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Monitoring industrial  
research:

# The 2009 EU industrial R&D investment SCOREBOARD

Joint Research Centre  
Directorate General Research

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## Summary

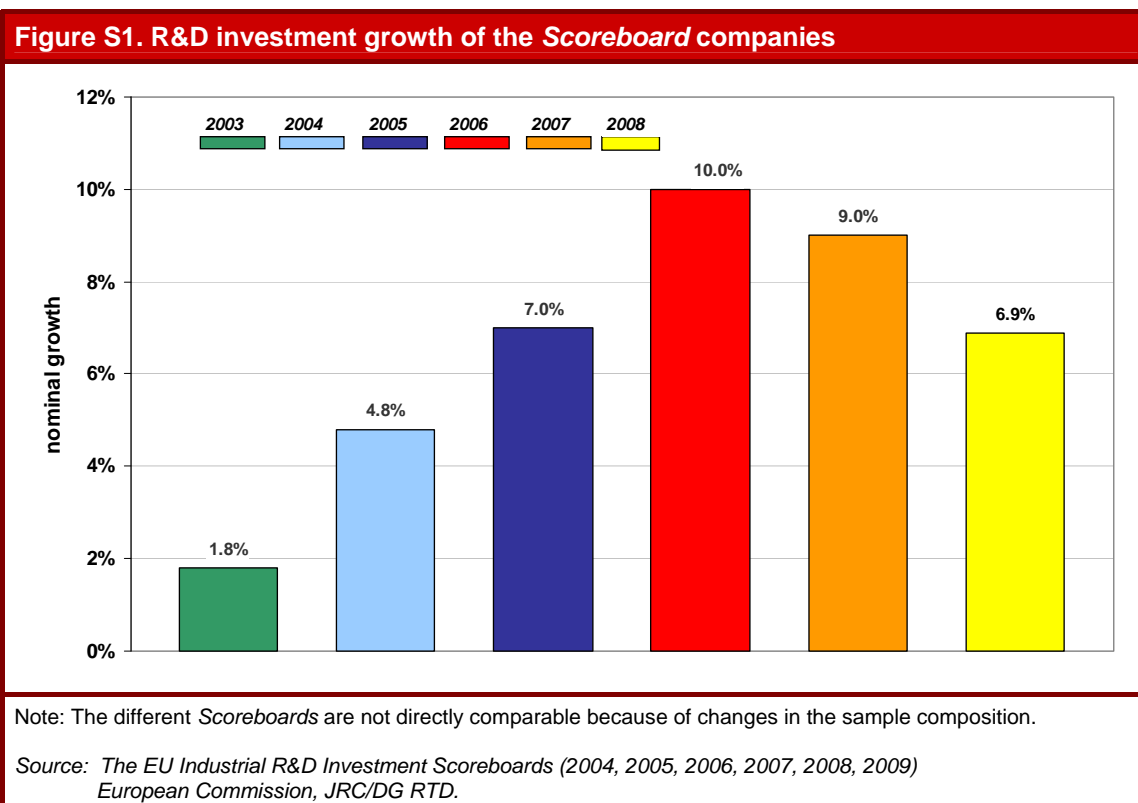
The 2009 "EU Industrial R&D Investment Scoreboard" (the *Scoreboard*) presents information on the top 1000 EU companies<sup>1</sup> and the top 1000 non-EU companies ranked by their investments in research and development (R&D).

The *Scoreboard* data are drawn from the latest available companies' accounts, i.e. the fiscal year 2008<sup>2</sup>. In the last part of this reporting period, the world economy entered into a strong financial and economic crisis that affected companies throughout the world. Some of the effects of the crisis are already reflected in these company results, namely on indicators such as sales, operating profits and market capitalisation. However, the full effects of the crisis, especially on R&D, tend to lag and are not yet captured in this *Scoreboard*.

### Key findings

#### Worldwide corporate R&D investment growth is still high (6.9%)

Despite the fact that the economic crisis started in the second half of 2008, the 2000 *Scoreboard* companies increased R&D investment by 6.9% in 2008, compared to 9.0% in previous year's *Scoreboard* and 10.0% in the year before (Figure S1).



<sup>1</sup> The term "EU company" refers to companies whose ultimate parent has its registered office in a Member State of the EU. Likewise, the term "non-EU company" is applied when the ultimate parent company is located outside the EU (see also the Annex on glossary and definitions).

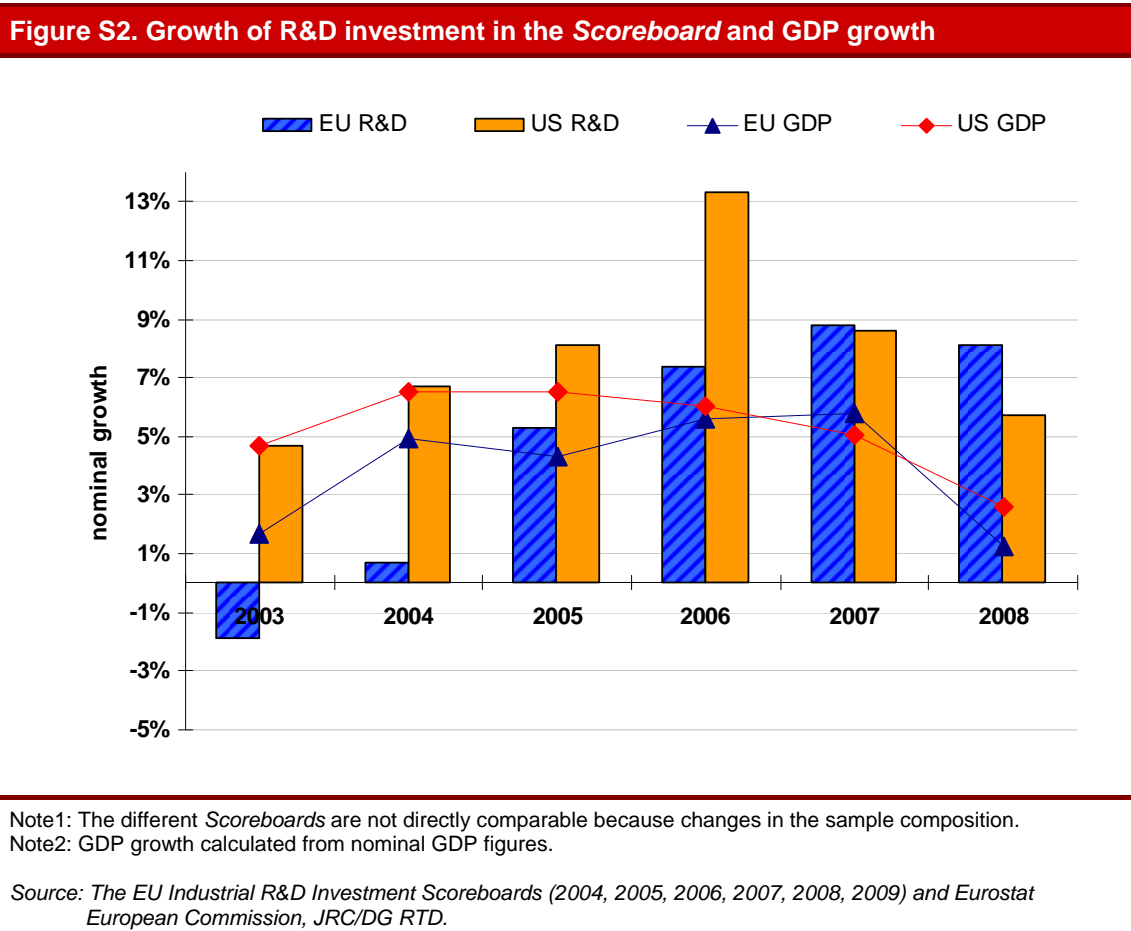
<sup>2</sup> However, due to differences in accounting practices, the sampling period includes a range of dates from late 2007 to early 2009.

## R&D investment growth by EU *Scoreboard* companies is ahead of that by their US and Japanese counterparts

Compared with the previous year, the R&D investment grew at lower pace all over the world, but important differences by world region are observed. For the second straight year, the R&D growth rate of EU companies (8.1%) has been higher than that of the US (5.7%). It also outpaced Japanese companies (4.4%) for the fourth straight year.

Companies from emerging economies, which account for a small share of the total R&D, continued the trend of high R&D growth e.g. China (40%), India (27.3%) and Taiwan (25.1%). Companies based in Switzerland and South Korea also increased their R&D investments well above the *Scoreboard* average.

The R&D growth rate of EU companies continued, for the third year, well ahead the nominal GDP growth rate (Figure S2).

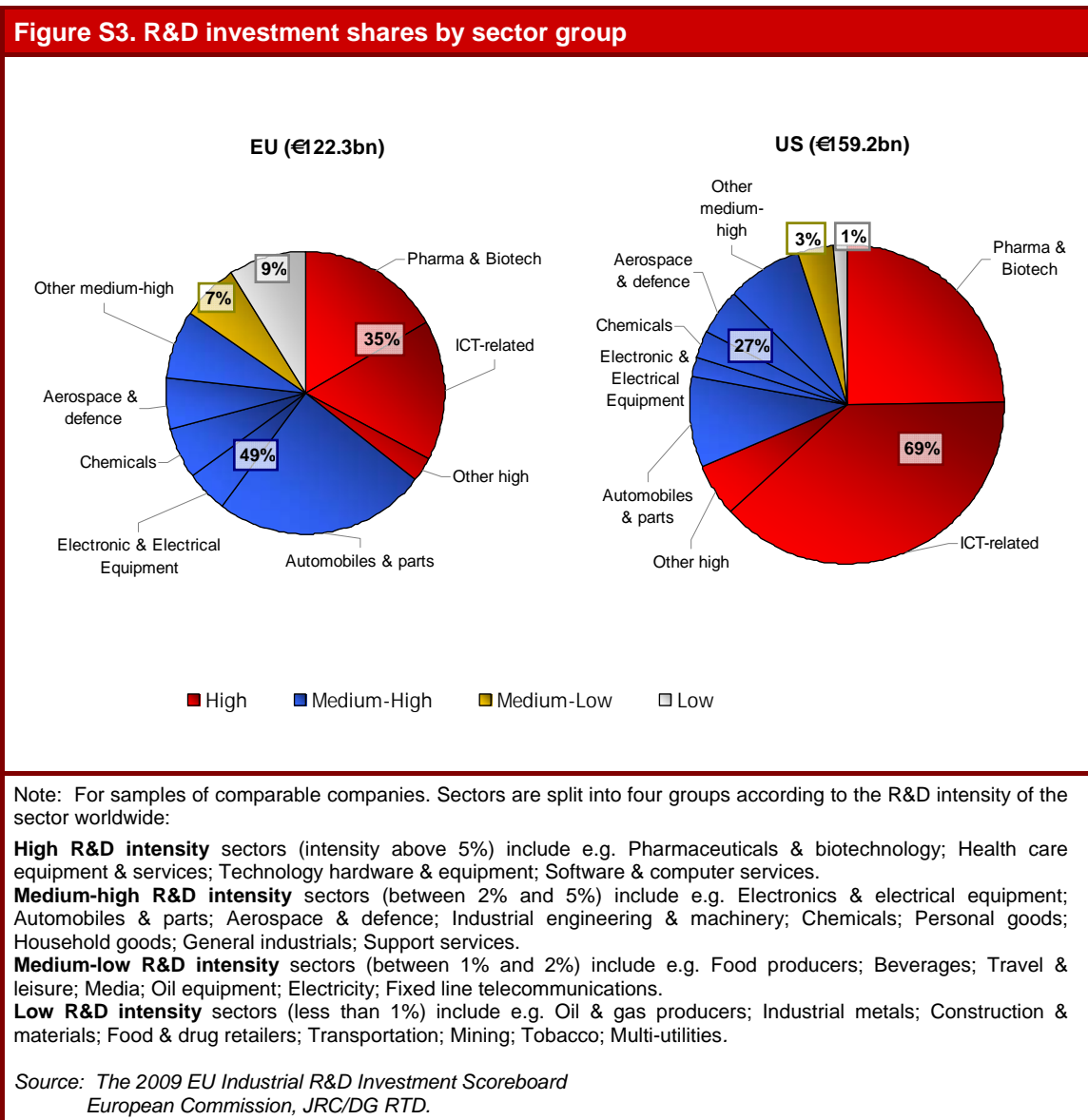


### However, the US is reinforcing its position in high R&D-intensity<sup>3</sup> sectors

The weight of individual sectors within each economy is important for understanding their actual contribution to overall R&D growth. Figure S3 shows the sector composition of the EU and US groups of companies. In the US, over two thirds of the R&D investment comes from high R&D-intensity sectors whereas in the EU, only one third comes from those sectors and about half from medium-high R&D-intensity sectors.

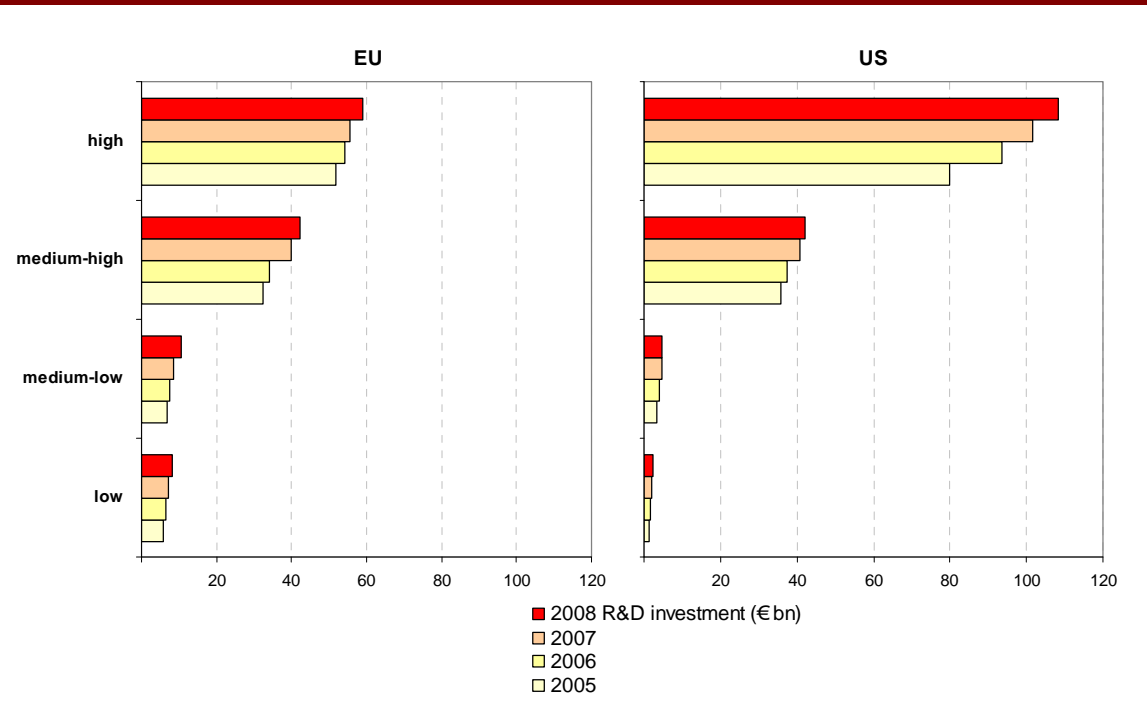
The individual sectors contributed differently to the R&D growth of *Scoreboard* companies. In the EU, the largest contribution to R&D growth was from medium R&D-intensity sectors<sup>4</sup> whereas in the US, most of high R&D-intensity sectors showed R&D growth above the US's average (5.7%).

This confirms a trend seen over the past years, with a strengthening of high R&D-intensity sectors in the US that increased their investments by 35% in the last four years against only 13.6% in the EU companies (Figure S4).



<sup>3</sup> In the *Scoreboard*, R&D intensity is the ratio of R&D investment over net sales (see methodological notes in Annex 2).

**Figure S4. R&D investment for the EU and the US Scoreboard companies from 2005-2008, by sector group**



Note: Sector groups as in figure S3. For samples of comparable companies.

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

### Within the EU, big differences in R&D growth by country of origin are observed

Companies based in Germany (the largest R&D investor) increased their R&D investment by 8.9%. EU Member States where companies grew their R&D well above the EU's average were Italy (20.4%), Sweden (17.0%), Denmark (16.4%) and the UK (11.3%). The lowest performance in the EU was the R&D investment by companies based in Finland (1.6%), France (0.7%) and Belgium (-0.8%).

### Toyota has taken the position of global top R&D investor and Volkswagen became the top R&D investor in the EU

In this year's *Scoreboard*, among the top 50 R&D investors, the EU and the US account respectively for 16 and 18 companies (for both, 2 less than last year) and Japan for 13 (4 more than last year).

In the list of top 10 R&D investors, Toyota Motor (€7.61 bn) has taken the first place; the US keeps five companies, Microsoft (€6.48 bn), General Motors (€5.76 bn), Pfizer (€5.72 bn), Johnson & Johnson (€5.45 bn) and Ford Motor

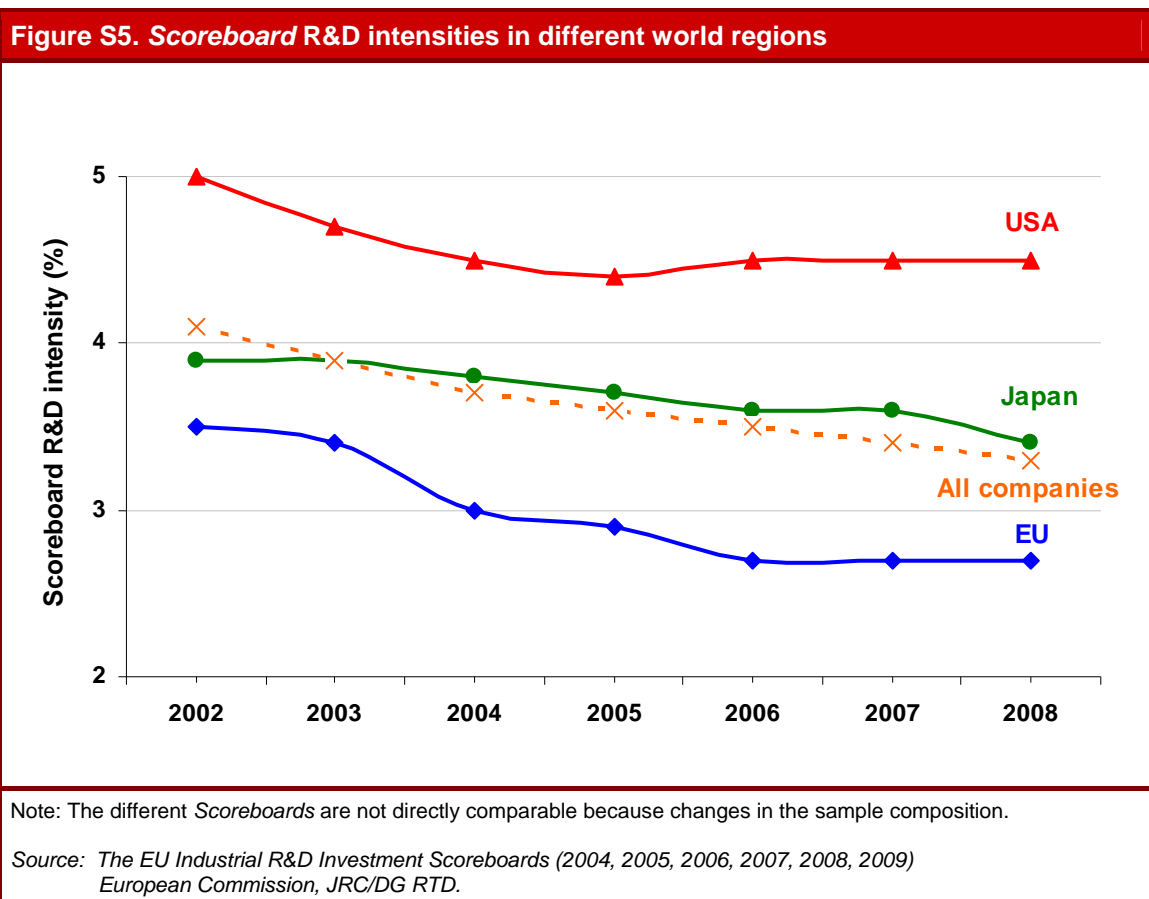
<sup>4</sup> In particular from the Automobiles & Parts sector.



(€5.25 bn); the EU has two companies, Volkswagen (€5.93 bn), becoming the biggest EU R&D investor, and Nokia (€5.32 bn). The other two companies among the top 10 are from Switzerland, Roche, (€5.88 bn) and Novartis (€5.19 bn).

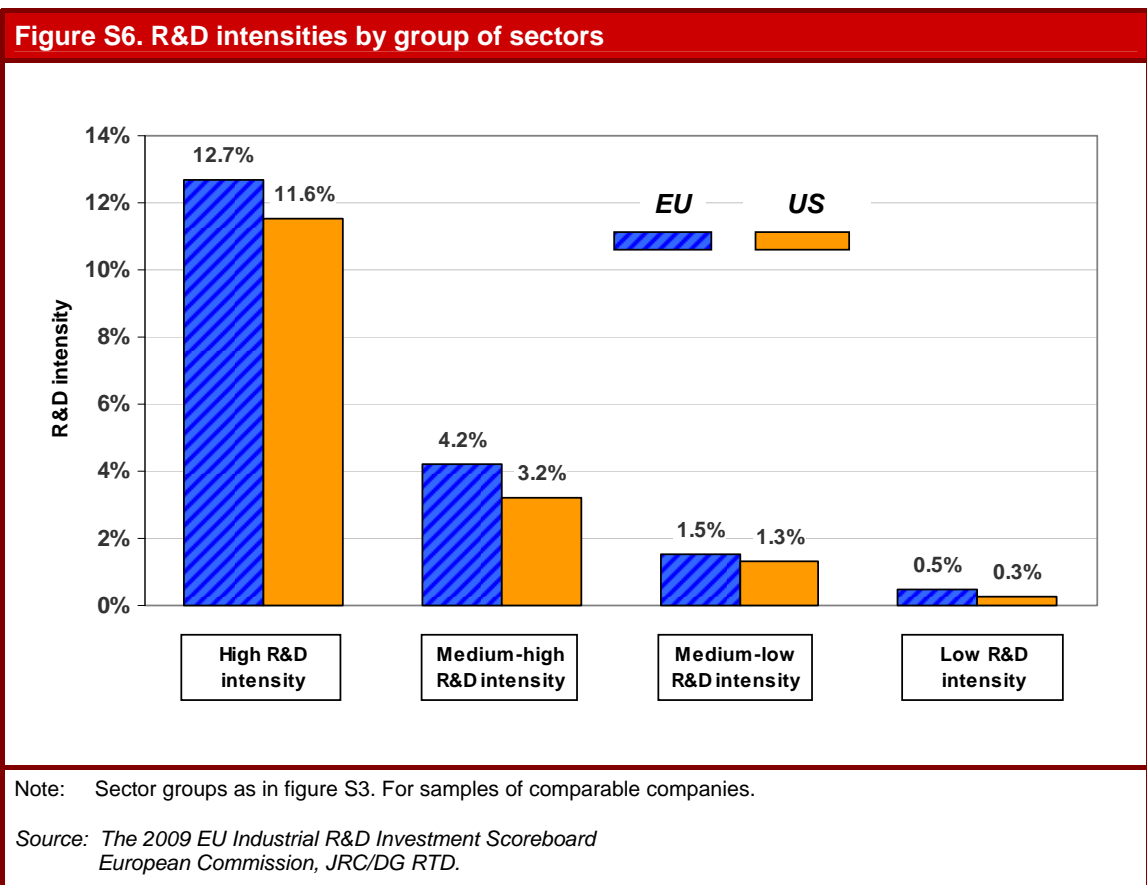
### Overall R&D intensities are stabilising

The R&D intensity of companies in most regions remained practically unchanged, except for Japanese companies that showed a decrease of R&D intensity due to higher growth rate of net sales than that of R&D investment (Figure S5). However, at the sector level some important changes in R&D intensity are observed, which are compensated at the aggregate level. These changes result from decreasing sales in some sectors due to the economic crisis and increasing sales in sectors like oil & gas producers due to high oil prices in 2008.



**The aggregate R&D intensity of EU companies is well short of the US, but sector by sector it is similar or greater**

In 11 out of the top 15 sectors by R&D investment<sup>5</sup>, the average R&D intensity of EU companies in the particular sector is higher than that of the US companies. These include technology hardware & equipment, automobiles & parts, aerospace & defence and electronic & electric equipment. Furthermore, grouping companies into sectors of high, medium-high, medium-low and low R&D intensity shows aggregate R&D intensities of EU companies greater than US companies (Figure S6).



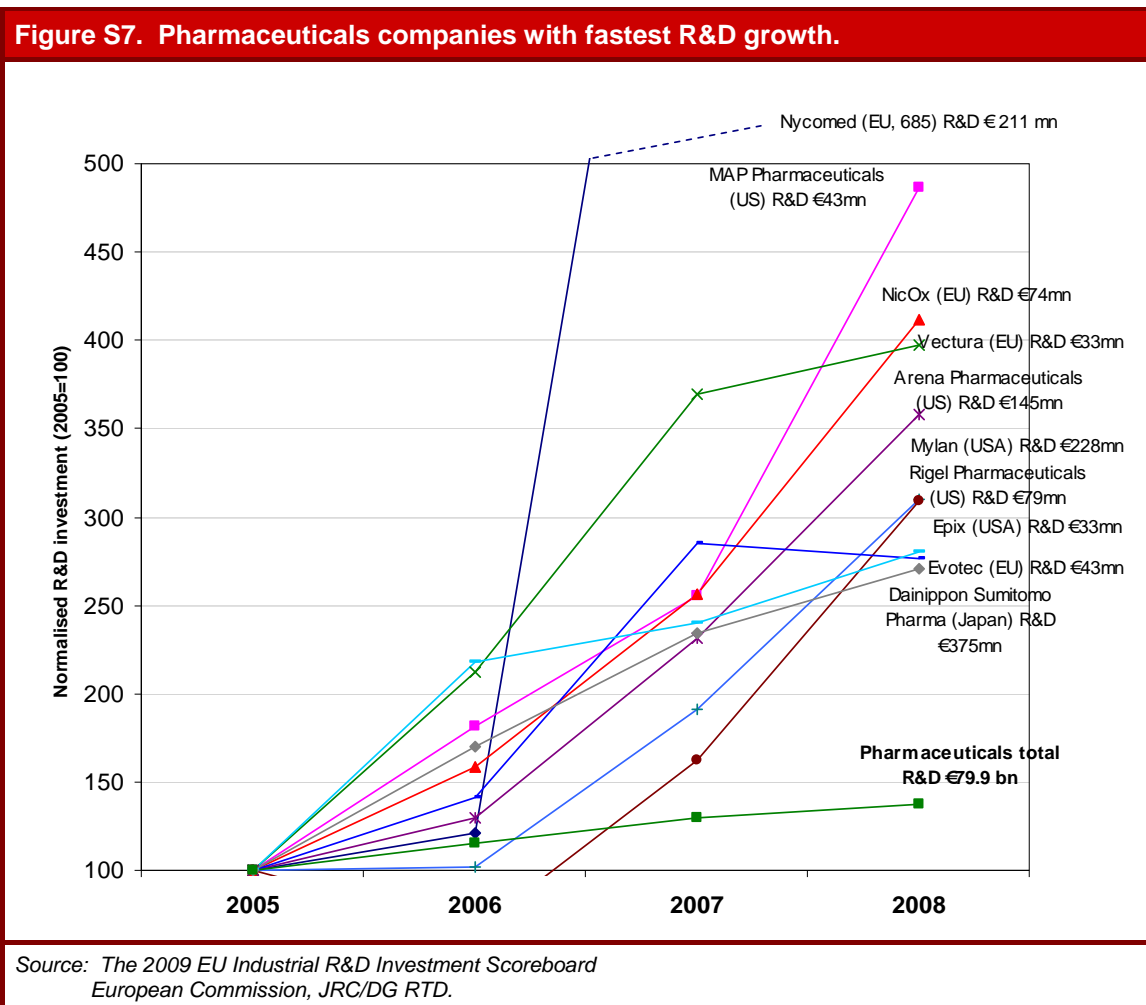
**The aggregate R&D intensity of EU companies is lower than that of US companies because of the weight of the high R&D intensity sectors group**

As shown in Figure S3 above, the weight of the high R&D intensity sector group is far greater amongst US companies (69%) than amongst the EU ones (35%). This explains, to a large extent, the lower aggregate R&D intensity of EU companies.

<sup>5</sup> These 15 sectors account for 93% of the total R&D investment by Scoreboard companies.

## The pharmaceuticals & biotechnology sector reinforces its position as top R&D investor worldwide

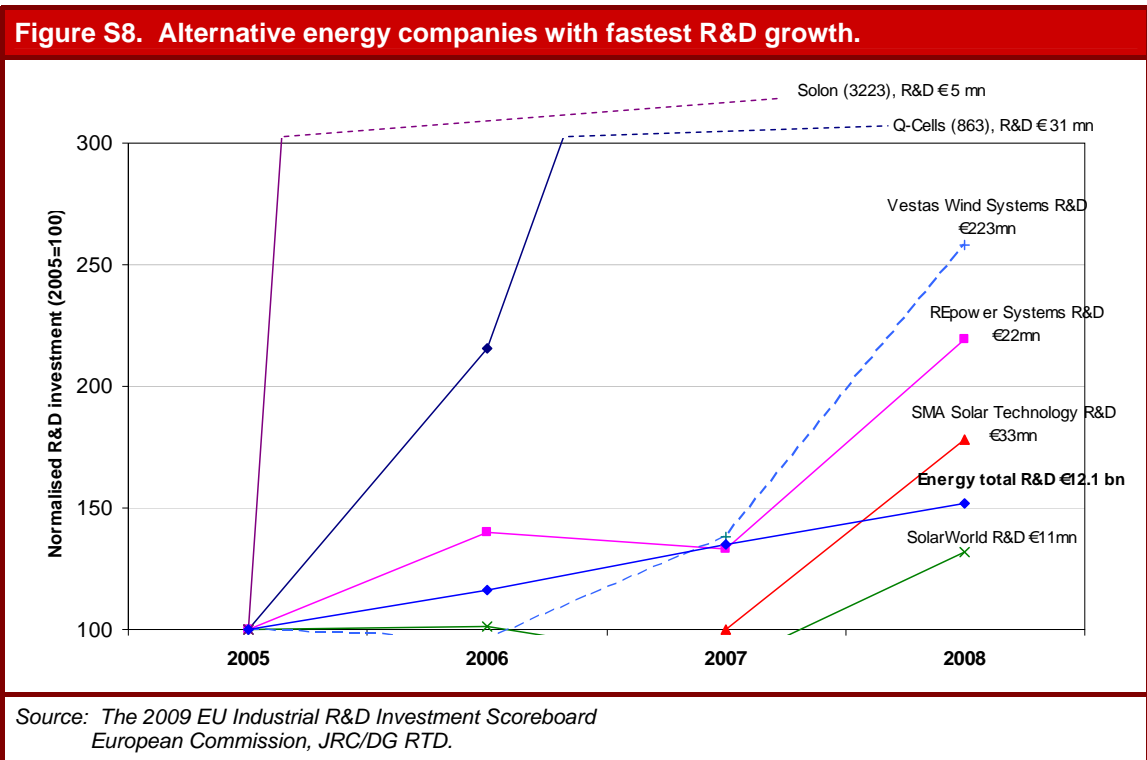
The pharmaceuticals & biotechnology sector continued in the top position of the R&D ranking, accounting for 18.9 % of the overall R&D investments by *Scoreboard* companies. Substantial R&D investment growth in pharmaceutical companies over the past years demonstrates the importance of R&D investment as one of the main drivers of this industry. Europe appears well placed in the technological race of this sector, showing similar performance than competitors in terms of R&D and related indicators. For example, among the 10 pharmaceutical companies<sup>6</sup> with the fastest R&D growth rates over the last three years, 4 companies are based in the EU, 5 in the US and 1 in Japan (Figure S7).



<sup>6</sup> From the set of comparable companies, with R&D investment more than €31.51 million and R&D intensity more than 5%.

**Companies in the energy field continued the sharp R&D increase seen in the past years**

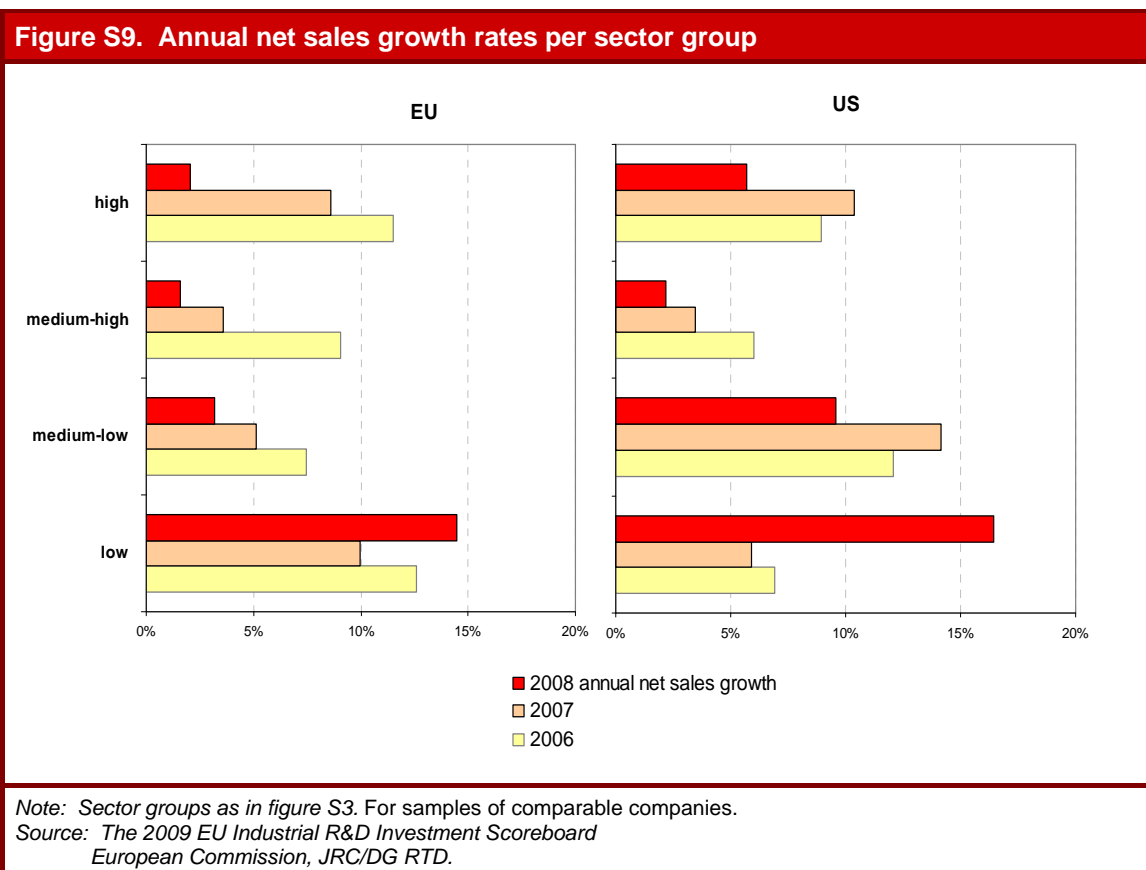
The outstanding R&D trends of companies in the field of energy that were observed in the past *Scoreboard* were maintained in 2008. In particular, companies developing alternative energy technologies, driven by security of energy supply and environmental issues, boosted again their R&D investments. This is illustrated by the performance of the 6 companies in the *Scoreboard's* alternative energy sector, all of them from the EU and fully devoted to technological developments in this field. Figure S8 shows the R&D evolution of these companies over the last 3 years, most of them showing R&D growth rates well above the average of *Scoreboard* energy related sectors.



## Distinct effects of the economic crisis are perceived by sector and by region

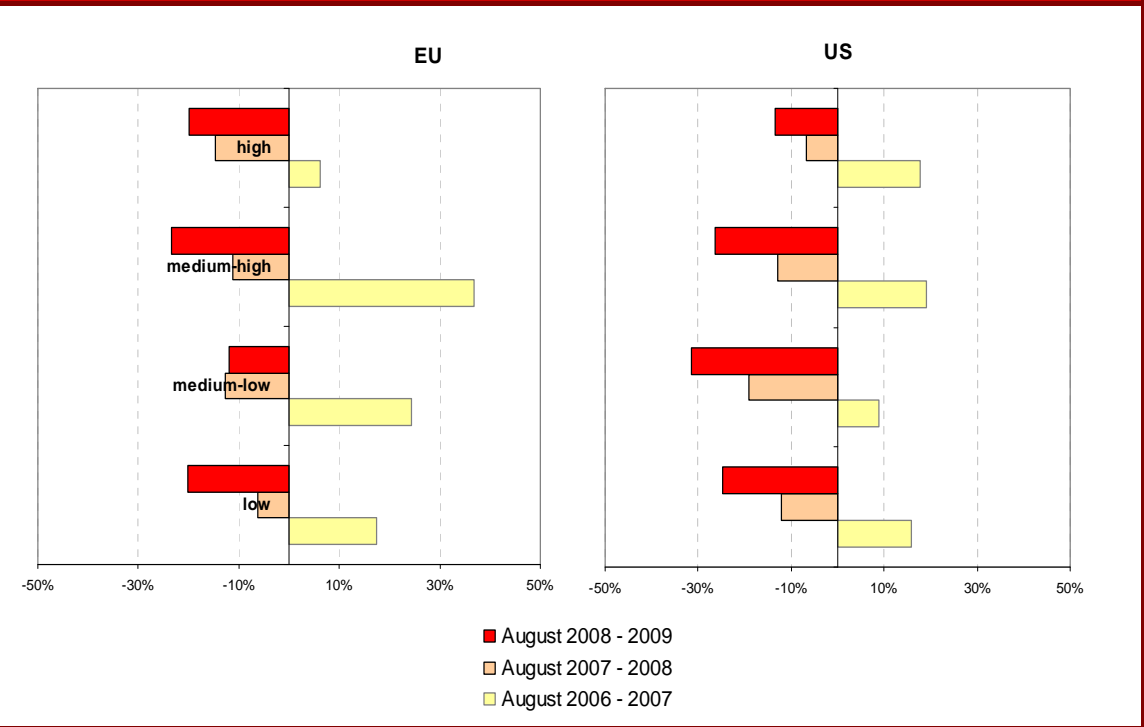
The growth rate of net sales increased in the low R&D-intensity sector, mainly because of the high oil prices in 2008 that benefited the oil-related sectors. In contrast, the other sectors saw a reduction in their growth rate of net sales. This was particularly pronounced in the high R&D-intensity sector and especially for EU companies that grew net sales at a rate less than half of that achieved by their US counterparts (Figure S9).

Market capitalisation<sup>7</sup> of *Scoreboard* companies also shows the early effects of the economic crisis as of the previous reporting period (up to August 2008). The market capitalisation is further reduced over the last period (August 2008 – August 2009). The largest impact for EU companies is in medium-high R&D-intensity sectors whereas for US companies, it is in the medium-low R&D-intensity ones. Companies in high R&D-intensity sectors appear less affected in the US group (Figure S10).



<sup>7</sup> Market capitalisation of companies in the *Scoreboard* is only available at a given date (mid-August of each year). Thus, only the change over one year (e.g. mid-August 2008 to mid-August 2009) can be examined. This means that the impact would have been much larger comparing with market capitalisation on March/April 2009.

**Figure S10. Annual market capitalisation changes per sector group**



*Note: Sector groups as in figure S3. For samples of comparable companies.  
 Source: The 2009 EU Industrial R&D Investment Scoreboard  
 European Commission, JRC/DG RTD.*

# 1. Introduction

The 2009 "EU Industrial R&D Investment Scoreboard"<sup>8</sup> (the *Scoreboard*) provides information on the 1000 EU companies<sup>9</sup> and 1000 non-EU companies investing the largest sums in R&D in the last 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 2008 accounts (although due to different accounting practices, it includes accounts ending on a range of dates, from late 2007 to early 2009). The approach for collecting data in the *Scoreboard* is explained in detail in Annex 2.

In the second half of the sampling period, a severe global economic and financial crisis hit companies worldwide. Some effects of the crisis are already visible in the company results of this year's *Scoreboard*, namely those directly affected such as sales, profits and market valuation. However, most of R&D and related indicators do not yet reflect the effects of the crisis because of the normal time lag and the fact that most companies' accounts had a year end of December 2008 or before and thus included only 3 or 4 months of the crisis. Another major event of 2008 was the sharp rise in the oil price (twice the price of October 2009). The last chapter of this report specifically addresses this issue.

## Sample composition

Table 1 provides the characteristics of the EU and non-EU datasets, indicating the main changes of the samples compared with the previous *Scoreboard*.

EU and non-EU groups include companies with different volumes of R&D investment. This year, the R&D investment threshold for the EU group is €4.34 million and that for the non-EU group is €31.51 million. In order to compare EU and non-EU companies on a similar basis, it is preferable to consider only EU companies with R&D above the non-EU threshold. Applying this threshold yields a group of 350 EU companies, representing approximately 94% of total R&D investment by the EU group. Using the non-EU threshold yields a sample of the world's top 1350 R&D investors that can be used for comparative purposes. The comparable global set last year totalled 1402; the smaller number of EU companies this year is due to an increase in the threshold of the non-EU companies<sup>10</sup> and exchange rate fluctuations, e.g. a higher number of Japanese companies because of the appreciation of the Yen.

<sup>8</sup> 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.

<sup>9</sup> 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).

<sup>10</sup> Last year's threshold was €24.21 million, compared to €31.51 million in the present *Scoreboard*.

## Report structure

This report presents key figures related to R&D and trends of the world's top R&D investors.

The overall levels of R&D investment, the performance of the EU companies, and the main changes that took place last year are examined in chapter 2, while chapter 3 outlines the performance of individual companies among the top R&D investors, in particular those undergoing significant R&D growth.

Chapters 4 and 5 analyse the main indicators of the company data aggregated by world regions and industrial sectors respectively, with comparisons between the EU companies and their main competitors. The analysis presented in these chapters is based on the set of 1350 companies with similar levels of R&D investment as discussed above (see page 13 "Sample composition").

