
899	Shutterfly	Internet (9535)	USA	34.77	13.5	172	20.2	3.5
900	Cirrus Logic	Semiconductors (9576)	USA	34.71	12.4	154	22.5	11.5
900	Ikanos Communications	Telecommunications equipment (9578)	USA	34.71	15.2	91	38.1	-28.8
902	Epicor Software	Software (9537)	USA	34.30	-6.3	285	12.0	4.2
903	Myrexis	Pharmaceuticals (4577)	USA	34.26	-57.2	4	900.8	-1,065.4
904	Great Wall Motor	Automobiles & parts (335)	Hong Kong	34.22	25.0	1,266	2.7	6.9
905	ev3 (now part of Covidien, Ireland)	Health care equipment & services (453)	USA	34.19	0.6	313	10.9	5.6
906	SAIC	Computer services (9533)	USA	34.15	6.5	7,560	0.5	8.0
907	Universal Scientific Industrial	Computer hardware (9572)	Taiwan	34.09	-10.3	1,121	3.0	4.0
908	Lennox International	Construction & materials (235)	USA	34.08	5.2	2,003	1.7	3.2
909	Shindengen Electric Manufacturing	Electrical components & equipment (2733)	Japan	34.02	4.1	638	5.3	-8.6
910	ProMOS Technologies	Semiconductors (9576)	Taiwan	33.91	-49.0	220	15.4	-242.4
911	EXAR	Semiconductors (9576)	USA	33.81	52.4	94	36.0	-25.4
912	Hitachi Zosen	Industrial machinery (2757)	Japan	33.71	46.0	2,236	1.5	1.5
913	Barry Callebaut	Food producers (357)	Switzerland	33.70	24.5	3,290	1.0	6.8
914	Timken	Industrial machinery (2757)	USA	33.66	-14.5	2,473	1.4	-3.9
915	Nihon Unisys	Computer services (9533)	Japan	33.65	-10.1	2,322	1.4	-4.0
915	A123 Systems	Electrical components & equipment (2733)	USA	33.65	30.7	63	53.0	-94.4
917	Cabot Microelectronics	Semiconductors (9576)	USA	33.56	-2.0	203	16.5	5.5
918	Toagosei	Chemicals (135)	Japan	33.48	-5.9	1,048	3.2	5.8
919	Unicharm	Personal goods (376)	Japan	33.38	-1.0	2,604	1.3	8.5
920	3par	Computer hardware (9572)	USA	33.14	2.6	135	24.5	-1.7
921	WEG	Industrial machinery (2757)	Brazil	33.11	-6.8	1,684	2.0	19.1