Finally, chapter 6 presents a preliminary analysis of the effects of the economic crisis applying the *Scoreboard* indicators that are most sensitive to the economic recession.

Annex 1 provides background information and methodological details about how the *Scoreboard* is prepared, whereas the full methodological approach of the *Scoreboard*, its scope and the limitations are described in Annex 2. Further, Annex 3 lists the EU1000 and non-EU1000 companies ranked by their level of R&D investment. The complete data set is freely accessible online at: <http://iri.jrc.ec.europa.eu/>.

The different rankings of the *Scoreboard* dataset in spreadsheet format are accessible at:

1. EU dataset ranked by company :  
[http://iri.jrc.ec.europa.eu/research/docs/2009/vol\\_2\\_1\\_1.xls](http://iri.jrc.ec.europa.eu/research/docs/2009/vol_2_1_1.xls)
2. EU dataset ranked by Member State country:  
[http://iri.jrc.ec.europa.eu/research/docs/2009/vol\\_2\\_1\\_2.xls](http://iri.jrc.ec.europa.eu/research/docs/2009/vol_2_1_2.xls)
3. EU dataset ranked by industrial sector:  
[http://iri.jrc.ec.europa.eu/research/docs/2009/vol\\_2\\_1\\_3.xls](http://iri.jrc.ec.europa.eu/research/docs/2009/vol_2_1_3.xls)
4. Ranking of top 10 companies by EU Member State:  
[http://iri.jrc.ec.europa.eu/research/docs/2009/vol\\_2\\_1\\_4.xls](http://iri.jrc.ec.europa.eu/research/docs/2009/vol_2_1_4.xls)
5. Non-EU dataset ranked by company:  
[http://iri.jrc.ec.europa.eu/research/docs/2009/vol\\_2\\_1\\_5.xls](http://iri.jrc.ec.europa.eu/research/docs/2009/vol_2_1_5.xls)
6. Non-EU dataset ranked by country:  
[http://iri.jrc.ec.europa.eu/research/docs/2009/vol\\_2\\_1\\_6.xls](http://iri.jrc.ec.europa.eu/research/docs/2009/vol_2_1_6.xls)
7. Non-EU dataset ranked by industrial sector:  
[http://iri.jrc.ec.europa.eu/research/docs/2009/vol\\_2\\_1\\_7.xls](http://iri.jrc.ec.europa.eu/research/docs/2009/vol_2_1_7.xls)



**Table 1: Profile of the 2009 Scoreboard \***

Sample of EU companies	
Companies by country	UK 247 (289); DE 209 (189); FR 125 (113); SE 70 (78); FI 58 (60); IT 57 (57); NL 53 (49); DK 47 (42); BE 39 (40); etc.
The 10 most numerous sectors	Pharmaceuticals & Biotechnology 127 (128); Software & Computer Services 108 (107); Industrial Engineering 96 (92); Electronic & Electrical Equipment 67 (72); Technology Hardware & Equipment 57 (60); Automobiles & Parts 47 (45); Chemicals 47 (47); Food producers 35 (35); Support services 31 (33); Health care Equip. & Services 30 (32).
142 Entries & exits	<p>Entries (R&amp;D threshold: €4.34 million)</p> <ul style="list-style-type: none"> <li>- 44 new companies added to the dataset</li> <li>- 87 companies increased R&amp;D above threshold</li> <li>- 11 other reasons</li> </ul> <p>Exits</p> <ul style="list-style-type: none"> <li>- 41 leavers taken over by another company</li> <li>- 71 companies reduced R&amp;D below threshold</li> <li>- 30 other reasons</li> </ul>
Stock market	Listed companies 798 (799); Unlisted companies 202 (201)
Sample of non-EU companies	
Companies by country	US 531 (544); Japan 256 (244); Taiwan 41 (41); Switzerland 38 (42); South Korea 22 (21); Canada 18 (27); India 15 (15); etc.
The 10 most numerous sectors	Technology Hardware & Equipment 195 (198); Pharmaceuticals & Biotechnology 133 (127); Electronic & Electrical Equipment 87 (93); Software & Computer Services 89 (81); Chemicals 72 (74); Automobiles & Parts 61 (55); Industrial Engineering 53 (53); Health Care Equip. & Services 45 (46); Leisure goods 28 (24); General Industrials 27 (28).
134 Entries & exits	<p>Entries (R&amp;D threshold: €31.51 million)</p> <ul style="list-style-type: none"> <li>- 87 new companies added to the dataset</li> <li>- 36 companies increased R&amp;D above threshold</li> <li>- 4 demergers</li> <li>- 7 other reasons</li> </ul> <p>Exits</p> <ul style="list-style-type: none"> <li>- 30 leavers taken over by another company</li> <li>- 89 companies reduced R&amp;D below threshold</li> <li>- 15 other reasons</li> </ul>
Stock market	Listed companies 969 (956); Unlisted companies 31 (44)
<p>* Figures of last year's <i>Scoreboard</i> in brackets.</p> <p>Source: <i>The 2009 EU Industrial R&amp;D Investment Scoreboard</i>. European Commission, JRC/DG RTD.</p>	

## Methodological caveats

It is important to bear in mind the main methodological aspects of data presented in this report, in particular when using such data for comparative analyses. The full methodological explanation is found in Annex 2.

### NOTE:

- A typical problem arises when comparing data from different currency areas. In fact, *Scoreboard* data are nominal and expressed in Euros with all foreign currencies converted at the exchange rate of the year-end closing date (31.12.2008). The variation in the exchange rates from the previous year directly affects the ranking of companies, favouring those based in countries whose currency has appreciated with respect to the other currencies. For example, the ranking of Japanese companies in this year's *Scoreboard* is favoured by the significant appreciation of the Japanese yen against the other currencies (more than 20% against the Euro). The effect of the depreciation of the Euro on European firms' investments is partly offset by the investments by these firms outside the Euro area. Conversely, the effect of appreciation of the Yen and the US Dollar is partly offset by the fact that some of the investments were in Euros.

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 overstated because their overseas investment benefited from the depreciation of the Euro against the US dollar (from \$1.46 to \$1.39) and the Japanese yen (from ¥163 to ¥126). Conversely, the R&D growth rate of US and Japanese companies is partly understated due to the performance of their overseas investments in the Euro area. Within the EU, the opposite happened between companies from the Euro area and the UK, since the Euro appreciated against the pound sterling (from £0.73 to £0.97).

- 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 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>11</sup>.

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<sup>11</sup> 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 *Scoreboard* companies in the EU and non-EU groups.

Table 2 summarises the main data and changes that took place over the last year for the two sets of companies. As stated in chapter 1, direct comparisons between the two groups are not appropriate because the two samples of companies are not equivalent. Nevertheless, overall trends of economic indicators for each group give a first indication of changes for the two aggregates of companies. For example, with respect to the ongoing economic crisis, some *Scoreboard* indicators in Table 2 already reflect some of its aggregate effects on the two company sets.

### **Key points**

- Corporate investment in R&D continued to grow in 2008 albeit at a lower pace than in the previous year. Altogether, the 2000 *Scoreboard* companies invested €430.8 billion in the last financial year. This represents an aggregate in R&D investment growth of 6.9%. This is lower than the 9.0% growth reported in last year's *Scoreboard* (see Table 2).
- The 2009 *Scoreboard* shows that the growth in R&D investment of EU companies is higher than that of non-EU ones. This represents a trend break given that in the previous 6 years the R&D growth of EU companies was lower than that of non-EU firms. The 1000 EU companies in the *Scoreboard* increased their R&D investment by 7.8% (slightly lower than last year's 8.6% growth). At 6.6%, the R&D investment growth of the 1000 companies in the non-EU list was less pronounced than last year's 9.2 % growth (see Figure 1).
- The number of companies increasing their R&D investment in 2008 was similar in the EU group than in the non-EU one. Taking the top 100 companies of each group, the EU shows 55 increases of more than 5% in R&D and 27 decreases, whereas the non-EU group shows 55 increases of more than 5% and 28 decreases. The larger increases should be interpreted cautiously since many are due to acquisitions.
- The average R&D intensity<sup>12</sup> of companies has stabilised due to overall net sales growing at a similar pace as R&D investments. However, at the sector level some important changes in R&D intensity are observed, which are compensated at the aggregate level. These changes result from decreasing sales in some sectors due to the economic crisis and increasing sales in sectors like oil & gas producers due to high oil prices in 2008.
- The ratio of fixed capital investments to net sales continued to increase gradually worldwide as fixed capital investments grew faster than net sales. The EU companies continue to show the biggest growth in fixed capital investments.

<sup>12</sup> R&D intensity is defined in the *Scoreboard* as the ratio between R&D and net sales.

- The two *Scoreboard* indicators most sensitive to recession showed a significant decrease:
  - Operating profits, compared to the past *Scoreboard*, dropped by 30.2% for the EU group, and by 10.3% for the non-EU group of companies.
  - Market capitalisation was reduced by 21% for the EU set and by 16% for the non-EU set. This can be compared with changes in indices such as the Standard & Poor's 500, down 25% in the same period.

**Table 2. Overall Performance of companies in the 2009 Scoreboard**

Factor	EU1000	Non-EU1000
R&D Investment, € bn	<b>130.4</b>	<b>300.4</b>
<i>Change from previous year, %</i>	<b>7.8</b>	<b>6.6</b>
<i>CAGR<sup>13</sup> 3yr, %</i>	<b>7.5</b>	<b>8.8</b>
Net Sales, € bn	<b>5711.8</b>	<b>8185.5</b>
<i>Change from previous year, %</i>	<b>7.2</b>	<b>8.7</b>
<i>CAGR 3yr, %</i>	<b>8.0</b>	<b>9.2</b>
R&D intensity, %	<b>2.3</b>	<b>3.7</b>
Profitability <sup>14</sup> , %	<b>7.8</b>	<b>9.1</b>
Capex <sup>15</sup> / Net Sales, %	<b>7.5</b>	<b>6.7</b>
Market capitalisation <sup>16</sup> , € bn	<b>3737.5</b>	<b>7525.8</b>
<i>Change from previous year, %</i>	<b>-21.0%</b>	<b>-16.3%</b>

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

Source: *The 2009 EU Industrial R&D Investment Scoreboard*  
European Commission, JRC/DG RTD.

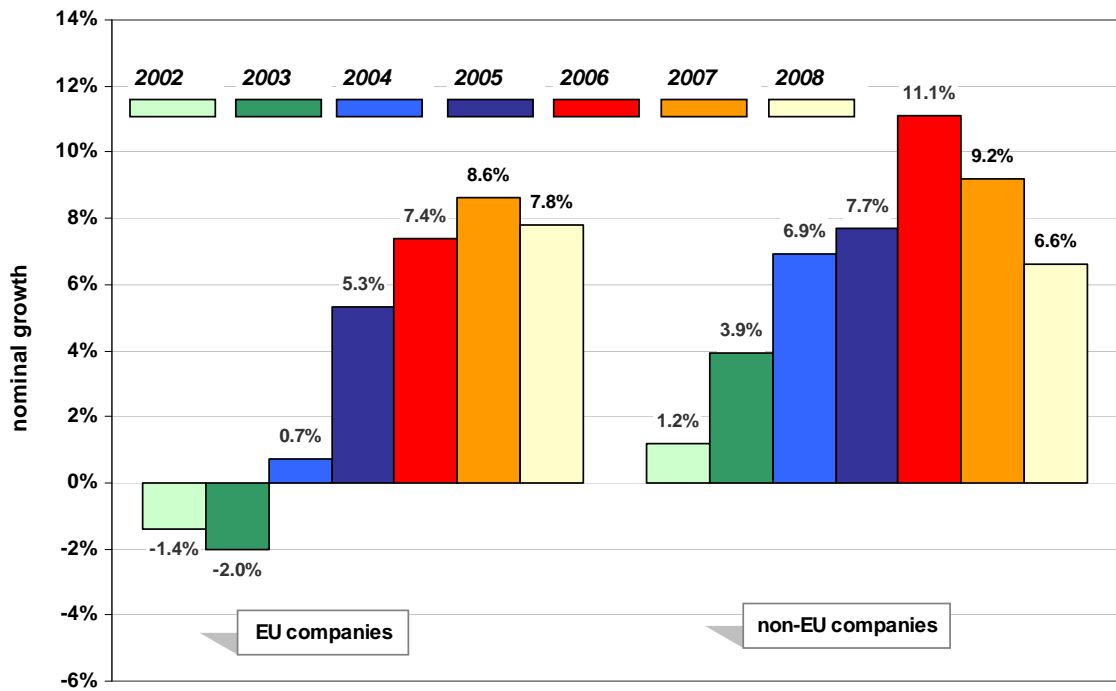
<sup>13</sup> Compound annual growth rate.

<sup>14</sup> Operating profit as percentage of sales.

<sup>15</sup> Fixed capital investment

<sup>16</sup> Value of the companies in the stock market, collected in mid-August each year, i.e. 2009 for this *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)  
European Commission, JRC/DG RTD.

### 3. Top R&D investing companies

This chapter describes the performance of individual companies, with a focus on the top R&D investors. Among the 2000 *Scoreboard* companies, there are 85 companies in the world with more than €1 bn R&D investment (26 from the EU), 51 with R&D exceeding €2 bn (16 from the EU) and 10 with R&D exceeding €5 bn (2 from the EU).

#### **Top 10**

- In 2008, the top 10 companies accounted for 13.6% of the total R&D investment by the *Scoreboard* companies, less than the 14% accounted for in 2005.
- The world's top R&D investor in the 2009 *Scoreboard* is Toyota Motor (€7.61 bn) from Japan. There are two EU companies in the top 10 of the R&D ranking: Volkswagen (now part of Porsche Automobile)<sup>17</sup>, which has become the biggest EU R&D investor with €5.93 bn, followed by Nokia with €5.32 bn.
- There are five US companies in the top 10 of the R&D ranking: Microsoft (€6.48 bn), General Motors (€5.76 bn), Pfizer (€5.72 bn), Johnson & Johnson (€5.45 bn) and Ford Motor (€5.25 bn).
- The other two companies among the top 10 are from Switzerland (Roche, €5.88 bn and Novartis, €5.19 bn). These two Swiss companies showed an outstanding trend over the past three years, increasing their R&D investment by 50%.
- As last year, three companies in the top 10 have shown double digit growth in R&D investment, partly due to acquisitions. Four companies had negative R&D growth.

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<sup>17</sup> At the closing data collection date, however the situation of the company changed afterwards (to be updated in the next *Scoreboard*).

## Top 50

- In 2008, the top 50 companies accounted for 42.7% of the total R&D investment by the *Scoreboard* companies, compared to 46.5% accounted for in 2005.
- The EU has 16 companies among the top 50 R&D investors, two less than in the 2008 *Scoreboard* (Fiat and Finmeccanica).
- The USA has 18 companies, two less compared to last year (Oracle and Abbott Laboratories).
- Japan has 13 companies, four more than in last year's *Scoreboard*: Denso, Takeda Pharmaceutical, NTT and Fujitsu. Aside from Takeda, which increased its R&D investment by 42% (mostly via acquisitions), this was mainly due to the appreciation of the Yen against the Euro in 2008.
- The other three companies in the top 50 come from Switzerland (Roche and Novartis) and from South Korea (Samsung).
- Fourteen companies in the top 50 have shown double digit growth in R&D investment (7 from the EU and 7 from the non-EU). The three companies with the largest growth were from pharmaceuticals & biotechnology: Takeda Pharmaceuticals (Japan) with €2.19 bn (+43%), Boehringer Ingelheim (Germany) with €2.11 bn (+22%), and Schering Plough (US) with €2.54 bn (+21%). For these three cases, R&D intensities are around 20% and each of these companies has made a recent acquisition. Takeda has acquired Millennium Pharmaceuticals, Boehringer Ingelheim acquired Actimis and Schering-Plough acquired Organon Biosciences.
- Within the EU group, companies with double digit R&D growth are Volkswagen with €5.93 bn (+20%), Ericsson with €2.98 bn (+19%), Peugeot (PSA) with €2.37 bn (+14%), GlaxoSmithKline with €3.84 bn (+14%), Siemens with €3.84 bn (+14%) and Robert Bosch with €3.92 bn (+10%). Amongst the double digit decreases are Safran (-31.3%), NXP (-18.5%) and BT (-10.6%).
- Most non-EU companies with double digit R&D growth are from the US, for example Cisco with €3.71 bn (+15%), Microsoft with €6.48 bn (+10%), and Eli Lilly with €2.76 bn (+10%). There is also one company each from Switzerland (Novartis with €5.19 bn, +13%), Japan (Denso with €2.47bn, +11%) and South Korea (Samsung with €3.98 bn, +15%). Texas Instruments (-10%) was the only company showing a double digit decrease.
- The EU companies in the top 50 had a higher average R&D intensity (7.8%) than their non-EU counterparts (6.8%).
- The companies in the EU top 50 are mainly from the Automobile & Parts (11), Pharmaceuticals (7) and IT-related sectors (7), whereas in the non-EU top 50, companies are mainly from IT-related (20), Pharmaceuticals and Biotechnology (13), and Automobile & Parts sectors(7).

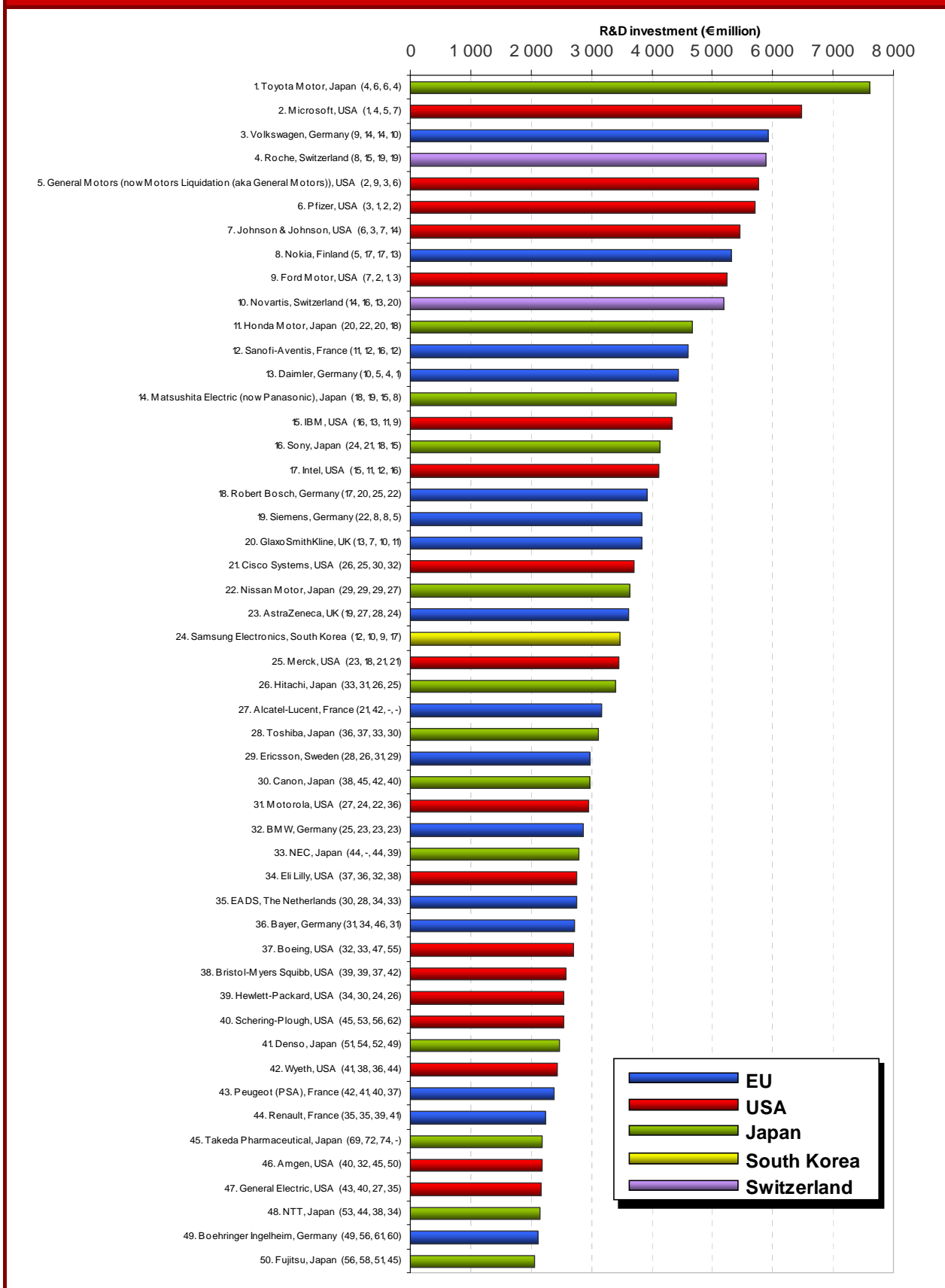


### ***R&D changes driven by Mergers and Acquisitions (M&As)***

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.

- *Daimler*: The 2008 accounts for Daimler exclude net sales and R&D of Chrysler.
- *Siemens*: R&D expenses rose most notably at Industry Automation and Diagnostics, both of which made major acquisitions in the period under examination.
- *Continental*: A key reason for the increase in their R&D is the change in the scope of consolidation due to the acquisition of Siemens VDO.
- *Electronic Arts*: R&D investment changed primarily due to (1) an increase of \$93 million in additional personnel-related costs due to an increase in headcount and partially as a result of acquisition of VGH, and (2) higher external development costs.
- *Telecom Italia*: In 2008, the scope of research and development activity was extended to include all projects involving hardware and software development for systems used by the companies of the Telecom Italia Group to manage both sales packages and customer activities (Business Support Systems) and network operations (Operational Support Systems, Security and other IT services).
- *Volkswagen*: Acquired Scania in July 2008.
- *Gaz de France and Suez*: They merged in July 2008 creating GDF Suez.
- *Takeda*: Acquired Millennium Pharmaceuticals.
- *Boehringer Ingelheim*: Acquired Actimis.
- *Schering-Plough*: Acquired Organon Biosciences.

**Figure 2. Ranking of the world's top 50 R&D companies by their total R&D investment in the 2009 Scoreboard**



*Note: The numbers in brackets after the names of the companies indicate their rankings in past Scoreboards.  
 Source: The 2009 EU Industrial R&D Investment Scoreboard, European Commission, JRC/DG RTD.*

## 4. R&D distribution by region

This chapter compares the overall R&D performance in the 2008 financial year of the *Scoreboard* companies according to the location of their registered office in the main world regions. The companies are grouped into four main sets: The European Union (EU), the United States (US), Japan and other countries (OC). OC includes companies from Switzerland, South Korea, Taiwan, Canada, China, Bermuda, Brazil, and India, along with a further 16 countries.

This analysis applies the sample comprising the world's top 1350 companies: the top 350 from the EU (52 less than last year), 531 companies from the US (13 less than last year), 256 from Japan (12 more than last year) and 213 companies from other countries (1 more than last year). Figure 3 and Table 3 summarise the companies' indicators aggregated by main world region. Table 4 shows the main indicators of countries included in the OC group.

This section also looks at the EU companies broken down by the location of their registered office in different EU Member States. Table 5 provides the *Scoreboard* figures by Member States.

### **Key points**

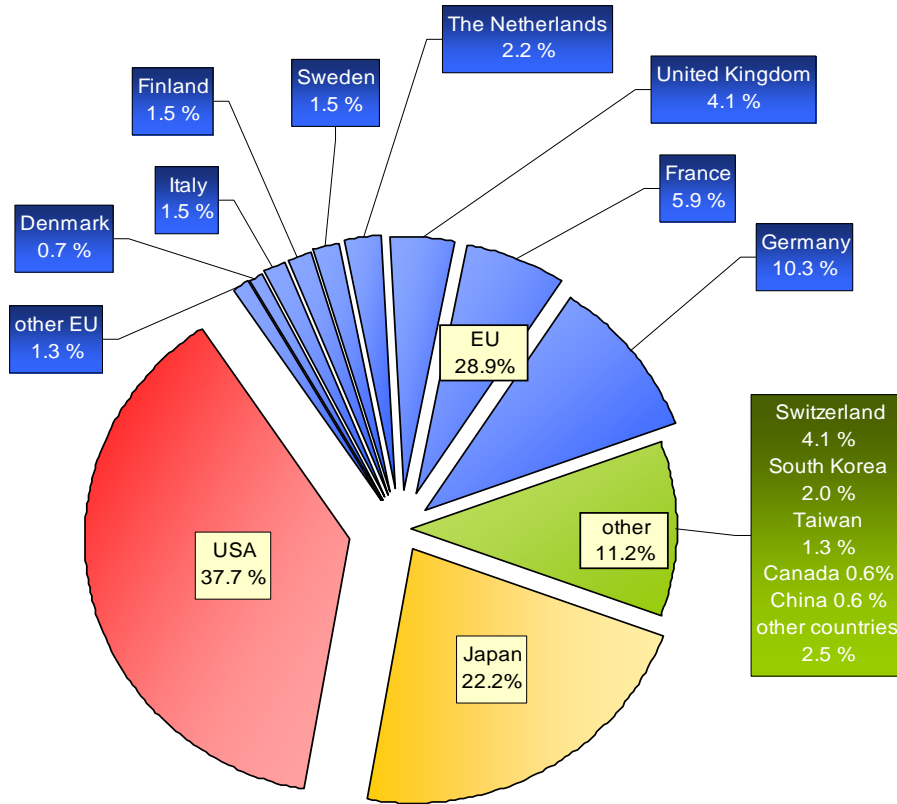
- For the second consecutive year, the R&D growth rate of EU companies (8.1%) has been higher than that of US companies (5.7%). It also outperformed Japanese companies (4.4%) for the fourth straight year.
- The share of Japanese companies of the total *Scoreboard* R&D investment increased from 18.4% to 22.2% (mostly due to the appreciation of the Yen in 2008) whereas the share of EU and US companies dropped from 32.2% to 28.9%, and 38.4% to 37.7%, respectively (see Figure 3 and Table 3)<sup>18</sup>. The companies from other countries (OC) showed the highest R&D growth (14.5%). This is mostly due to companies from emerging economies that, although accounting for a small share of the total R&D, had very high R&D growth e.g. China (40%), India (27.3%) and Taiwan (25.1%). The R&D growth of Switzerland and South Korea, accounting for about 60% of the R&D of the OC group, increased their R&D investment by 10.4% and 8.0%, respectively.
- The R&D intensity of companies in most regions remained practically unchanged, the exception being the Japanese companies that showed a decrease in R&D intensity due to their rate of net sales (6.9%) exceeding that of R&D investment (4.4%). However, excluding the oil sector where its substantial sales were up 25%, the average R&D intensity of non-oil companies increased as sales rose less than R&D.

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<sup>18</sup> The change in R&D investment rankings and shares is explained to a large extent by the fluctuation of exchange rates. For example, the increase of the Japanese R&D share is mostly due to the appreciation of the Yen in 2008. Although to a lesser extent, this also applies to US companies.

- The capital intensity (percentage of fixed capital investment over net sales) of EU companies increased from 7.1% to 7.5% (continuing the trend observed in previous years) whereas the US's one remained unchanged and those of Japanese and OC companies decreased from 6.9% to 6.5% and 10.1% to 9.5%, respectively.
- The growth rate of net sales increased for the EU and US companies (from 6.7% to 7.9% and from 6.8% to 7.2%, respectively) and decreased for Japan and OC companies (from 8.3% to 6.9% and from 15.7% to 14.6%, respectively).
- The average profitability decreased strongly for EU companies (from 12.6% to 8.1%); to a lesser extent for US and OC companies (from 12.1% to 9.4% and 14.2% to 11.6%, respectively); and much less for Japanese companies (from 7.5% to 6.9%).
- Within the EU group, the companies based in Germany (the largest R&D investor) had R&D growth above the EU's average (8.9%) breaking a trend of the last 5 years (Table 5). Other Member States whose *Scoreboard* companies grew their R&D above the EU's average are Italy (20.4%), Sweden (17.4%), Denmark (16.4%), the UK (11.3%) and Spain (9.4%). Among the top 10 Member States, the following had their *Scoreboard* companies' R&D growth below the EU's average: the Netherlands (3.7%), Finland (1.6%), France (0.7%) and Belgium (-0.8%).

**Figure 3. R&D investment by the top 1350 companies in the 2009 Scoreboard, breakdown by main world regions (% of total €422.8 bn).**



Source: *The 2009 EU Industrial R&D Investment Scoreboard*  
European Commission, JRC/DG RTD.

**Table 3. Overall comparison of the world's top 1350 R&D companies by main world group\* in the 2009 Scoreboard.**

FACTOR	EU	USA	Japan	Other countries
Number of companies	<b>350</b> (402)	<b>531</b> (544)	<b>256</b> (244)	<b>213</b> (212)
R&D Investment, € bn	<b>122.4</b>	<b>159.2</b>	<b>93.9</b>	<b>47.3</b>
One year change, %	<b>8.1</b>	<b>5.7</b>	<b>4.4</b>	<b>14.5</b>
CAGR <sup>19</sup> 3yr, %	<b>7.5</b>	<b>9.4</b>	<b>5.5</b>	<b>14.5</b>
Net Sales (€ bn)	<b>4615.5</b>	<b>3542.4</b>	<b>2740.7</b>	<b>1902.4</b>
One year change, %	<b>7.9</b>	<b>7.2</b>	<b>6.9</b>	<b>14.6</b>
CAGR 3yr (%)	<b>8.5</b>	<b>7.2</b>	<b>7.9</b>	<b>16.1</b>
R&D intensity, (%)	<b>2.7</b>	<b>4.5</b>	<b>3.4</b>	<b>2.5</b>
Profitability <sup>20</sup> (%)	<b>8.1</b>	<b>9.4</b>	<b>6.9</b>	<b>11.6</b>
Capex / Net Sales Ratio, %	<b>7.5</b>	<b>5.1</b>	<b>6.5</b>	<b>9.5</b>

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

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

Source: The 2009 EU Industrial R&D Investment  
European Commission, JRC/DG RTD.

**Table 4. R&D trends of Scoreboard companies based in the main R&D investors among the Other Countries group.**

Country	No of companies	R&D, €bn	Share of world R&D* (%)	R&D Change from previous year (%)	R&D CAGR 3 yrs (%)
Switzerland	38	17.5	4.1	10.4	13.7
South Korea	22	8.6	2.0	8.0	4.0
Taiwan	41	5.1	1.3	25.1	16.5
Rest of countries	112	16.1	3.8	18.7	20.2
<b>Total EU-10</b>	<b>213</b>	<b>47.3</b>	<b>11.2</b>	<b>14.5</b>	<b>14.5</b>

Source: The 2009 EU Industrial R&D Investment Scoreboard  
European Commission, JRC/DG RTD.

<sup>19</sup> Compound annual growth rate.

<sup>20</sup> Operating profit as percentage of sales.

**Table 5. R&D trends of *Scoreboard* companies based in the top 10 EU Member States in the 2009 *Scoreboard*.**

EU Member State	No of companies	Share of R&D (%)	R&D Change from previous year (%)*	R&D CAGR 3 yrs (%)
Germany	209 (189)	34.6	8.9	4.8
France	125 (113)	19.7	0.7	6.8
UK	247(289)	15.1	11.2	12.7
The Netherlands	53 (49)	7.4	3.7	0.5
Sweden	70 (78)	5.3	17.4	10.6
Finland	58 (60)	5.2	1.6	11.8
Italy	57 (51)	5.0	20.4	10.0
Denmark	47 (42)	2.6	16.4	16.2
Belgium	39 (40)	2.0	-0.8	11.8
Spain	21 (21)	1.1	9.4	12.1
<b>Total EU-10</b>	<b>926 (932)</b>	<b>98.1</b>	<b>7.6</b>	<b>7.3</b>

\* Figures of the 2008 *Scoreboard* in brackets.

Source: *The 2009 EU Industrial R&D Investment Scoreboard*  
European Commission, JRC/DG RTD.

## 5. R&D distribution by industrial sector

This chapter presents the main R&D trends among *Scoreboard* companies aggregated by industrial sectors<sup>21</sup>. It comprises the ranking of sectors by their level of R&D investment, R&D intensities and rates of R&D growth. It includes also the comparison of such trends across world regions for which the sample comprising the world's top 1350 companies is considered (the top 350 EU and 1000 non-EU companies).

### **General R&D trends**

Figure 4 shows the R&D rankings of the main industrial sectors including the relative R&D share by main world region. The specialisation of the main world regions, represented by the share of sectors within the regions' total R&D investment, is given in Figure 5.

The observations are the following:

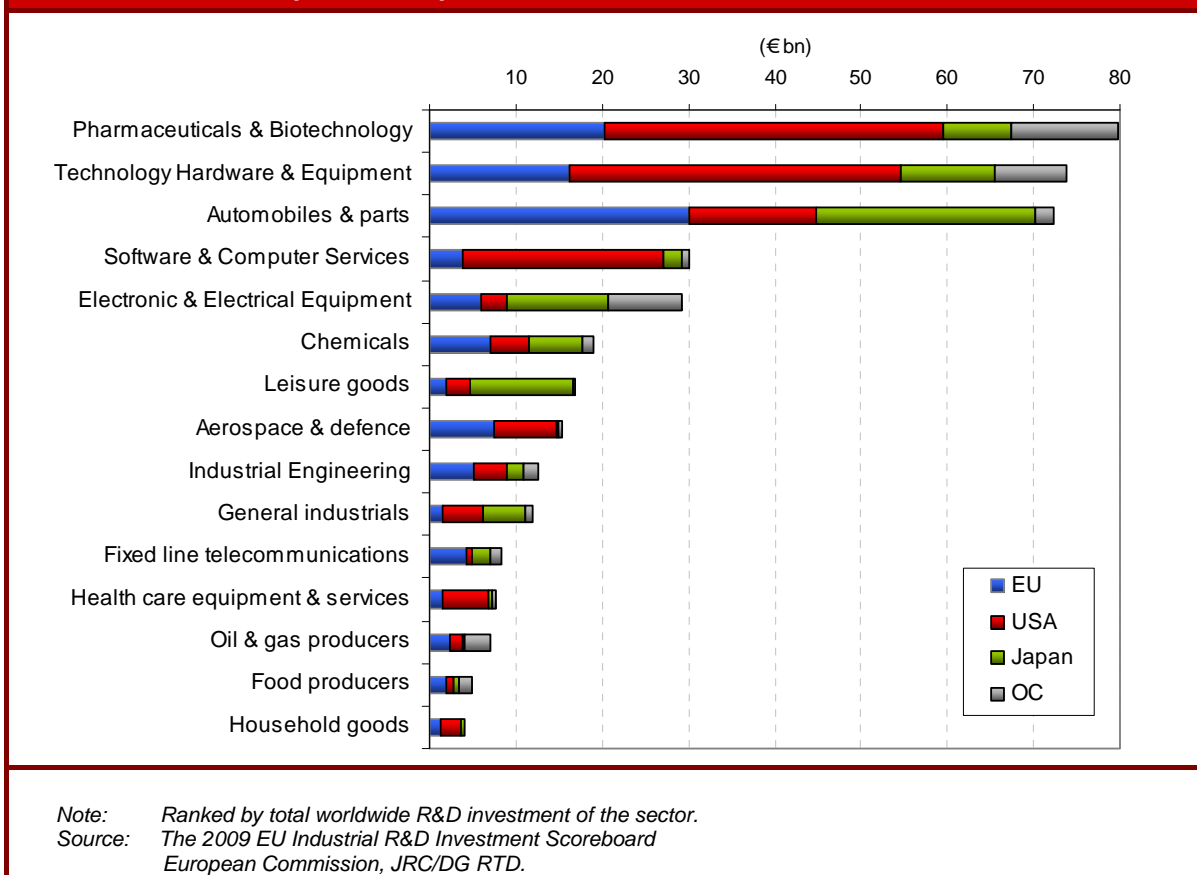
- R&D investment in the *Scoreboard* remains highly concentrated by sectors: Out of 37 industrial sectors, the top three –Pharmaceuticals & Biotechnology, Technology Hardware & Equipment and Automobiles & Parts– account for more than 53%; the top 6 and top 15 sectors constitute, respectively, 72% and 93% of the total R&D in the *Scoreboard* (see Figure 4). Similar concentration of R&D by industrial sector has been observed over the last 5 years.
- There has been a shift in the ranking of main sectors by overall R&D investment as the Leisure Goods sector took over the seventh position from the Aerospace & Defence sector.
- The Pharmaceuticals & Biotechnology sector remains the top R&D investor with a share of 18.9%. It is followed by the Technology Hardware & Equipment sector with a share of 17.4% and the Automobile & Parts sector with 17.1%.
- The share of Japanese companies increased substantially, especially in the General Industrials, Automobiles & Parts, Pharmaceuticals & Biotechnology and the Chemicals sectors. The EU share decreased a little, particularly in high R&D intensive sectors, and the share of the US remains practically constant, except in the Automobile & Parts and Technology Hardware & Equipment sectors where it decreased slightly.
- 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 about 70% of the total R&D for the US, and about 36% for both the EU and Japan.

<sup>21</sup> According to the Industry Classification Benchmark (ICB) applied in the *Scoreboard*.

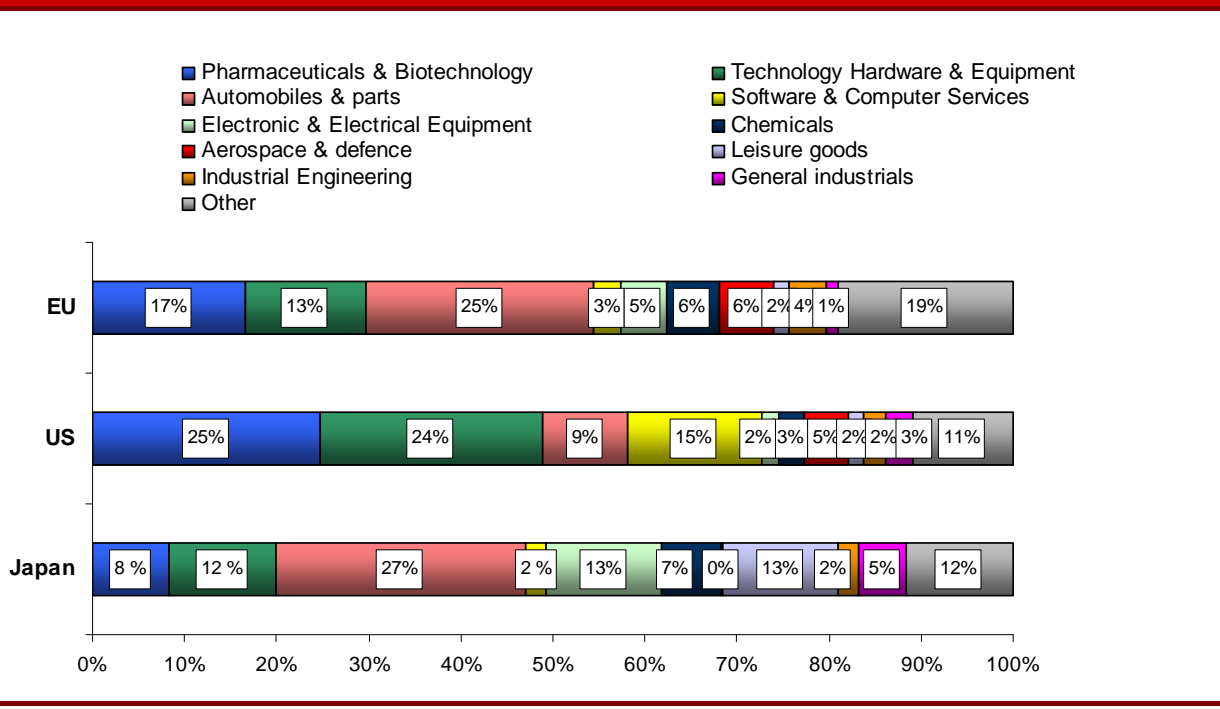


As discussed in previous *Scoreboards*, the sector specialisation in each region changes only slightly from one year to the next. In this year's *Scoreboard*, only small changes in the sector composition of regions is observed and these can be attributed to differences in the economic cycles (see Figure 5). However, the dominant sectors by R&D are very different in the three economies: The US contributes 49% of pharmaceutical R&D, 52% of technology hardware R&D and 77% of software R&D; the EU contributes 52% of automotive R&D and Japan contributes 51% of electronic plus leisure R&D (the latter two sectors being closely related).

**Figure 4. R&D ranking of industrial sectors and share of main world regions for the world's top 1350 companies in the 2009 Scoreboard**



**Figure 5. R&D shares of sectors of the main world regions**



Source: The 2009 EU Industrial R&D Investment Scoreboard  
European Commission, JRC/DG RTD.

### R&D growth by sector

Industrial sectors contributed differently to the R&D growth of *Scoreboard* companies. To understand their actual contribution to the overall R&D growth, it is necessary to take into account the R&D weight of the sectors worldwide and within each economy, as shown above in figures 4 and 5. Table 6 shows the industrial sectors ranked by their R&D annual growth rate worldwide, including the annual R&D growth rates (over one and three years) of the *Scoreboard* companies based in the EU, US and Japan.

The following points are observed for the sectors contributing the most notable changes in the total R&D growth:

- Worldwide, the Oil & Gas Producers sector again shows the highest one-year growth rate (15.8%), followed by Industrial Engineering (14.1%) and Food Producers (11.4%). The former two sectors also had double-digit growth over the last three years. Sectors showing the lowest one-year R&D growth are Aerospace & Defence (1.1%), Leisure Goods (2.9%) and General Industrials (3.8%).
- The top 3 sectors by R&D intensity (Pharmaceuticals & Biotechnology, Technology Hardware & Equipment and Software & Computer Services),

accounting for more than 40% of the overall R&D investment, have had double-digit R&D growth over the last three years. These sectors also showed one-year R&D growth above the *Scoreboard* average (6.9%).

- Among the companies based in the EU, 4 sectors had double-digit one-year and three-year R&D growth rates: Industrial Engineering (13.2% and 12.8%), Software & Computer Services (12.9% and 13.9%), Fixed Line Telecom (12.7% and 12.9%) and Health Care Equipment & Services (10.3% and 11.0%). Sectors showing the lowest one-year R&D growth are Aerospace & Defence (-2.0%), General Industrials (1.3%) and Leisure Goods (1.4%). The latter also showed negative annual R&D growth over the last three years (-13.0%).
- Among the companies based in the US, 4 sectors had double-digit one-year and three-year R&D growth rates: Oil & Gas Producers (23.1% and 17.9%), Leisure Goods (22.9% and 11.7%) and Industrial Engineering (18.5% and 15.1%). Most of the US R&D-intensive sectors showed one-year R&D growth above the US average (5.7%), except Technology Hardware & Equipment (3.3%). Sectors showing the lowest one-year R&D growth are Fixed Line Telecom (-15.5%) and Automobiles & Parts (-2.8%).
- Among the companies based in Japan, only the Chemicals sector showed double-digit one-year R&D growth rate (10.8%) and only the Pharmaceuticals & Biotechnology sector had double-digit three-year R&D growth (19.2%). The Oil & Gas Producers (9.2%) and Automobiles & Parts (5.9%) sectors showed one-year R&D growth well above the Japanese average (4.4%). Several sectors showed negative one-year R&D growth, i.e. Leisure Goods (-1.1%), Electronic & Electric Equipment (-0.8%) and Fixed Line Telecom (-0.4%).

**Table 6. Ranking of industrial sectors by overall one-year R&D growth for the EU, US and Japanese companies in the 2009 Scoreboard**

Rank	Sector	Overall 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	Oil & gas producers	15.8	8.9	11.5	23.1	17.9	9.2	8.7
2	Industrial Engineering	14.1	13.2	12.8	18.5	15.1	5.2	5.5
3	Food producers	11.4	9.8	3.6	2.2	8.8	2.8	2
4	Software & Computer Services	9.7	12.9	13.9	9.4	12.1	2.5	2.7
5	Health care equipment & services	9	10.3	11	8.6	13.5	2.9	7.1
6	Pharmaceuticals & Biotechnology	7.7	7.1	11.1	6.9	10.9	9.5	19.2
7	Chemicals	7.5	4.6	2.8	7.3	6.5	10.8	7.2
8	Electronic & Electrical Equipment	7.4	12.5	-3.8	16	12.7	-0.8	5.4
9	Household goods	5.7	9.8	12	3.9	4.8	2.9	4.7
10	Fixed line telecommunications	5.5	12.7	12.9	-15.5	85.5	-0.4	-5.2
11	Technology Hardware & Equipment	4.9	3.0	10.5	3.3	9.2	5.3	5.5
12	Automobiles & parts	4.3	6.6	5	-2.8	-0.2	5.9	6.6
13	General industrials	3.8	1.3	0.7	4.3	6.1	1.2	3.4
14	Leisure goods	2.9	1.4	-13	22.9	11.7	-1.1	0.9
15	Aerospace & defence	1.1	-2	4.9	3.8	11.6	1.2	2.3
	Top 15 sectors	6.3	6.4	6.6	5.8	9.4	3.9	5.5
	Rest of 22 sectors	16.6	26.2	17.6	4.9	9.7	10.8	6.2
	All sectors	7.0	8.1	7.5	5.7	9.4	4.4	5.5

Note: Figures of last year's Scoreboard in brackets. The different Scoreboards are not directly comparable because of changes in the sample composition.

Source: The 2009 EU Industrial R&D Investment Scoreboard.  
European Commission, JRC/DG RTD

### ***R&D intensity by sector***

Table 7 provides the list of industrial sectors ranked by worldwide R&D intensity of the main industrial sectors for the whole set of 1350 companies and grouped by main world region.

The following points are observed:

- The sectors with the highest R&D intensity (more than 5%) are still Pharmaceuticals & Biotechnology, IT sectors (Software & Computer Services and Technology Hardware & Equipment), Health Care Equipment & Services and Leisure Goods. The sector with the lowest R&D intensity is Oil & Gas Producers.
- 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 Technology Hardware & Equipment, Aerospace & Defence, Automobiles & Parts and Industrial Engineering. Japanese companies show higher R&D intensity than the EU and the US in 5 sectors, including Electronic & Electrical Equipment and General Industrials. The R&D intensity of US companies is higher than that of the EU and Japan in 4 high R&D-intensive sectors, e.g. Pharmaceuticals & Biotechnology, and Software & Computer services.
- 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)
- For the Pharmaceuticals & Biotechnology and IT sectors, the combination of high R&D investment levels, high R&D intensity and high R&D investment growth underlines the important role of R&D as a competitiveness factor for these sectors.

**Table 7. Ranking of industrial sectors by overall R&D intensity for the EU, US and Japanese companies in the 2009 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	16.5	16.1	17	16.1
2	Software & Computer Services	9.6	9.8	10.8	4.5
3	Technology Hardware & Equipment	8.6	13.9	9.7	5.4
4	Leisure goods	6.1	6.2	9.7	5.7
5	Health care equipment & services	6.1	4.6	7.2	5.9
6	Automobiles & parts	4.4	5.3	4.4	3.9
7	Electronic & Electrical Equipment	4.2	4.3	4.1	5.1
8	Aerospace & defence	4.1	6	3.3	5.4
9	Chemicals	2.9	2.8	2.7	3.3
10	Industrial Engineering	2.7	3.2	2.6	2.6
11	General industrials	2.3	2.8	2.1	2.9
12	Household goods	2.2	2.5	2.5	1.2
13	Fixed line telecommunications	1.7	1.7	0.7	2.5
14	Food producers	1.5	1.9	0.7	2.3
15	Oil & gas producers	0.3	0.3	0.2	0.3
	Top 15 sectors	4.0	3.7	5.0	4.1
	Rest of 22 sectors	1.0	0.7	1.5	1.1
	All sectors	3.3	2.7	4.5	3.4

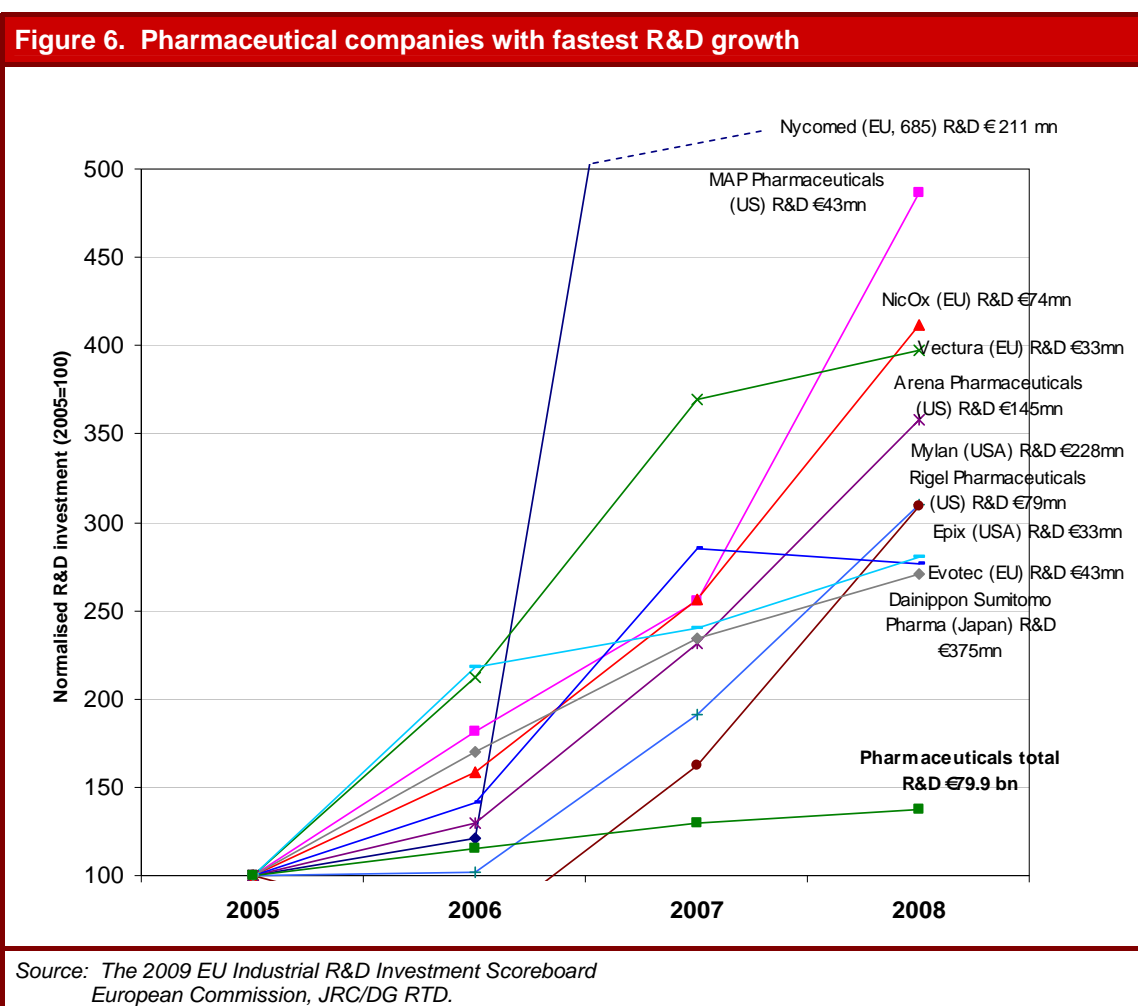
Source: *The 2009 EU Industrial R&D Investment Scoreboard. European Commission, JRC/DG RTD*

## The Pharmaceuticals & Biotechnology sector reinforces its position as top R&D investor worldwide

This section highlights the developments captured by the *Scoreboard* in the Pharmaceuticals<sup>22</sup> sector.

The Pharmaceuticals & Biotechnology sector continued in the top position of the R&D ranking, accounting for 18.9% of the overall R&D investments by *Scoreboard* companies. Substantial R&D investment growth in pharmaceutical companies over the past years demonstrates the importance of R&D investment as one of the main drivers of this industry.

European companies appear well placed in this sector, showing similar performance than competitors in terms of R&D and related indicators. For example, among the 10 pharmaceutical companies with the fastest R&D growth rates over the last three years, 4 companies are based in the EU, 5 in the US and 1 in Japan (Figure 6)<sup>23</sup>.



<sup>22</sup> Pharmaceuticals is actually a sub-sector under the ICB classification (at 4-digit level).

<sup>23</sup> For the set of comparable companies, with R&D investment more than €31.51 million and R&D intensity more than 5%.

Table 8 summarises the main indicators of the pharmaceuticals sector for the EU, the US and Switzerland, that together account for 88% of the total R&D investment of *Scoreboard* companies. Figure 8 presents the R&D investment growth over the last three years of selected pharmaceutical companies.

*Main remarks:*

- The EU pharmaceutical companies are smaller than the US and Swiss ones in terms of sales and number of employees.
- However, in terms of R&D intensity, the EU companies have similar levels of performance as the US and Swiss companies.
- The Swiss companies have outperformed the EU and US companies in terms of R&D investment growth over the last three years. The EU companies, positioned between the Swiss and US companies, show an annual R&D growth over the last three years (10.6%) above the EU's average (7.5%).
- In terms of capital intensity and profitability, the EU companies are, again, in an intermediate position between the US and the Swiss companies, the latter showing a much better performance.
- The performance of Swiss pharmaceutical companies is illustrated in Figure 7 by Roche and Novartis, first and fourth, respectively, in the world ranking, which have increased their R&D investment by 50% in 3 years.

**Table 8. Overall Performance of *Scoreboard* companies in the Pharmaceuticals sector for the EU, the US and Switzerland**

Factor	EU	US	Switzerland
Number of companies	29	34	5
Size (sales/company, € bn)	4.21	5.91	12.74
Size (employees/company)	15630	16692	36752
Size (R&D/company, €m)	671.9	887.5	2285.3
R&D Investment, € bn	19.5	30.2	11.4
<i>Change from previous year, %</i>	6.3	4.3	9.0
<i>CAGR<sup>24</sup> 3yr, %</i>	10.6	8.7	15.1
Net Sales, € bn	122.1	200.9	63.7
<i>Change from previous year, %</i>	3.5	7.2	1.7
<i>CAGR 3yr, %</i>	6.8	7.2	8.9
R&D intensity, %	16.0	15.0	17.9
Profitability <sup>25</sup> , %	21.1	20.0	26.0

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

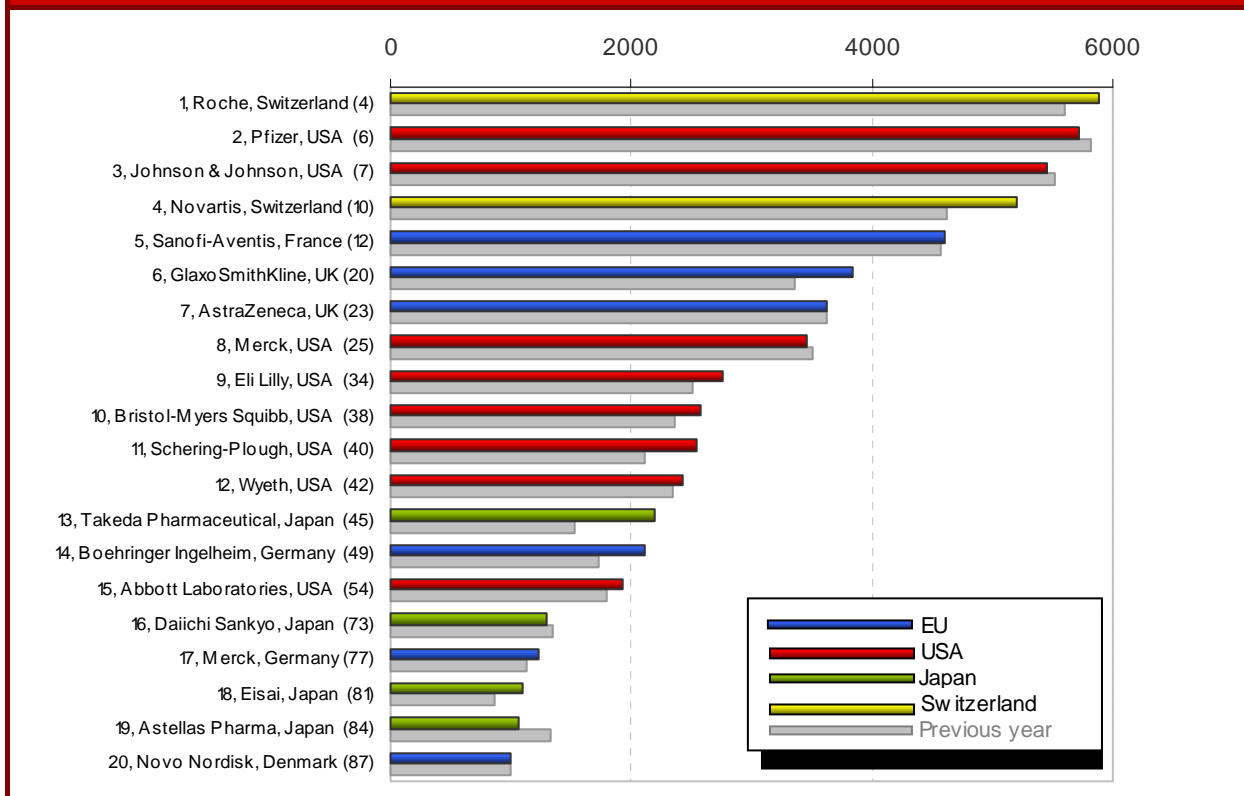
Source: *The 2009 EU Industrial R&D Investment Scoreboard*  
European Commission, JRC/DG RTD.

<sup>24</sup> Compound annual growth rate.

<sup>25</sup> Operating profit as percentage of sales.



**Figure 7. Ranking of the world's top 20 R&D companies in the Pharmaceuticals sector by their total R&D investment in the 2009 Scoreboard (€ million).**



Notes: The numbers in brackets after the names of the companies indicate their rankings in the 2009 Scoreboard.  
 Source: The 2009 EU Industrial R&D Investment Scoreboard, European Commission, JRC/DG RTD.

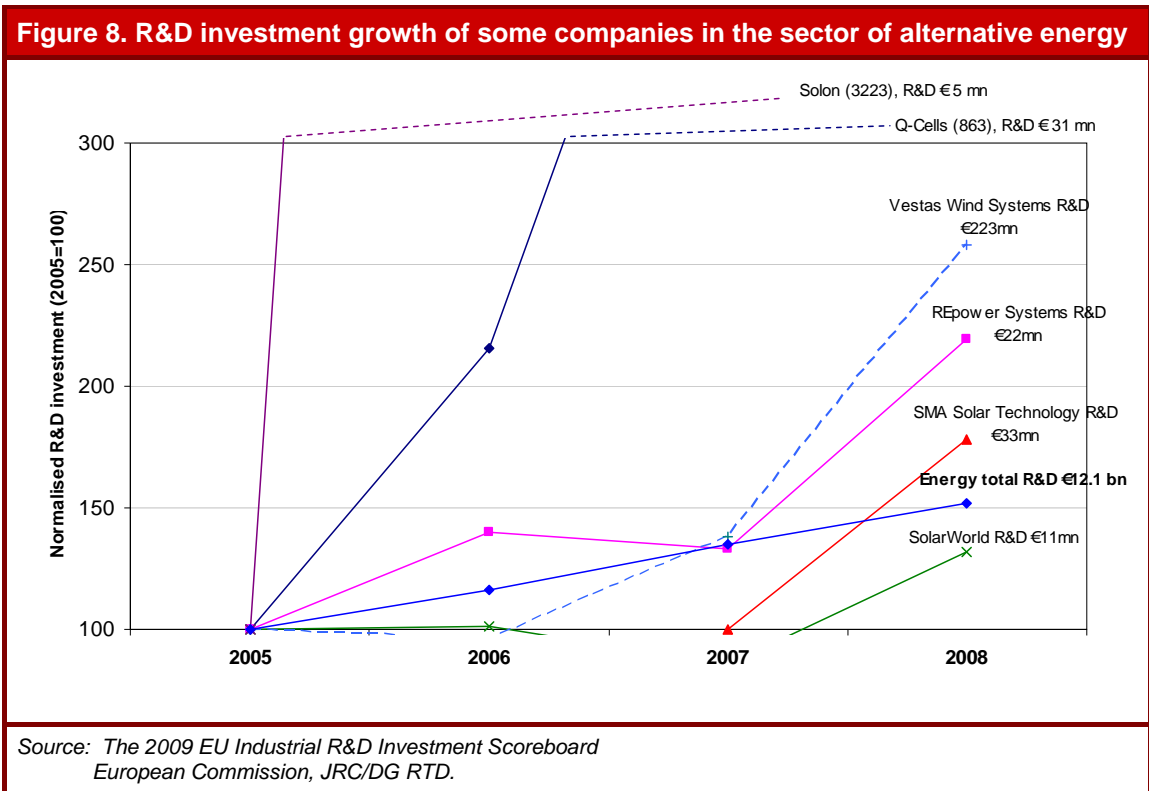
### R&D investment in the alternative energy sector is increasing sharply

Last year's *Scoreboard* included a section showing the remarkable trends of *Scoreboard* companies in the field of energy and particularly the ones operating with alternative energy technologies aimed at tackling issues such as the security of energy supply and the mitigation of environmental impacts.

This year's *Scoreboard* confirms the strong R&D activity of companies dealing with renewable energy technologies. Specifically, the *Scoreboard* alternative energy sector now includes 6 companies fully devoted to the technological developments concerned with alternative energy. The alternative energy sector, under the ICB classification, started last year with only one firm. It is important to note that many other *Scoreboard* companies perform alternative energy-related R&D but are classified under other sectors, e.g. conventional energy sectors, industrial machinery, general industrials, etc. These R&D investments in alternative energy are reported elsewhere<sup>26</sup>.

<sup>26</sup> See for example: "R&D Investment in the Priority Technologies of the European Strategic Energy Technology Plan" by Tobias Wiesenthal, Guillaume Leduc, Hans-Günther Schwarz, Karel Haegeman. JRC-IPTS EUR number 23944 EN. October 2009.

The 6 companies from the alternative energy sector, all from the EU, showed impressive growth in R&D investment over the last three years (see Figure 8).



## 6. Initial effects of the economic crisis

This chapter analyses some preliminary effects of the economic crisis that are already captured in the company results reported in the 2009 *Scoreboard*<sup>27</sup>.

Some effects of the economic crisis are observed on indicators such as sales, operating profits and market capitalisation, whereas effects on R&D and related indicators are not yet reflected in this year's *Scoreboard*.

Among the company data reported in the *Scoreboard*, the indicators most sensitive to recession are the net sales, operating profits and market capitalisation of companies. The latter, offering the valuation of companies in the stock market, directly reflects the effect of the economic downturn.

### ***Analysis by groups of sectors of high, medium and low R&D intensity***

The growth rate of **net sales** increased in the low R&D-intensity sector, mainly because of the high oil prices in 2008 that benefited the oil-related sectors. In contrast, the other sectors saw a reduction in their growth rate of net sales. This was particularly pronounced in the high R&D-intensity sector and especially for EU companies that grew net sales at a rate less than half of that achieved by their US counterparts (Figure 9).

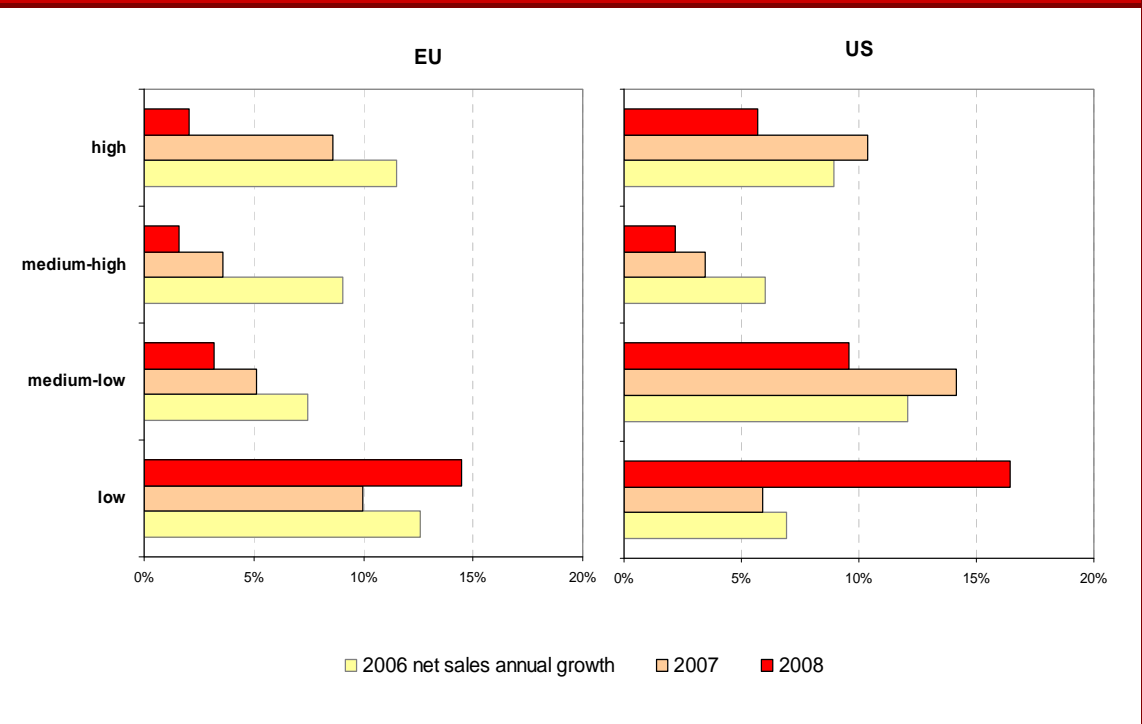
**Market capitalisation**<sup>28</sup> of companies also shows clearly the effects of the economic crisis by sector and region. Market capitalisation of companies in the *Scoreboard* is only available at a given date (mid-August of each year). Thus, only the change over one year can be examined. This means that the drop in market capitalisation up to March/April 2009 is not observed.

The effects of the economic crisis on market capitalisation are visible as of the previous reporting period (up to August 2008). The market capitalisation is further reduced over the last period (August 2008 – August 2009). The largest impact for EU companies is on medium-high R&D-intensity sectors whereas for US companies, it is on the medium-low R&D intensity ones. Companies in high R&D-intensity sectors appear less affected in the US group (Figure 10).

<sup>27</sup> For more information about the effects of the economic crisis on companies see: Voigt, P. and Moncada-Paternò-Castello, P.: "The global economic and financial downturn: What does it imply for firms' R&D strategies?", IPTS Working Paper on Corporate R&D and Innovation 12/2009, [http://iri.jrc.ec.europa.eu/papers/12\\_IPTS\\_WP\\_JRC51954.pdf](http://iri.jrc.ec.europa.eu/papers/12_IPTS_WP_JRC51954.pdf)

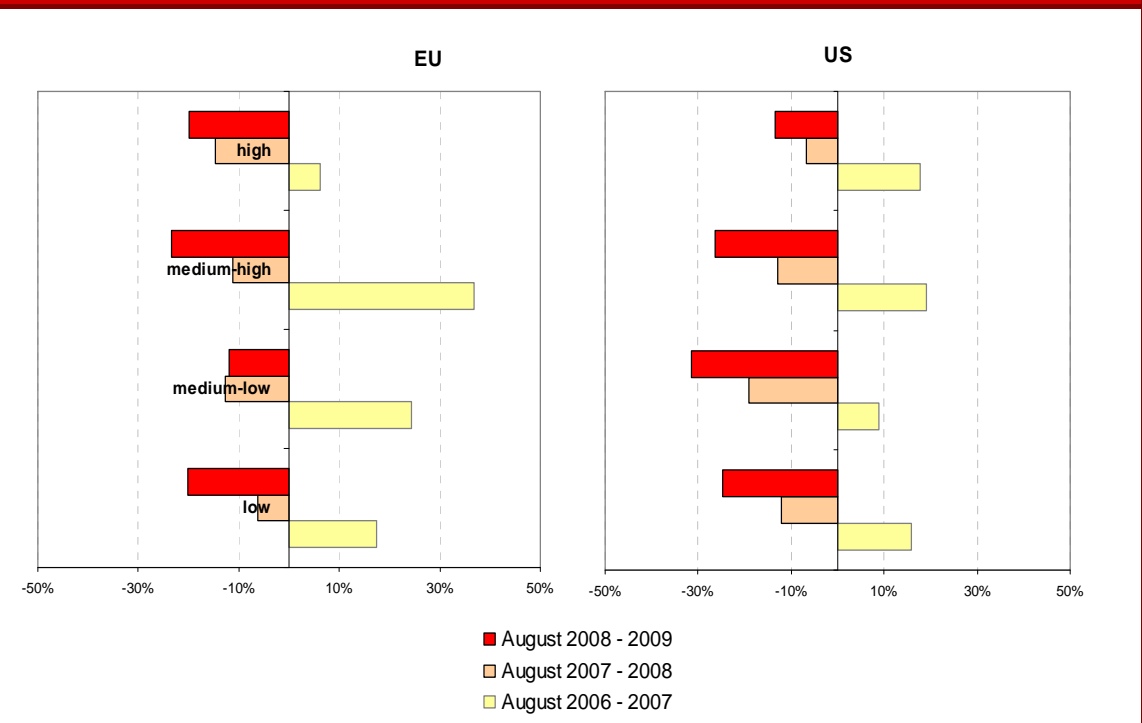
<sup>28</sup> Market capitalisation of companies in the *Scoreboard* is only available at a given date (mid-August of each year). Thus, only the change over one year (e.g. mid-August 2008 to mid-August 2009) can be examined. This means that the impact would have been much larger comparing with market capitalisation in March/April 2009.

**Figure 9. Annual net sales growth rates per sector group**



Note: Sector groups as in figure S3 of the Summary. For companies with data available for the whole period  
 Source: The 2009 EU Industrial R&D Investment Scoreboard  
 European Commission, JRC/DG RTD.

**Figure 10. Annual market capitalisation changes per sector group**



Note: Sector groups as in figure S3 of the Summary. For companies with data available for the whole period  
 Source: The 2009 EU Industrial R&D Investment Scoreboard  
 European Commission, JRC/DG RTD.

## ***Analysis by industrial sector***

Table 9 shows the one-year change on operating profits and market capitalisation by industrial sector.

From the analysis of these indicators we observe that:

- Regarding **net sales**, as discussed in chapter 4, the EU and US companies still showed in 2008 an increase (from 6.7% to 7.9% and 6.8% to 7.2%, respectively) whereas the Japanese and OC datasets presented a decrease (from 8.3% to 6.9% and 15.7% to 14.6%, respectively).

However, great differences appear at the sector level. In fact, some sectors had a very high growth rate of sales which hid the negative results in other sectors. Sectors that had a strong increase in sales were mainly the Oil & Gas Producers sector (due to the high oil prices in 2008) and also the Chemicals and Industrial Engineering sectors. In the EU and the US groups, several sectors showed a decrease in sales, in particular the Automobiles & Parts sector. Japanese companies appear less affected in terms of sales, including in Automobiles & Parts that increased sales above the country average (see results of top companies of that sector in Table 10).

- Regarding the **operating profits and market capitalisation** indicators, distinct effects of the economic crisis are observed across the industrial sectors and the main world regions:

In the EU group, the sectors most affected in terms of operating profits and market capitalisation are Technology Hardware & Equipment (-172.8% and -35.9%), Leisure Goods (-94.0% and -37.1%) and Electronic & Electrical Equipment (-42.9% and -26.6%). The most resilient sectors in the EU group are Food Producers (-2.8% and -5.7%) and Pharmaceuticals & Biotechnology (-0.1% and -8.7%) which are defensive sectors that always perform better during recession periods.

For the US companies, the effects are more pronounced in Automobiles & Parts (-501.5% and -2.5%), Leisure Goods (-181.0% and -21.0%) and Technology Hardware & Equipment (-44.1% and -13.0%). The less affected sectors in the US set are Pharmaceuticals & Biotechnology (32.1% and -12.6%) and General Industrials (47.5% and -37.3%).

In general, the set of Japanese companies appear so far less affected than the US and EU companies. Sectors most affected are Software & Computer Services (-34.9% and -15.8%), Household Goods (-40.9% and 7.6%) and Technology Hardware & Equipment (-2.7% and -21.6%).

**Table 9. One-year change on operating profits and market capitalisation by industrial sectors and main world regions in the 2009 Scoreboard**

Sector	EU		US		Japan	
	1 year change (%) Profits	1 year change (%) M.Cap	1 year change (%) Profits	1 year change (%) M.Cap	1 year change (%) Profits	1 year change (%) M.Cap
Pharmaceuticals & Biotechnology	-0.1	-8.7	32.1	-12.6	3.5	-17.2
Technology Hardware & Equipment	-172.8	-35.9	-44.1	-13.0	-2.7	-21.6
Automobiles & parts	-38.9	-25.3	-501.5	-2.5	3.6	0.8
Software & Computer Services	5.0	-24.0	-15.5	-11.3	-34.9	-15.8
Electronic & Electrical Equipment	-42.9	-26.6	-20.9	-29.7	-10.0	-9.3
Chemicals	-38.7	-21.3	-27.2	-20.5	-10.3	0.3
Leisure goods	-94.0	-37.1	-181.0	-21.0	61.0	-30.6
Aerospace & defence	65.8	-19.1	-10.3	-28.6	8.1	-4.1
Industrial Engineering	-4.5	-30.3	-6.1	-28.9	9.5	-11.7
General industrials	-22.3	-11.9	47.5	-37.3	14.7	-4.1
Fixed line telecommunications	3.3	-14.6	8.4	-17.7	17.6	32.2
Health care equipment & services	5.2	-16.7	-13.6	-24.7	21.3	-9.2
Oil & gas producers	1.4	-17.1	-1.5	-23.8	4.3	-4.2
Food producers	-2.8	-5.7	-2.8	-12.7	-7.9	-0.9
Household goods	-12.8	-1.8	1.2	-24.9	-40.9	7.6
Top 15 sectors	-12.0	-19.2	-10.6	-18.9	4.2	-6.2
Rest of 22 sectors	-54.2	-21.7	-70.9	-25.8	-16.5	-12.4
All sectors	-30.5	-20.3	-19.1	-19.7	-1.5	-7.8

Source: *The 2009 EU Industrial R&D Investment Scoreboard. European Commission, JRC/DG RTD*

## The Automobiles & Parts sector

Companies in the Automobiles & Parts sector have been amongst the first hit by the economic crisis in terms of sales, market capitalisation and particularly operating profits. This is illustrated in Table 10 which shows key indicators for the top 12 car manufacturers by R&D investment. Together these companies account for two thirds of the R&D investment of the whole Automobile & Parts sector.

Table 10 shows significant differences between the results of the top companies, one each from Japan (Toyota Motor), the EU (Volkswagen) and the US (General Motors). The Japanese company appears less affected by the crisis, while the EU company shows a result half way between the Japanese and the US company; the latter showing the worst performance in all indicators (this company went into chapter 11 bankruptcy protection in the US).

The difficulties faced by the largest three US automakers in recent years show how competitive this industry is getting. It will become even more competitive in the future as Chinese and Indian manufacturers join the Korean companies in global markets.

**Table 10. One-year change on R&D, sales, operating profits and market capitalisation for the top 12 automobiles companies in the 2009 Scoreboard**

Company	R&D Investment (€ m)	1 year change (%) R&D	1 year change (%) Sales	1 year change (%) Profits	1 year change (%) Market Cap
Toyota Motor	7 610.3	7.6	9.8	3.7	-2.1
Volkswagen	5 926.0	20.4	4.5	4.9	-15.0
General Motors	5 755.5	-1.2	-18.3	*	-89.7
Ford Motor	5 251.9	-2.7	-15.2	-165.8	131.5
Honda Motor	4 666.4	6.5	8.3	13.0	3.2
Daimler**	4 442.0	-9.1	-25.9	-69.9	-27.6
Nissan Motor	3 630.9	-1.6	3.4	8.6	-0.8
BMW	2 864.0	-8.9	-5.0	-78.3	1.9
Peugeot (PSA)	2 372.0	14.4	-10.3	-129.5	-42.8
Renault	2 235.0	-9.2	-7.7	-94.4	-48.6
Fiat	1 986.0	14.1	1.5	2.2	-32.8
Hyundai Motor	1 251.2	-0.1	14.6	5.6	7.7
<b>Total – Auto &amp; parts</b>	<b>72 347.9</b>	<b>4.3</b>	<b>-1.5</b>	<b>-42.8</b>	<b>-9.3</b>

\* This company had losses in 2007 that increased by 622.3% in 2008.

\*\* Daimler's figures for 2008 reflect the demerger of Chrysler in both net sales and R&D investment.

Source: The 2009 EU Industrial R&D Investment Scoreboard.  
European Commission, JRC/DG RTD.

## 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>29</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>30</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>31</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>32</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.

<sup>29</sup> "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).

<sup>30</sup> 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.

<sup>31</sup> 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)).

<sup>32</sup> According to latest Eurostat statistics. However BERD and *Scoreboard* figures are not directly comparable.



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.
- **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 - Methodological notes

The 2009 "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

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The *Scoreboard* has been prepared from companies' **annual reports and accounts** received by an independent data provider up to and including **4 August 2009**. 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 Scottish Power (UK), Ford (UK) or IBM (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>33</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:

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<sup>33</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/>).

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 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 14 August 2009.

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 long been a feature of the production process for the *Scoreboards*.

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, Etlatiето (Research Institute of Finnish Economy, Finland), Stifterverband Wissenschaftsstatistik (Germany).

## Limitations

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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 2008 accounts. Companies from most countries have discretion in the choice of accounting period end. As a result, the current year set of the 2008 *Scoreboard* can include accounts ending on a range of dates from late 2007 to early 2009. 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 2008 as shown in Table A2.1:

**Table A2.1. Euro exchange rates applied to *Scoreboard* data of companies based in different currency areas (as of 31 Dec 2008)..**

Country	As of 31 Dec 2007	As of 31 Dec 2008
Australia	\$ 1.67	<b>\$ 1.99</b>
Canada	\$ 1.44	<b>\$ 1.72</b>
China	10.68 Renminbi	<b>9.48 Renminbi</b>
Czech Republic	26.59 Koruna	<b>26.84 Koruna</b>
Croatia	n/a	<b>7.37 Kuna</b>
Denmark	7.46 Danish Kronor	<b>7.44 Danish Kronor</b>
Hungary	252.80 Forint	<b>265.85 Forint</b>
Iceland	n/a	<b>169.33 Iceland Krona</b>
India	57.63 Indian Rupee	<b>67.72 Indian Rupee</b>
Israel	563 Shekel	<b>5.25 Shekel</b>
Japan	163.33 Yen	<b>126.0 Yen</b>
Mexico	n/a	<b>19.25 Mexican Peso</b>
Norway	7.94 Norwegian Kronor	<b>9.73 Norwegian Kronor</b>
Poland	n/a	<b>4.12 Zloty</b>
Russia	35.8 Rouble	<b>42.44 Rouble</b>
South Korea	1368.56 Won	<b>1750.70 Won</b>
Sweden	9.45 Swedish Kronor	<b>10.99 Swedish Kronor</b>
Switzerland	1.66 Swiss Franc	<b>1.48 Swiss Franc</b>
Turkey	2.15 New Lira	<b>2.15 New Lira</b>
UK	£ 0.73	<b>£ 0.97</b>
USA	\$ 1.46	<b>\$ 1.39</b>
Taiwan	\$ 47.42	<b>\$ 45.61</b>

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.

## Glossary of definitions

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- 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 that 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

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. These reflect the market capitalisation of each company at the close of trading on 14 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. Companies not listed on a recognised stock exchange have been distinguished separately by the use of italics. If a listed company is suspended from trade, the market capitalisation will be shown as "n/a", e.g. *Amtel-Vredestein*, The Netherlands.