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<b>Top 1000 Companies</b>				<b>279,322.91</b>	<b>-1.6</b>	<b>7,165,241</b>	<b>3.9</b>	<b>7.9</b>
<i>number of companies for calculation</i>				<i>1000</i>	<i>998</i>	<i>999</i>	<i>998</i>	<i>998</i>
922	Dowa	Mining (177)	Japan	33.10	-39.5	2,597	1.3	-7.8
923	Orexigen Therapeutics	Biotechnology (4573)	USA	33.06	-40.1	0	54,203.3	-74,870.5
924	Gentex	Automobiles & parts (335)	USA	32.85	-9.2	380	8.7	17.1
925	Magma Design Automation	Software (9537)	USA	32.77	-31.6	86	38.2	-4.8
926	Analogic	Electronic equipment (2737)	USA	32.72	-4.1	276	11.9	-1.0
927	Alpha Networks	Telecommunications equipment (9578)	Taiwan	32.67	5.6	377	8.7	5.4
928	Kurita Water Industries	Gas, water & multiutilities (757)	Japan	32.66	-4.1	1,495	2.2	12.8
929	Dyax	Biotechnology (4573)	USA	32.47	-31.6	15	215.3	-249.8
930	Kose	Personal goods (376)	Japan	32.44	1.2	1,334	2.4	6.8
931	Micrel	Semiconductors (9576)	USA	32.42	-15.3	153	21.3	11.0
932	BigBand Networks	Telecommunications equipment (9578)	USA	32.36	-14.1	97	33.3	-7.4
933	Openwave Systems	Software (9537)	USA	32.35	-8.5	134	24.2	-43.8
934	Rockwood	Chemicals (135)	USA	32.34	-10.3	2,065	1.6	7.4
935	ZyXEL Communications	Telecommunications equipment (9578)	Taiwan	32.32	-2.0	251	12.9	-0.9
936	Delta Electronics (Tahiland)	Computer hardware (9572)	Thailand	32.31	-7.3	564	5.7	8.0
937	Hanesbrands	Personal goods (376)	USA	32.27	-0.3	2,712	1.2	5.7
938	MicroStrategy	Software (9537)	USA	32.06	4.1	265	12.1	22.7
939	Anadigics	Semiconductors (9576)	USA	32.04	-15.6	98	32.7	-40.3
940	Vitesse Semiconductor	Semiconductors (9576)	USA	31.84	-8.6	117	27.2	-106.3
941	Blackbaud	Software (9537)	USA	31.82	18.0	216	14.8	14.8
942	Hypercom	Computer hardware (9572)	USA	31.77	-1.3	284	11.2	0.9
942	Daido Steel	Industrial metals & mining (175)	Japan	31.77	-4.6	3,988	0.8	0.4
944	Ascom	Telecommunications equipment (9578)	Switzerland	31.69	37.4	362	8.7	5.4
945	Entropic Communications	Semiconductors (9576)	USA	31.48	-19.0	81	38.8	-11.6
946	Novatel Wireless	Telecommunications equipment (9578)	USA	31.29	29.2	235	13.3	1.0
947	Japan Steel Works	Industrial metals & mining (175)	Japan	31.28	22.8	1,700	1.8	13.0
948	ION Geophysical	Oil equipment, services & distribution (57)	USA	31.26	-9.5	293	10.7	-22.9
948	Semtech	Semiconductors (9576)	USA	31.26	8.3	200	15.7	11.0
950	Cheng Shin Rubber Industry	Automobiles & parts (335)	Taiwan	31.16	-4.7	1,841	1.7	20.6
951	Oil and Natural Gas	Oil equipment, services & distribution (57)	India	31.08	12.4	15,665	0.2	26.7
952	Corel (now part of Corel Holdings LP, Cayman Islands)	Software (9537)	Canada	31.02	-0.4	187	16.6	8.1
953	Snap-on	Household goods & home construction (372)	USA	31.01	-16.0	1,659	1.9	10.5
954	Amkor Technology	Semiconductors (9576)	USA	30.98	-20.9	1,519	2.0	10.5
955	Siegfried	Pharmaceuticals (4577)	Switzerland	30.89	-13.7	191	16.2	-12.1
956	Integra Lifesciences	Health care equipment & services (453)	USA	30.86	-26.8	476	6.5	14.0
957	AEterna Zentaris	Biotechnology (4573)	Canada	30.82	-23.0	44	69.9	-37.9
958	Nabtesco	Industrial machinery (2757)	Japan	30.76	0.7	1,184	2.6	5.4
959	ISEKI	Commercial vehicles & trucks (2753)	Japan	30.75	5.5	1,120	2.7	0.6
960	Nomura Research Institute	Computer services (9533)	Japan	30.73	-16.5	2,555	1.2	13.4
961	MeadWestvaco	General industrials (272)	USA	30.67	-27.9	4,216	0.7	9.3
961	EchoStar	Telecommunications equipment (9578)	USA	30.67	9.3	1,327	2.3	16.1
963	Valeant Pharmaceuticals	Pharmaceuticals (4577)	USA	30.65	-54.7	579	5.3	29.0
964	Stanley Electric	Automobiles & parts (335)	Japan	30.60	-13.6	2,121	1.4	7.2
965	Aspen Technology	Software (9537)	USA	30.56	-4.6	217	14.1	14.2
966	Deltek	Software (9537)	USA	30.41	-5.5	185	16.4	14.8