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 3 - 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 2009 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.**

				R&D Investment		Net Sales	R&D/Net Sales ratio	Operating Profit
Rank	Company	ICB Sector	Country	2008	change 08/07	2008	2008	2008
				€m	%	€m	%	% of Net Sales
			<b>Top 1000 Companies</b>	<b>130,412.32</b>	<b>7.8</b>	<b>5,711,823</b>	<b>2.3</b>	<b>7.8</b>
			<i>number of companies for calculation</i>	<i>1000</i>	<i>983</i>	<i>1000</i>	<i>990</i>	<i>990</i>
1	Volkswagen	Automobiles & parts (335)	Germany	5,926.00	20.4	113,808	5.2	6.3
2	Nokia	Telecommunications equipment (9578)	Finland	5,321.00	0.8	50,710	10.5	9.8
3	Sanofi-Aventis	Pharmaceuticals (4577)	France	4,608.00	1.0	27,568	16.7	18.8
4	Daimler	Automobiles & parts (335)	Germany	4,442.00	-9.1	95,873	4.6	2.8
5	Robert Bosch	Automobiles & parts (335)	Germany	3,916.00	10.0	45,127	8.7	3.2
6	Siemens	Electrical components & equipment (2733)	Germany	3,836.00	14.0	82,324	4.7	1.8
7	GlaxoSmithKline	Pharmaceuticals (4577)	UK	3,835.56	14.2	25,190	15.2	29.4
8	AstraZeneca	Pharmaceuticals (4577)	UK	3,622.34	-0.1	22,735	15.9	28.9
9	Alcatel-Lucent	Telecommunications equipment (9578)	France	3,167.00	-6.0	16,984	18.6	-30.6
10	Ericsson	Telecommunications equipment (9578)	Sweden	2,975.46	18.9	19,008	15.7	7.2
11	BMW	Automobiles & parts (335)	Germany	2,864.00	-8.9	53,197	5.4	1.6
12	EADS	Aerospace & defence (271)	The Netherlands	2,756.00	2.0	43,265	6.4	6.3
13	Bayer	Chemicals (135)	Germany	2,725.00	3.0	32,918	8.3	10.3
14	Peugeot (PSA)	Automobiles & parts (335)	France	2,372.00	14.4	54,356	4.4	-0.6
15	Renault	Automobiles & parts (335)	France	2,235.00	-9.2	36,499	6.1	0.4
16	Boehringer Ingelheim	Pharmaceuticals (4577)	Germany	2,109.00	21.9	11,595	18.2	16.7
17	Fiat	Automobiles & parts (335)	Italy	1,986.00	14.1	59,380	3.3	5.2
18	Finmeccanica	Aerospace & defence (271)	Italy	1,767.00	-2.2	13,332	13.3	6.9
19	SAP	Software (9537)	Germany	1,627.00	11.4	11,575	14.1	22.8
20	Philips Electronics	Leisure goods (374)	The Netherlands	1,613.00	0.6	26,513	6.1	-0.3
21	STMicroelectronics	Semiconductors (9576)	The Netherlands	1,544.62	19.3	7,045	21.9	-6.3
22	Continental	Automobiles & parts (335)	Germany	1,524.20	81.0	24,239	6.3	-1.4
23	Volvo	Commercial vehicles & trucks (2753)	Sweden	1,479.40	26.0	27,627	5.4	4.9
24	BASF	Chemicals (135)	Germany	1,372.00	-2.0	62,304	2.2	10.2
25	Merck	Pharmaceuticals (4577)	Germany	1,234.40	9.9	7,558	16.3	9.6
26	BT	Fixed line telecommunications	UK	1,157.49	-10.6	22,126	5.2	2.1

				R&D Investment		Net Sales	R&D/Net Sales ratio	Operating Profit
Rank	Company	ICB Sector	Country	2008	change 08/07	2008	2008	2008
				€m	%	€m	%	% of Net Sales
		(653)						
27	Novo Nordisk	Pharmaceuticals (4577)	Denmark	994.94	-0.3	6,121	16.3	26.9
28	Unilever	Food producers (357)	UK	927.00	6.8	40,523	2.3	11.6
29	Royal Dutch Shell	Oil & gas producers (53)	UK	910.80	5.4	329,760	0.3	11.1
30	France Telecom	Fixed line telecommunications (653)	France	900.00	0.7	53,488	1.7	19.2
31	Porsche Automobile	Automobiles & parts (335)	Germany	899.64	22.6	7,466	12.0	116.7
32	NXP	Semiconductors (9576)	The Netherlands	862.60	-18.5	3,916	22.0	-46.8
33	Valeo	Automobiles & parts (335)	France	786.00	-0.5	8,664	9.1	-0.8
34	UCB	Pharmaceuticals (4577)	Belgium	767.00	-1.8	3,601	21.3	3.1
35	Vivendi	Media (555)	France	721.00	70.4	25,392	2.8	11.9
36	Schneider	Electrical components & equipment (2733)	France	708.00	4.9	18,311	3.9	14.1
37	Telecom Italia	Fixed line telecommunications (653)	Italy	704.00	477.0	30,468	2.3	17.4
38	Infineon Technologies	Semiconductors (9576)	Germany	673.00	-4.1	6,106	11.0	-59.8
39	ZF	Automobiles & parts (335)	Germany	670.00	0.6	12,501	5.4	6.1
40	Telefonica	Fixed line telecommunications (653)	Spain	668.00	12.5	57,946	1.2	23.1
41	Royal Bank of Scotland	Banks (835)	UK	622.71	25.2	29,417	2.1	-140.9
42	ALSTOM	Industrial machinery (2757)	France	621.00	10.7	18,739	3.3	8.1
43	Deutsche Telekom	Fixed line telecommunications (653)	Germany	614.00	12.0	61,666	1.0	10.1
44	TOTAL	Oil & gas producers (53)	France	612.00	3.0	160,331	0.4	15.6
45	SAFRAN	Aerospace & defence (271)	France	609.00	-31.3	10,621	5.7	0.3
46	L'Oreal	Personal goods (376)	France	581.30	3.8	17,542	3.3	14.6
47	Solvay	Chemicals (135)	Belgium	578.00	1.4	9,490	6.1	5.9
48	Thales	Aerospace & defence (271)	France	569.20	-2.5	12,665	4.5	5.8
49	AREVA	Electricity (753)	France	554.00	-2.8	13,160	4.2	4.1
50	HSBC	Banks (835)	UK	549.65	30.2	63,721	0.9	10.5
51	ASML	Semiconductors (9576)	The Netherlands	533.78	9.2	2,954	18.1	12.5
52	Rolls-Royce	Aerospace & defence (271)	UK	506.86	7.9	9,394	5.4	9.4
53	Michelin	Automobiles & parts (335)	France	499.00	-12.6	16,408	3.0	5.2
54	Henkel	Household goods & home construction (372)	Germany	439.00	16.1	14,131	3.1	6.1

				R&D Investment		Net Sales	R&D/Net Sales ratio	Operating Profit
Rank	Company	ICB Sector	Country	2008	change 08/07	2008	2008	2008
				€m	%	€m	%	% of Net Sales
55	BP	Oil & gas producers (53)	UK	428.06	5.1	259,818	0.2	9.3
56	MAN	Commercial vehicles & trucks (2753)	Germany	424.00	18.4	16,585	2.6	9.7
57	Electricite de France	Electricity (753)	France	421.00	12.3	64,279	0.7	9.9
58	DSM	Chemicals (135)	The Netherlands	394.00	5.9	9,297	4.2	8.8
59	Saint-Gobain	Construction & materials (235)	France	385.00	-3.5	43,800	0.9	6.3
60	Shire	Pharmaceuticals (4577)	UK	369.86	-0.9	2,177	17.0	10.6
61	Hella	Automobiles & parts (335)	Germany	356.68	10.8	3,940	9.1	6.2
62	AKZO Nobel	Chemicals (135)	The Netherlands	334.00	19.3	15,415	2.2	-3.9
63	ThyssenKrupp	Industrial metals & mining (175)	Germany	325.00	23.1	53,426	0.6	6.2
64	Carl Zeiss	Health care equipment & services (453)	Germany	321.00	10.7	2,731	11.8	9.7
65	Societe Generale	Banks (835)	France	311.00	-1.3	21,866	1.4	18.3
66	Evonik Industries	General industrials (272)	Germany	305.00	-2.2	16,204	1.9	4.9
67	UBIsoft Entertainment	Software (9537)	France	304.41	34.7	928	32.8	10.7
68	Lundbeck	Pharmaceuticals (4577)	Denmark	300.07	2.1	1,516	19.8	20.6
69	Vodafone	Mobile telecommunications (657)	UK	289.63	19.7	42,428	0.7	14.2
70	MAHLE	Automobiles & parts (335)	Germany	285.89	3.0	5,014	5.7	3.2
71	UniCredit	Banks (835)	Italy	284.75	2,004.6	26,171	1.1	14.8
72	Dassault Systemes	Software (9537)	France	284.33	-2.6	1,335	21.3	17.3
73	Barclays	Banks (835)	UK	283.43	132.2	24,155	1.2	24.0
74	Dassault Aviation	Aerospace & defence (271)	France	272.73	2.9	3,748	7.3	11.6
75	Voith	General industrials (272)	Germany	267.02	21.7	4,934	5.4	5.7
76	BSH Bosch und Siemens Hausgerate	Household goods & home construction (372)	Germany	262.00	-0.4	8,758	3.0	7.0
77	Thomson	Media (555)	France	257.00	-18.7	4,903	5.2	-32.2
78	Oce	Electronic office equipment (9574)	The Netherlands	254.97	23.2	2,909	8.8	1.2
79	Behr	Automobiles & parts (335)	Germany	241.00	5.2	3,383	7.1	2.5
80	Elan	Pharmaceuticals (4577)	Ireland	227.92	39.2	548	41.6	-19.9
81	Vestas Wind Systems	Alternative energy (58)	Denmark	223.00	87.4	6,035	3.7	11.1
82	Sandvik	Industrial machinery (2757)	Sweden	222.53	9.6	8,430	2.6	13.8
83	Rio Tinto	Mining (177)	UK	220.87	344.9	39,039	0.6	15.7
84	BAE Systems	Aerospace & defence (271)	UK	220.33	21.0	17,244	1.3	8.6

				R&D Investment		Net Sales	R&D/Net Sales ratio	Operating Profit
Rank	Company	ICB Sector	Country	2008	change 08/07	2008	2008	2008
				€m	%	€m	%	% of Net Sales
85	Eni	Oil & gas producers (53)	Italy	216.00	3.8	108,148	0.2	17.8
86	ArcelorMittal	Industrial metals & mining (175)	Luxembourg	212.23	37.8	89,883	0.2	11.1
87	Nycomed	Pharmaceuticals (4577)	Luxembourg	210.69	-20.4	3,192	6.6	11.0
88	RWE	Gas, water & multiutilities (757)	Germany	210.00	66.7	49,089	0.4	13.5
89	Fresenius	Health care equipment & services (453)	Germany	207.00	12.5	12,336	1.7	13.1
90	Rheinmetall	Automobiles & parts (335)	Germany	199.00	11.2	3,869	5.1	6.0
91	Tesco	Food & drug retailers (533)	UK	198.61	50.0	56,196	0.4	5.7
92	Danone	Food producers (357)	France	198.00	39.4	15,220	1.3	15.8
93	L'Air Liquide	Chemicals (135)	France	191.40	9.3	13,103	1.5	14.8
94	Genmab	Biotechnology (4573)	Denmark	191.16	70.1	100	190.9	-116.8
95	Electrolux	Household goods & home construction (372)	Sweden	190.33	3.7	9,534	2.0	0.7
96	Heidelberger Druckmaschinen	Industrial machinery (2757)	Germany	186.00	-16.1	2,999	6.2	-7.6
97	Legrand	Electrical components & equipment (2733)	France	182.90	4.0	4,202	4.4	15.3
98	Agfa-Gevaert	Electronic equipment (2737)	Belgium	179.00	-10.5	3,032	5.9	-1.5
99	BHP Billiton	Mining (177)	UK	175.54	44.4	42,787	0.4	40.3
100	Intesa Sanpaolo	Banks (835)	Italy	173.00	3.6	17,765	1.0	3.1
101	Knorr-Bremse	Industrial machinery (2757)	Germany	171.34	8.0	3,384	5.1	9.0
102	Umicore	Chemicals (135)	Belgium	167.64	34.6	9,169	1.8	3.5
103	Indra Sistemas	Computer services (9533)	Spain	166.34	7.3	2,380	7.0	11.2
104	Wacker-Chemie	Chemicals (135)	Germany	163.20	7.0	4,298	3.8	14.7
105	Amdocs	Software (9537)	UK	162.23	-2.1	2,275	7.1	12.8
106	Rabobank	Banks (835)	The Netherlands	162.00	1.9	11,678	1.4	24.4
107	Freudenberg	General industrials (272)	Germany	160.50	-5.8	5,050	3.2	6.1
108	Danfoss	Industrial machinery (2757)	Denmark	159.35	33.4	3,645	4.4	1.6
109	Diehl Stiftung	General industrials (272)	Germany	157.50	1.0	2,217	7.1	4.4
110	Atlas Copco	Industrial machinery (2757)	Sweden	156.30	13.3	6,749	2.3	18.5
111	Pirelli	Automobiles & parts (335)	Italy	156.00	-9.8	4,894	3.2	-8.3
112	Vattenfall	Electricity (753)	Sweden	155.76	52.0	14,970	1.0	18.2
113	DONG Energy	Oil & gas producers (53)	Denmark	154.65	140.3	8,166	1.9	12.2
114	Maxingvest	General retailers (537)	Germany	151.00	18.9	9,194	1.6	8.2

				R&D Investment		Net Sales	R&D/Net Sales ratio	Operating Profit
Rank	Company	ICB Sector	Country	2008	change 08/07	2008	2008	2008
				€m	%	€m	%	% of Net Sales
115	Trumpf	General industrials (272)	Germany	150.60	11.2	2,144	7.0	14.2
116	Arkema	Chemicals (135)	France	150.00	-5.1	5,633	2.7	3.2
117	Grundfos	Industrial machinery (2757)	Denmark	149.12	50.7	2,555	5.8	6.7
118	Kerry	Food producers (357)	Ireland	147.46	1.5	4,791	3.1	5.9
119	Essilor International	Health care equipment & services (453)	France	144.52	5.0	3,074	4.7	17.6
120	Sage	Software (9537)	UK	144.51	25.4	1,340	10.8	20.6
121	Tognum	Automobiles & parts (335)	Germany	144.00	22.1	3,133	4.6	11.6
122	TomTom	Electronic equipment (2737)	The Netherlands	143.35	112.7	1,674	8.6	-48.6
123	BAT	Tobacco (378)	UK	142.75	16.0	12,539	1.1	32.5
124	Hexagon	Industrial machinery (2757)	Sweden	141.65	29.7	1,317	10.8	16.9
125	B Braun Melsungen	Health care equipment & services (453)	Germany	139.63	20.1	3,786	3.7	9.2
126	LyondellBasell Industries	Chemicals (135)	Luxembourg	139.57	43.7	36,688	0.4	-11.3
127	Bouygues	Construction & materials (235)	France	139.00	-1.4	32,713	0.4	7.3
128	MTU Aero Engines	Aerospace & defence (271)	Germany	138.20	55.6	2,724	5.1	9.1
129	Ipsen	Pharmaceuticals (4577)	France	137.19	-12.9	1,038	13.2	18.6
130	Dragerwerk	Health care equipment & services (453)	Germany	135.08	9.4	1,925	7.0	5.8
131	Zodiac	Aerospace & defence (271)	France	134.65	-7.3	2,014	6.7	11.6
132	Fujitsu Siemens Computers	Computer services (9533)	The Netherlands	134.10	-7.6	6,614	2.0	1.1
133	Metro	General retailers (537)	Germany	134.00	3.1	69,206	0.2	2.2
134	Novozymes	Biotechnology (4573)	Denmark	133.69	11.7	1,095	12.2	18.3
135	BioMerieux	Health care equipment & services (453)	France	132.70	0.7	1,111	11.9	16.5
136	SAAB	Aerospace & defence (271)	Sweden	130.92	3.1	2,165	6.0	0.2
137	Metso	Industrial machinery (2757)	Finland	129.00	16.2	6,400	2.0	9.8
137	Deutsche Post	Industrial transportation (277)	Germany	129.00	-5.1	65,700	0.2	-2.3
139	Nordea Bank	Banks (835)	Sweden	127.00	44.3	8,200	1.5	41.4
139	GDF Suez	Gas, water & multiutilities (757)	France	127.00	27.5	67,924	0.2	8.9
141	Benteler	General industrials (272)	Germany	123.30	12.8	6,327	1.9	3.2
142	Marks & Spencer	General retailers (537)	UK	122.89	82.5	9,374	1.3	9.5
143	Wartsila	Commercial vehicles & trucks (2753)	Finland	121.00	-0.8	4,612	2.6	11.1
144	Reed Elsevier	Media (555)	UK	118.96	43.8	5,530	2.2	16.7

				R&D Investment		Net Sales	R&D/Net Sales ratio	Operating Profit
Rank	Company	ICB Sector	Country	2008	change 08/07	2008	2008	2008
				€m	%	€m	%	% of Net Sales
145	Invensys	Software (9537)	UK	117.92	14.0	2,363	5.0	7.8
146	ZF Lenksysteme	Automobiles & parts (335)	Germany	117.70	3.1	2,594	4.5	1.6
147	Krones	Industrial machinery (2757)	Germany	116.38	9.3	2,381	4.9	6.6
148	Merial	Biotechnology (4573)	UK	114.61	25.3	1,774	6.5	26.8
149	Claas	Commercial vehicles & trucks (2753)	Germany	113.78	3.8	3,236	3.5	8.7
150	Burelle	Automobiles & parts (335)	France	112.16	17.2	2,745	4.1	-0.5
151	voestalpine	Industrial metals & mining (175)	Austria	112.00	20.6	11,731	1.0	8.7
152	Giesecke & Devrient	Support services (279)	Germany	111.96	12.1	1,689	6.6	10.3
153	CSR	Semiconductors (9576)	UK	109.89	8.4	500	22.0	-1.1
154	Vilmorin	Food producers (357)	France	109.80	9.7	897	12.2	12.9
155	Smith & Nephew	Health care equipment & services (453)	UK	109.35	7.0	2,735	4.0	16.9
156	SKF	Industrial machinery (2757)	Sweden	109.08	28.8	5,765	1.9	12.1
157	Reckitt Benckiser	Household goods & home construction (372)	UK	108.61	19.3	6,789	1.6	22.9
158	Chiesi Farmaceutici	Pharmaceuticals (4577)	Italy	107.80	16.7	749	14.4	11.8
159	KBC	Banks (835)	Belgium	107.00	137.8	4,827	2.2	-62.3
160	Deutsche Borse	Other financials (877)	Germany	104.60	-6.0	2,692	3.9	55.7
161	Wincor Nixdorf	Computer services (9533)	Germany	104.53	8.2	2,319	4.5	8.3
162	Linde	Chemicals (135)	Germany	104.00	7.2	12,663	0.8	10.1
163	Misys	Software (9537)	UK	102.92	38.0	716	14.4	6.8
164	TeliaSonera	Fixed line telecommunications (653)	Sweden	102.53	-44.2	9,424	1.1	27.7
165	E.ON	Gas, water & multiutilities (757)	Germany	102.00	47.8	86,957	0.1	3.2
166	Veolia Environnement	Gas, water & multiutilities (757)	France	101.60	11.8	36,826	0.3	5.2
167	GKN	Automobiles & parts (335)	UK	100.34	16.9	4,527	2.2	-1.9
168	Gemalto	Electronic equipment (2737)	The Netherlands	98.36	-7.3	1,659	5.9	7.8
169	Almirall	Pharmaceuticals (4577)	Spain	98.20	-3.2	903	10.9	17.7
170	Lanxess	Chemicals (135)	Germany	97.00	10.2	6,576	1.5	5.0
171	Danisco	Food producers (357)	Denmark	96.61	0.0	2,489	3.9	3.3
172	SNCF	Industrial transportation (277)	France	96.00	24.7	25,188	0.4	4.4
173	Salzgitter	Industrial metals & mining (175)	Germany	95.60	65.4	12,499	0.8	8.1
173	Orion	Pharmaceuticals (4577)	Finland	95.60	6.2	711	13.5	26.0



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Rank	Company	ICB Sector	Country	2008	change 08/07	2008	2008	2008
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175	Italtel	Telecommunications equipment (9578)	Italy	93.93	-9.2	468	20.1	-6.3
176	Symrise	Chemicals (135)	Germany	93.89	13.3	1,320	7.1	14.2
177	Dexia	Banks (835)	Belgium	91.00	-5.2	3,557	2.6	-109.0
177	Korber	General industrials (272)	Germany	91.00	5.8	1,749	5.2	10.7
179	Leoni	Electrical components & equipment (2733)	Germany	87.02	58.2	2,912	3.0	1.7
180	Johnson Matthey	Chemicals (135)	UK	85.34	21.2	8,118	1.1	3.6
181	Old Mutual	Life insurance (857)	UK	84.82	-8.9	-3,872	-2.2	-14.5
182	Krka	Pharmaceuticals (4577)	Slovenia	84.75	43.5	950	8.9	24.9
183	Borealis	Chemicals (135)	Austria	83.00	69.4	6,697	1.2	4.3
183	Repsol YPF	Oil & gas producers (53)	Spain	83.00	7.8	57,740	0.1	8.7
185	Lloyds TSB (now Lloyds Banking)	Banks (835)	UK	82.75	70.2	7,254	1.1	11.5
186	Eberspaecher	Automobiles & parts (335)	Germany	82.60	17.7	2,240	3.7	3.7
187	Rhodia	Chemicals (135)	France	82.00	-26.8	4,969	1.7	5.5
188	Getinge	Health care equipment & services (453)	Sweden	81.34	42.1	1,753	4.6	14.9
189	adidas	Personal goods (376)	Germany	81.00	-3.6	10,799	0.8	9.8
190	Assa Abloy	Construction & materials (235)	Sweden	80.97	14.7	3,177	2.5	12.0
191	Stora Enso	Forestry & paper (173)	Finland	80.20	-21.1	11,558	0.7	-6.3
192	Danske Bank	Banks (835)	Denmark	79.81	20.3	8,112	1.0	3.7
193	ARM	Semiconductors (9576)	UK	79.37	4.0	309	25.7	20.1
194	KWS SAAT	Food producers (357)	Germany	78.96	7.2	599	13.2	12.4
195	Barco	Electronic equipment (2737)	Belgium	77.96	-4.1	778	10.0	-2.8
196	EPCOS	Electronic equipment (2737)	Germany	77.65	21.0	1,478	5.3	6.9
197	Software	Software (9537)	Germany	76.22	15.7	721	10.6	25.1
198	Infogrames Entertainment (now Atari)	Software (9537)	France	75.60	46.8	291	26.0	-20.3
199	ASM International	Semiconductors (9576)	The Netherlands	75.01	-9.2	747	10.0	7.4
200	KPN	Fixed line telecommunications (653)	The Netherlands	75.00	-19.4	14,427	0.5	16.9
201	Smiths	General industrials (272)	UK	74.99	-42.4	2,401	3.1	12.8
202	SCI Entertainment (now Eidos)	Leisure goods (374)	UK	74.68	5.4	138	54.0	-102.5
203	NicOx	Pharmaceuticals (4577)	France	74.30	61.1	3	2,211.3	-2,357.4
204	IMMSI	Automobiles & parts (335)	Italy	74.22	3.5	1,737	4.3	3.6
205	DEUTZ	Industrial machinery	Germany	73.40	13.1	1,495	4.9	1.0

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Rank	Company	ICB Sector	Country	2008	change 08/07	2008	2008	2008
				€m	%	€m	%	% of Net Sales
		(2757)						
206	Iberdrola	Electricity (753)	Spain	73.10	12.5	25,196	0.3	17.0
207	Cobham	Aerospace & defence (271)	UK	73.03	27.9	1,517	4.8	8.8
208	RSA Insurance	Nonlife insurance (853)	UK	72.41	37.3	7,389	1.0	10.4
209	Sick	Electronic equipment (2737)	Germany	72.09	8.2	737	9.8	9.4
210	ALTANA	Chemicals (135)	Germany	72.07	6.9	1,342	5.4	12.3
211	Schott	Construction & materials (235)	Germany	71.47	-8.1	2,231	3.2	10.8
212	GN Store Nord	Telecommunications equipment (9578)	Denmark	71.35	-1.5	756	9.4	0.6
213	Acciona	Construction & materials (235)	Spain	71.30	82.7	12,665	0.6	13.3
214	Bang & Olufsen	Leisure goods (374)	Denmark	71.20	7.4	550	13.0	4.5
215	Gameloft	Software (9537)	France	70.66	29.9	110	64.0	-3.0
216	Qiagen	Biotechnology (4573)	The Netherlands	70.02	54.2	642	10.9	16.5
217	Gedeon Richter	Pharmaceuticals (4577)	Hungary	69.22	1.9	888	7.8	14.8
218	Bekaert	Industrial metals & mining (175)	Belgium	68.53	20.9	2,662	2.6	10.0
219	Enel	Electricity (753)	Italy	68.00	88.9	59,885	0.1	15.2
220	Ingenico	Electronic equipment (2737)	France	67.55	46.2	728	9.3	7.9
221	William Demant	Health care equipment & services (453)	Denmark	66.91	7.1	722	9.3	19.3
222	Tomkins	General industrials (272)	UK	66.69	24.2	3,968	1.7	0.4
223	LFB	Pharmaceuticals (4577)	France	66.57		352	18.9	5.1
224	Kemira	Chemicals (135)	Finland	66.40	9.2	2,833	2.3	1.7
225	Cadbury	Food producers (357)	UK	66.20	8.5	7,006	0.9	8.4
226	Serco	Support services (279)	UK	65.79	-15.8	3,231	2.0	4.8
227	Wendel	Other financials (877)	France	64.50	23.1	5,687	1.1	2.7
228	Autonomy	Software (9537)	UK	64.44	29.3	362	17.8	36.6
229	Nexans	Electrical components & equipment (2733)	France	63.00	5.0	6,799	0.9	3.1
230	Lottomatica	Travel & leisure (575)	Italy	62.50	84.4	2,059	3.0	17.7
231	Sorin	Health care equipment & services (453)	Italy	62.16	-2.1	757	8.2	4.8
232	Pace	Telecommunications equipment (9578)	UK	61.63	61.6	771	8.0	1.9
233	Meggitt	Aerospace & defence (271)	UK	61.44	12.3	1,203	5.1	14.7
234	Stada Arzneimittel	Pharmaceuticals (4577)	Germany	61.12	24.2	1,646	3.7	10.5
235	BIAL SGPS	Pharmaceuticals (4577)	Portugal	59.75	72.5	146	40.8	13.0
236	Alfa Laval	Industrial machinery (2757)	Sweden	59.50	10.8	2,534	2.3	20.2

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Rank	Company	ICB Sector	Country	2008	change 08/07	2008	2008	2008
				€m	%	€m	%	% of Net Sales
237	GEA	Industrial machinery (2757)	Germany	59.10	17.7	5,383	1.1	7.7
238	Spectris	Electrical components & equipment (2733)	UK	58.96	26.1	814	7.2	14.5
239	Recordati	Pharmaceuticals (4577)	Italy	58.86	19.8	690	8.5	19.8
240	SCA	Forestry & paper (173)	Sweden	58.41	1.3	10,049	0.6	7.6
241	Kone	Industrial machinery (2757)	Finland	58.30	15.0	4,603	1.3	12.2
242	Zeltia	Pharmaceuticals (4577)	Spain	58.09	12.4	105	55.2	-34.7
243	Eramet	Industrial metals & mining (175)	France	58.00	56.8	4,346	1.3	28.6
244	TietoEnator (now Tieto)	Computer services (9533)	Finland	57.90	-13.5	1,866	3.1	5.8
245	Caixa Geral de Depositos	Banks (835)	Portugal	57.79	42.0	3,561	1.6	18.6
246	CGGVeritas	Oil equipment, services & distribution (57)	France	57.50	-3.4	2,603	2.2	20.5
247	Bank of Ireland	Banks (835)	Ireland	56.00	-16.4	3,420	1.6	-0.2
247	Cognis Deutschland	Chemicals (135)	Germany	56.00	-12.5	3,928	1.4	5.2
247	Fagor Electrodomesticos	Household goods & home construction (372)	Spain	56.00	36.6	1,603	3.5	0.8
250	Tenaris	Oil equipment, services & distribution (57)	Luxembourg	55.61	25.3	8,799	0.6	25.5
251	Trelleborg	General industrials (272)	Sweden	55.13	19.3	2,844	1.9	1.1
252	PUMA	Personal goods (376)	Germany	55.10	-4.2	2,524	2.2	12.9
253	British Sky Broadcasting	Media (555)	UK	54.82	23.2	5,122	1.1	2.5
254	Koenig & Bauer	Industrial machinery (2757)	Germany	54.20	-11.4	1,532	3.5	-5.4
255	Dyson James	Household goods & home construction (372)	UK	54.15	2.8	632	8.6	14.6
256	Amer Sports	Leisure goods (374)	Finland	54.00	-3.9	1,577	3.4	4.0
257	Avio	Aerospace & defence (271)	Italy	52.69	-9.1	1,654	3.2	7.1
258	HeidelbergCement	Construction & materials (235)	Germany	52.60	11.9	14,376	0.4	12.0
259	Husqvarna	Industrial machinery (2757)	Sweden	52.40	19.7	2,942	1.8	7.4
260	Crucell	Biotechnology (4573)	The Netherlands	52.06	14.1	267	19.5	0.9
261	Anheuser-Busch Inbev	Beverages (353)	Belgium	52.00	160.0	16,102	0.3	21.9
262	Coloplast	Health care equipment & services (453)	Denmark	51.86	21.0	1,137	4.6	11.7
263	Intercell	Biotechnology (4573)	Austria	51.70	55.1	56	92.7	-32.6
264	Andritz	Industrial machinery (2757)	Austria	51.24	12.9	3,610	1.4	6.0
265	FrieslandCampina	Food producers (357)	The Netherlands	51.00	-5.6	9,450	0.5	2.6
266	Sopra	Computer services	France	50.10	29.1	1,129	4.4	8.8

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Rank	Company	ICB Sector	Country	2008	change 08/07	2008	2008	2008
				€m	%	€m	%	% of Net Sales
		(9533)						
267	Industria de Turbo Propulsores	Aerospace & defence (271)	Spain	50.00	-31.0	483	10.3	8.1
268	BBC	Media (555)	UK	49.44	196.9	4,459	1.1	-3.1
269	Groupe SEB	Household goods & home construction (372)	France	49.20	5.1	3,230	1.5	8.1
270	UPM-Kymmene	Forestry & paper (173)	Finland	49.00	-2.0	9,461	0.5	2.1
271	Suez Environnement	Support services (279)	France	48.80		12,364	0.4	8.3
272	Gildemeister	Industrial machinery (2757)	Germany	48.56	14.4	1,904	2.6	8.3
273	Unit 4 Agresso	Software (9537)	The Netherlands	47.91	36.2	400	12.0	4.9
274	Neopost	Electronic office equipment (9574)	France	47.70	0.2	918	5.2	25.7
275	Sartorius	Electronic equipment (2737)	Germany	47.56	6.1	612	7.8	7.9
276	Fincantieri	Commercial vehicles & trucks (2753)	Italy	47.52	11.3	2,573	1.8	1.9
277	Hugo Boss	Personal goods (376)	Germany	47.50	21.5	1,686	2.8	11.3
278	Cargotec	Industrial machinery (2757)	Finland	47.30	1.9	3,399	1.4	5.1
279	Kontron	Computer hardware (9572)	Germany	47.22	10.8	497	9.5	9.6
280	Sud-Chemie	Chemicals (135)	Germany	47.20	12.1	1,191	4.0	9.7
281	Spirent Communications	Telecommunications equipment (9578)	UK	46.86	-2.2	267	17.6	19.0
282	Topotarget	Biotechnology (4573)	Denmark	46.51	228.2	6	788.3	-671.2
283	Ktm Power Sports	Automobiles & parts (335)	Austria	46.19	72.0	606	7.6	3.3
284	Deutsche Bank	Banks (835)	Germany	46.00	43.8	13,490	0.3	-42.6
285	Telekom Austria	Fixed line telecommunications (653)	Austria	45.60	-12.3	5,170	0.9	2.4
286	Prysmian	Electrical components & equipment (2733)	Italy	45.00	-1.2	5,144	0.9	8.7
287	Technip	Oil equipment, services & distribution (57)	France	44.90	6.9	7,481	0.6	9.2
288	RBC Dexia Investor Services	Other financials (877)	UK	44.45	60.6	859	5.2	31.0
289	ALK-Abello	Pharmaceuticals (4577)	Denmark	43.94	1.2	240	18.3	6.7
290	Biotest	Pharmaceuticals (4577)	Germany	43.27	26.9	423	10.2	13.2
291	LEGO	Leisure goods (374)	Denmark	43.26	27.8	1,280	3.4	22.0
292	Grammer	Automobiles & parts (335)	Germany	43.15	-18.7	1,007	4.3	3.1
293	Christian Dior	Personal goods (376)	France	43.00	-6.5	17,933	0.2	19.3
294	Evotec	Pharmaceuticals (4577)	Germany	42.52	15.6	40	107.3	-185.5
295	Poste Italiane	Industrial transportation (277)	Italy	41.77	179.2	17,694	0.2	8.1

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296	Simcorp	Software (9537)	Denmark	41.45	25.1	175	23.7	21.6
297	Belgacom	Fixed line telecommunications (653)	Belgium	41.00	0.0	5,911	0.7	19.5
298	ADVA	Telecommunications equipment (9578)	Germany	40.96	-3.6	218	18.8	-3.2
299	Laird	Electrical components & equipment (2733)	UK	40.34	55.4	657	6.1	5.8
300	Biovitrum	Biotechnology (4573)	Sweden	40.08	-27.8	104	38.6	-33.9
301	KPMG Europe LLP	Support services (279)	UK	40.00	286.8	3,387	1.2	19.8
302	IMI	Industrial machinery (2757)	UK	39.51	24.4	1,966	2.0	11.0
303	Jungheinrich	Commercial vehicles & trucks (2753)	Germany	39.04	-4.7	2,145	1.8	5.8
304	NKT	Electrical components & equipment (2733)	Denmark	38.91	-0.5	1,858	2.1	5.7
305	Elektrobit	Electronic equipment (2737)	Finland	38.88	-8.0	172	22.6	-26.5
306	Vaillant	Household goods & home construction (372)	Germany	38.30		2,111	1.8	8.2
307	Jenoptik	Industrial machinery (2757)	Germany	38.28	-7.3	548	7.0	5.4
308	Eureko	Life insurance (857)	The Netherlands	38.00	46.2	17,535	0.2	-14.9
309	ElringKlinger	Automobiles & parts (335)	Germany	37.89	21.4	658	5.8	11.5
310	KUKA	Industrial machinery (2757)	Germany	37.47	0.7	1,266	3.0	4.1
311	Option	Telecommunications equipment (9578)	Belgium	37.04	21.0	268	13.8	-10.9
312	TNT	Industrial transportation (277)	The Netherlands	37.00	-28.8	10,983	0.3	8.4
312	Neste Oil	Oil & gas producers (53)	Finland	37.00	32.1	15,043	0.2	1.1
314	Somfy	Electrical components & equipment (2733)	France	36.86	10.4	749	4.9	16.3
315	SGL Carbon	Electrical components & equipment (2733)	Germany	36.20	15.3	1,612	2.2	18.8
316	FLSmidth	Construction & materials (235)	Denmark	36.01	27.6	3,403	1.1	9.6
317	WestLB	Banks (835)	Germany	36.00	50.0	1,585	2.3	2.6
317	Delhaize	Food & drug retailers (533)	Belgium	36.00	78.2	19,044	0.2	4.7
317	CSM	Food producers (357)	The Netherlands	36.00	5.9	2,599	1.4	4.2
317	Sudzucker	Food producers (357)	Germany	36.00	-0.8	5,871	0.6	6.2
321	Elekta	Health care equipment & services (453)	Sweden	35.94	-4.6	462	7.8	13.0
322	SkillSoft	Software (9537)	Ireland	35.86	0.5	236	15.2	25.2
323	Egis Pharmaceuticals	Pharmaceuticals (4577)	Hungary	35.78	16.9	411	8.7	8.9
324	Lifecycle Pharma	Biotechnology (4573)	Denmark	35.43	43.6	23	155.0	-102.3

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325	NeuroSearch	Biotechnology (4573)	Denmark	35.40	21.4	9	394.6	-576.1
326	Zumtobel	Electronic equipment (2737)	Austria	35.23	5.6	1,174	3.0	2.9
327	Meda	Pharmaceuticals (4577)	Sweden	35.12	61.5	971	3.6	21.6
328	Danieli	Industrial machinery (2757)	Italy	35.00	-71.0	2,624	1.3	8.0
328	Benetton	Personal goods (376)	Italy	35.00	59.1	2,140	1.6	11.7
330	Barilla	Food producers (357)	Italy	34.98	-0.2	4,245	0.8	5.0
331	Beig Topco	Food producers (357)	UK	34.38	333.0	1,270	2.7	4.9
332	Ultra Electronics	Aerospace & defence (271)	UK	34.24	13.2	533	6.4	12.3
333	Boliden	Mining (177)	Sweden	34.21	16.8	2,819	1.2	3.2
334	Talanx	Nonlife insurance (853)	Germany	34.00	183.3	17,523	0.2	2.6
335	Wavecom (now part of Sierra Wireless, Canada)	Telecommunications equipment (9578)	France	33.56	7.8	202	16.6	6.2
336	Abengoa	General industrials (272)	Spain	33.54	-38.6	3,769	0.9	8.0
337	Vectura	Pharmaceuticals (4577)	UK	33.41	8.9	32	103.5	-67.0
338	Nemetschek	Software (9537)	Germany	33.34	14.3	150	22.2	14.1
339	SMA Solar Technology	Alternative energy (58)	Germany	33.11	78.6	682	4.9	24.6
340	Wilo	Industrial machinery (2757)	Germany	32.71	26.5	977	3.3	9.0
341	Cegedim	Computer services (9533)	France	32.69	179.9	849	3.9	10.6
342	ELMOS Semiconductor	Semiconductors (9576)	Germany	32.44	-0.9	175	18.5	7.8
343	Auriga Industries	Chemicals (135)	Denmark	32.29	79.3	761	4.2	9.0
344	Imagination Technologies	Semiconductors (9576)	UK	32.18	15.8	66	48.5	4.1
345	Gamesa	Industrial machinery (2757)	Spain	32.06	3.7	4,091	0.8	5.7
346	Lafarge	Construction & materials (235)	France	32.00	-27.3	19,033	0.2	16.4
346	De'Longhi	Household goods & home construction (372)	Italy	32.00	9.7	1,533	2.1	6.9
348	Cookson	General industrials (272)	UK	31.76	32.9	2,278	1.4	5.8
349	Experian	Support services (279)	UK	31.66	-27.9	2,931	1.1	16.2
350	KSB	Industrial machinery (2757)	Germany	31.65	1.5	1,992	1.6	10.4
351	JCB Service	Commercial vehicles & trucks (2753)	UK	30.93	-8.6	2,207	1.4	7.5
352	Vocalink	Computer services (9533)	UK	30.78	-7.0	144	21.4	-6.6
353	Q-Cells	Alternative energy (58)	Germany	30.50	77.3	1,251	2.4	18.5
354	Pearson	Media (555)	UK	30.00	45.0	4,985	0.6	14.0
355	Pharmathen	Pharmaceuticals (4577)	Greece	29.98	61.3	74	40.4	15.0

				R&D Investment		Net Sales	R&D/Net Sales ratio	Operating Profit
Rank	Company	ICB Sector	Country	2008	change 08/07	2008	2008	2008
				€m	%	€m	%	% of Net Sales
356	Betfair	Travel & leisure (575)	UK	29.89	31.8	242	12.4	16.3
357	Santaris Pharma	Biotechnology (4573)	Denmark	29.61	71.5	9	330.1	-273.5
358	Energie Baden	Electricity (753)	Germany	29.30	-26.2	16,305	0.2	9.3
359	Edwards	Industrial machinery (2757)	UK	29.17	27.0	527	5.5	4.8
360	Alecta	Life insurance (857)	Sweden	29.11	27.5	1,748	1.7	178.3
361	Beru	Automobiles & parts (335)	Germany	29.04	-15.3	409	7.1	-6.4
362	Tate & Lyle	Food producers (357)	UK	28.96	-12.5	4,557	0.6	3.1
362	ICAP	Other financials (877)	UK	28.96	15.2	1,656	1.7	18.1
364	Funkwerk	Mobile telecommunications (657)	Germany	28.73	4.9	290	9.9	3.7
364	Wolfson Microelectronics	Semiconductors (9576)	UK	28.73	-2.2	143	20.1	4.2
366	Punch International	Industrial machinery (2757)	Belgium	28.49	55.9	342	8.3	13.9
367	Transgene	Biotechnology (4573)	France	28.39	4.7	4	636.5	-579.6
368	AVEVA	Software (9537)	UK	28.27	28.3	170	16.7	34.5
369	Renishaw	Electronic equipment (2737)	UK	28.25	16.6	208	13.6	18.8
370	Rockwool International	Construction & materials (235)	Denmark	28.22	-16.6	1,841	1.5	11.2
371	Haldex	Automobiles & parts (335)	Sweden	28.02	10.8	764	3.7	1.1
371	LKAB	Mining (177)	Sweden	28.02	48.1	2,104	1.3	44.6
373	Latecoere	Aerospace & defence (271)	France	28.00	-64.6	684	4.1	4.7
374	Novomatic	Travel & leisure (575)	Austria	27.69	17.5	1,281	2.2	27.0
375	Morphosys	Biotechnology (4573)	Germany	27.60	24.1	72	38.5	23.0
376	Ion Beam Applications	Health care equipment & services (453)	Belgium	27.26	57.8	333	8.2	3.9
377	NATS	Industrial transportation (277)	UK	27.10	-2.2	768	3.5	17.7
378	Same Deutz-Fahr	Commercial vehicles & trucks (2753)	Italy	27.00	-2.4	1,220	2.2	2.9
378	Fortum	Electricity (753)	Finland	27.00	28.6	5,636	0.5	35.5
378	Rautaruukki	Industrial metals & mining (175)	Finland	27.00	-3.6	3,851	0.7	14.6
381	Parrot	Telecommunications equipment (9578)	France	26.99	13.3	207	13.1	7.5
382	Axis	Computer hardware (9572)	Sweden	26.79	42.7	180	14.9	16.8
383	Homag	Industrial machinery (2757)	Germany	26.41	-3.5	856	3.1	6.8
384	Patria	Aerospace & defence (271)	Finland	26.40	169.4	535	4.9	1.5
385	Aixtron	Semiconductors (9576)	Germany	26.37	14.7	274	9.6	11.1
386	Akka Technologies	Computer services	France	26.17	-26.3	382	6.9	4.8

				R&D Investment		Net Sales	R&D/Net Sales ratio	Operating Profit
Rank	Company	ICB Sector	Country	2008	change 08/07	2008	2008	2008
				€m	%	€m	%	% of Net Sales
		(9533)						
387	Wacker Construction Equipment (now Wacker Neuson)	Industrial machinery (2757)	Germany	26.13	23.0	870	3.0	6.7
388	Paul Hartmann	Health care equipment & services (453)	Germany	26.10	-1.5	1,377	1.9	3.5
389	Munich Re	Nonlife insurance (853)	Germany	26.00	8.3	46,106	0.1	6.3
390	Anglo American	Mining (177)	UK	25.90	-12.2	18,929	0.1	30.3
391	Aeffe	Personal goods (376)	Italy	25.75	4.7	295	8.7	7.4
392	Sophos	Software (9537)	UK	25.74	23.7	87	29.6	-9.3
393	austriamicrosystems	Semiconductors (9576)	Austria	25.60	11.5	185	13.9	9.8
394	CEGID	Software (9537)	France	25.48	2.2	249	10.3	12.3
395	Hunter Douglas	Household goods & home construction (372)	The Netherlands	25.18	6.1	2,117	1.2	4.4
396	Micro Focus International	Software (9537)	UK	25.09	48.2	164	15.3	32.8
397	MediGene	Biotechnology (4573)	Germany	25.05	-1.2	34	74.8	-110.8
398	LM Glasfiber	Chemicals (135)	Denmark	25.02	40.6	885	2.8	10.3
399	Metsaliitto	Forestry & paper (173)	Finland	25.00	-13.8	7,715	0.3	-5.7
400	Seton House	Support services (279)	UK	24.83	42.9	344	7.2	-1.1
401	Guerbet	Pharmaceuticals (4577)	France	24.68	-6.8	321	7.7	11.0
402	Dialog Semiconductor	Semiconductors (9576)	UK	24.38	14.5	116	20.9	3.3
403	F-Secure	Computer services (9533)	Finland	24.37	22.0	113	21.6	20.5
404	Lantmannen	Food producers (357)	Sweden	24.20	-21.8	3,875	0.6	1.0
405	SBM Offshore	Oil equipment, services & distribution (57)	The Netherlands	24.19	31.5	2,202	1.1	8.8
406	Eppendorf	Health care equipment & services (453)	Germany	24.12	21.5	410	5.9	17.5
407	Vaisala	Electronic equipment (2737)	Finland	24.10	4.3	243	9.9	15.7
407	John Lewis	General retailers (537)	UK	24.10	9.4	6,268	0.4	6.6
409	Duerr	Industrial machinery (2757)	Germany	24.05	12.7	1,603	1.5	4.5
410	Datalogic	Electronic equipment (2737)	Italy	24.03	-5.8	404	5.9	7.8
411	Energia de Portugal	Electricity (753)	Portugal	24.00		13,894	0.2	11.8
412	Melexis	Semiconductors (9576)	Belgium	23.82	-2.3	186	12.8	13.0
413	Ahlstrom	Chemicals (135)	Finland	23.80	-0.4	1,802	1.3	0.4
413	BIC	Household goods & home construction (372)	France	23.80	-2.9	1,421	1.7	14.6
415	Rexam	General industrials (272)	UK	23.79	53.3	4,777	0.5	8.3
416	Halma	Electronic equipment (2737)	UK	23.70	22.6	472	5.0	16.6



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Rank	Company	ICB Sector	Country	2008	change 08/07	2008	2008	2008
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417	Clarins	Personal goods (376)	France	23.63	4.1	1,008	2.3	11.3
418	888	Travel & leisure (575)	UK	23.51	39.1	185	12.7	14.5
419	IMA Industria Macchine Automatiche	Industrial machinery (2757)	Italy	23.42	-0.1	547	4.3	13.1
420	Arcandor	General retailers (537)	Germany	23.36	-40.3	20,025	0.1	-2.2
421	Oxford Biomedica	Pharmaceuticals (4577)	UK	23.26	1.6	19	122.2	-75.0
422	Bull	Computer hardware (9572)	France	23.00	-48.8	1,133	2.0	1.1
423	GfK	Support services (279)	Germany	22.98	-5.7	1,220	1.9	10.9
424	Zentiva (now part of Sanofi-Aventis, France)	Pharmaceuticals (4577)	Czech Republic	22.84	23.7	553	4.1	13.0
425	SSAB Svenskt Stal	Industrial metals & mining (175)	Sweden	22.75	25.0	5,663	0.4	16.4
426	Fuchs Petrolub	Chemicals (135)	Germany	22.70	-4.2	1,394	1.6	12.2
427	Itella	Industrial transportation (277)	Finland	22.60	-0.4	1,953	1.2	3.2
428	Servier	Biotechnology (4573)	UK	22.45	18.9	22	100.0	4.5
429	BTG	Biotechnology (4573)	UK	22.34	116.1	88	25.5	-13.9
430	Pohjolan Voima	Electricity (753)	Finland	22.20	26.1	919	2.4	-1.8
431	Dako	Biotechnology (4573)	Denmark	22.01	70.2	220	10.0	8.3
432	Commerzbank	Banks (835)	Germany	22.00	69.2	6,460	0.3	-6.7
432	Accor	Travel & leisure (575)	France	22.00	-15.4	7,739	0.3	11.0
434	RHI	Industrial machinery (2757)	Austria	21.90	3.8	1,607	1.4	9.1
435	REpower Systems (now part of Suzlon Energy, India)	Alternative energy (58)	Germany	21.88	63.5	1,209	1.8	6.5
436	Oberthur Technologies	Electronic equipment (2737)	France	21.80	19.0	734	3.0	7.2
437	Wittington Investments	Food producers (357)	UK	21.72	31.2	8,605	0.3	6.3
438	Fidessa	Software (9537)	UK	21.45	1.1	196	11.0	11.9
439	Stork	Industrial machinery (2757)	The Netherlands	21.35	-56.9	1,772	1.2	4.9
440	MGI Coutier	Automobiles & parts (335)	France	21.10	-6.2	420	5.0	0.1
440	Saft	Electrical components & equipment (2733)	France	21.10	-9.4	609	3.5	11.5
442	Exact	Software (9537)	The Netherlands	21.06	9.9	261	8.1	18.9
443	Q-Med	Biotechnology (4573)	Sweden	21.03	-1.8	116	18.2	3.9
444	Orexo	Pharmaceuticals (4577)	Sweden	21.00	51.5	21	98.9	-48.2
445	RHJ International	Other financials (877)	Belgium	20.91	175.1	3,547	0.6	-33.4
446	Nordex	Industrial machinery (2757)	Germany	20.87	21.1	1,136	1.8	5.5
447	CS Communication & Systemes	Computer services (9533)	France	20.82	8.3	222	9.4	-2.2
448	Aliaxis	Construction & materials (235)	Belgium	20.77	4.5	2,405	0.9	12.0

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Rank	Company	ICB Sector	Country	2008	change 08/07	2008	2008	2008
				€m	%	€m	%	% of Net Sales
448	Glen Electric	Household goods & home construction (372)	UK	20.77	23.1	834	2.5	5.7
450	ITV	Media (555)	UK	20.69	-9.1	2,099	1.0	-131.7
451	Symphogen	Biotechnology (4573)	Denmark	20.62	40.7	6	354.3	-334.5
452	Teollisuuden Voima	Electricity (753)	Finland	20.60	20.5	257	8.0	-14.2
453	BRE Bank	Banks (835)	Poland	20.56	2.8	694	3.0	30.8
453	Seco Tools	Industrial machinery (2757)	Sweden	20.56	9.2	595	3.5	20.4
455	Thrane & Thrane	Telecommunications equipment (9578)	Denmark	20.55	-26.7	166	12.4	9.9
456	Veritas	Automobiles & parts (335)	Germany	20.38	-2.5	432	4.7	-1.0
457	Pharming	Biotechnology (4573)	The Netherlands	20.23	6.0	0	50,575.0	-75,250.0
458	Outotec	Industrial machinery (2757)	Finland	20.20	37.4	1,218	1.7	9.8
459	A-Tec Industries	Industrial machinery (2757)	Austria	20.18	7.4	3,316	0.6	0.3
460	Visicorp	Automobiles & parts (335)	UK	20.17		599	3.4	-1.7
461	Wanderer-Werke	Industrial machinery (2757)	Germany	20.12		578	3.5	4.6
462	Singulus Technologies	Industrial machinery (2757)	Germany	20.08	-21.5	208	9.7	-22.2
463	Terma	Aerospace & defence (271)	Denmark	20.06	65.9	142	14.1	7.0
464	Wilex	Biotechnology (4573)	Germany	20.04	-10.2	3	670.2	-722.7
465	Outokumpu	Industrial metals & mining (175)	Finland	20.00	11.1	5,741	0.3	-1.2
466	Force India Formula One	Travel & leisure (575)	UK	19.88	84.2	30	66.1	-37.1
467	WET Automotive Systems	Automobiles & parts (335)	Germany	19.86	10.8	170	11.7	-19.4
468	Bauer	Construction & materials (235)	Germany	19.75	20.9	1,291	1.5	13.1
469	Prima Industrie	Industrial machinery (2757)	Italy	19.69	110.1	367	5.4	6.5
470	K+S	Chemicals (135)	Germany	19.61	20.2	4,794	0.4	24.8
471	Severn Trent	Gas, water & multiutilities (757)	UK	19.55	22.0	1,699	1.2	27.2
472	Nolato	Chemicals (135)	Sweden	19.38	67.8	257	7.5	8.2
473	Charter International	Industrial machinery (2757)	UK	19.24	93.8	1,952	1.0	10.8
474	Renovo	Biotechnology (4573)	UK	19.19	-9.3	8	243.8	-286.8
475	Miba	Automobiles & parts (335)	Austria	19.10	19.4	375	5.1	8.5
476	Antisoma	Biotechnology (4573)	UK	19.07	27.0	41	46.6	27.3
477	Genus	Biotechnology (4573)	UK	19.03	3.9	267	7.1	11.4
478	YIT	Construction & materials (235)	Finland	19.00	-13.6	3,940	0.5	6.5

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Rank	Company	ICB Sector	Country	2008	change 08/07	2008	2008	2008
				€m	%	€m	%	% of Net Sales
479	Ilog (now part of IBM, USA)	Software (9537)	France	18.93	-24.9	88	21.5	-1.2
480	Cattles	Other financials (877)	UK	18.72	-4.7	850	2.2	20.1
481	IBS	Software (9537)	Sweden	18.68	-36.7	185	10.1	-13.5
482	Standard Life	Life insurance (857)	UK	18.62	5.9	-16,126	-0.1	0.9
483	Uponor	Construction & materials (235)	Finland	18.60	-5.6	958	1.9	5.5
484	Bioinvent	Biotechnology (4573)	Sweden	18.58	44.9	23	81.0	2.6
485	Indesit	Household goods & home construction (372)	Italy	18.50	-26.0	3,155	0.6	4.2
486	Unibel	Food producers (357)	France	18.45	8.9	2,217	0.8	4.1
487	ACTIELEC Technologies (now Actia)	Electronic equipment (2737)	France	18.43	10.4	251	7.4	5.2
488	Post Danmark	Industrial transportation (277)	Denmark	18.41	-19.4	1,600	1.2	9.4
489	Industrial and Financial Systems	Software (9537)	Sweden	18.38	5.8	229	8.0	6.2
490	Active Biotech	Biotechnology (4573)	Sweden	18.33	10.0	5	389.2	-359.9
491	Konecranes	Industrial machinery (2757)	Finland	18.30	21.2	2,103	0.9	11.6
491	B&C	Other financials (877)	Austria	18.30	13.7	2,020	0.9	11.6
493	Croda International	Chemicals (135)	UK	18.21	24.8	1,037	1.8	11.9
494	Norddeutsche Landesbank Girozentrale	Banks (835)	Germany	18.00	-5.3	1,367	1.3	1.7
494	Kofax	Software (9537)	UK	18.00	13.7	176	10.2	5.5
496	Devgen	Biotechnology (4573)	Belgium	17.98	108.8	9	194.2	-279.8
497	Innate Pharma	Biotechnology (4573)	France	17.91	-4.0	13	138.6	-92.7
498	Atlantia	Industrial transportation (277)	Italy	17.90	-14.9	2,853	0.6	55.6
499	Fimalac	Other financials (877)	France	17.85	-16.2	587	3.0	15.9
500	Recticel	Chemicals (135)	Belgium	17.73	-4.4	1,555	1.1	2.6
501	SAES Getters	Electronic equipment (2737)	Italy	17.66	-0.5	160	11.0	19.4
502	Demag Cranes	Industrial machinery (2757)	Germany	17.60	-4.3	1,226	1.4	10.8
503	Diageo	Beverages (353)	UK	17.59	0.0	8,368	0.2	29.4
503	Logica	Computer services (9533)	UK	17.59	-21.6	3,711	0.5	2.4
505	Thrombogenics	Biotechnology (4573)	Belgium	17.40	3.0	30	57.2	33.1
506	Sword	Computer services (9533)	France	17.31	103.9	206	8.4	17.5
507	Vossloh	Industrial transportation (277)	Germany	17.20	35.4	1,372	1.3	10.7
508	LCH Clearnet	Other financials (877)	UK	17.18	7.3	501	3.4	51.5
509	James Hardie Industries	Construction & materials (235)	The Netherlands	17.12	-12.8	865	2.0	13.2

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Rank	Company	ICB Sector	Country	2008	change 08/07	2008	2008	2008
				€m	%	€m	%	% of Net Sales
510	Ark Therapeutics	Biotechnology (4573)	UK	17.03	12.5	1	1,774.0	-2,214.6
511	Vacon	Electrical components & equipment (2733)	Finland	17.00	19.0	293	5.8	11.8
512	TDC	Fixed line telecommunications (653)	Denmark	16.93	-78.2	5,216	0.3	15.7
513	Oxford Instruments	Electronic equipment (2737)	UK	16.86	0.6	214	7.9	-0.2
513	Allergy Therapeutics	Pharmaceuticals (4577)	UK	16.86	-35.7	32	52.5	-50.3
515	Schaltbau	Commercial vehicles & trucks (2753)	Germany	16.83	6.0	280	6.0	7.9
516	Vetoquinol	Biotechnology (4573)	France	16.80	9.5	234	7.2	12.0
517	Randstad	Support services (279)	The Netherlands	16.70	169.4	2,972	0.6	-1.7
518	Ohb Technology	Aerospace & defence (271)	Germany	16.67	36.5	232	7.2	7.0
519	e2v Technologies	Electronic equipment (2737)	UK	16.58	13.7	241	6.9	-9.1
520	Flamel Technologies	Biotechnology (4573)	France	16.55	-15.3	28	59.6	-76.0
521	LeasePlan	Other financials (877)	The Netherlands	16.46	-3.9	885	1.9	28.0
522	Manitou BF	Commercial vehicles & trucks (2753)	France	16.29	14.2	1,278	1.3	3.6
523	Soitec	Semiconductors (9576)	France	16.28	-5.3	214	7.6	-32.4
524	Valio	Food producers (357)	Finland	16.20	15.7	1,844	0.9	-0.1
525	Ducati Motor	Automobiles & parts (335)	Italy	16.11	100.9	398	4.1	5.2
526	Verbund	Electricity (753)	Austria	16.10	78.9	3,745	0.4	29.5
526	TUI	Travel & leisure (575)	Germany	16.10	114.7	24,934	0.1	1.3
528	Micronic Laser Systems	Semiconductors (9576)	Sweden	16.04	-11.1	52	31.0	-23.8
529	Gewiss	Electrical components & equipment (2733)	Italy	16.01	11.3	338	4.7	11.9
530	Finatis	Food & drug retailers (533)	France	16.00	-11.1	29,469	0.1	3.8
530	Rallye	Food & drug retailers (533)	France	16.00	-15.8	29,463	0.1	3.7
530	Deutsche Bahn	Travel & leisure (575)	Germany	16.00	33.3	33,452	0.0	5.6
533	Hikma Pharmaceuticals	Pharmaceuticals (4577)	UK	15.95	14.6	418	3.8	13.9
534	Bioton	Pharmaceuticals (4577)	Poland	15.92	21.8	71	22.3	-34.3
535	Sapura	Telecommunications equipment (9578)	UK	15.83	10.7	77	20.7	14.2
536	Huhtamaki	General industrials (272)	Finland	15.80	-8.7	2,260	0.7	-3.5
537	BE Semiconductor Industries	Semiconductors (9576)	The Netherlands	15.71	-16.2	149	10.5	-20.2
538	McLaren	Travel & leisure (575)	UK	15.70	488.0	251	6.3	-17.2
539	Raymarine	Electronic equipment (2737)	UK	15.69	0.1	140	11.2	14.9
540	Svenska Handelsbanken	Banks (835)	Sweden	15.65	3.6	2,747	0.6	50.7

				R&D Investment		Net Sales	R&D/Net Sales ratio	Operating Profit
Rank	Company	ICB Sector	Country	2008	change 08/07	2008	2008	2008
				€m	%	€m	%	% of Net Sales
541	Leica Camera	Leisure goods (374)	Germany	15.56	9.8	134	11.6	-1.0
542	British Energy (now part of Electricite de France, France)	Electricity (753)	UK	15.52	15.4	2,908	0.5	18.0
542	Basware	Software (9537)	Finland	15.52	17.8	86	18.0	10.0
544	LISI	Aerospace & defence (271)	France	15.50	3.3	844	1.8	11.2
545	Clipper Windpower	Electricity (753)	UK	15.49	113.7	530	2.9	-46.5
546	Tecnomen (now Tecnomen Lifetree)	Telecommunications equipment (9578)	Finland	15.45	12.9	77	20.0	14.9
547	Britannia Building Society	Other financials (877)	UK	15.41	-7.4	389	4.0	18.4
548	Intec Telecom Systems	Software (9537)	UK	15.39	-2.5	140	11.0	8.8
549	Geox	Personal goods (376)	Italy	15.27	7.5	893	1.7	19.1
550	De La Rue	Support services (279)	UK	15.21	-35.5	645	2.4	18.3
551	Nutreco	Food producers (357)	The Netherlands	15.10	-15.2	4,943	0.3	3.7
552	Franz Haniel & Cie	Food & drug retailers (533)	Germany	15.00	-21.1	27,329	0.1	2.8
552	Provimi	Food producers (357)	France	15.00	0.0	2,074	0.7	3.7
552	Kesa Electricals	General retailers (537)	UK	15.00	6.0	5,125	0.3	-1.2
552	SkyePharma	Pharmaceuticals (4577)	UK	15.00	-51.2	64	23.3	-28.3
556	DiaSorin	Biotechnology (4573)	Italy	14.97	8.0	245	6.1	28.8
557	Muhlbauer	Semiconductors (9576)	Germany	14.94	-21.0	173	8.7	14.0
558	Faiveley	Commercial vehicles & trucks (2753)	France	14.89	6.7	693	2.1	12.8
559	Carraro	Automobiles & parts (335)	Italy	14.81	-3.3	973	1.5	3.8
559	Telekomunikacja Polska	Fixed line telecommunications (653)	Poland	14.81	1.6	4,411	0.3	17.6
561	Karo Bio	Biotechnology (4573)	Sweden	14.78	-8.5	1	1,523.7	-1,796.9
562	Otto	General retailers (537)	Germany	14.75	-58.5	11,584	0.1	1.5
563	Eniro	Media (555)	Sweden	14.74	-15.6	605	2.4	6.2
564	Constantia Packaging	General industrials (272)	Austria	14.63	60.2	2,081	0.7	8.5
565	Liberata	Support services (279)	UK	14.61	175.7	194	7.5	-25.9
566	Chicago Bridge & Iron Company	Industrial machinery (2757)	The Netherlands	14.48	265.7	4,277	0.3	0.9
567	Enrichment Technology	Industrial machinery (2757)	UK	14.46	7.0	347	4.2	8.5
568	Rational	Household goods & home construction (372)	Germany	14.45	22.9	343	4.2	24.2
569	Vernalis	Biotechnology (4573)	UK	14.43	-23.4	58	24.9	15.6
570	ESI	Software (9537)	France	14.42	-6.4	70	20.6	7.7
571	Vanderlande Industries BV	Industrial machinery (2757)	The Netherlands	14.39	14.2	611	2.4	8.7

				R&D Investment		Net Sales	R&D/Net Sales ratio	Operating Profit
Rank	Company	ICB Sector	Country	2008	change 08/07	2008	2008	2008
				€m	%	€m	%	% of Net Sales
572	CMC Markets	Other financials (877)	UK	14.38	65.5	188	7.7	30.6
573	Tessenderlo	Chemicals (135)	Belgium	14.30	-47.0	2,765	0.5	7.6
573	IDS Scheer	Software (9537)	Germany	14.30	10.3	399	3.6	3.3
575	Kapsch TrafficCom	Support services (279)	Austria	14.21	47.9	200	7.1	13.3
576	Schouw	General industrials (272)	Denmark	14.20	13.9	1,371	1.0	1.2
577	Domino Printing Sciences	Electronic equipment (2737)	UK	14.19	21.1	262	5.4	10.0
578	Pharmexa (now Affitech)	Biotechnology (4573)	Denmark	14.17	-12.9	1	1,889.3	-3,614.7
579	Psion	Computer hardware (9572)	UK	14.16	7.2	206	6.9	-4.8
580	Lansforsakringar	Banks (835)	Sweden	14.13	-2.5	288	4.9	-107.4
581	EYBL International	Automobiles & parts (335)	Austria	14.01	-10.7	294	4.8	-12.2
582	WMF	Household goods & home construction (372)	Germany	13.94	8.9	796	1.8	5.1
583	Sperian Protection	General industrials (272)	France	13.90	-4.8	751	1.9	11.8
584	Comptel	Software (9537)	Finland	13.87	36.7	85	16.3	13.6
585	Brembo	Automobiles & parts (335)	Italy	13.75	10.0	1,061	1.3	6.3
586	Isagro	Chemicals (135)	Italy	13.74	10.8	213	6.4	7.3
587	Expro International	Oil equipment, services & distribution (57)	UK	13.72	145.0	631	2.2	14.2
588	OMV	Oil & gas producers (53)	Austria	13.64	-11.8	25,543	0.1	9.5
589	RM	Software (9537)	UK	13.63	-11.5	299	4.6	4.6
590	Intralot	Travel & leisure (575)	Greece	13.58	-8.0	1,077	1.3	12.8
591	Enea	Software (9537)	Sweden	13.52	27.7	83	16.2	8.0
592	Metris	Electronic equipment (2737)	Belgium	13.45	48.5	87	15.4	-12.8
593	Hansen Transmissions International	Industrial machinery (2757)	Belgium	13.32	33.5	609	2.2	9.2
594	TKH	Electrical components & equipment (2733)	The Netherlands	13.18	37.6	965	1.4	7.5
595	Beta Systems Software	Software (9537)	Germany	13.15	14.8	90	14.5	7.1
596	HKScan	Food producers (357)	Finland	13.10	-16.0	2,295	0.6	1.6
597	BioAlliance Pharma	Health care equipment & services (453)	France	13.07	10.1	8	160.0	-283.8
598	Tarkett	Construction & materials (235)	France	13.00	-14.5	2,069	0.6	1.9
599	Vitec	Industrial machinery (2757)	UK	12.93	20.2	349	3.7	7.9
600	Carlsberg	Beverages (353)	Denmark	12.90	-11.1	8,054	0.2	9.4
600	Amsterdam Molecular Therapeutics	Biotechnology (4573)	The Netherlands	12.90	31.6	0		
602	CNP	Other financials (877)	Belgium	12.89	-3.1	15,478	0.1	-2.7

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Rank	Company	ICB Sector	Country	2008	change 08/07	2008	2008	2008
				€m	%	€m	%	% of Net Sales
603	Fives	Industrial machinery (2757)	France	12.81	8.2	1,137	1.1	4.8
604	Newron Pharmaceuticals	Biotechnology (4573)	Italy	12.72	57.2	3	481.8	-703.0
604	Radiall	Telecommunications equipment (9578)	France	12.72	-2.9	200	6.3	8.3
606	Chroma Therapeutics	Biotechnology (4573)	UK	12.68	47.6	0	21,133.3	-24,216.7
607	MBDA	Aerospace & defence (271)	UK	12.62	90.6	738	1.7	4.4
608	Anite	Computer services (9533)	UK	12.52	-30.2	123	10.2	8.3
609	Nokian Tyres	Automobiles & parts (335)	Finland	12.50	8.7	1,081	1.2	22.8
609	AGRANA	Food producers (357)	Austria	12.50	18.6	2,026	0.6	1.5
611	Intrum Justitia	Other financials (877)	Sweden	12.42	53.1	335	3.7	15.5
612	Tekla	Software (9537)	Finland	12.34	66.8	59	20.8	29.5
613	Palfinger	Industrial machinery (2757)	Austria	12.33	-10.0	795	1.6	9.2
614	Arques Industries	Other financials (877)	Germany	12.25	312.5	5,505	0.2	-2.7
614	P&i Personal & Informatik	Software (9537)	Germany	12.25	7.2	59	20.8	22.2
616	SSL International	Personal goods (376)	UK	12.21	15.7	665	1.8	14.0
617	Plastic Logic	Electrical components & equipment (2733)	UK	12.11	89.2	0		
618	QinetiQ	Aerospace & defence (271)	UK	12.10	-17.6	1,673	0.7	8.1
618	Channel Four Television	Media (555)	UK	12.10	-6.4	937	1.3	-0.4
620	SUSS MicroTec	Semiconductors (9576)	Germany	12.06	-13.7	149	8.1	-7.5
621	OP-Pohjola	Banks (835)	Finland	12.00	-20.0	1,656	0.7	22.4
621	SNPE	Chemicals (135)	France	12.00	-16.7	640	1.9	4.8
621	Sequana	Forestry & paper (173)	France	12.00	0.0	5,150	0.2	1.7
621	Corporate Express (now part of Staples, USA)	Support services (279)	The Netherlands	12.00	-52.0	6,233	0.2	3.3
625	CeWe Color	General retailers (537)	Germany	11.93	51.8	420	2.8	3.1
626	Glaston	Industrial machinery (2757)	Finland	11.85	60.1	270	4.4	-1.9
627	Medivir	Pharmaceuticals (4577)	Sweden	11.71	217.3	9	126.2	-111.5
628	DekaBank	Banks (835)	Germany	11.70	58.1	1,055	1.1	-4.7
628	Dynaction	Chemicals (135)	France	11.70	-6.4	168	6.9	2.2
628	D'leteren	General retailers (537)	Belgium	11.70	30.0	6,147	0.2	1.6
631	G4S	Support services (279)	UK	11.69	101.9	6,372	0.2	5.0
632	EL EN	Electronic equipment (2737)	Italy	11.67	5.0	221	5.3	8.9
633	Biocompatibles International	Health care equipment & services (453)	UK	11.63	28.1	18	63.6	-20.1
634	Alizyme	Biotechnology (4573)	UK	11.61	-64.0	2	604.7	-632.8

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Rank	Company	ICB Sector	Country	2008	change 08/07	2008	2008	2008
				€m	%	€m	%	% of Net Sales
635	Ebro Puleva	Food producers (357)	Spain	11.58	54.0	2,917	0.4	7.8
636	Lycos Europe	Internet (9535)	The Netherlands	11.52	-45.2	21	55.2	-285.2
637	Cie Automotive	Automobiles & parts (335)	Spain	11.51	115.5	1,455	0.8	6.4
638	Trinity Biotech	Health care equipment & services (453)	Ireland	11.49	11.6	101	11.4	-57.9
638	Oriflame Cosmetics	Personal goods (376)	Luxembourg	11.49	14.2	1,329	0.9	13.4
640	AGI Therapeutics	Pharmaceuticals (4577)	Ireland	11.47	-12.8	0	2,731.0	-3,226.2
641	SAF-HOLLAND	Commercial vehicles & trucks (2753)	Luxembourg	11.38	14.0	799	1.4	0.4
641	International Power	Electricity (753)	UK	11.38	120.1	3,952	0.3	30.3
641	BG	Oil & gas producers (53)	UK	11.38	37.4	12,998	0.1	43.0
644	Linos	Electronic equipment (2737)	Germany	11.26	15.5	89	12.6	1.8
645	Ablynx	Biotechnology (4573)	Belgium	11.25	42.8	16	72.3	-139.9
646	Amper	Telecommunications equipment (9578)	Spain	11.11	42.3	359	3.1	7.6
647	Zealand Pharma	Pharmaceuticals (4577)	Denmark	11.10	-19.3	8	146.8	-79.6
648	Novabase	Computer services (9533)	Portugal	11.09	20.4	304	3.6	2.3
649	KMD	Computer services (9533)	Denmark	11.03	33.7	467	2.4	5.7
650	Hoganas	Industrial metals & mining (175)	Sweden	11.01	2.5	555	2.0	8.6
651	Fortis	Banks (835)	Belgium	11.00	-95.1	6,967	0.2	-6.8
651	Lufthansa	Travel & leisure (575)	Germany	11.00	37.5	24,870	0.0	4.9
653	ProStrakan	Pharmaceuticals (4577)	UK	10.97	5.4	58	18.9	-43.3
654	Dynea	Chemicals (135)	Finland	10.90	0.0	879	1.2	0.6
654	Elisa	Fixed line telecommunications (653)	Finland	10.90	45.3	1,485	0.7	17.7
656	XCounter	Health care equipment & services (453)	Sweden	10.88	116.3	0		
657	4SC	Biotechnology (4573)	Germany	10.84	82.5	3	365.0	-431.0
658	GW Pharmaceuticals	Pharmaceuticals (4577)	UK	10.79	-16.6	12	88.6	-93.4
659	Omnia Network	Support services (279)	Italy	10.78		248	4.3	3.2
660	Isra Vision	Industrial machinery (2757)	Germany	10.75	0.0	68	15.7	18.9
660	Arup	Support services (279)	UK	10.75	49.7	751	1.4	4.8
662	Nedap	Electronic equipment (2737)	The Netherlands	10.74	-3.7	143	7.5	13.3
663	Wurth	General industrials (272)	Germany	10.70	-33.1	8,816	0.1	6.5
664	FrancoTyp-Postalia	Industrial machinery (2757)	Germany	10.68	-7.3	142	7.5	-8.8
665	SolarWorld	Alternative energy (58)	Germany	10.67	49.9	900	1.2	25.9



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Rank	Company	ICB Sector	Country	2008	change 08/07	2008	2008	2008
				€m	%	€m	%	% of Net Sales
666	Obrascon Huarte Lain	Construction & materials (235)	Spain	10.66		4,009	0.3	7.8
666	Skanditek	Other financials (877)	Sweden	10.66	0.2	68	15.8	9.7
668	TT electronics	Electrical components & equipment (2733)	UK	10.65	8.3	604	1.8	3.7
669	Omega Pharma	Pharmaceuticals (4577)	Belgium	10.59	36.3	811	1.3	12.6
670	Infovista	Software (9537)	France	10.58	31.4	45	23.6	1.8
671	Unibet	Travel & leisure (575)	Malta	10.56	39.7	128	8.3	29.7
672	Lectra	Software (9537)	France	10.55	-25.0	198	5.3	-0.4
673	Yule Catto	Chemicals (135)	UK	10.52	11.9	659	1.6	4.7
673	SpinVox	Mobile telecommunications (657)	UK	10.52	133.8	2	493.9	-1,754.9
675	Marzotto	Personal goods (376)	Italy	10.50	-2.1	315	3.3	4.6
676	Napp Pharmaceutical	Pharmaceuticals (4577)	UK	10.42	-45.0	181	5.7	13.8
677	National Grid	Gas, water & multiutilities (757)	UK	10.34	-23.1	16,262	0.1	16.8
677	Nationwide	Other financials (877)	UK	10.34	117.2	2,363	0.4	9.3
679	MessageLabs	Computer services (9533)	UK	10.33	-4.0	97	10.7	-10.2
680	IPTE	Industrial machinery (2757)	Belgium	10.30	36.1	231	4.5	1.6
681	Villeroy & Boch	Construction & materials (235)	Germany	10.26	-0.7	841	1.2	2.8
682	Hamburger Hafen Und Logistik	Industrial transportation (277)	Germany	10.25	-7.0	1,327	0.8	26.7
683	ARC International	Semiconductors (9576)	UK	10.21	28.3	18	57.9	-54.6
684	Wavin	Construction & materials (235)	The Netherlands	10.19	9.1	1,581	0.6	5.5
685	EVS Broadcast Equipment	Electronic equipment (2737)	Belgium	10.16	45.1	111	9.2	59.7
686	Morgan Crucible	Electrical components & equipment (2733)	UK	10.14	12.7	864	1.2	11.6
686	Weir	Industrial machinery (2757)	UK	10.14	10.1	1,418	0.7	12.4
688	Glanbia	Food producers (357)	Ireland	10.13	8.8	2,232	0.5	5.2
689	FAES Farma	Biotechnology (4573)	Spain	10.12	-8.4	194	5.2	13.2
690	Avanquest Software	Software (9537)	France	10.08	11.8	112	9.0	-8.4
691	Archimedes Pharma	Pharmaceuticals (4577)	UK	10.04	44.5	20	50.8	-63.5
692	Paragon	Automobiles & parts (335)	Germany	10.02	-11.7	109	9.2	6.2
692	Axis-Shield	Biotechnology (4573)	UK	10.02	71.3	88	11.4	-2.4
694	Bioxell	Biotechnology (4573)	Italy	10.01	1.8	0		
694	Perstorp	Chemicals (135)	Sweden	10.01	19.6	1,112	0.9	4.4
696	Baxi	Construction & materials (235)	UK	10.00	-2.4	876	1.1	2.7
696	Mondi	Forestry & paper (173)	UK	10.00	11.1	6,345	0.2	1.1

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Rank	Company	ICB Sector	Country	2008	change 08/07	2008	2008	2008
				€m	%	€m	%	% of Net Sales
698	INDUS	General industrials (272)	Germany	9.98	-16.8	942	1.1	8.9
699	Cardo	Construction & materials (235)	Sweden	9.92	-9.9	905	1.1	9.2
700	Atria	Food producers (357)	Finland	9.91	17.6	1,357	0.7	2.9
700	Xchanging	Support services (279)	UK	9.91	118.8	577	1.7	8.4
702	MITIE	Support services (279)	UK	9.83	43.9	1,574	0.6	5.1
703	Utimaco Safeware	Software (9537)	Germany	9.82	-1.4	59	16.6	13.9
704	Trevi Finanziaria Industrial	Construction & materials (235)	Italy	9.74	25.4	1,036	0.9	12.4
705	Netia	Fixed line telecommunications (653)	Poland	9.73	20.4	270	3.6	20.2
705	PSI	Software (9537)	Germany	9.73	11.8	129	7.6	4.2
707	Chemring	Aerospace & defence (271)	UK	9.62	16.2	366	2.6	19.3
708	SoftM Software und Beratung (now part of ComArch, Poland)	Computer services (9533)	Germany	9.60	41.2	59	16.2	-7.5
709	Financiere De L'odet	Industrial transportation (277)	France	9.50	5.6	7,326	0.1	-0.1
710	Ricardo	Support services (279)	UK	9.41	15.2	205	4.6	7.5
710	Vislink	Telecommunications equipment (9578)	UK	9.41	19.7	105	9.0	0.9
712	De Beers	General retailers (537)	UK	9.34	-18.4	4,153	0.2	0.9
713	Intercytex	Biotechnology (4573)	UK	9.32	-6.3	0	46,600.0	-64,300.0
714	Lucite International	Chemicals (135)	UK	9.31	0.0	878	1.1	5.8
715	Ratos	Other financials (877)	Sweden	9.28	325.7	2,442	0.4	4.4
715	Cision	Support services (279)	Sweden	9.28	-20.3	162	5.7	-9.7
717	Tipp24	Travel & leisure (575)	Germany	9.23	129.6	336	2.7	2.6
718	TiGenix	Biotechnology (4573)	Belgium	9.22	19.4	0		
718	WaveLight	Health care equipment & services (453)	Germany	9.22	6.8	97	9.5	5.0
718	Aldata Solution	Software (9537)	Finland	9.22	-40.4	70	13.2	5.1
721	Wirecard	Support services (279)	Germany	9.21	24.5	197	4.7	24.9
722	Head	Leisure goods (374)	The Netherlands	9.20	-12.4	326	2.8	0.6
723	bwin Interactive Entertainment	Travel & leisure (575)	Austria	9.17	115.8	332	2.8	-4.4
724	centrotherm photovoltaics	Electronic equipment (2737)	Germany	9.13	166.2	375	2.4	11.1
725	Delcam	Software (9537)	UK	9.09	12.2	34	26.7	5.0
726	MVV Energie	Gas, water & multiutilities (757)	Germany	9.00	0.0	2,636	0.3	12.4
726	Auchan	General retailers (537)	France	9.00	-25.0	39,484	0.0	3.3
728	Hermle Berthold	Industrial machinery (2757)	Germany	8.97	0.8	278	3.2	24.8

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Rank	Company	ICB Sector	Country	2008	change 08/07	2008	2008	2008
				€m	%	€m	%	% of Net Sales
729	Magix	Software (9537)	Germany	8.90	-19.2	32	27.7	6.5
730	Plethora Solutions	Pharmaceuticals (4577)	UK	8.86	4.5	7	120.4	-196.1
731	Prayon	Chemicals (135)	Belgium	8.83	26.1	879	1.0	10.6
731	NIBE Industrier	Household goods & home construction (372)	Sweden	8.83	-3.8	529	1.7	10.2
733	Heraeus	Industrial metals & mining (175)	Germany	8.80	-12.0	15,914	0.1	1.7
734	Telit Communications	Telecommunications equipment (9578)	UK	8.78	1.4	60	14.5	-3.8
735	Orc Software	Software (9537)	Sweden	8.77	25.8	51	17.1	16.5
736	Amarin	Biotechnology (4573)	UK	8.71	-26.4	0		
737	Royal Cosun	Food producers (357)	The Netherlands	8.70	16.0	1,689	0.5	5.1
737	Royal Ten Cate	General industrials (272)	The Netherlands	8.70	2.4	1,033	0.8	7.3
737	Natuzzi	Household goods & home construction (372)	Italy	8.70	-13.9	666	1.3	-7.4
737	JC Decaux	Media (555)	France	8.70	-17.9	2,169	0.4	10.1
741	Lafuma	Personal goods (376)	France	8.64	35.6	262	3.3	1.7
742	Austria Technologie & Systemtechnik	Electrical components & equipment (2733)	Austria	8.59	-0.7	450	1.9	-0.4
742	N Brown	General retailers (537)	UK	8.59	24.0	685	1.3	14.4
742	NEOVIA Financial	Other financials (877)	UK	8.59	107.5	55	15.7	-12.9
745	Montupet	Automobiles & parts (335)	France	8.52	23.5	467	1.8	-5.3
746	GERRY WEBER International	Personal goods (376)	Germany	8.49	-10.9	570	1.5	10.9
747	Elexis	Industrial machinery (2757)	Germany	8.43	2.8	171	4.9	14.3
748	Fiskars	Household goods & home construction (372)	Finland	8.40	13.5	697	1.2	10.1
749	Oncomethylome Sciences	Biotechnology (4573)	Belgium	8.38	0.7	1	598.6	-925.0
750	Etex	Construction & materials (235)	Belgium	8.33	-4.6	2,081	0.4	8.9
751	Espirito Santo Financial	Banks (835)	Luxembourg	8.32	35.7	2,666	0.3	16.2
751	SDL	Software (9537)	UK	8.32	49.6	164	5.1	12.0
753	Northern Foods	Food producers (357)	UK	8.28	-15.8	1,009	0.8	1.6
754	VTI Technologies	Electronic equipment (2737)	Finland	8.25	-4.2	68	12.2	-4.5
755	Interpump	Industrial machinery (2757)	Italy	8.18	375.6	425	1.9	17.2
755	TELES	Internet (9535)	Germany	8.18	37.7	24	33.6	-58.9
757	Quantel Holdings	Electronic equipment (2737)	UK	8.12	2.5	46	17.8	3.4
758	Beijer Electronics	Electronic equipment (2737)	Sweden	8.10	108.2	116	7.0	9.0

				R&D Investment		Net Sales	R&D/Net Sales ratio	Operating Profit
Rank	Company	ICB Sector	Country	2008	change 08/07	2008	2008	2008
				€m	%	€m	%	% of Net Sales
759	SYGNIS Pharma	Biotechnology (4573)	Germany	8.08	52.7	0	2,020.0	-2,772.5
759	Jetter	Industrial machinery (2757)	Germany	8.08	26.6	40	20.1	2.7
761	Biotie Therapies	Biotechnology (4573)	Finland	8.05	-0.9	5	156.9	-105.1
762	Techem	Support services (279)	Germany	8.04	-2.0	641	1.3	17.2
763	Swedish Match	Tobacco (378)	Sweden	8.01	7.4	1,197	0.7	22.9
764	Basler	Electrical components & equipment (2733)	Germany	8.00	15.4	57	14.2	6.0
765	Avecia Holdings	Biotechnology (4573)	UK	7.97	-25.2	68	11.7	-22.3
765	Fugro	Oil equipment, services & distribution (57)	The Netherlands	7.97	-7.9	2,154	0.4	17.8
767	R Stahl	Electrical components & equipment (2733)	Germany	7.94	0.3	221	3.6	9.7
768	Hoelt & Wessel	Industrial machinery (2757)	Germany	7.85	13.1	98	8.0	-4.0
769	Eurand	Pharmaceuticals (4577)	The Netherlands	7.84	11.4	99	8.0	15.1
770	Innovation	Software (9537)	UK	7.80	140.0	145	5.4	-2.6
771	Lombard Medical Technologies	Health care equipment & services (453)	UK	7.79	18.2	2	385.6	-631.2
771	Fabasoft	Software (9537)	Austria	7.79	5.7	20	38.9	-12.4
773	Norkom	Software (9537)	Ireland	7.78	10.0	48	16.2	6.4
774	Aero Inventory	Aerospace & defence (271)	UK	7.77		317	2.5	21.2
775	Munters	Industrial machinery (2757)	Sweden	7.73	23.1	598	1.3	5.5
776	Wolford	Personal goods (376)	Austria	7.69	-5.5	147	5.2	0.9
777	Senior	Aerospace & defence (271)	UK	7.66	1.5	582	1.3	10.6
777	BSS	Support services (279)	UK	7.66	15.7	1,387	0.6	4.8
779	Portland Gas	Oil equipment, services & distribution (57)	UK	7.65		0		
780	Gunnebo	General retailers (537)	Sweden	7.64	-9.7	628	1.2	4.1
781	Mensch und Maschine Software	Software (9537)	Germany	7.62	6.7	223	3.4	3.1
782	Anoto	Computer hardware (9572)	Sweden	7.61	38.1	17	45.9	20.3
783	Gentium	Biotechnology (4573)	Italy	7.60	-39.7	7	102.2	-283.9
784	OctoPlus	Biotechnology (4573)	The Netherlands	7.53	-29.3	17	44.6	-25.3
785	Nexus	Software (9537)	Germany	7.52	96.3	35	21.6	3.8
786	Efore	Electronic equipment (2737)	Finland	7.51	29.3	78	9.6	1.9
787	Centrotec Sustainable	Chemicals (135)	Germany	7.46	22.3	476	1.6	7.1
788	Wagon	Automobiles & parts (335)	UK	7.45	-49.3	739	1.0	2.2
789	Telegraaf Media Groep	Media (555)	The Netherlands	7.41	3.5	722	1.0	-27.4
790	Ponsse	Commercial vehicles & trucks (2753)	Finland	7.40	27.4	293	2.5	4.4

				R&D Investment		Net Sales	R&D/Net Sales ratio	Operating Profit
Rank	Company	ICB Sector	Country	2008	change 08/07	2008	2008	2008
				€m	%	€m	%	% of Net Sales
791	Fiberweb	Support services (279)	UK	7.34	-4.2	530	1.4	-5.4
792	Cohort	Aerospace & defence (271)	UK	7.32	28.9	81	9.0	8.5
793	KWH	General industrials (272)	Finland	7.30	9.0	588	1.2	4.7
794	Cofide	General industrials (272)	Italy	7.28	12.5	4,215	0.2	8.6
795	Larox	Industrial machinery (2757)	Finland	7.25	-2.3	208	3.5	8.1
796	Urenco	Electricity (753)	UK	7.20	7.5	1,130	0.6	40.8
797	Amtel-Vredestein	Automobiles & parts (335)	The Netherlands	7.19	11.0	715	1.0	-14.3
798	Leifheit	Household goods & home construction (372)	Germany	7.17	7.2	280	2.6	1.7
799	Kingspan	Construction & materials (235)	Ireland	7.10	-5.1	1,673	0.4	4.9
800	StatPro	Software (9537)	UK	7.08	5.8	29	24.6	10.0
800	Velti	Software (9537)	UK	7.08	100.6	52	13.5	14.1
802	Martin-Baker (Engineering)	Aerospace & defence (271)	UK	7.02	-19.3	131	5.4	17.6
803	Sodra	Forestry & paper (173)	Sweden	7.01	54.1	1,532	0.5	4.4
804	Sondagsavisen	Media (555)	Denmark	7.00	24.6	205	3.4	-6.3
804	Txt E-Solutions	Software (9537)	Italy	7.00	-6.3	53	13.2	-2.2
804	Filtronic	Telecommunications equipment (9578)	UK	7.00	-56.7	87	8.0	-30.1
807	Silence Therapeutics	Biotechnology (4573)	UK	6.94	38.5	2	303.1	-352.0
807	Tanfield	Support services (279)	UK	6.94	139.3	151	4.6	-61.4
809	Automotive Components Europe	Automobiles & parts (335)	Luxembourg	6.93		94	7.3	6.1
810	Kewill	Software (9537)	UK	6.92	13.1	55	12.6	3.7
811	Photo-Me	Leisure goods (374)	UK	6.90	-11.0	233	3.0	-4.1
812	Epigenomics	Biotechnology (4573)	Germany	6.89	-20.3	3	266.0	-496.5
812	Manutan International	Support services (279)	France	6.89	-7.1	502	1.4	10.1
814	METabolic EXplorer	Chemicals (135)	France	6.87	64.7	3	213.4	-77.0
815	Update Software	Software (9537)	Austria	6.82	15.2	37	18.6	11.7
816	Rosenbauer International	Commercial vehicles & trucks (2753)	Austria	6.80	-3.4	500	1.4	7.3
816	Pfeiffer Vacuum Technology	Industrial machinery (2757)	Germany	6.80	-5.4	198	3.4	26.0
816	Ubiquisys	Telecommunications equipment (9578)	UK	6.80	66.3	0	22,666.7	-35,400.0
819	ExonHit Therapeutics	Biotechnology (4573)	France	6.79	32.9	5	131.1	-133.8
820	Augusta Technologie	Electrical components & equipment (2733)	Germany	6.78	26.7	127	5.3	14.7
820	Cerep	Pharmaceuticals (4577)	France	6.78	18.1	32	20.9	-4.2
822	Spirax-Sarco	Industrial machinery	UK	6.75	4.0	520	1.3	16.6