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<i>number of companies for calculation</i>				<i>1000</i>	<i>998</i>	<i>999</i>	<i>998</i>	<i>998</i>
967	Advantech	Computer hardware (9572)	Taiwan	30.38	16.3	334	9.1	12.4
968	Ariba	Computer services (9533)	USA	30.31	-16.8	236	12.8	4.6
969	RiskMetrics (now part of MSCI)	Support services (279)	USA	30.29	4.5	211	14.3	22.1
970	Stats ChipPAC	Semiconductors (9576)	Singapore	30.22	14.6	924	3.3	3.8
971	Advanced Energy Industries	Electrical components & equipment (2733)	USA	30.15	-21.3	130	23.2	-52.6
972	Silicon Storage Technology (now part of Microchip Technology)	Semiconductors (9576)	USA	30.08	-26.8	176	17.1	-3.7
973	Kikkoman	Food producers (357)	Japan	30.06	7.0	3,089	1.0	3.7
974	MICROS Systems	Computer hardware (9572)	USA	30.04	2.5	636	4.7	15.6
975	Zarlink Semiconductor	Semiconductors (9576)	Canada	29.95	-6.6	153	19.5	8.7
976	TravelSky Technology	Telecommunications equipment (9578)	China	29.83	-1.2	267	11.2	31.3
977	Cavium Networks	Semiconductors (9576)	USA	29.75	57.0	71	42.2	-21.1
978	Dong-A Pharmaceutical	Pharmaceuticals (4577)	South Korea	29.64	14.9	479	6.2	12.4
979	Tsumura	Pharmaceuticals (4577)	Japan	29.63	-9.4	674	4.4	16.8
980	IDB	General industrials (272)	Israel	29.62	-21.5	6,486	0.5	9.9
981	Westinghouse Air Brake Technologies	Commercial vehicles & trucks (2753)	USA	29.55	8.7	977	3.0	12.9
982	Mercury Computer Systems	Computer hardware (9572)	USA	29.53	-22.7	132	22.4	4.5
983	Taiyo Nippon Sanso	Oil & gas producers (53)	Japan	29.47	35.6	3,711	0.8	5.9
984	Miraca	Pharmaceuticals (4577)	Japan	29.45	-11.7	1,088	2.7	10.4
985	Affymax	Biotechnology (4573)	USA	29.44	-23.7	80	36.8	-68.6
985	Mellanox Technologies	Semiconductors (9576)	Israel	29.44	6.9	81	36.4	16.0
987	XOMA	Biotechnology (4573)	USA	29.42	-31.6	69	42.9	15.0
988	Fortinet	Software (9537)	USA	29.41	13.9	176	16.7	10.1
989	Nucleus Software Exports	Software (9537)	India	29.38	-11.9	44	67.2	15.4
990	Aruze (now Universal Entertainment)	Travel & leisure (575)	Japan	29.33	-35.8	150	19.6	-48.9
991	Verenium	Biotechnology (4573)	USA	29.28	-2.0	46	63.7	-113.8
991	Arbitron	Media (555)	USA	29.28	1.4	268	10.9	16.2
993	Crown	General industrials (272)	USA	29.27	-10.6	5,532	0.5	9.1
994	Bucyrus International	Commercial vehicles & trucks (2753)	USA	29.21	14.7	1,848	1.6	18.0
995	RadiSys	Computer hardware (9572)	USA	29.19	-15.1	212	13.8	-0.6
996	First Tractor	Commercial vehicles & trucks (2753)	China	29.05	82.6	916	3.2	3.5
997	Cosmo Oil	Oil & gas producers (53)	Japan	28.92	0.6	25,666	0.1	-3.1
998	Microsemi	Semiconductors (9576)	USA	28.88	-7.9	316	9.1	-2.2
999	Tsubakimoto Chain	Industrial machinery (2757)	Japan	28.80	4.5	1,059	2.7	6.2
1000	RPM International	Chemicals (135)	USA	28.78	3.0	2,378	1.2	9.4

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## **Abstract**

The 2010 “EU Industrial R&D Investment Scoreboard” presents information on the top 1000 EU companies and 1000 non-EU companies investing in R&D in their latest reporting year. The Scoreboard includes data on R&D investment along with other economic and financial data from the last four financial years. The data for the Scoreboard are taken from the companies’ latest published accounts, i.e. the 2009 fiscal year accounts. The global economic and financial crisis that started in 2008 and hit companies worldwide is fully reflected in the company accounts used for the 2010 Scoreboard.

The report examines overall levels of R&D investment, the performance of the EU and non-EU companies, and the main changes that took place last year. It comprises the performance of individual companies among the top R&D investors, in particular those with significant R&D growth and analyses the main indicators of the company data aggregated by industrial sectors and world regions respectively, with comparisons between the EU companies and their main competitors. A supplementary analysis about the characterisation of the Scoreboard companies according to their age of foundation and how it correlates with their R&D is also included.

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