				R&D Investment		Net Sales	R&D/Net Sales ratio	Operating Profit
Rank	Company	ICB Sector	Country	2008	change 08/07	2008	2008	2008
				€m	%	€m	%	% of Net Sales
	Engineering	(2757)						
823	Oxagen	Biotechnology (4573)	UK	6.74	11.6	0		
823	Greencore	Food producers (357)	Ireland	6.74	-19.4	1,308	0.5	4.9
825	Zetex (now Diodes Zetex)	Semiconductors (9576)	UK	6.72	27.3	67	10.1	8.0
825	Global Graphics	Software (9537)	France	6.72	-12.0	11	60.2	-0.8
827	Transitive	Software (9537)	UK	6.71	15.5	3	264.2	-311.0
828	Transcom Worldwide	Support services (279)	Luxembourg	6.70	346.7	632	1.1	4.2
829	Affibody	Biotechnology (4573)	Sweden	6.69	14.8	2	272.0	-301.6
830	ClearSpeed Technology	Semiconductors (9576)	UK	6.65	5.7	1	523.6	-1,264.6
831	Chloride	Electrical components & equipment (2733)	UK	6.63	27.7	338	2.0	13.0
832	Boiron	Pharmaceuticals (4577)	France	6.54	14.5	467	1.4	11.9
833	Maconomy	Software (9537)	Denmark	6.53	23.2	31	21.0	0.5
834	Archos	Leisure goods (374)	France	6.52	-26.0	74	8.8	-34.9
835	Rocla	Commercial vehicles & trucks (2753)	Finland	6.50	44.4	127	5.1	1.6
836	Cast	Software (9537)	France	6.49	-1.1	30	21.6	5.5
837	Manz Automation	Industrial machinery (2757)	Germany	6.47	166.3	237	2.7	12.0
838	Sagentia	Support services (279)	UK	6.44	2.4	30	21.4	-4.8
839	Provident Financial	Other financials (877)	UK	6.41		777	0.8	17.2
839	Minster Pharmaceuticals	Pharmaceuticals (4577)	UK	6.41	43.1	0		
841	Gothaer Allgemeine Versicherung	Nonlife insurance (853)	Germany	6.40	-31.9	1,546	0.4	13.6
842	Net Insight	Telecommunications equipment (9578)	Sweden	6.39	12.1	25	25.6	13.8
843	Skanska	Construction & materials (235)	Sweden	6.37	-6.6	13,071	0.0	1.5
844	Bavarian Nordic	Biotechnology (4573)	Denmark	6.32		28	22.5	-100.3
845	Innovia Films	Chemicals (135)	UK	6.27	-1.4	364	1.7	7.3
846	PV Crystalox Solar	Electrical components & equipment (2733)	UK	6.25	43.7	284	2.2	51.8
847	Genesys (now part of West, USA)	Fixed line telecommunications (653)	France	6.24	-12.0	148	4.2	11.9
848	Nanogate	Chemicals (135)	Germany	6.22	100.0	12	51.2	3.0
848	GFI Informatique	Computer services (9533)	France	6.22	2.0	689	0.9	3.9
850	BioDiesel International	Industrial machinery (2757)	Austria	6.21	34.4	62	10.1	4.7
850	PricewaterhouseCoopers	Support services (279)	UK	6.21	200.0	2,321	0.3	29.1
852	Langley	Industrial machinery (2757)	UK	6.17	7.1	513	1.2	12.8
853	Dantherm	Industrial machinery (2757)	Denmark	6.12	3.7	271	2.3	0.3

				R&D Investment		Net Sales	R&D/Net Sales ratio	Operating Profit
Rank	Company	ICB Sector	Country	2008	change 08/07	2008	2008	2008
				€m	%	€m	%	% of Net Sales
854	McBride	Household goods & home construction (372)	UK	6.10	13.4	725	0.8	3.1
854	COR	Software (9537)	Germany	6.10	32.6	59	10.4	11.2
856	Spyker Cars	Automobiles & parts (335)	The Netherlands	6.08	-14.8	8	77.5	-278.2
856	Kaessbohrer Gelaendefahrzeug	Industrial machinery (2757)	Germany	6.08	-1.9	176	3.5	8.3
858	JCB Compact Products	Commercial vehicles & trucks (2753)	UK	6.07	-29.4	269	2.3	-0.3
859	Stratec Biomedical System	Health care equipment & services (453)	Germany	6.03	-4.1	61	9.9	18.2
860	Astex Therapeutics	Biotechnology (4573)	UK	6.01	-50.2	8	73.2	-114.9
861	ClinPhone (now part of Parexel International)	Health care equipment & services (453)	UK	6.00	115.8	49	12.3	-3.3
861	CEAG (now FRIWO)	Telecommunications equipment (9578)	Germany	6.00	-6.3	315	1.9	3.9
861	Sodexo	Travel & leisure (575)	France	6.00	0.0	13,611	0.0	5.1
864	CAF	Commercial vehicles & trucks (2753)	Spain	5.99	648.8	1,005	0.6	10.0
865	Bene	Household goods & home construction (372)	Austria	5.95	39.0	265	2.2	4.2
865	Summit	Pharmaceuticals (4577)	UK	5.95	-31.6	2	314.8	-1,337.6
867	Elica	Household goods & home construction (372)	Italy	5.94	-17.5	385	1.5	0.3
868	AMG Advanced Metallurgical	Industrial metals & mining (175)	The Netherlands	5.93	33.3	1,092	0.5	3.9
869	Deutsche Steinzeug	Construction & materials (235)	Germany	5.90	10.7	232	2.5	-3.8
870	TradeDoubler	Internet (9535)	Sweden	5.88	127.9	314	1.9	4.3
871	Vandemoortele	Food producers (357)	Belgium	5.87	6.7	972	0.6	3.9
872	Intelligent Energy	Electrical components & equipment (2733)	UK	5.86	49.9	3	185.4	-326.9
873	IRIS	Software (9537)	Belgium	5.82	6.2	109	5.3	7.0
874	Haulotte	Commercial vehicles & trucks (2753)	France	5.81	-14.2	451	1.3	4.4
875	PKC	Electronic equipment (2737)	Finland	5.80	5.5	312	1.9	6.7
875	Raisio	Food producers (357)	Finland	5.80	-14.7	504	1.2	4.8
877	Microgen	Computer services (9533)	UK	5.79	9.2	34	16.9	14.8
877	Brit Insurance	Nonlife insurance (853)	UK	5.79	-19.9	1,262	0.5	7.3
879	Exiqon	Biotechnology (4573)	Denmark	5.78	85.9	17	33.5	-98.1
880	Fornix Biosciences	Biotechnology (4573)	The Netherlands	5.75	44.1	40	14.4	31.5
880	CompuGROUP	Computer services (9533)	Germany	5.75	12.1	229	2.5	5.9
882	Ordina	Computer services (9533)	The Netherlands	5.65	-13.2	696	0.8	-11.0

				R&D Investment		Net Sales	R&D/Net Sales ratio	Operating Profit
Rank	Company	ICB Sector	Country	2008	change 08/07	2008	2008	2008
				€m	%	€m	%	% of Net Sales
882	nCipher (now part of Thales)	Software (9537)	UK	5.65	35.2	25	22.6	8.9
884	Lindab International	Construction & materials (235)	Sweden	5.64	29.1	895	0.6	11.7
885	LPKF Laser & Electronics	Electronic equipment (2737)	Germany	5.63	40.0	45	12.4	6.0
886	Ercros	Chemicals (135)	Spain	5.62	-1.4	866	0.6	-23.4
886	Schuler	Industrial machinery (2757)	Germany	5.62	7.5	966	0.6	2.8
888	BWT	Gas, water & multiutilities (757)	Austria	5.60	1.8	410	1.4	7.0
888	Arseus	Health care equipment & services (453)	Belgium	5.60	83.6	355	1.6	8.4
888	Osterreichische Bundesbahnen	Travel & leisure (575)	Austria	5.60	27.3	4,016	0.1	-49.4
891	Groupe Steria SCA	Computer services (9533)	France	5.59	488.4	1,766	0.3	6.1
892	freenet	Internet (9535)	Germany	5.58	878.9	3,263	0.2	0.3
893	Paion	Pharmaceuticals (4577)	Germany	5.56	-16.3	3	175.4	-435.3
894	Sioen Industries	Personal goods (376)	Belgium	5.55	-18.5	349	1.6	4.5
895	Inmarsat	Mobile telecommunications (657)	UK	5.54	-7.2	717	0.8	31.8
896	UNIQA	Nonlife insurance (853)	Austria	5.51	23.5	4,914	0.1	1.8
897	technotrans	Electrical components & equipment (2733)	Germany	5.47	-24.9	142	3.9	0.0
898	Torotrak	Automobiles & parts (335)	UK	5.45	15.2	5	114.0	-49.2
899	Tilgin	Electronic equipment (2737)	Sweden	5.44	24.2	36	15.3	-12.9
900	Vivalis	Biotechnology (4573)	France	5.43	282.4	3	158.8	-114.9
900	Macro 4 (now part of Unicom, USA)	Software (9537)	UK	5.43	2.5	30	18.1	1.7
902	Asseco Poland	Software (9537)	Poland	5.42		677	0.8	17.9
903	Datalex	Computer services (9533)	Ireland	5.40	11.1	24	22.7	-5.3
904	Polynt	Chemicals (135)	Italy	5.36	19.9	576	0.9	7.4
905	Invision Software	Software (9537)	Germany	5.34	26.2	12	44.8	-69.7
906	Devro	Food producers (357)	UK	5.33	14.9	189	2.8	9.4
907	Ige+Xao	Software (9537)	France	5.30		22	23.9	13.0
908	Medasys	Health care equipment & services (453)	France	5.29	86.9	15	36.0	4.1
909	Premier Foods	Food producers (357)	UK	5.28	21.7	2,872	0.2	-4.0
909	Investment AB Kinnevik	Other financials (877)	Sweden	5.28	5.6	702	0.8	-335.3
911	Umbro (now part of Nike, USA)	Personal goods (376)	UK	5.27	-7.9	101	5.2	-21.6
911	FJH (now FJA)	Software (9537)	Germany	5.27	49.3	61	8.6	8.6
913	Solon	Alternative energy (58)	Germany	5.26	34.5	815	0.6	6.7



				R&D Investment		Net Sales	R&D/Net Sales ratio	Operating Profit
Rank	Company	ICB Sector	Country	2008	change 08/07	2008	2008	2008
				€m	%	€m	%	% of Net Sales
913	Dansk Landbrugs Grovvarereselskab	Food producers (357)	Denmark	5.26	60.9	3,309	0.2	1.7
913	Grifols	Pharmaceuticals (4577)	Spain	5.26	-4.9	814	0.6	24.5
916	USU Software	Software (9537)	Germany	5.24	9.9	34	15.4	2.8
917	Ambu	Health care equipment & services (453)	Denmark	5.23	-2.4	105	5.0	11.0
918	Hochtief	Construction & materials (235)	Germany	5.21	15.8	19,103	0.0	2.3
919	GPC Biotech	Biotechnology (4573)	Germany	5.18	-86.9	12	41.9	-187.2
920	United Biscuits	Food producers (357)	UK	5.17	-12.4	1,182	0.4	11.5
920	Aerocrine	Health care equipment & services (453)	Sweden	5.17	31.2	7	74.4	-149.2
922	Banca Popolare di Milano	Banks (835)	Italy	5.16	35.8	1,554	0.3	13.8
922	Randox Laboratories	Biotechnology (4573)	UK	5.16	-9.9	55	9.4	16.5
922	ALTEC	Computer services (9533)	Greece	5.16	-1.7	229	2.3	3.8
922	Surteco	Household goods & home construction (372)	Germany	5.16	32.3	403	1.3	6.7
926	Amino Technologies	Telecommunications equipment (9578)	UK	5.13	52.2	33	15.5	4.1
926	Apertio (now part of Nokia Siemens Networks)	Telecommunications equipment (9578)	UK	5.13	4.7	20	25.1	-19.0
928	Fagerhult	Electrical components & equipment (2733)	Sweden	5.10	5.6	252	2.0	9.8
928	Jensen	Industrial machinery (2757)	Belgium	5.10	8.5	223	2.3	8.5
928	CNP Assurances	Life insurance (857)	France	5.10	27.5	26,291	0.0	3.8
928	Chargeurs	Personal goods (376)	France	5.10	-52.3	599	0.9	-6.6
932	Viscom	Electronic equipment (2737)	Germany	5.09	-0.2	50	10.2	-4.9
933	Northgate Information Solutions	Computer services (9533)	UK	5.07	-73.1	117	4.3	-3.1
934	Anglo Design	Electronic equipment (2737)	UK	5.05	-16.5	77	6.5	3.9
935	SABMiller	Beverages (353)	UK	5.04	-22.2	13,456	0.0	16.8
936	Quantel	Health care equipment & services (453)	France	5.03	5.2	52	9.7	-5.9
936	Character	Leisure goods (374)	UK	5.03	160.6	85	5.9	6.4
938	Marazzi	Household goods & home construction (372)	Italy	5.02	-5.3	984	0.5	11.8
939	Gas Turbine Efficiency	Industrial machinery (2757)	UK	5.01	116.9	25	19.8	2.5
940	Nordkalk	Chemicals (135)	Finland	5.00	42.9	345	1.4	11.2
940	Strabag	Construction & materials (235)	Austria	5.00	25.0	12,228	0.0	1.9
940	Havenbedrijf Rotterdam	Industrial transportation	The Netherlands	5.00	0.0	508	1.0	37.9

				R&D Investment		Net Sales	R&D/Net Sales ratio	Operating Profit
Rank	Company	ICB Sector	Country	2008	change 08/07	2008	2008	2008
				€m	%	€m	%	% of Net Sales
		(277)						
940	Veikkaus	Travel & leisure (575)	Finland	5.00	8.7	1,406	0.4	31.3
944	Atoss Software	Software (9537)	Germany	4.99	11.1	27	18.5	18.7
945	Topdanmark	Nonlife insurance (853)	Denmark	4.97	-5.2	1,745	0.3	-0.2
946	Thomas Swan	Chemicals (135)	UK	4.96	-11.7	28	17.6	-20.1
946	Gerresheimer	General industrials (272)	Germany	4.96	-13.7	1,060	0.5	5.3
946	Actix International	Software (9537)	UK	4.96	-5.9	28	18.0	-2.5
949	ORLEN	Oil & gas producers (53)	Poland	4.95	17.6	19,312	0.0	-1.7
950	AdCapital	Other financials (877)	Germany	4.94	25.7	118	4.2	18.3
950	Epsilon Net	Software (9537)	Greece	4.94	-7.8	9	56.0	25.4
952	Redac	Software (9537)	UK	4.91	-19.1	66	7.5	6.0
953	Pescanova	Food producers (357)	Spain	4.90	4.3	1,343	0.4	5.6
953	RCS MediaGroup	Media (555)	Italy	4.90	6.5	2,680	0.2	4.8
953	Norbrook Laboratories	Pharmaceuticals (4577)	UK	4.90	3.6	106	4.6	4.6
956	Acergy	Oil equipment, services & distribution (57)	Luxembourg	4.89	61.9	2,017	0.2	15.6
957	Mouchel	Support services (279)	UK	4.88	-8.4	679	0.7	4.5
957	Newport Networks	Telecommunications equipment (9578)	UK	4.88	-26.9	0	3,485.7	-7,207.1
959	Stonesoft	Computer services (9533)	Finland	4.85	-8.3	24	19.9	-10.9
960	Evalis	Food producers (357)	France	4.80	6.7	1,027	0.5	0.9
960	Manuli Rubber Industries	Industrial machinery (2757)	Italy	4.80	-5.9	317	1.5	5.5
962	Bond International Software	Software (9537)	UK	4.79	4.6	33	14.5	9.0
962	SHL	Support services (279)	UK	4.79	18.9	86	5.6	1.6
964	Elementis	Chemicals (135)	UK	4.76	24.3	414	1.1	7.8
965	Biolitec	Pharmaceuticals (4577)	Germany	4.75	-14.3	35	13.4	5.2
966	Eco Animal Health	Pharmaceuticals (4577)	UK	4.74	23,600.0	17	27.8	-3.9
967	Hybrigenics	Biotechnology (4573)	France	4.70	35.8	4	129.1	-157.1
967	Solar	Electrical components & equipment (2733)	Denmark	4.70		1,500	0.3	3.9
969	Emak	Household goods & home construction (372)	Italy	4.68	2.0	243	1.9	9.8
970	Bulgari	General retailers (537)	Italy	4.67	7.4	1,075	0.4	10.3
971	Lectus Therapeutics	Biotechnology (4573)	UK	4.63	39.0	0		
972	ACH	Automobiles & parts (335)	Slovenia	4.62	-3.3	734	0.6	6.7
972	Realtech	Computer services (9533)	Germany	4.62	1.3	71	6.5	9.9
974	Uzin Utz	Chemicals (135)	Germany	4.60	15.0	177	2.6	7.6

				R&D Investment		Net Sales	R&D/Net Sales ratio	Operating Profit
Rank	Company	ICB Sector	Country	2008	change 08/07	2008	2008	2008
				€m	%	€m	%	% of Net Sales
975	Systar	Software (9537)	France	4.59	-21.7	20	23.5	9.3
976	Glunz & Jensen	Computer hardware (9572)	Denmark	4.58	2.5	60	7.6	0.4
977	Scottish and Southern Energy	Electricity (753)	UK	4.55	18.8	26,299	0.0	0.3
977	Nipson Digital Printing Systems	Media (555)	UK	4.55	22.0	28	16.1	-49.3
979	Rotork	Industrial machinery (2757)	UK	4.52	29.5	331	1.4	23.4
980	MicroEmissive Displays	Electrical components & equipment (2733)	UK	4.50	8.7	0	6,428.6	-10,771.4
980	Fluidra	Gas, water & multiutilities (757)	Spain	4.50	9.5	670	0.7	7.2
980	Trafficmaster	Telecommunications equipment (9578)	UK	4.50	13.9	58	7.8	10.2
983	Norddeutsche Affinerie (now Aurubis)	Industrial metals & mining (175)	Germany	4.49	-5.1	8,385	0.1	3.4
984	Imtech	Support services (279)	The Netherlands	4.48	85.1	3,859	0.1	4.8
985	Consort Medical	Health care equipment & services (453)	UK	4.47	2.5	131	3.4	4.3
986	Zenergy Power	Industrial machinery (2757)	UK	4.45	28.6	2	219.2	-388.7
986	Boss Media	Travel & leisure (575)	Sweden	4.45	-26.9	28	15.7	16.2
988	IPGL	Other financials (877)	UK	4.44	72.8	108	4.1	3.4
989	Xaar	Electrical components & equipment (2733)	UK	4.43	-37.7	43	10.2	9.0
990	Teleste	Telecommunications equipment (9578)	Finland	4.42	0.9	109	4.1	3.6
991	Pfleiderer	Construction & materials (235)	Germany	4.41	56.9	1,736	0.3	5.5
991	Netgem	Software (9537)	France	4.41	59.8	100	4.4	23.5
993	Mologen	Biotechnology (4573)	Germany	4.40	7.3	0	2,095.2	-3,000.0
993	Nice	Electronic equipment (2737)	Italy	4.40	25.4	192	2.3	24.6
995	RaySearch Laboratories	Health care equipment & services (453)	Sweden	4.38	17.1	6	76.8	34.0
995	Raute	Industrial machinery (2757)	Finland	4.38	10.3	98	4.4	6.4
997	Biotage	Biotechnology (4573)	Sweden	4.37	-26.1	45	9.6	60.6
997	Trintech	Software (9537)	Ireland	4.37	24.1	29	15.3	-8.0
999	Findel	General retailers (537)	UK	4.34		639	0.7	-4.5
999	Alterian	Software (9537)	UK	4.34	40.9	35	12.5	9.6

**Table A2.2. Ranking of the top 1000 non-EU companies by level of R&D investment.**

Rank	Company	ICB Sector	Country	R&D Investment	change 08/07	Net Sales	R&D/Net Sales ratio	Operating Profit
				2008		2008	2008	2008
				€m		%	€m	%
<b>Top 1000 Companies</b>				<b>300,413.98</b>	<b>6.6</b>	<b>8,185,517</b>	<b>3.7</b>	<b>9.1</b>
<i>number of companies for calculation</i>				<i>1000</i>	<i>988</i>	<i>1000</i>	<i>994</i>	<i>994</i>
1	Toyota Motor	Automobiles & parts (335)	Japan	7,610.32	7.6	208,649	3.6	9.7
2	Microsoft	Software (9537)	USA	6,482.09	10.4	42,041	15.4	34.8
3	Roche	Pharmaceuticals (4577)	Switzerland	5,883.43	5.0	30,835	19.1	30.5
4	General Motors (now Motors Liquidation (aka General Motors))	Automobiles & parts (335)	USA	5,755.46	-1.2	107,180	5.4	-19.6
5	Pfizer	Pharmaceuticals (4577)	USA	5,715.89	-1.8	34,746	16.5	18.4
6	Johnson & Johnson	Pharmaceuticals (4577)	USA	5,451.14	-1.3	45,862	11.9	26.7
7	Ford Motor	Automobiles & parts (335)	USA	5,251.86	-2.7	105,236	5.0	-2.7
8	Novartis	Pharmaceuticals (4577)	Switzerland	5,194.30	12.6	29,827	17.4	22.9
9	Honda Motor	Automobiles & parts (335)	Japan	4,666.43	6.5	95,262	4.9	7.2
10	Matsushita Electric (now Panasonic)	Leisure goods (374)	Japan	4,401.18	-4.1	71,977	6.1	4.7
11	IBM	Computer services (9533)	USA	4,327.39	4.7	74,555	5.8	17.5
12	Sony	Leisure goods (374)	Japan	4,131.57	-4.3	69,486	5.9	4.9
13	Intel	Semiconductors (9576)	USA	4,116.59	-0.6	27,041	15.2	18.7
14	Cisco Systems	Telecommunications equipment (9578)	USA	3,707.24	14.5	28,446	13.0	23.9
15	Nissan Motor	Automobiles & parts (335)	Japan	3,630.88	-1.6	85,908	4.2	6.9
16	Samsung Electronics	Electronic equipment (2737)	South Korea	3,469.45	6.3	56,268	6.2	9.6
17	Merck	Pharmaceuticals (4577)	USA	3,457.09	-1.6	17,159	20.1	40.1
18	Hitachi	Computer hardware (9572)	Japan	3,398.25	3.8	89,103	3.8	2.5
19	Toshiba	General industrials (272)	Japan	3,121.43	-0.2	60,859	5.1	1.5
20	Canon	Electronic equipment (2737)	Japan	2,968.51	1.6	32,494	9.1	11.3
21	Motorola	Telecommunications equipment (9578)	USA	2,956.15	-7.2	21,688	13.6	-9.2
22	NEC	Computer hardware (9572)	Japan	2,795.29	5.2	36,645	7.6	2.5
23	Eli Lilly	Pharmaceuticals (4577)	USA	2,763.27	10.2	14,661	18.8	-6.3
24	Boeing	Aerospace & defence (271)	USA	2,710.82	-2.1	43,820	6.2	6.9
25	Bristol-Myers Squibb	Pharmaceuticals (4577)	USA	2,579.17	9.2	15,371	16.8	21.7
26	Hewlett-Packard	Computer hardware (9572)	USA	2,548.95	-1.9	85,155	3.0	8.8

				R&D Investment		Net Sales	R&D/Net Sales ratio	Operating Profit
Rank	Company	ICB Sector	Country	2008	change 08/07	2008	2008	2008
				€m	%	€m	%	% of Net Sales
27	Schering-Plough	Pharmaceuticals (4577)	USA	2,538.88	20.6	13,311	19.1	13.0
28	Denso	Automobiles & parts (335)	Japan	2,472.06	11.3	31,946	7.7	8.8
29	Wyeth	Pharmaceuticals (4577)	USA	2,426.80	3.6	16,427	14.8	26.5
30	Takeda Pharmaceutical	Pharmaceuticals (4577)	Japan	2,188.83	42.7	10,911	20.1	34.5
31	Amgen	Biotechnology (4573)	USA	2,179.88	-7.2	10,794	20.2	34.8
32	General Electric	General industrials (272)	USA	2,172.69	0.4	130,664	1.7	24.0
33	NTT	Fixed line telecommunications (653)	Japan	2,151.28	-0.4	84,771	2.5	13.0
34	Fujitsu	Computer services (9533)	Japan	2,053.35	1.8	42,309	4.9	2.2
35	Google	Internet (9535)	USA	2,009.51	31.8	15,680	12.8	25.4
36	Oracle	Software (9537)	USA	1,990.67	0.9	16,728	11.9	35.4
37	Abbott Laboratories	Pharmaceuticals (4577)	USA	1,934.42	7.3	21,243	9.1	21.1
38	Qualcomm	Telecommunications equipment (9578)	USA	1,641.03	24.7	8,016	20.5	33.5
39	Procter & Gamble	Household goods & home construction (372)	USA	1,601.46	5.4	60,075	2.7	21.0
40	Nestle	Food producers (357)	Switzerland	1,581.04	24.7	74,292	2.1	13.4
41	Sharp	Electronic equipment (2737)	Japan	1,557.06	3.3	27,125	5.7	4.5
42	FUJIFILM	Leisure goods (374)	Japan	1,488.83	6.0	22,594	6.6	7.3
43	EMC	Computer hardware (9572)	USA	1,473.28	15.9	10,702	13.8	10.3
44	Texas Instruments	Semiconductors (9576)	USA	1,395.70	-10.0	8,994	15.5	19.2
45	Sun Microsystems	Computer hardware (9572)	USA	1,393.54	-4.3	9,986	14.0	3.2
46	Delphi	Automobiles & parts (335)	USA	1,366.92	-5.0	14,664	9.3	17.6
47	Advanced Micro Devices	Semiconductors (9576)	USA	1,329.51	0.1	4,231	31.4	-38.2
48	LG	Electronic equipment (2737)	South Korea	1,304.08	21.3	51,535	2.5	5.5
49	Daiichi Sankyo	Pharmaceuticals (4577)	Japan	1,297.42	-4.2	6,985	18.6	16.2
50	United Technologies	Aerospace & defence (271)	USA	1,274.12	5.5	41,758	3.1	13.1
51	Hyundai Motor	Automobiles & parts (335)	South Korea	1,251.20	-0.1	45,546	2.7	3.8
52	Caterpillar	Commercial vehicles & trucks (2753)	USA	1,243.18	23.1	36,924	3.4	8.8
53	Nortel Networks	Telecommunications equipment (9578)	Canada	1,131.67	-8.7	7,497	15.1	-21.3
54	Honeywell	General industrials (272)	USA	1,110.08	5.8	26,300	4.2	9.8
55	Eisai	Pharmaceuticals (4577)	Japan	1,095.47	27.5	5,828	18.8	2.1
56	Mitsubishi Electric	Electrical components & equipment (2733)	Japan	1,089.62	3.4	32,142	3.4	5.9
57	Broadcom	Semiconductors (9576)	USA	1,077.47	11.1	3,351	32.2	3.7

				R&D Investment		Net Sales	R&D/Net Sales ratio	Operating Profit
Rank	Company	ICB Sector	Country	2008	change 08/07	2008	2008	2008
				€m	%	€m	%	% of Net Sales
58	Astellas Pharma	Pharmaceuticals (4577)	Japan	1,067.19	-19.9	7,719	13.8	27.6
59	DuPont	Chemicals (135)	USA	1,002.17	4.1	21,964	4.6	9.2
60	Ricoh	Electronic office equipment (9574)	Japan	1,000.28	9.6	17,619	5.7	8.3
61	Yahoo!	Internet (9535)	USA	986.19	14.7	5,186	19.0	-0.2
62	Electronic Arts	Leisure goods (374)	USA	977.71	18.7	3,030	32.3	-21.1
63	Medtronic	Health care equipment & services (453)	USA	974.83	6.3	10,503	9.3	18.0
64	Dow Chemical	Chemicals (135)	USA	942.46	0.4	41,377	2.3	3.3
65	Aisin Seiki	Automobiles & parts (335)	Japan	915.33	11.2	21,432	4.3	7.1
66	Genzyme	Biotechnology (4573)	USA	911.01	78.8	3,313	27.5	12.6
67	Mazda Motor	Automobiles & parts (335)	Japan	907.95	6.4	27,586	3.3	4.8
68	Mitsubishi Chemical	Chemicals (135)	Japan	889.41	22.9	23,253	3.8	3.8
69	Lockheed Martin	Aerospace & defence (271)	USA	877.71	1.2	30,742	2.9	11.8
69	Amazon.com	General retailers (537)	USA	877.71	28.8	13,789	6.4	4.2
71	Suzuki Motor	Automobiles & parts (335)	Japan	863.04	18.0	27,797	3.1	4.2
72	Mitsubishi Heavy	General industrials (272)	Japan	856.84	1.5	25,422	3.4	3.2
73	Sumitomo Chemical	Chemicals (135)	Japan	836.52	7.9	15,052	5.6	5.2
74	ABB	Electrical components & equipment (2733)	Switzerland	832.38	21.7	25,140	3.3	12.8
75	Freescale Semiconductor	Semiconductors (9576)	USA	820.15	0.1	3,760	21.8	-149.9
76	PetroChina	Oil & gas producers (53)	China	818.26	46.0	112,948	0.7	13.5
77	Apple	Computer hardware (9572)	USA	805.77	30.7	23,366	3.4	19.2
78	Applied Materials	Semiconductors (9576)	USA	794.34	-3.3	5,848	13.6	16.0
79	Vale Do Rio Doce (now Vale)	Mining (177)	Brazil	780.58	48.0	26,925	2.9	40.4
80	Biogen Idec	Biotechnology (4573)	USA	771.27	15.9	2,948	26.2	29.3
81	Telstra	Fixed line telecommunications (653)	Australia	756.41	7.6	12,454	6.1	24.9
82	Bridgestone	Automobiles & parts (335)	Japan	740.11	7.5	25,670	2.9	2.9
83	Seagate Technology	Computer hardware (9572)	Cayman Islands	739.58	13.7	9,143	8.1	11.0
84	Boston Scientific	Health care equipment & services (453)	USA	723.75	-7.8	5,791	12.5	-22.0
85	Monsanto	Chemicals (135)	USA	705.04	25.6	8,330	8.5	25.3
86	Syngenta	Chemicals (135)	Switzerland	697.13	16.7	8,363	8.3	16.0
87	Deere	Commercial vehicles & trucks (2753)	USA	678.50	15.5	18,564	3.7	8.4
88	Petroleo Brasileiro	Oil & gas producers (53)	Brazil	676.99	6.8	85,078	0.8	20.8

				R&D Investment		Net Sales	R&D/Net Sales ratio	Operating Profit
Rank	Company	ICB Sector	Country	2008	change 08/07	2008	2008	2008
				€m	%	€m	%	% of Net Sales
89	Yamaha Motor	Automobiles & parts (335)	Japan	675.33	-0.5	12,729	5.3	2.5
90	Marvell Technology	Semiconductors (9576)	Bermuda	669.07	-4.2	2,123	31.5	5.6
91	Celgene	Biotechnology (4573)	USA	659.20	142.1	1,622	40.6	-64.3
92	Seiko Epson	Electronic office equipment (9574)	Japan	657.71	-2.1	10,697	6.1	3.7
93	Konica Minolta	Electronic office equipment (9574)	Japan	645.81	12.8	8,505	7.6	10.4
94	Symantec	Software (9537)	USA	632.89	-1.7	4,424	14.3	-105.1
95	Baxter International	Health care equipment & services (453)	USA	624.47	14.2	8,884	7.0	20.1
96	Nvidia	Semiconductors (9576)	USA	615.75	23.7	2,464	25.0	-2.6
97	3M	General industrials (272)	USA	612.24	8.0	18,179	3.4	20.7
98	Exxon Mobil	Oil & gas producers (53)	USA	609.36	4.1	305,810	0.2	19.4
99	eBay	General retailers (537)	USA	603.10	14.8	6,145	9.8	24.3
100	Chevron	Oil & gas producers (53)	USA	600.73	48.6	190,619	0.3	15.9
101	AT&T	Fixed line telecommunications (653)	USA	598.57	-15.5	89,230	0.7	18.7
102	Schlumberger	Oil equipment, services & distribution (57)	USA	589.07	12.4	19,542	3.0	25.7
103	Allergan	Pharmaceuticals (4577)	USA	574.04	11.1	3,168	18.1	18.1
104	Sumitomo Electric	Electrical components & equipment (2733)	Japan	573.59	5.7	20,166	2.8	6.4
105	Sanyo Electric	Electronic equipment (2737)	Japan	569.83	-43.6	16,535	3.4	3.0
106	Activision Blizzard	Leisure goods (374)	USA	567.87	192.9	2,903	19.6	5.0
107	Teva Pharmaceutical Industries	Pharmaceuticals (4577)	Israel	565.47	35.3	7,975	7.1	7.8
108	Xerox	Electronic office equipment (9574)	USA	539.57	-1.8	12,668	4.3	1.4
109	Juniper Networks	Telecommunications equipment (9578)	USA	526.01	17.4	2,570	20.5	19.4
110	Olympus	Leisure goods (374)	Japan	523.25	18.7	8,959	5.8	9.2
111	Danaher	Electronic equipment (2737)	USA	521.91	20.6	9,135	5.7	14.7
112	Sega Sammy	Travel & leisure (575)	Japan	518.94	25.5	3,643	14.2	-9.5
113	Hon Hai Precision Industry	Electronic equipment (2737)	Taiwan	518.69	54.2	42,760	1.2	3.7
114	Tokyo Electron	Semiconductors (9576)	Japan	507.18	12.2	7,191	7.1	18.1
115	Agilent Technologies	Electronic equipment (2737)	USA	506.48	2.8	4,154	12.2	14.3
116	Gilead Sciences	Biotechnology (4573)	USA	495.69	22.5	3,839	12.9	52.0
117	Research In Motion	Telecommunications equipment (9578)	Canada	492.60	90.3	7,961	6.2	24.6
118	Micron Technology	Semiconductors (9576)	USA	489.21	-15.5	4,202	11.6	-28.2
119	Kyocera	Electrical components & equipment (2733)	Japan	488.94	0.8	10,242	4.8	12.4

				R&D Investment		Net Sales	R&D/Net Sales ratio	Operating Profit
Rank	Company	ICB Sector	Country	2008	change 08/07	2008	2008	2008
				€m	%	€m	%	% of Net Sales
120	LSI	Semiconductors (9576)	USA	483.83	2.6	1,926	25.1	-22.6
121	Isuzu Motors	Commercial vehicles & trucks (2753)	Japan	478.58	3.1	15,277	3.1	6.0
122	Dell	Computer hardware (9572)	USA	476.98	8.7	43,958	1.1	5.1
123	Adobe Systems	Software (9537)	USA	476.31	8.0	2,575	18.5	29.3
124	Forest Laboratories	Pharmaceuticals (4577)	USA	475.76	-1.4	2,766	17.2	23.3
125	Pioneer	Electronic equipment (2737)	Japan	471.40	0.3	6,147	7.7	-1.7
126	Taiwan Semiconductor Manufacturing	Semiconductors (9576)	Taiwan	470.92	19.7	7,304	6.4	31.6
127	Gazprom	Oil & gas producers (53)	Russia	470.10	28.8	82,913	0.6	35.3
128	Intuit	Software (9537)	USA	467.64	24.8	2,211	21.2	21.1
129	MediaTek	Semiconductors (9576)	Taiwan	466.40	132.4	1,982	23.5	21.3
130	Nikon	Leisure goods (374)	Japan	463.29	23.6	7,586	6.1	12.0
131	TDK	Electronic equipment (2737)	Japan	455.46	14.6	6,875	6.6	8.5
132	Corning	Telecommunications equipment (9578)	USA	451.08	11.0	4,279	10.5	27.3
133	ZTE	Telecommunications equipment (9578)	China	450.52	33.1	4,671	9.6	7.6
134	CA	Software (9537)	USA	446.77	-1.1	3,073	14.5	26.1
135	Asahi Kasei	Chemicals (135)	Japan	445.80	7.1	13,467	3.3	6.7
136	Hynix Semiconductor	Semiconductors (9576)	South Korea	438.09	30.0	3,894	11.2	-51.4
137	Kirin	Beverages (353)	Japan	424.14	86.9	15,261	2.8	7.7
138	Maxim Integrated Products	Semiconductors (9576)	USA	415.65	-12.4	1,477	28.1	20.8
139	Autodesk	Software (9537)	USA	414.47	18.7	1,666	24.9	10.6
140	Northrop Grumman	Aerospace & defence (271)	USA	414.39	7.3	24,418	1.7	-0.2
141	Fuji Heavy Industries	Automobiles & parts (335)	Japan	412.87	2.6	12,479	3.3	2.4
142	Omron	Electronic equipment (2737)	Japan	408.90	-1.0	6,056	6.8	8.3
143	Komatsu	Commercial vehicles & trucks (2753)	Japan	394.24	7.3	17,802	2.2	15.2
144	Analog Devices	Semiconductors (9576)	USA	392.90	-7.5	1,941	20.2	23.4
145	St Jude Medical	Health care equipment & services (453)	USA	382.59	11.6	3,139	12.2	14.6
146	Tyco Electronics	Electrical components & equipment (2733)	Bermuda	381.30		10,672	3.6	15.6
147	Shin-Etsu Chemical	Chemicals (135)	Japan	380.52	14.9	10,924	3.5	21.5
148	Automatic Data Processing	Support services (279)	USA	378.35	8.2	6,314	6.0	19.7
149	Dainippon Sumitomo Pharma	Pharmaceuticals (4577)	Japan	375.13	15.6	2,095	17.9	13.7
150	Raytheon	Aerospace & defence (271)	USA	371.95	3.0	16,672	2.2	11.1



				R&D Investment		Net Sales	R&D/Net Sales ratio	Operating Profit
Rank	Company	ICB Sector	Country	2008	change 08/07	2008	2008	2008
				€m	%	€m	%	% of Net Sales
151	Toray Industries	Chemicals (135)	Japan	363.71	8.4	13,093	2.8	5.4
152	China Petroleum & Chemical	Oil & gas producers (53)	China	361.36	0.2	153,118	0.2	-0.9
153	Eastman Kodak	Leisure goods (374)	USA	360.44	-6.4	6,774	5.3	-9.2
154	Nippon Steel	Industrial metals & mining (175)	Japan	359.76	9.9	38,310	0.9	12.2
155	Kraft Foods	Food producers (357)	USA	359.00	11.6	30,840	1.2	9.6
156	NetApp	Computer hardware (9572)	USA	358.63	10.2	2,451	14.6	1.4
157	Japan Tobacco	Tobacco (378)	Japan	358.44	9.5	50,872	0.7	5.9
158	Kao	Personal goods (376)	Japan	357.71	1.5	10,465	3.4	8.8
159	Korea Electric Power	Electricity (753)	South Korea	353.01	2.5	18,027	2.0	-8.0
160	Textron	Aerospace & defence (271)	USA	342.45	30.4	10,652	3.2	7.6
161	General Dynamics	Aerospace & defence (271)	USA	341.01	10.2	21,081	1.6	12.5
162	Cadence Design Systems	Software (9537)	USA	340.66	-8.6	747	45.6	-153.0
163	Murata Manufacturing	Semiconductors (9576)	Japan	335.57	9.3	5,013	6.7	18.6
164	Alps Electric	Electrical components & equipment (2733)	Japan	335.37	-9.7	5,497	6.1	-0.3
165	Mitsui Chemicals	Chemicals (135)	Japan	334.37	14.0	14,180	2.4	3.4
166	Western Digital	Computer hardware (9572)	USA	333.82	51.6	5,809	5.7	12.5
167	Liebherr	Commercial vehicles & trucks (2753)	Switzerland	330.00	20.9	7,491	4.4	11.1
168	Emerson Electric	Electrical components & equipment (2733)	USA	329.50	15.4	17,847	1.8	15.0
169	PPG Industries	Chemicals (135)	USA	324.46	33.0	11,402	2.8	7.1
170	Yokogawa Electric	Electronic equipment (2737)	Japan	324.42	12.8	3,472	9.3	3.8
171	Shionogi	Pharmaceuticals (4577)	Japan	319.77	7.6	1,701	18.8	17.9
172	ASUSTeK Computer	Computer hardware (9572)	Taiwan	315.55	58.1	14,636	2.2	3.3
173	McKesson	Food & drug retailers (533)	USA	315.11	4.3	76,715	0.4	1.1
174	Whirlpool	Household goods & home construction (372)	USA	313.67	3.6	13,602	2.3	2.4
175	JFE	Industrial metals & mining (175)	Japan	313.36	3.5	28,094	1.1	12.8
176	Visteon	Automobiles & parts (335)	USA	312.23	-14.9	6,866	4.5	-3.8
177	Spansion	Semiconductors (9576)	USA	310.66	-1.1	1,642	18.9	-99.8
178	Ono Pharmaceutical	Pharmaceuticals (4577)	Japan	309.43	10.2	1,158	26.7	35.0
179	SanDisk	Semiconductors (9576)	USA	309.32	2.8	2,411	12.8	-63.3
180	Tokyo Electric Power	Electricity (753)	Japan	307.93	15.8	43,488	0.7	-1.7
181	Baker Hughes	Oil equipment, services & distribution (57)	USA	306.48	14.5	8,535	3.6	20.0

				R&D Investment		Net Sales	R&D/Net Sales ratio	Operating Profit
Rank	Company	ICB Sector	Country	2008	change 08/07	2008	2008	2008
				€m	%	€m	%	% of Net Sales
182	Johnson Controls	Automobiles & parts (335)	USA	305.04	-13.6	27,383	1.1	3.9
183	Lexmark	Computer hardware (9572)	USA	304.54	4.8	3,258	9.3	6.0
184	Cummins	Commercial vehicles & trucks (2753)	USA	303.60	28.3	10,318	2.9	8.8
185	Eaton	General industrials (272)	USA	300.00	24.5	11,062	2.7	8.4
186	Asahi Glass	Construction & materials (235)	Japan	299.21	11.1	11,463	2.6	7.6
187	Kla-Tencor	Semiconductors (9576)	USA	294.95	-6.3	1,814	16.3	19.9
188	Nintendo	Leisure goods (374)	Japan	293.66	-1.9	13,273	2.2	28.6
189	Toyota Industries	Automobiles & parts (335)	Japan	291.67	6.4	15,878	1.8	5.1
190	Teijin	Chemicals (135)	Japan	287.96	3.4	8,227	3.5	1.6
191	Kawasaki Heavy Industries	General industrials (272)	Japan	287.53	7.1	11,914	2.4	4.8
192	Synopsys	Software (9537)	USA	286.15	4.3	962	29.7	14.3
193	Becton Dickinson	Health care equipment & services (453)	USA	285.07	10.1	5,150	5.5	21.8
194	Harman International Industries	Leisure goods (374)	USA	284.82	11.0	2,959	9.6	3.2
195	Rockwell Collins	Aerospace & defence (271)	USA	284.18	13.8	3,431	8.3	20.3
196	POSCO	Industrial metals & mining (175)	South Korea	283.30	28.6	23,843	1.2	16.8
197	Dai Nippon Printing	Media (555)	Japan	282.20	18.1	12,826	2.2	5.0
198	Givaudan	Personal goods (376)	Switzerland	281.87	-1.9	2,763	10.2	9.3
199	Accenture	Support services (279)	Bermuda	280.70	26.9	18,212	1.5	11.9
200	PepsiCo	Beverages (353)	USA	279.14	6.6	31,116	0.9	16.9
201	Mitsubishi Motors	Automobiles & parts (335)	Japan	274.50	-16.3	21,287	1.3	2.7
202	Navistar International	Commercial vehicles & trucks (2753)	USA	273.38	-0.5	10,593	2.6	4.6
203	Vertex Pharmaceuticals	Biotechnology (4573)	USA	272.14	4.5	126	215.5	-263.6
204	Brother Industries	Computer hardware (9572)	Japan	270.78	19.9	4,495	6.0	8.8
205	Kyowa Hakko Kogyo (now Kyowa Hakko Kirin)	Biotechnology (4573)	Japan	270.71	2.3	3,112	8.7	8.0
206	Stryker	Health care equipment & services (453)	USA	264.61	-2.0	4,833	5.5	22.5
207	Autoliv	Automobiles & parts (335)	USA	264.18	-7.2	4,657	5.7	4.8
208	Goodyear	Automobiles & parts (335)	USA	263.31	-1.6	14,020	1.9	2.3
209	Rohm	Semiconductors (9576)	Japan	262.40	-2.4	2,964	8.9	16.9
210	Ajinomoto	Food producers (357)	Japan	260.91	3.5	9,656	2.7	4.4
211	Cephalon	Pharmaceuticals (4577)	USA	260.58	-1.9	1,421	18.3	10.2

				R&D Investment		Net Sales	R&D/Net Sales ratio	Operating Profit
Rank	Company	ICB Sector	Country	2008	change 08/07	2008	2008	2008
				€m	%	€m	%	% of Net Sales
212	Xilinx	Semiconductors (9576)	USA	255.68	-0.7	1,313	19.5	20.2
213	Daikin Industries	Construction & materials (235)	Japan	254.57	17.9	10,245	2.5	9.7
214	Actelion	Pharmaceuticals (4577)	Switzerland	253.16	28.2	996	25.4	25.2
215	Toyota Boshoku	Automobiles & parts (335)	Japan	251.73	20.1	9,792	2.6	5.6
216	Fuji Electric	Electrical components & equipment (2733)	Japan	248.10	-4.0	7,319	3.4	3.5
217	Paccar	Commercial vehicles & trucks (2753)	USA	245.90	33.8	10,772	2.3	9.2
218	Covidien	Health care equipment & services (453)	Bermuda	245.33		7,755	3.2	21.0
219	Advantest	Semiconductors (9576)	Japan	242.12	3.4	1,451	16.7	11.8
220	Philip Morris International	Tobacco (378)	USA	240.29		18,493	1.3	39.9
221	Kobe Steel	Industrial metals & mining (175)	Japan	239.20	21.1	16,924	1.4	8.2
222	Nidec	Electrical components & equipment (2733)	Japan	238.89	-8.1	5,890	4.1	10.2
223	Elpida Memory	Electrical components & equipment (2733)	Japan	237.65	3.1	3,218	7.4	-8.3
224	Citrix Systems	Software (9537)	USA	236.77	42.2	1,139	20.8	10.9
225	Toppan Printing	Media (555)	Japan	235.98	2.1	13,257	1.8	4.4
226	Rohm & Haas (now part of Dow Chemical)	Chemicals (135)	USA	235.25	10.5	6,889	3.4	7.7
227	Halliburton	Oil equipment, services & distribution (57)	USA	234.54	0.6	13,151	1.8	21.6
228	SunGard Data Systems	Computer services (9533)	USA	233.82	9.4	4,026	5.8	6.7
229	Lam Research	Semiconductors (9576)	USA	232.92	13.5	1,781	13.1	20.5
230	StatoilHydro	Oil & gas producers (53)	Norway	230.47	13.9	66,990	0.3	30.3
231	OC Oerlikon	General industrials (272)	Switzerland	229.15	20.6	3,353	6.8	-5.0
232	Onex	General industrials (272)	Canada	229.04	24.8	15,666	1.5	-2.4
233	Mylan	Pharmaceuticals (4577)	USA	228.22	62.9	3,696	6.2	4.3
234	Calsonic Kansei	Automobiles & parts (335)	Japan	221.70	-2.8	6,615	3.4	0.0
235	National Semiconductor	Semiconductors (9576)	USA	220.15	-15.7	1,051	21.0	12.5
236	Tellabs	Telecommunications equipment (9578)	USA	219.57	-11.0	1,244	17.7	-57.1
237	KT	Fixed line telecommunications (653)	South Korea	218.92	-5.3	11,221	2.0	9.5
238	Tata Motors	Automobiles & parts (335)	India	218.05	23.5	10,476	2.1	-0.4
239	SK	Oil equipment, services & distribution (57)	South Korea	216.15	-13.4	5,079	4.3	48.0
240	Kimberly-Clark	Personal goods (376)	USA	213.67	7.3	13,968	1.5	13.1
241	Cerner	Software (9537)	USA	209.62	2.9	1,206	17.4	16.0

				R&D Investment		Net Sales	R&D/Net Sales ratio	Operating Profit
Rank	Company	ICB Sector	Country	2008	change 08/07	2008	2008	2008
				€m	%	€m	%	% of Net Sales
242	BMC Software	Software (9537)	USA	208.13	2.9	1,347	15.5	19.6
243	Millennium Pharmaceuticals (now part of Takeda Pharmaceutical, Japan)	Biotechnology (4573)	USA	206.55	-9.8	380	54.4	-4.5
244	HTC	Electronic equipment (2737)	Taiwan	205.01	152.4	3,340	6.1	19.8
245	Goodrich	Aerospace & defence (271)	USA	204.32	1.4	5,080	4.0	15.2
246	Sekisui Chemical	Household goods & home construction (372)	Japan	204.28	5.3	7,609	2.7	2.7
247	Beckman Coulter	Health care equipment & services (453)	USA	201.51	2.2	2,229	9.0	9.7
248	Harris	Telecommunications equipment (9578)	USA	197.84	17.2	3,821	5.2	12.9
249	Yamaha	Leisure goods (374)	Japan	197.35	2.7	4,355	4.5	6.0
250	Kubota	General industrials (272)	Japan	196.70	8.1	9,163	2.1	11.1
251	Taisho Pharmaceutical	Pharmaceuticals (4577)	Japan	196.39	-13.2	1,981	9.9	14.3
252	Toyota Gosei	Automobiles & parts (335)	Japan	193.04	-3.9	4,710	4.1	5.4
253	IHI	Industrial machinery (2757)	Japan	191.43	3.0	10,719	1.8	-2.4
254	Avago Technologies	Semiconductors (9576)	Singapore	190.65	29.3	1,225	15.6	8.9
255	Mentor Graphics	Software (9537)	USA	187.31	13.2	568	33.0	-9.0
256	Atmel	Semiconductors (9576)	USA	187.28	-4.3	1,127	16.6	-0.9
257	Altera	Semiconductors (9576)	USA	185.41	-3.0	984	18.8	29.6
258	Exelixis	Pharmaceuticals (4577)	USA	185.18	14.2	85	218.4	-152.1
259	China Railway Construction	Construction & materials (235)	China	185.15	516.3	23,136	0.8	2.0
260	Brocade Communications	Telecommunications equipment (9578)	USA	183.87	19.8	1,055	17.4	1.2
261	Parker Hannifin	Industrial machinery (2757)	USA	183.70	20.3	8,738	2.1	11.7
262	Colgate-Palmolive	Personal goods (376)	USA	182.09	2.5	11,029	1.7	19.7
263	United Microelectronics	Semiconductors (9576)	Taiwan	181.39	-14.1	2,122	8.5	-29.4
264	McAfee	Software (9537)	USA	181.31	15.6	1,151	15.8	11.4
265	Mannkind	Biotechnology (4573)	USA	180.18	-2.5	0	1,801,800.0	-2,200,200.0
266	Takata	Automobiles & parts (335)	Japan	179.71	3.9	4,094	4.4	7.1
267	Thermo Fisher Scientific	Health care equipment & services (453)	USA	179.21	4.4	7,553	2.4	11.7
268	Sepracor	Pharmaceuticals (4577)	USA	177.57	-6.4	930	19.1	3.3
269	AlCoA	Industrial metals & mining (175)	USA	176.98	-1.2	20,230	0.9	2.6
270	ITT	General industrials (272)	USA	175.76	34.0	8,419	2.1	10.3
271	Nitto Denko	Chemicals (135)	Japan	175.37	1.7	5,915	3.0	10.5

				R&D Investment		Net Sales	R&D/Net Sales ratio	Operating Profit
Rank	Company	ICB Sector	Country	2008	change 08/07	2008	2008	2008
				€m	%	€m	%	% of Net Sales
272	Hilti	Construction & materials (235)	Liechtenstein	172.57	9.9	3,177	5.4	9.6
273	United Therapeutics	Biotechnology (4573)	USA	172.08	186.9	203	85.0	-29.6
274	ON Semiconductor	Semiconductors (9576)	USA	168.28	75.9	1,478	11.4	-17.9
275	Altria	Tobacco (378)	USA	166.91	-63.2	24,987	0.7	22.0
276	Samsung Electro-Mechanics	Electrical components & equipment (2733)	South Korea	165.19	-0.1	1,537	10.7	5.6
277	Koito Manufacturing	Automobiles & parts (335)	Japan	165.08	0.5	3,735	4.4	6.4
278	Compal Electronics	Electronic equipment (2737)	Taiwan	164.95	41.7	10,495	1.6	3.1
279	International Game Technology	Travel & leisure (575)	USA	160.43	10.3	1,819	8.8	24.7
280	Quanta Computer	Computer hardware (9572)	Taiwan	160.33	37.2	17,949	0.9	2.5
281	Sumitomo Metal Industries	Industrial metals & mining (175)	Japan	159.55	7.1	13,846	1.2	16.8
282	Showa Denko	Chemicals (135)	Japan	159.31	15.4	7,967	2.0	0.6
283	Lenovo	Computer hardware (9572)	Hong Kong	158.28	-15.8	10,721	1.5	-1.4
284	Novellus Systems	Semiconductors (9576)	USA	158.03	-8.9	727	21.7	-10.8
285	Amylin Pharmaceuticals	Biotechnology (4573)	USA	157.07	10.8	604	26.0	-35.4
286	Furukawa Electric	General industrials (272)	Japan	157.06	-0.9	9,320	1.7	3.4
287	Teradyne	Semiconductors (9576)	USA	155.73	5.9	796	19.6	-36.0
288	Kansai Electric Power	Electricity (753)	Japan	155.69	-5.8	21,344	0.7	7.2
289	Ciba (now part of BASF, Germany)	Chemicals (135)	Switzerland	155.47	-12.2	4,001	3.9	-7.2
290	KDDI	Mobile telecommunications (657)	Japan	155.30	27.2	28,542	0.5	10.8
291	Hospira	Pharmaceuticals (4577)	USA	153.67	6.1	2,611	5.9	14.1
292	Sumitomo Rubber Industries	Automobiles & parts (335)	Japan	153.58	6.2	4,801	3.2	3.6
293	Pitney Bowes	Electronic office equipment (9574)	USA	153.04	2.6	4,505	3.4	14.8
294	International Flavors & Fragrances	Personal goods (376)	USA	153.02	6.9	1,719	8.9	14.8
295	Dongfeng Motor	Automobiles & parts (335)	Hong Kong	152.90	33.2	7,441	2.1	6.4
296	Chi Mei Optoelectronic	Electrical components & equipment (2733)	Taiwan	152.11	-2.0	6,974	2.2	0.5
297	NCR	Computer hardware (9572)	USA	151.80	14.0	3,824	4.0	5.3
298	JSR	Chemicals (135)	Japan	151.73	9.9	3,230	4.7	14.0
299	Illinois Tool Works	Industrial machinery (2757)	USA	151.60	3.6	12,387	1.2	13.2
300	Dana	Automobiles & parts (335)	USA	151.47	11.4	5,764	2.6	-6.4
301	ConocoPhillips	Oil & gas producers (53)	USA	150.36	30.6	158,423	0.1	-1.2

				R&D Investment		Net Sales	R&D/Net Sales ratio	Operating Profit
Rank	Company	ICB Sector	Country	2008	change 08/07	2008	2008	2008
				€m	%	€m	%	% of Net Sales
302	Expedia	Travel & leisure (575)	USA	150.33	14.5	2,113	7.1	-82.8
303	Kudelski	Electronic equipment (2737)	Switzerland	149.75	5.2	695	21.6	2.2
304	General Mills	Food producers (357)	USA	149.64	1.6	10,569	1.4	15.2
305	Fanuc	Electronic equipment (2737)	Japan	148.65	10.1	3,718	4.0	43.9
306	Garmin	Leisure goods (374)	Cayman Islands	148.28	29.3	2,514	5.9	24.7
307	TRW Automotive	Automobiles & parts (335)	USA	148.20	10.2	10,788	1.4	-2.8
308	BorgWarner	Automobiles & parts (335)	USA	147.99	-2.4	3,787	3.9	1.1
309	Koc	General industrials (272)	Turkey	147.20	43.1	25,170	0.6	6.2
310	Tokai Rika	Automobiles & parts (335)	Japan	145.43	3.3	3,492	4.2	7.3
311	Arena Pharmaceuticals	Pharmaceuticals (4577)	USA	145.33	55.2	7	2,058.5	-2,438.2
312	OKI Electric	Telecommunications equipment (9578)	Japan	144.69	-14.4	5,712	2.5	0.5
313	CR Bard	Health care equipment & services (453)	USA	143.24	46.6	1,764	8.1	21.0
314	Novell	Software (9537)	USA	142.56	-4.9	693	20.6	-2.2
315	Sybase	Software (9537)	USA	142.18	4.7	814	17.5	18.6
316	Linear Technology	Semiconductors (9576)	USA	141.79	7.4	845	16.8	48.4
317	EMBRAER	Aerospace & defence (271)	Brazil	141.73	-24.2	4,558	3.1	8.5
318	Hitachi Kokusai Electric	Electronic equipment (2737)	Japan	141.42	23.6	1,571	9.0	8.6
319	Delta Electronics	Electronic equipment (2737)	Taiwan	141.33	26.2	3,100	4.6	9.0
320	Wistron	Computer hardware (9572)	Taiwan	140.92	45.8	9,758	1.4	2.1
321	Nanya Technology	Semiconductors (9576)	Taiwan	140.23	-1.3	807	17.4	-95.5
322	AGCO	Commercial vehicles & trucks (2753)	USA	139.93	25.6	6,061	2.3	6.5
323	Human Genome Sciences	Biotechnology (4573)	USA	139.78	-4.7	35	401.2	-539.9
324	Zimmer	Health care equipment & services (453)	USA	139.57	-7.4	2,965	4.7	26.4
325	Namco Bandai	Leisure goods (374)	Japan	139.55	-2.3	3,655	3.8	5.9
326	Cypress Semiconductor	Semiconductors (9576)	USA	139.23	3.0	1,297	10.7	-20.9
327	SK Telecom	Mobile telecommunications (657)	South Korea	138.84	9.5	8,075	1.7	7.4
328	Weatherford International	Oil equipment, services & distribution (57)	USA	138.61	13.8	6,907	2.0	19.9
329	NGK Spark Plug	Automobiles & parts (335)	Japan	138.46	7.3	2,743	5.0	10.2
330	Hoya	Electronic equipment (2737)	Japan	138.20	16.7	3,823	3.6	20.2
331	Hasbro	Leisure goods (374)	USA	137.72	14.5	2,893	4.8	12.3

				R&D Investment		Net Sales	R&D/Net Sales ratio	Operating Profit
Rank	Company	ICB Sector	Country	2008	change 08/07	2008	2008	2008
				€m	%	€m	%	% of Net Sales
332	Rockwell Automation	Electronic equipment (2737)	USA	137.63	33.7	4,099	3.4	14.8
333	Mattel	Leisure goods (374)	USA	136.84	0.4	4,258	3.2	9.2
334	Dover	General industrials (272)	USA	136.12	-11.0	5,506	2.5	13.6
335	JDS Uniphase	Telecommunications equipment (9578)	USA	135.33	11.7	1,101	12.3	-5.1
336	Elbit Systems	Aerospace & defence (271)	Israel	133.08	45.7	1,898	7.0	8.0
337	SMC	Industrial machinery (2757)	Japan	132.11	5.0	2,841	4.7	24.8
338	Kaneka	Chemicals (135)	Japan	131.84	-1.5	3,992	3.3	6.6
339	Parametric Technology	Software (9537)	USA	130.95	12.1	770	17.0	10.3
340	Kellogg	Food producers (357)	USA	130.22	1.1	9,225	1.4	14.9
341	Realtek Semiconductor	Semiconductors (9576)	Taiwan	130.12	95.3	368	35.3	2.6
342	3Com	Telecommunications equipment (9578)	USA	129.48	-12.9	947	13.7	11.4
343	Dainippon Screen Mfg	Semiconductors (9576)	Japan	128.96	-3.8	2,221	5.8	3.7
344	Tatung	Electrical components & equipment (2733)	Taiwan	128.91	-24.5	4,105	3.1	-7.9
345	Medarex	Biotechnology (4573)	USA	128.67	0.5	38	342.0	-376.8
346	Chartered Semiconductor	Semiconductors (9576)	Singapore	127.96	11.3	1,195	10.7	-2.7
347	Palm	Computer hardware (9572)	USA	127.49	-12.6	529	24.1	-41.6
348	Ciena	Telecommunications equipment (9578)	USA	125.92	37.5	649	19.4	2.4
349	Terumo	Health care equipment & services (453)	Japan	125.03	-6.2	2,432	5.1	22.1
350	Federal-Mogul	Automobiles & parts (335)	USA	124.68	-2.8	4,939	2.5	-4.0
351	Clariant	Chemicals (135)	Switzerland	124.37	-12.8	5,456	2.3	2.6
352	JS	Construction & materials (235)	Japan	124.26	1.4	8,761	1.4	3.0
353	East Japan Railway	Travel & leisure (575)	Japan	124.20	-8.5	21,457	0.6	16.4
354	DIC	Chemicals (135)	Japan	123.68	0.5	8,555	1.4	4.0
355	Nippon Sheet Glass	Construction & materials (235)	Japan	123.15	13.6	6,870	1.8	3.8
356	Bombardier	Aerospace & defence (271)	Canada	123.02	23.0	14,188	0.9	6.8
357	Idemitsu Kosan	Oil & gas producers (53)	Japan	122.96	11.4	30,669	0.4	1.2
358	RF Micro Devices	Semiconductors (9576)	USA	122.86	-17.6	638	19.3	-96.1
359	Watson Pharmaceuticals	Pharmaceuticals (4577)	USA	122.39	17.5	1,824	6.7	14.6
360	Synthes	Health care equipment & services (453)	Switzerland	122.20	14.3	2,297	5.3	33.6
361	Yokohama Rubber	Automobiles & parts (335)	Japan	121.34	4.4	4,377	2.8	4.1
362	Kuraray	Chemicals (135)	Japan	121.03	27.1	3,314	3.7	9.1

				R&D Investment		Net Sales	R&D/Net Sales ratio	Operating Profit
Rank	Company	ICB Sector	Country	2008	change 08/07	2008	2008	2008
				€m	%	€m	%	% of Net Sales
363	PDL BioPharma	Biotechnology (4573)	USA	120.07	-19.9	279	43.0	20.6
364	NTN	Industrial machinery (2757)	Japan	119.10	5.5	4,238	2.8	9.2
365	Molex	Electronic equipment (2737)	USA	117.99	3.1	2,395	4.9	9.9
366	Harley-Davidson	Automobiles & parts (335)	USA	117.63	-18.9	4,025	2.9	18.4
367	Funai Electric	Electronic equipment (2737)	Japan	117.38	5.4	2,200	5.3	-1.6
368	Prithvi Information Solutions	Computer services (9533)	India	117.35	45.3	166	70.8	6.8
369	Meiji Seika Kaisha (now Meiji)	Food producers (357)	Japan	117.19	-7.3	3,212	3.6	2.9
370	Casio Computer	Leisure goods (374)	Japan	117.07	-18.1	4,945	2.4	5.3
371	AU Optronics	Electronic equipment (2737)	Taiwan	116.96	-9.1	9,294	1.3	7.1
372	China Coal Energy	Mining (177)	China	115.99		5,377	2.2	19.3
373	Integrated Device Technology	Semiconductors (9576)	USA	115.97	-2.7	477	24.3	-158.5
374	Shiseido	Personal goods (376)	Japan	115.61	-9.7	5,742	2.0	8.7
375	Swatch	Personal goods (376)	Switzerland	115.59	4.9	3,837	3.0	20.5
376	Teradata	Computer services (9533)	USA	115.11	-6.4	1,268	9.1	19.2
377	Bio-Rad Laboratories	Health care equipment & services (453)	USA	114.76	13.5	1,269	9.0	9.8
378	China Communications Construction	Construction & materials (235)	China	114.62	289.6	18,863	0.6	6.4
379	Inventec	Computer hardware (9572)	Taiwan	114.59	26.1	8,313	1.4	0.8
380	Pou Chen	Personal goods (376)	Taiwan	114.40	5.7	4,570	2.5	6.9
381	Eastman Chemical	Chemicals (135)	USA	113.67	1.3	4,960	2.3	7.3
382	PMC-Sierra	Semiconductors (9576)	USA	113.41	-0.9	378	30.0	9.2
383	CSL	Biotechnology (4573)	Australia	112.92	18.0	1,784	6.3	26.9
384	Anritsu	Electronic equipment (2737)	Japan	112.03	0.3	798	14.0	-2.2
385	DST Systems	Computer services (9533)	USA	111.58	-0.7	1,644	6.8	16.0
386	Chubu Electric Power	Electricity (753)	Japan	111.48	-1.5	19,309	0.6	6.9
387	Fujikura	Electrical components & equipment (2733)	Japan	111.03	13.8	5,234	2.1	2.3
388	Huntsman	Chemicals (135)	USA	110.79	6.4	7,349	1.5	11.1
389	Quest Software	Software (9537)	USA	110.41	25.2	529	20.9	10.7
390	Cardinal Health	Food & drug retailers (533)	USA	110.00	48.7	65,534	0.2	2.2
391	Polaris Software Lab	Software (9537)	India	109.96	13.1	162	67.7	6.6
392	National Instruments	Electronic equipment (2737)	USA	109.81	13.2	590	18.6	11.7
393	Saudi Basic Industries	Chemicals (135)	Saudi Arabia	109.48	8.0	28,909	0.4	25.5



				R&D Investment		Net Sales	R&D/Net Sales ratio	Operating Profit
Rank	Company	ICB Sector	Country	2008	change 08/07	2008	2008	2008
				€m	%	€m	%	% of Net Sales
394	Sanken Electric	Semiconductors (9576)	Japan	108.51	6.9	1,463	7.4	3.2
395	Tosoh	Chemicals (135)	Japan	107.94	7.1	6,567	1.6	7.2
396	UBE Industries	Chemicals (135)	Japan	107.92	4.4	5,590	1.9	7.0
397	Mitsubishi Gas Chemical	Chemicals (135)	Japan	107.65	18.1	4,122	2.6	11.8
398	Lubrizol	Chemicals (135)	USA	107.63	0.9	3,617	3.0	1.2
399	National Australia Bank	Banks (835)	Australia	107.34	-23.8	4,655	2.3	33.9
400	Avid Technology	Media (555)	USA	106.91	-1.4	608	17.6	-24.9
401	Trimble Navigation	Electronic equipment (2737)	USA	106.67	12.8	956	11.2	14.3
402	BYD	Electronic equipment (2737)	China	106.31	13.2	2,825	3.8	6.4
403	China South Locomotive	Commercial vehicles & trucks (2753)	China	105.99	105.5	3,700	2.9	5.6
404	Skyworks Solutions	Semiconductors (9576)	USA	105.05	15.8	619	17.0	11.2
405	Black & Decker	Household goods & home construction (372)	USA	105.04	-3.2	4,379	2.4	7.0
406	Incyte	Biotechnology (4573)	USA	104.82	38.9	3	3,717.0	-4,063.8
407	King Pharmaceuticals	Pharmaceuticals (4577)	USA	104.44	-2.8	1,126	9.3	-14.3
408	Nextwave Wireless	Telecommunications equipment (9578)	USA	103.81	-3.6	90	115.2	-420.3
409	Intersil	Semiconductors (9576)	USA	103.30	6.9	554	18.7	-140.6
410	UTStarcom	Telecommunications equipment (9578)	USA	103.23	-14.8	1,180	8.7	-10.4
411	Telenor	Mobile telecommunications (657)	Norway	103.16	7.4	9,987	1.0	21.2
412	Mindtree	Software (9537)	India	102.90	47.5	183	56.3	5.3
413	Lonza	Chemicals (135)	Switzerland	102.74	20.6	1,985	5.2	15.0
414	Santen Pharmaceutical	Pharmaceuticals (4577)	Japan	102.72	-5.3	821	12.5	19.8
415	Life Technologies	Biotechnology (4573)	USA	102.52	23.0	1,166	8.8	10.2
416	Sumitomo Bakelite	Chemicals (135)	Japan	102.46	1.2	1,788	5.7	0.5
417	Shanghai Electric	Industrial machinery (2757)	Hong Kong	102.23	72.0	6,211	1.6	5.5
418	Cooper Industries	Electrical components & equipment (2733)	USA	102.02	34.2	4,692	2.2	13.5
419	Sunplus Technology	Semiconductors (9576)	Taiwan	101.61	8.7	355	28.6	-4.2
420	Lite-On Technology	Computer hardware (9572)	Taiwan	101.13	22.7	5,733	1.8	4.3
421	Electronics For Imaging	Computer hardware (9572)	USA	101.04	-0.5	403	25.1	-25.9
422	Red Hat	Software (9537)	USA	100.78	27.2	469	21.5	12.6
423	Nippon Oil	Oil & gas producers (53)	Japan	100.74	0.5	59,715	0.2	3.6
424	Hyundai Heavy Industries	Commercial vehicles & trucks (2753)	South Korea	100.67	15.4	15,699	0.6	11.1
425	Edwards Lifesciences	Health care equipment &	USA	100.15	13.8	890	11.2	12.5

				R&D Investment		Net Sales	R&D/Net Sales ratio	Operating Profit
Rank	Company	ICB Sector	Country	2008	change 08/07	2008	2008	2008
				€m	%	€m	%	% of Net Sales
		services (453)						
426	Mitsubishi Rayon	Chemicals (135)	Japan	99.28	56.2	3,322	3.0	7.7
427	Crane	Industrial machinery (2757)	USA	99.21	40.1	1,874	5.3	7.6
428	ArvinMeritor	Automobiles & parts (335)	USA	97.84	9.7	5,161	1.9	2.9
429	Varian Medical Systems	Health care equipment & services (453)	USA	97.55	15.5	1,489	6.6	20.2
430	Zeon	Chemicals (135)	Japan	97.43	4.5	2,404	4.1	7.0
431	OSI Pharmaceuticals	Biotechnology (4573)	USA	97.37	9.6	305	31.9	34.6
432	Polycom	Telecommunications equipment (9578)	USA	97.33	-2.7	769	12.7	8.6
433	CommScope	Electrical components & equipment (2733)	USA	96.96	292.7	2,890	3.4	-2.4
434	Georg Fischer	Industrial machinery (2757)	Switzerland	96.66	-0.7	3,018	3.2	2.2
435	NGK Insulators	General industrials (272)	Japan	96.56	15.1	2,896	3.3	19.3
436	QLogic	Semiconductors (9576)	USA	95.87	-1.1	456	21.0	26.9
437	Chunghwa Picture Tubes	Electronic equipment (2737)	Taiwan	95.42	-29.8	2,597	3.7	-10.7
438	Daicel Chemical Industries	Chemicals (135)	Japan	95.27	2.5	3,310	2.9	7.3
439	Toto	Construction & materials (235)	Japan	95.25	2.1	3,977	2.4	3.6
440	Ingersoll-Rand	Industrial machinery (2757)	Bermuda	94.68	2.3	9,527	1.0	-19.9
441	BE Aerospace	Aerospace & defence (271)	USA	94.53	2.7	1,518	6.2	-1.7
442	Bruker	Health care equipment & services (453)	USA	94.17	126.6	796	11.8	9.8
443	Nippon Mining	Oil & gas producers (53)	Japan	93.33	17.0	34,441	0.3	4.4
444	Smith International	Oil equipment, services & distribution (57)	USA	93.10	16.9	7,749	1.2	15.2
445	Emulex	Computer hardware (9572)	USA	92.97	9.7	351	26.5	13.6
446	Unisys	Computer services (9533)	USA	92.81	-27.9	3,765	2.5	0.2
447	Myriad Genetics	Biotechnology (4573)	USA	92.76	45.1	240	38.6	10.4
448	Mitsubishi Materials	Industrial metals & mining (175)	Japan	92.67	5.1	13,169	0.7	7.7
449	Logitech International	Computer hardware (9572)	Switzerland	92.63	3.4	1,589	5.8	4.9
450	Oji Paper	Forestry & paper (173)	Japan	92.07	1.8	10,464	0.9	2.5
451	Tyco International	General industrials (272)	Bermuda	91.37	5.0	15,410	0.6	9.6
452	Zymogenetics	Biotechnology (4573)	USA	91.14	-11.0	53	171.2	-160.3
453	Cubist Pharmaceuticals	Biotechnology (4573)	USA	91.13	48.7	312	29.2	10.4
454	Kissei Pharmaceutical	Pharmaceuticals (4577)	Japan	90.17	8.5	488	18.5	6.4
455	Conexant Systems	Semiconductors (9576)	USA	90.05	-55.1	362	24.9	-56.5

				R&D Investment		Net Sales	R&D/Net Sales ratio	Operating Profit
Rank	Company	ICB Sector	Country	2008	change 08/07	2008	2008	2008
				€m	%	€m	%	% of Net Sales
456	Hisamitsu Pharmaceutical	Pharmaceuticals (4577)	Japan	89.16		945	9.4	25.6
457	VeriSign	Software (9537)	USA	88.83	-35.0	1,119	7.9	3.0
458	Endress & Hauser	Electronic equipment (2737)	Switzerland	88.79	17.5	1,211	7.3	13.0
459	Nippon Shokubai	Chemicals (135)	Japan	88.72	0.5	2,402	3.7	6.4
460	Tokuyama	Chemicals (135)	Japan	88.58	3.7	2,440	3.6	10.5
461	Brunswick	Leisure goods (374)	USA	87.92	-9.1	3,388	2.6	-12.4
462	Atheros Communications	Semiconductors (9576)	USA	87.46	20.4	340	25.7	2.2
463	Itron	Electronic equipment (2737)	USA	86.84	27.2	1,374	6.3	5.6
464	Toyobo	Chemicals (135)	Japan	86.33	4.3	3,424	2.5	0.6
465	Newell Rubbermaid	Household goods & home construction (372)	USA	85.97	7.5	4,655	1.8	3.1
466	Kyorin	Pharmaceuticals (4577)	Japan	85.92	25.7	643	13.4	6.7
467	Ebara	Industrial machinery (2757)	Japan	85.81	-4.8	4,502	1.9	-6.3
468	Citizen	Electronic equipment (2737)	Japan	85.72	-21.6	2,672	3.2	6.0
469	Ibiden	Electrical components & equipment (2733)	Japan	85.61	23.9	3,282	2.6	16.5
470	Nippon Kayaku	Chemicals (135)	Japan	85.51	-1.1	1,150	7.4	8.8
471	Advanced Semiconductor Engineering	Semiconductors (9576)	Taiwan	84.99	18.0	2,070	4.1	11.8
472	HORIBA	Electronic equipment (2737)	Japan	84.62	12.5	1,065	7.9	8.1
473	SEI Investments	Other financials (877)	USA	84.53	-17.2	898	9.4	17.2
474	Ruag	Aerospace & defence (271)	Switzerland	83.41	45.8	1,039	8.0	3.9
475	Techtronic Industries	Electrical components & equipment (2733)	Hong Kong	83.20	21.1	2,471	3.4	2.5
476	Microchip Technology	Semiconductors (9576)	USA	83.11	-4.4	650	12.8	25.3
477	Cemex SAB de CV	Construction & materials (235)	Mexico	82.83		12,635	0.7	-3.0
477	Micronas Semiconductor	Semiconductors (9576)	Switzerland	82.83	-35.0	404	20.5	-8.4
479	Campbell Soup	Food producers (357)	USA	82.74	2.7	6,037	1.4	13.7
480	Nuance Communications	Software (9537)	USA	82.73	43.7	625	13.2	3.6
481	Rieter	Industrial machinery (2757)	Switzerland	82.67	-13.3	2,124	3.9	-9.9
482	RealNetworks	Software (9537)	USA	81.79	10.7	435	18.8	-40.7
483	Lear	Automobiles & parts (335)	USA	81.30	-16.0	9,763	0.8	-3.1
484	NSK	Support services (279)	Japan	81.27	1.4	6,127	1.3	8.5
485	Fairchild Semiconductor	Semiconductors (9576)	USA	81.22	2.8	1,133	7.2	-9.3

				R&D Investment		Net Sales	R&D/Net Sales ratio	Operating Profit
Rank	Company	ICB Sector	Country	2008	change 08/07	2008	2008	2008
				€m	%	€m	%	% of Net Sales
486	Zoran	Semiconductors (9576)	USA	80.98	-0.5	316	25.7	-49.5
487	Arris	Telecommunications equipment (9578)	USA	80.97	58.0	823	9.8	-10.2
488	Osaka Gas	Gas, water & multiutilities (757)	Japan	80.79	2.8	9,827	0.8	6.1
489	Topcon	Health care equipment & services (453)	Japan	80.78	8.0	880	9.2	10.3
490	Hamamatsu Photonics	Electronic equipment (2737)	Japan	80.64	4.7	784	10.3	20.6
491	Inverness Medical Innovations	Health care equipment & services (453)	USA	80.45	60.8	1,202	6.7	3.4
492	Qisda	Computer hardware (9572)	Taiwan	80.20	-11.7	3,716	2.2	-0.6
493	Varian Semiconductor Equipment	Semiconductors (9576)	USA	80.03	6.9	600	13.3	18.3
494	Clorox	Household goods & home construction (372)	USA	79.86	2.8	3,794	2.1	16.3
495	Seattle Genetics	Biotechnology (4573)	USA	79.82	71.1	25	314.9	-260.5
496	Endo Pharmaceuticals	Pharmaceuticals (4577)	USA	79.29	-20.3	907	8.7	30.6
497	USEC	Industrial metals & mining (175)	USA	79.28	-13.4	1,162	6.8	4.0
498	Tokyo Gas	Gas, water & multiutilities (757)	Japan	78.97	-3.2	11,806	0.7	4.6
498	Minebea	Industrial machinery (2757)	Japan	78.97	10.6	2,654	3.0	9.3
500	Salesforce.com	Software (9537)	USA	78.94	46.6	775	10.2	5.8
501	Rigel Pharmaceuticals	Pharmaceuticals (4577)	USA	78.90	89.8	0		
502	Moog	Aerospace & defence (271)	USA	78.85	6.8	1,369	5.8	10.8
503	THQ	Leisure goods (374)	USA	78.56	-15.3	597	13.2	-46.7
504	Sumco	Semiconductors (9576)	Japan	78.52	-8.6	3,111	2.5	10.1
505	Winbond Electronics	Semiconductors (9576)	Taiwan	78.29	-28.4	562	13.9	-30.0
506	Sumitomo Heavy Industries	Industrial machinery (2757)	Japan	78.24	14.6	5,244	1.5	11.0
507	Sirf Technology (now part of CSR, UK)	Telecommunications equipment (9578)	USA	78.21	12.4	167	46.8	-156.3
508	Yamatake	Electronic equipment (2737)	Japan	78.13	12.2	1,973	4.0	6.8
509	PerkinElmer	Electronic equipment (2737)	USA	77.74	-3.2	1,394	5.6	8.6
510	Kyushu Electric Power	Electricity (753)	Japan	77.72	3.0	11,765	0.7	7.4
511	Yaskawa Electric	Electronic equipment (2737)	Japan	77.30	15.7	3,034	2.5	9.7
512	TIBCO Software	Software (9537)	USA	76.69	14.7	464	16.5	10.2
513	Kajima	Construction & materials (235)	Japan	76.52	5.7	15,034	0.5	1.8
514	Toyo Tire	Automobiles & parts (335)	Japan	76.34	0.1	2,835	2.7	2.5
515	Glory	Industrial machinery	Japan	76.32	3.1	1,470	5.2	11.1

				R&D Investment		Net Sales	R&D/Net Sales ratio	Operating Profit
Rank	Company	ICB Sector	Country	2008	change 08/07	2008	2008	2008
				€m	%	€m	%	% of Net Sales
		(2757)						
516	Open Text	Software (9537)	Canada	76.18	33.9	522	14.6	13.8
517	International Rectifier	Semiconductors (9576)	USA	76.13	-13.8	709	10.7	-13.8
518	Medicines	Pharmaceuticals (4577)	USA	76.06	36.8	250	30.4	-3.1
519	Air Products and Chemicals	Chemicals (135)	USA	76.04	-24.6	7,870	1.0	12.0
520	Nektar Therapeutics	Biotechnology (4573)	USA	75.89	55.9	65	117.0	-168.7
521	F5 Networks	Telecommunications equipment (9578)	USA	75.61	52.3	468	16.2	15.5
522	OneSteel	Industrial metals & mining (175)	Australia	75.39	128.7	3,729	2.0	6.9
523	Gsi Commerce	Computer services (9533)	USA	74.81	57.8	696	10.8	-1.1
524	Abraxis Bioscience	Biotechnology (4573)	USA	74.53	16.8	248	30.0	-86.1
525	Shimano	Leisure goods (374)	Japan	74.24	16.4	1,866	4.0	15.9
526	Verigy	Semiconductors (9576)	Singapore	74.10	13.2	497	14.9	2.6
527	Millipore	Health care equipment & services (453)	USA	73.82	-4.1	1,153	6.4	14.6
528	Taisei	Construction & materials (235)	Japan	73.76	1.9	13,585	0.5	2.2
529	Mettler-Toledo International	Industrial machinery (2757)	Switzerland	73.59	10.7	1,420	5.2	14.8
530	Semiconductor Manufacturing	Semiconductors (9576)	China	73.56	5.4	974	7.6	-4.6
531	Systemex	Health care equipment & services (453)	Japan	73.18	2.1	879	8.3	13.3
532	Ssangyong Motor	Automobiles & parts (335)	South Korea	73.04	-18.7	1,782	4.1	1.1
532	Compuware	Software (9537)	USA	73.04	-10.7	785	9.3	18.5
534	Tohoku Electric Power	Electricity (753)	Japan	72.95	1.7	14,307	0.5	4.5
535	Interdigital	Semiconductors (9576)	USA	72.85	16.2	164	44.3	16.0
536	Silicon Laboratories	Semiconductors (9576)	USA	72.81	13.3	299	24.3	10.4
537	Nok	Automobiles & parts (335)	Japan	72.61	14.3	4,177	1.7	9.0
538	Pliva	Pharmaceuticals (4577)	Croatia	72.49	-7.5	719	10.1	1.3
539	Tekelec	Telecommunications equipment (9578)	USA	72.38	9.1	331	21.8	13.8
540	Powerchip Semiconductor	Semiconductors (9576)	Taiwan	72.05	18.0	1,198	6.0	-96.0
541	Asahi Breweries	Beverages (353)	Japan	72.03	5.2	11,609	0.6	6.3
542	Illumina	Biotechnology (4573)	USA	71.92	35.2	412	17.4	14.0
543	Medicis Pharmaceutical	Pharmaceuticals (4577)	USA	71.88	153.4	372	19.3	5.0
544	Yakult Honsha	Food producers (357)	Japan	71.05	32.7	2,519	2.8	9.5
545	Macronix International	Semiconductors (9576)	Taiwan	70.76	-0.4	537	13.2	14.8
546	Taiyo Yuden	Semiconductors (9576)	Japan	70.54	8.3	1,891	3.7	8.1

				R&D Investment		Net Sales	R&D/Net Sales ratio	Operating Profit
Rank	Company	ICB Sector	Country	2008	change 08/07	2008	2008	2008
				€m	%	€m	%	% of Net Sales
547	NHK Spring	Industrial machinery (2757)	Japan	70.39	2.8	3,848	1.8	6.9
548	Valeant Pharmaceuticals	Pharmaceuticals (4577)	USA	69.85	-7.1	573	12.2	-17.9
549	Shimadzu	Electronic equipment (2737)	Japan	69.80	2.3	2,301	3.0	8.8
550	Praxair	Chemicals (135)	USA	69.79	-1.0	7,767	0.9	17.6
551	Avocent	Computer hardware (9572)	USA	69.59	10.1	473	14.7	4.8
552	TPO Displays	Electrical components & equipment (2733)	Taiwan	69.51	19.3	730	9.5	-5.8
553	Valspar	Chemicals (135)	USA	69.46	6.9	2,505	2.8	8.2
554	Cymer	Semiconductors (9576)	USA	69.40	17.9	330	21.0	13.1
555	Hyundai Mobis	Automobiles & parts (335)	South Korea	69.30	30.7	7,910	0.9	9.0
556	Chunghwa Telecom	Fixed line telecommunications (653)	Taiwan	68.93	21.6	4,421	1.6	29.0
557	Midway Games	Leisure goods (374)	USA	68.62	-8.5	158	43.4	-51.8
558	Bharat Heavy Electricals	Industrial machinery (2757)	India	68.48	84.3	2,851	2.4	18.4
559	Lukoil	Oil & gas producers (53)	Russia	68.35	58.3	77,468	0.1	12.9
560	Mochida Pharmaceutical	Pharmaceuticals (4577)	Japan	68.17	4.1	592	11.5	18.4
561	Ulvac	Electronic equipment (2737)	Japan	68.14	-3.2	1,914	3.6	3.4
562	Shimizu	Construction & materials (235)	Japan	67.70	-1.0	13,374	0.5	2.4
563	Lion	Personal goods (376)	Japan	67.64	-2.6	2,684	2.5	2.1
564	Avery Dennison	Chemicals (135)	USA	67.63	-1.6	4,828	1.4	6.1
565	Schindler	Industrial machinery (2757)	Switzerland	67.60	-8.3	9,481	0.7	6.3
566	FMC	Chemicals (135)	USA	67.48	-0.9	2,241	3.0	15.8
567	Japan Aviation Electronics Industry	Aerospace & defence (271)	Japan	67.39	1.2	1,239	5.4	7.3
568	Japan Radio	Electronic equipment (2737)	Japan	66.91	18.5	1,046	6.4	3.2
569	ProMOS Technologies	Semiconductors (9576)	Taiwan	66.87	-10.7	675	9.9	-104.1
570	Wabco	Automobiles & parts (335)	USA	66.84	10.3	1,862	3.6	9.6
571	Biovail	Pharmaceuticals (4577)	Canada	66.80	-1.5	545	12.3	16.2
572	Cell Genesys	Biotechnology (4573)	USA	66.58	-12.8	68	97.9	-94.7
573	Samsung Techwin	Leisure goods (374)	South Korea	66.25	17.4	1,960	3.4	7.2
574	Finisar	Telecommunications equipment (9578)	USA	66.23	20.3	389	17.0	-47.4
575	Oshkosh	Commercial vehicles & trucks (2753)	USA	66.19	21.4	5,136	1.3	5.5
576	Denki Kagaku Kogyo	Chemicals (135)	Japan	66.18	-5.3	2,613	2.5	7.9

				R&D Investment		Net Sales	R&D/Net Sales ratio	Operating Profit
Rank	Company	ICB Sector	Country	2008	change 08/07	2008	2008	2008
				€m	%	€m	%	% of Net Sales
577	Disco	Semiconductors (9576)	Japan	66.13	29.9	727	9.1	21.3
578	Mitsui Mining & Smelting	Industrial metals & mining (175)	Japan	65.99	13.0	4,726	1.4	3.6
579	Kpit Cummins Infosystems	Computer services (9533)	India	65.97	19.7	117	56.3	17.7
579	Energizer	Electrical components & equipment (2733)	USA	65.97	29.7	3,116	2.1	15.5
581	Check Point Software Technologies	Internet (9535)	Israel	65.92	13.1	582	11.3	42.7
582	TriQuint Semiconductor	Semiconductors (9576)	USA	65.81	40.0	413	16.0	-2.8
583	Commonwealth Bank of Australia	Banks (835)	Australia	65.71	19.1	7,308	0.9	42.9
584	Bobst	Industrial machinery (2757)	Switzerland	65.30	6.3	1,104	5.9	5.3
585	Keyence	Electronic equipment (2737)	Japan	64.90	21.1	1,593	4.1	51.4
586	FLIR Systems	Aerospace & defence (271)	USA	64.72	24.2	775	8.4	26.3
586	Basilea Pharmaceutica	Biotechnology (4573)	Switzerland	64.72	-17.2	8	813.1	-1,295.1
588	Netflix	Travel & leisure (575)	USA	64.66	25.9	982	6.6	8.5
589	Tokyo Ohka Kogyo	Chemicals (135)	Japan	64.25	24.8	812	7.9	8.0
590	Israel	General industrials (272)	Israel	64.03	81.6	14,246	0.4	8.9
591	Ranbaxy Laboratories	Pharmaceuticals (4577)	India	63.70	-0.4	1,096	5.8	-10.1
592	Nippon Paint	Chemicals (135)	Japan	63.65	13.7	2,057	3.1	4.5
592	Electric Power Development	Electricity (753)	Japan	63.65	25.0	4,610	1.4	11.4
594	Progress Software	Software (9537)	USA	63.16	9.3	371	17.0	12.5
595	Himax Technologies	Semiconductors (9576)	Cayman Islands	63.00	3,788.9	599	10.5	7.3
596	Roper Industries	Electronic equipment (2737)	USA	62.88	28.7	1,659	3.8	21.4
597	Swisscom	Fixed line telecommunications (653)	Switzerland	62.86	24.0	8,245	0.8	22.0
598	Xyratex	Computer hardware (9572)	Bermuda	62.83		755	8.3	-2.9
599	Tokai Rubber Industries	Chemicals (135)	Japan	62.77	5.3	2,476	2.5	8.2
600	Nippon Shinyaku	Pharmaceuticals (4577)	Japan	62.68	-3.7	472	13.3	10.9
601	Novatek Microelectronics	Electronic equipment (2737)	Taiwan	62.55	78.2	574	10.9	13.8
602	Daiwa House Industry	Household goods & home construction (372)	Japan	62.46	8.9	13,566	0.5	2.0
603	Esterline Technologies	Aerospace & defence (271)	USA	62.45	23.1	1,067	5.9	11.3
604	Juki	Industrial machinery (2757)	Japan	62.44	15.9	1,035	6.0	7.1
605	Norsk Hydro	Industrial metals & mining (175)	Norway	62.27	19.5	9,167	0.7	0.9
606	InterMune	Biotechnology (4573)	USA	62.09	-18.5	35	178.8	-202.6

				R&D Investment		Net Sales	R&D/Net Sales ratio	Operating Profit
Rank	Company	ICB Sector	Country	2008	change 08/07	2008	2008	2008
				€m	%	€m	%	% of Net Sales
607	L-3 Communications	Aerospace & defence (271)	USA	61.87	-7.3	10,720	0.6	11.2
607	Ecolab	Chemicals (135)	USA	61.87	4.1	4,416	1.4	11.0
609	Regeneron Pharmaceuticals	Biotechnology (4573)	USA	61.73	-18.3	172	36.0	-37.7
610	Sealed Air	General industrials (272)	USA	61.58	-5.7	3,485	1.8	7.3
611	Lawson Software	Software (9537)	USA	61.42	0.0	613	10.0	3.7
612	Zebra Technologies	Electronic equipment (2737)	USA	61.24	47.8	703	8.7	-1.7
613	American Axle & Manufacturing	Automobiles & parts (335)	USA	61.15	5.7	1,517	4.0	-49.9
614	OmniVision Technologies	Semiconductors (9576)	USA	61.07	7.0	365	16.7	-7.5
615	DnB NOR	Banks (835)	Norway	61.03	92.2	3,529	1.7	35.3
616	Silicon Image	Semiconductors (9576)	USA	61.02	8.8	197	30.9	-2.4
617	Fidelity National Information	Support services (279)	USA	61.01	-20.2	3,178	1.9	11.4
618	Affymetrix	Biotechnology (4573)	USA	61.00	9.8	295	20.7	-58.6
619	Applied Micro Circuits	Semiconductors (9576)	USA	60.93	-13.2	154	39.5	-127.9
620	Tokyo Seimitsu	Semiconductors (9576)	Japan	60.79	0.3	729	8.3	11.0
621	Wind River Systems (now part of Intel)	Software (9537)	USA	60.35	3.0	259	23.3	1.4
622	ADC Telecommunications	Telecommunications equipment (9578)	USA	60.07	20.0	1,075	5.6	4.3
623	Toyo Ink Manufacturing	Chemicals (135)	Japan	59.95	173.4	2,043	2.9	3.4
624	Galenica	Pharmaceuticals (4577)	Switzerland	59.68	101.1	1,828	3.3	9.5
625	Sauer-Danfoss	Industrial machinery (2757)	USA	59.65	17.5	1,504	4.0	0.9
626	WR Grace	Chemicals (135)	USA	59.50	3.9	2,386	2.5	5.7
627	Tencent	Internet (9535)	China	59.33	80.7	754	7.9	43.1
628	Sasol	Oil & gas producers (53)	South Africa	59.22	10.3	10,112	0.6	25.6
629	Biomet	Health care equipment & services (453)	USA	59.14	-12.9	1,536	3.9	-31.7
630	STX Engine	Industrial machinery (2757)	South Korea	59.06	51.4	861	6.9	12.7
631	ADTRAN	Telecommunications equipment (9578)	USA	58.86	8.6	360	16.3	22.9
632	Adeka	Chemicals (135)	Japan	58.84	5.7	1,524	3.9	8.1
633	NewMarket	Chemicals (135)	USA	58.82	6.4	1,164	5.1	7.0
634	Aristocrat Leisure	Travel & leisure (575)	Australia	58.76	12.5	542	10.8	13.2
635	Cytec Industries	Chemicals (135)	USA	58.71	7.8	2,619	2.2	-3.2
636	Waters	Health care equipment & services (453)	USA	58.70	1.2	1,133	5.2	24.7
637	Synta Pharmaceuticals	Pharmaceuticals (4577)	USA	58.69	25.8	2	3,121.8	-3,586.2
638	Alliant Techsystems	Aerospace & defence (271)	USA	58.66	19.3	3,297	1.8	8.4



				R&D Investment		Net Sales	R&D/Net Sales ratio	Operating Profit
Rank	Company	ICB Sector	Country	2008	change 08/07	2008	2008	2008
				€m	%	€m	%	% of Net Sales
639	Hologic	Health care equipment & services (453)	USA	58.58	83.1	1,205	4.9	-11.8
640	Altus Pharmaceuticals	Biotechnology (4573)	USA	58.56	93.4	2	3,753.8	-4,573.7
640	Lexicon Pharmaceuticals	Biotechnology (4573)	USA	58.56	44.7	23	251.9	-247.4
642	Hydro-Quebec	Electricity (753)	Canada	58.28	0.0	7,088	0.8	44.9
643	Estee Lauder	Personal goods (376)	USA	58.20	8.7	5,691	1.0	10.2
644	Nissin Kogyo	Automobiles & parts (335)	Japan	58.04	6.4	1,607	3.6	10.8
645	Dowa	Mining (177)	Japan	58.01	66.7	3,776	1.5	9.0
646	Modine Manufacturing	Automobiles & parts (335)	USA	58.00	-13.5	1,138	5.1	-6.0
647	Gen-Probe	Biotechnology (4573)	USA	57.93	0.0	340	17.0	30.3
648	Infinera	Semiconductors (9576)	USA	57.86	32.2	374	15.5	14.1
649	Investment Technology	Other financials (877)	USA	57.77	15.9	549	10.5	26.6
650	VeriFone	Computer hardware (9572)	USA	57.64	9.5	663	8.7	-34.5
651	Celanese	Chemicals (135)	USA	57.56	9.6	4,909	1.2	5.6
652	WMS Industries	Travel & leisure (575)	USA	57.48	37.5	468	12.3	16.1
653	Nice Systems	Software (9537)	Israel	57.36	31.5	449	12.8	6.0
654	Eclipsys	Software (9537)	USA	57.27	2.5	371	15.4	1.8
655	Intuitive Surgical	Health care equipment & services (453)	USA	57.10	62.4	629	9.1	35.5
655	Aastra Technologies	Telecommunications equipment (9578)	Canada	57.10	79.3	485	11.8	2.1
657	Orexigen Therapeutics	Biotechnology (4573)	USA	57.02	57.7	0	95,033.3	-113,700.0
658	Diebold	Computer hardware (9572)	USA	56.89	6.9	2,281	2.5	5.3
659	Hyosung	General industrials (272)	South Korea	56.83	32.3	5,484	1.0	5.1
660	Meiji Dairies (now part of Meiji)	Food producers (357)	Japan	56.53	-5.9	5,611	1.0	2.3
661	MKS Instruments	Semiconductors (9576)	USA	56.50	8.8	465	12.1	5.4
662	Showa	Automobiles & parts (335)	Japan	56.48	2.2	2,249	2.5	4.8
663	Fair Isaac	Software (9537)	USA	56.18	10.6	536	10.5	16.6
664	Powerwave Technologies	Electrical components & equipment (2733)	USA	55.87	-8.6	640	8.7	-38.9
665	Polaris Industries	Leisure goods (374)	USA	55.74	5.3	1,402	4.0	9.6
666	Buhler	Industrial machinery (2757)	Switzerland	55.63	10.6	1,280	4.3	7.7
667	MiTAC International	Electronic equipment (2737)	Taiwan	55.56	-0.7	1,412	3.9	0.4
668	Credence Systems (now part of LTX-Credence)	Semiconductors (9576)	USA	55.51	-15.6	332	16.7	3.7
669	Foundry Networks (now part of Brocade)	Telecommunications equipment (9578)	USA	55.43	9.0	437	12.7	13.6

				R&D Investment		Net Sales	R&D/Net Sales ratio	Operating Profit
Rank	Company	ICB Sector	Country	2008	change 08/07	2008	2008	2008
				€m	%	€m	%	% of Net Sales
	Communications)							
670	Vivus	Biotechnology (4573)	USA	55.39	188.5	74	75.3	-13.0
671	Daifuku	Industrial machinery (2757)	Japan	55.27	-7.9	1,838	3.0	9.0
672	Blue Coat Systems	Software (9537)	USA	55.17	48.7	320	17.2	0.6
673	Obayashi	Construction & materials (235)	Japan	55.14	2.3	13,426	0.4	1.3
674	Salix Pharmaceuticals	Pharmaceuticals (4577)	USA	55.13	11.0	129	42.9	-26.1
675	Orbotech	Electronic equipment (2737)	Israel	55.11	12.8	309	17.8	-33.5
676	Amada	Industrial machinery (2757)	Japan	54.89	8.5	2,256	2.4	16.3
677	Rambus	Semiconductors (9576)	USA	54.84	-8.0	103	53.5	-62.3
678	Advanced Medical Optics (now Abbott Medical Optics) (now part of Abbott Laboratories)	Health care equipment & services (453)	USA	54.63	-7.2	853	6.4	2.8
679	Kinetic Concepts	Health care equipment & services (453)	USA	54.56	50.1	1,351	4.0	18.6
680	Sanden	Automobiles & parts (335)	Japan	54.49	8.9	2,093	2.6	4.3
681	Hankook Tire	Automobiles & parts (335)	South Korea	54.14	-0.8	2,548	2.1	4.2
682	Kaken Pharmaceutical	Pharmaceuticals (4577)	Japan	54.03	4.2	634	8.5	10.3
683	Hanjin Heavy Industries	Construction & materials (235)	South Korea	53.88	-23.2	2,198	2.5	11.4
684	Airvana	Telecommunications equipment (9578)	USA	53.83	-2.4	99	54.1	20.2
685	Doosan Infracore	Industrial machinery (2757)	South Korea	53.59	14.8	2,445	2.2	7.4
686	Micro-Star International	Computer hardware (9572)	Taiwan	53.51	22.8	2,234	2.4	2.5
687	Roland	Leisure goods (374)	Japan	53.50	-1.4	862	6.2	12.4
688	CNOOC	Oil & gas producers (53)	Hong Kong	53.47	5.2	13,284	0.4	43.2
689	Coherent	Electronic equipment (2737)	USA	53.44	-0.4	431	12.4	4.1
690	Standard Microsystems	Semiconductors (9576)	USA	53.36	3.5	234	22.8	-17.8
691	Kongsberg Gruppen	Aerospace & defence (271)	Norway	53.33	16.4	1,136	4.7	7.8
692	West Japan Railway	Travel & leisure (575)	Japan	53.30	4.9	10,240	0.5	10.6
693	Cabot	Chemicals (135)	USA	53.24	7.3	2,296	2.3	4.7
693	Fiserv	Support services (279)	USA	53.24	29.8	3,506	1.5	18.2
693	Nalco	Support services (279)	USA	53.24	12.5	3,031	1.8	-1.6
696	Samsung C&T	Electronic equipment (2737)	South Korea	53.19	22.7	11,700	0.5	2.1
697	DSP	Semiconductors (9576)	USA	53.13	26.3	220	24.2	-67.6
698	TerreStar	Mobile	USA	52.92	70.8	0		

				R&D Investment		Net Sales	R&D/Net Sales ratio	Operating Profit
Rank	Company	ICB Sector	Country	2008	change 08/07	2008	2008	2008
				€m	%	€m	%	% of Net Sales
		telecommunications (657)						
699	Woodward Governor	Industrial machinery (2757)	USA	52.82	12.4	905	5.8	14.6
700	Bucher Industries	Commercial vehicles & trucks (2753)	Switzerland	52.79	9.8	1,885	2.8	8.5
701	Onyx Pharmaceuticals	Pharmaceuticals (4577)	USA	52.55	187.5	140	37.6	-5.3
702	Hexion Specialty Chemicals	Chemicals (135)	USA	52.52	4.3	4,384	1.2	-14.7
703	Inventec Appliances	Leisure goods (374)	Taiwan	52.34	29.7	2,031	2.6	3.9
704	Sonova	Health care equipment & services (453)	Switzerland	52.30	-6.7	844	6.2	25.9
705	Informatica	Software (9537)	USA	52.18	3.7	328	15.9	18.7
706	Rinnai	Household goods & home construction (372)	Japan	51.96	-3.4	1,864	2.8	4.2
706	Sonus Networks	Telecommunications equipment (9578)	USA	51.96	-8.7	226	23.0	-16.5
708	Dongfang Electric	Industrial machinery (2757)	China	51.95	5.1	2,865	1.8	0.9
709	Perrigo	Pharmaceuticals (4577)	USA	51.94	8.6	1,311	4.0	10.8
710	Kureha	Chemicals (135)	Japan	51.93	-4.7	1,189	4.4	7.2
711	Plantronics	Telecommunications equipment (9578)	USA	51.84	-6.4	551	9.4	-10.6
712	Meidensha	General industrials (272)	Japan	51.83	8.1	1,615	3.2	2.5
713	Tenneco	Automobiles & parts (335)	USA	51.80	-6.5	4,256	1.2	-0.1
713	BJ Services	Oil equipment, services & distribution (57)	USA	51.80	6.6	3,904	1.3	16.5
715	China Telecom	Fixed line telecommunications (653)	China	51.67	-6.5	19,697	0.3	2.8
716	Varian	Health care equipment & services (453)	USA	51.66	10.2	728	7.1	9.7
717	Pall	Industrial machinery (2757)	USA	51.55	14.8	1,850	2.8	13.9
718	Akamai Technologies	Internet (9535)	USA	51.54	2.9	569	9.1	26.8
719	ANSYS	Software (9537)	USA	51.51	26.5	344	15.0	35.5
720	JEOL	Electronic equipment (2737)	Japan	51.48	8.4	745	6.9	1.8
721	Nippon Paper	Forestry & paper (173)	Japan	51.46	-4.7	9,617	0.5	1.9
722	Ishihara Sangyo Kaisha	Chemicals (135)	Japan	51.25	0.9	931	5.5	5.8
722	NCsoft	Internet (9535)	South Korea	51.25	7.7	198	25.9	8.0
724	Terex	Commercial vehicles & trucks (2753)	USA	51.22	2.4	7,115	0.7	4.1
724	Fortune Brands	Construction & materials (235)	USA	51.22	-11.8	5,474	0.9	5.6
726	IDEXX Laboratories	Health care equipment & services (453)	USA	50.84	4.9	737	6.9	16.8
727	Trizetto (now part of TZ)	Software (9537)	USA	50.81	37.4	325	15.6	11.0

				R&D Investment		Net Sales	R&D/Net Sales ratio	Operating Profit
Rank	Company	ICB Sector	Country	2008	change 08/07	2008	2008	2008
				€m	%	€m	%	% of Net Sales
	Holdings Lp)							
728	Quantum	Computer hardware (9572)	USA	50.75	-21.2	582	8.7	-40.5
729	FEI	Semiconductors (9576)	USA	50.63	6.6	431	11.7	4.4
730	Avon Products	Personal goods (376)	USA	50.36	-2.5	7,618	0.7	12.3
731	Osiris Therapeutics	Biotechnology (4573)	USA	50.29	43.2	25	201.4	-181.3
732	Central Glass	Construction & materials (235)	Japan	50.24	-4.5	1,534	3.3	4.1
733	Theravance	Pharmaceuticals (4577)	USA	50.16	-51.6	17	301.8	-403.4
734	Sika	Chemicals (135)	Switzerland	50.09	19.0	3,126	1.6	9.3
735	Harbin Power Equipment	Industrial machinery (2757)	China	49.79	1.8	3,153	1.6	4.8
736	Advanced Digital Broadcast	Electronic equipment (2737)	Switzerland	49.73	42.4	260	19.1	4.4
737	LIITEC	Chemicals (135)	Japan	49.70	24.9	1,606	3.1	7.0
738	Owens Corning	Construction & materials (235)	USA	49.64	9.5	4,207	1.2	2.8
738	Time Warner	Media (555)	USA	49.64	-6.8	33,802	0.1	-30.6
740	ConAgra Foods	Food producers (357)	USA	49.57	0.9	9,934	0.5	12.0
741	Eizo Nanao	Computer hardware (9572)	Japan	49.56	49.5	709	7.0	9.5
742	Array BioPharma	Biotechnology (4573)	USA	49.52	151.6	21	238.9	-348.3
742	Jazz Pharmaceuticals	Biotechnology (4573)	USA	49.52	16.3	49	102.0	-246.5
744	Magma Design Automation	Software (9537)	USA	49.46	-10.6	106	46.8	-84.9
745	Cameron International	Oil equipment, services & distribution (57)	USA	49.40	15.2	4,208	1.2	15.3
746	Lattice Semiconductor	Semiconductors (9576)	USA	49.36	-17.3	160	30.9	-18.4
747	Nipro	Health care equipment & services (453)	Japan	49.16	38.8	1,366	3.6	7.5
748	Sekisui House	Household goods & home construction (372)	Japan	49.14	-1.7	12,017	0.4	1.8
749	Chugoku Electric Power	Electricity (753)	Japan	49.01	-4.7	8,797	0.6	6.3
750	Dyax	Biotechnology (4573)	USA	48.98	19.4	31	156.8	-120.4
751	Amphenol	Electrical components & equipment (2733)	USA	48.96	9.1	2,328	2.1	19.1
752	Macrovision Solutions (now Rovi)	Software (9537)	USA	48.72	287.0	402	12.1	-35.6
753	Tandberg	Telecommunications equipment (9578)	Norway	48.56	33.4	582	8.3	21.8
754	Sumitomo Metal Mining	Mining (177)	Japan	48.50	13.3	8,987	0.5	19.9
755	TPV Technology	Electronic equipment (2737)	Bermuda	48.44	24.3	6,653	0.7	1.7
756	Aruze	Travel & leisure (575)	Japan	48.42	3.1	573	8.5	19.5
757	Albemarle	Chemicals (135)	USA	48.41	7.3	1,775	2.7	11.4
758	CSG Systems	Software (9537)	USA	48.40	15.3	340	14.3	18.9

				R&D Investment		Net Sales	R&D/Net Sales ratio	Operating Profit
Rank	Company	ICB Sector	Country	2008	change 08/07	2008	2008	2008
				€m	%	€m	%	% of Net Sales
	International							
759	SPX	Electrical components & equipment (2733)	USA	48.35	-4.4	4,420	1.1	8.4
760	JohnsonDiversey	Household goods & home construction (372)	USA	48.26	-11.9	2,437	2.0	4.1
761	Jack Henry & Associates	Software (9537)	USA	48.25	18.3	536	9.0	21.9
762	Owens-Illinois	General industrials (272)	USA	47.91	-10.1	5,673	0.8	9.8
763	Orkla	General industrials (272)	Norway	47.88	-10.0	6,846	0.7	5.4
764	ViroPharma	Biotechnology (4573)	USA	47.68	84.7	167	28.5	33.9
764	Komori	Industrial machinery (2757)	Japan	47.68	11.6	1,229	3.9	10.8
766	Actel	Semiconductors (9576)	USA	47.24	3.0	157	30.1	-1.5
767	Ichikoh Industries	Automobiles & parts (335)	Japan	47.21	1.2	961	4.9	5.4
768	Teledyne Technologies	Aerospace & defence (271)	USA	47.20	9.9	1,362	3.5	9.9
769	FormFactor	Semiconductors (9576)	USA	47.13	7.5	151	31.2	-66.0
770	IAC/InterActiveCorp	Internet (9535)	USA	47.09	41.0	3,302	1.4	-11.5
771	Makita	Household goods & home construction (372)	Japan	47.00	8.5	2,719	1.7	19.5
772	NOF	Food producers (357)	Japan	46.87	6.3	1,262	3.7	5.4
773	Ford Otomotiv	Automobiles & parts (335)	Turkey	46.75	75.4	3,266	1.4	8.6
774	Nippon Light Metal	Industrial metals & mining (175)	Japan	46.49	6.4	5,142	0.9	0.3
775	Intermec	Computer hardware (9572)	USA	46.43	-1.6	641	7.2	5.3
776	Sigma-Aldrich	Chemicals (135)	USA	46.40	8.8	1,583	2.9	22.9
777	Rentech	Biotechnology (4573)	USA	46.39	49.5	152	30.6	-26.7
778	Extreme Networks	Telecommunications equipment (9578)	USA	46.29	-4.1	260	17.8	0.4
779	HCL Technologies	Computer services (9533)	India	46.18	14.1	1,117	4.1	17.3
780	Weyerhaeuser	Construction & materials (235)	USA	46.04	-9.9	8,202	0.6	-30.6
780	MDS	Health care equipment & services (453)	Canada	46.04	119.4	766	6.0	-50.2
782	Take-Two Interactive Software	Software (9537)	USA	45.99	31.9	1,106	4.2	7.6
783	Convergys	Support services (279)	USA	45.97	-27.5	2,004	2.3	-5.1
783	Secom	Support services (279)	Japan	45.97	-1.4	5,609	0.8	16.2
785	Creative Technology	Computer hardware (9572)	Singapore	45.95	0.3	530	8.7	-5.7
786	United Online	Internet (9535)	USA	45.84	7.2	482	9.5	-9.4
787	Zeria Pharmaceutical	Pharmaceuticals (4577)	Japan	45.81	-14.8	419	10.9	6.8
788	Kansai Paint	Chemicals (135)	Japan	45.65	9.1	2,036	2.2	9.7

				R&D Investment		Net Sales	R&D/Net Sales ratio	Operating Profit
Rank	Company	ICB Sector	Country	2008	change 08/07	2008	2008	2008
				€m	%	€m	%	% of Net Sales
789	Reliance Industries	Oil & gas producers (53)	India	45.52	-5.1	20,253	0.2	17.0
790	Axcelis Technologies	Semiconductors (9576)	USA	45.51	-12.2	180	25.3	-76.2
791	Vishay Intertechnology	Electrical components & equipment (2733)	USA	45.44	3.6	2,038	2.2	-59.7
792	McCormick	Food producers (357)	USA	45.40	-8.8	2,285	2.0	12.4
793	SK Energy	Oil & gas producers (53)	South Korea	45.30	4.2	30,049	0.2	3.8
794	NACCO Industries	Industrial machinery (2757)	USA	44.97	-0.6	2,648	1.7	-10.5
795	Alexion Pharmaceuticals	Biotechnology (4573)	USA	44.95	-1.3	186	24.1	13.4
796	Pentair	Industrial machinery (2757)	USA	44.93	6.2	2,443	1.8	9.2
797	Nippon Soda	Chemicals (135)	Japan	44.92	4.7	1,251	3.6	6.6
798	Noritz	Household goods & home construction (372)	Japan	44.87	-6.9	1,439	3.1	0.4
798	Seikagaku	Pharmaceuticals (4577)	Japan	44.87	24.6	219	20.5	24.1
800	Lite-On It	Computer hardware (9572)	Taiwan	44.82	13.6	1,238	3.6	0.7
801	Riverbed Technology	Computer services (9533)	USA	44.72	48.7	240	18.6	-1.4
802	Taiwan Power	Electricity (753)	Taiwan	44.70	-2.5	9,430	0.5	-20.2
803	TiVo	Media (555)	USA	44.67	5.6	180	24.9	34.8
804	Dolby Laboratories	Leisure goods (374)	USA	44.66	40.8	461	9.7	44.5
805	Innolux Display	Electronic equipment (2737)	Taiwan	44.55	46.4	3,522	1.3	3.2
806	XOMA	Biotechnology (4573)	USA	44.42	25.6	49	90.8	-57.1
807	Tessera Technologies	Semiconductors (9576)	USA	44.32	64.1	179	24.8	7.7
808	Alexza Pharmaceuticals	Pharmaceuticals (4577)	USA	44.29	34.9	0	12,654.3	-12,360.0
809	Coretronic	Leisure goods (374)	Taiwan	43.98	13.3	1,752	2.5	3.4
810	MeadWestvaco	General industrials (272)	USA	43.89	-1.6	4,957	0.9	4.0
811	AptarGroup	General industrials (272)	USA	43.78	8.9	1,490	2.9	11.1
812	Bally Technologies	Travel & leisure (575)	USA	43.76	17.2	647	6.8	22.4
813	Wm Wrigley (now part of Mars)	Food producers (357)	USA	43.74	13.3	3,877	1.1	18.3
814	ResMed	Health care equipment & services (453)	USA	43.54	20.8	601	7.2	16.8
815	Integra Lifesciences	Health care equipment & services (453)	USA	43.52	97.3	471	9.2	7.1
816	Veeco Instruments	Electronic equipment (2737)	USA	43.42	-1.3	319	13.6	-15.9
817	Nisshin Steel	Industrial metals & mining (175)	Japan	43.41	9.0	5,155	0.8	8.5
818	SEZ (now part of Lam Research, USA)	Semiconductors (9576)	Switzerland	43.30	12.5	224	19.4	-4.6
819	Suzuken	Food & drug retailers (533)	Japan	43.16	-0.4	12,592	0.3	2.2

				R&D Investment		Net Sales	R&D/Net Sales ratio	Operating Profit
Rank	Company	ICB Sector	Country	2008	change 08/07	2008	2008	2008
				€m	%	€m	%	% of Net Sales
819	SPSS	Software (9537)	USA	43.16	-6.1	218	19.8	16.2
821	Kulicke & Soffa	Semiconductors (9576)	USA	43.11	18.2	541	8.0	0.1
822	Alvarion	Telecommunications equipment (9578)	Israel	42.94	16.1	202	21.2	-7.1
823	Par Pharmaceutical Companies	Pharmaceuticals (4577)	USA	42.92	-4.5	416	10.3	-14.6
824	Mahindra & Mahindra	Automobiles & parts (335)	India	42.77	53.8	2,602	1.6	16.2
825	MAP Pharmaceuticals	Pharmaceuticals (4577)	USA	42.65	89.1	0		
826	Hill-Rom	Health care equipment & services (453)	USA	42.52	15.7	1,340	3.2	9.5
827	Brilliance China Automotive	Automobiles & parts (335)	Bermuda	42.47		1,492	2.8	-0.5
828	Reynolds American	Tobacco (378)	USA	42.45	3.5	5,004	0.8	29.0
829	Impax Laboratories	Biotechnology (4573)	USA	42.43	47.5	151	28.1	13.4
829	Nichias	General industrials (272)	Japan	42.43	4.9	1,346	3.2	-10.7
831	Silicon Storage Technology	Semiconductors (9576)	USA	42.41	3.9	227	18.7	-15.4
832	Cree	Semiconductors (9576)	USA	42.34	0.0	355	11.9	2.5
833	Sun Pharmaceutical Industries	Pharmaceuticals (4577)	India	42.22	2.6	496	8.5	43.9
834	Richemont	General retailers (537)	Switzerland	42.00	27.3	5,427	0.8	24.2
835	Enzon Pharmaceuticals	Biotechnology (4573)	USA	41.79	2.8	142	29.5	2.5
836	Kongsberg Automotive	Automobiles & parts (335)	Norway	41.50	143.3	906	4.6	-0.1
837	AMETEK	Electronic equipment (2737)	USA	41.37	8.7	1,821	2.3	17.0
838	AEterna Zentaris	Biotechnology (4573)	Canada	41.33	46.4	28	149.3	-162.1
839	USHIO	Electronic equipment (2737)	Japan	41.22	6.3	1,176	3.5	13.4
840	VTech	Telecommunications equipment (9578)	Hong Kong	40.94	10.9	1,042	3.9	12.6
841	Taiheiyo Cement	Construction & materials (235)	Japan	40.92	-1.6	7,362	0.6	4.5
842	Nisshin Seifun	Food producers (357)	Japan	40.76	1.3	3,428	1.2	4.0
843	Timken	Industrial machinery (2757)	USA	40.65	4.0	4,075	1.0	8.0
843	MSCI	Media (555)	USA	40.65	-0.9	310	13.1	29.8
845	Nippon Electric Glass	Electronic equipment (2737)	Japan	40.54	14.0	2,923	1.4	25.3
846	Amkor Technology	Semiconductors (9576)	USA	40.45	35.0	1,913	2.1	-15.7
847	Mindspeed Technologies	Semiconductors (9576)	USA	40.44	-2.2	116	35.0	6.3
848	Sulzer	Industrial machinery (2757)	Switzerland	40.29	15.1	2,510	1.6	12.5
849	Metall Zug	Household goods & home construction (372)	Switzerland	40.18	33.2	533	7.5	11.5
850	Entropic	Semiconductors (9576)	USA	40.12	58.3	105	38.2	-93.6

				R&D Investment		Net Sales	R&D/Net Sales ratio	Operating Profit
Rank	Company	ICB Sector	Country	2008	change 08/07	2008	2008	2008
				€m	%	€m	%	% of Net Sales
	Communications							
851	Weichai Power	Automobiles & parts (335)	China	40.02	17.4	3,434	1.2	8.9
852	Savient Pharmaceuticals	Biotechnology (4573)	USA	39.92	9.1	2	1,743.2	-2,819.2
853	Affymax	Biotechnology (4573)	USA	39.81	120.6	60	66.8	-108.8
854	Shikoku Electric Power	Electricity (753)	Japan	39.79	-3.0	4,906	0.8	9.6
855	Neurocrine Biosciences	Biotechnology (4573)	USA	39.74	-32.5	3	1,389.5	-2,196.2
856	ACADIA Pharmaceuticals	Biotechnology (4573)	USA	39.68	9.5	1	3,480.7	-4,227.2
857	Nihon Unisys	Computer services (9533)	Japan	39.67	-3.0	2,681	1.5	3.3
858	Advanced Energy Industries	Electrical components & equipment (2733)	USA	39.53	9.0	237	16.7	3.5
858	Micrel	Semiconductors (9576)	USA	39.53	0.8	187	21.2	15.6
860	Core Projects & Technologies	Support services (279)	India	39.51	111.1	66	60.0	22.8
861	Advent Software	Software (9537)	USA	39.46	22.2	191	20.7	7.8
862	Mercury Computer Systems	Computer hardware (9572)	USA	39.42	-6.3	151	26.1	-17.6
863	Cochlear	Health care equipment & services (453)	Australia	39.31	22.2	302	13.0	26.9
864	Auxilium Pharmaceuticals	Pharmaceuticals (4577)	USA	39.21	27.3	90	43.5	-38.4
865	Harmonic	Telecommunications equipment (9578)	USA	39.19	27.0	263	14.9	10.3
866	Anadigics	Semiconductors (9576)	USA	39.18	17.0	186	21.1	-17.3
867	Nomura Research Institute	Computer services (9533)	Japan	39.02	71.6	2,717	1.4	12.7
868	Opnext	Semiconductors (9576)	USA	38.88	41.0	229	17.0	-41.4
868	BigBand Networks	Telecommunications equipment (9578)	USA	38.88	4.2	133	29.2	2.8
870	JDA Software	Software (9537)	USA	38.75	5.2	281	13.8	5.2
871	Cytokinetix	Biotechnology (4573)	USA	38.68	3.4	9	432.7	-475.4
872	Angiotech Pharmaceuticals	Pharmaceuticals (4577)	Canada	38.27	-1.4	204	18.8	-251.1
873	Aloka	Health care equipment & services (453)	Japan	38.26	-1.9	445	8.6	9.3
874	Universal Scientific Industrial	Computer hardware (9572)	Taiwan	38.24	8.8	1,421	2.7	0.9
875	Websense	Software (9537)	USA	38.21	33.8	213	18.0	-8.4
876	Snap-on	Household goods & home construction (372)	USA	38.13	11.3	2,053	1.9	13.5
877	Thoratec	Health care equipment & services (453)	USA	38.09	20.8	226	16.9	8.2
878	Cougar Biotechnology (now part of Johnson & Johnson)	Biotechnology (4573)	USA	38.05	93.9	0		
879	Trident Microsystems	Semiconductors (9576)	USA	37.85	18.2	186	20.4	4.8



				R&D Investment		Net Sales	R&D/Net Sales ratio	Operating Profit
Rank	Company	ICB Sector	Country	2008	change 08/07	2008	2008	2008
				€m	%	€m	%	% of Net Sales
880	GS Yuasa	Electrical components & equipment (2733)	Japan	37.84	5.1	2,476	1.5	3.8
880	Smithfield Foods	Food producers (357)	USA	37.84	-42.1	8,984	0.4	-1.8
882	Epicor Software	Software (9537)	USA	37.79	40.6	351	10.8	3.7
883	Idenix Pharmaceuticals	Biotechnology (4573)	USA	37.78	-38.8	7	522.5	-728.5
884	Toagosei	Chemicals (135)	Japan	37.72	-0.9	1,291	2.9	5.1
885	Dentsply International	Health care equipment & services (453)	USA	37.63	7.9	1,578	2.4	17.3
886	Ariba	Computer services (9533)	USA	37.61	2.2	236	15.9	-14.8
887	Singapore Technologies Engineering	Aerospace & defence (271)	Singapore	37.55	14.0	2,669	1.4	10.6
887	Stanley Electric	Automobiles & parts (335)	Japan	37.55	5.7	2,813	1.3	13.0
889	Geron	Biotechnology (4573)	USA	37.53	-4.2	2	1,857.9	-2,403.0
890	Cray	Computer hardware (9572)	USA	37.52	37.7	203	18.4	-11.5
891	Fonterra Co-operative	Food producers (357)	New Zealand	37.48	-6.2	7,032	0.5	2.9
892	Ashland	Chemicals (135)	USA	37.41	4.0	6,030	0.6	2.6
892	NOVA Chemicals (now part of International Petroleum Investment, United Arab Emirates)	Chemicals (135)	Canada	37.41	4.0	5,299	0.7	-1.0
894	Mindray Medical International	Health care equipment & services (453)	Cayman Islands	37.37		394	9.5	22.0
895	Gentex	Automobiles & parts (335)	USA	37.33	2.3	449	8.3	12.6
896	Ezaki Glico	Food producers (357)	Japan	37.32	0.5	2,212	1.7	1.3
897	Rockwood	Chemicals (135)	USA	37.20	13.7	2,471	1.5	-14.1
898	Sanyo Chemical Industries	Chemicals (135)	Japan	37.16	3.1	1,073	3.5	3.7
899	Cell Therapeutics	Biotechnology (4573)	USA	37.13	-28.3	8	451.2	-1,339.7
899	Netlogic Microsystems	Semiconductors (9576)	USA	37.13	14.2	101	36.9	0.0
901	Starent Networks	Telecommunications equipment (9578)	USA	37.09	32.7	183	20.3	20.5
902	Marel Food Systems	Industrial machinery (2757)	Iceland	37.04	114.5	540	6.9	3.9
903	Nihon Kohden	Health care equipment & services (453)	Japan	37.00	-2.0	832	4.4	9.5
904	Orbital Sciences	Aerospace & defence (271)	USA	36.98	175.6	856	4.3	5.7
905	Church & Dwight	Personal goods (376)	USA	36.84	2.8	1,743	2.1	14.7
906	Digital River	Internet (9535)	USA	36.82	30.6	284	13.0	18.2
907	Genitope	Biotechnology (4573)	USA	36.81	27.2	0		
908	MSC Software	Software (9537)	USA	36.73	-0.1	183	20.1	-2.1
909	La Jolla Pharmaceutical	Biotechnology (4573)	USA	36.71	9.4	0		
910	Chemtura	Chemicals (135)	USA	36.69	-17.8	2,551	1.4	-26.2

				R&D Investment		Net Sales	R&D/Net Sales ratio	Operating Profit
Rank	Company	ICB Sector	Country	2008	change 08/07	2008	2008	2008
				€m	%	€m	%	% of Net Sales
911	Infosys Technologies	Software (9537)	India	36.62	25.9	3,203	1.1	29.7
912	ARIAD Pharmaceuticals	Biotechnology (4573)	USA	36.58	28.5	5	717.3	-1,013.5
913	Openwave Systems	Software (9537)	USA	36.52	-29.1	187	19.6	-22.2
914	Kurita Water Industries	Gas, water & multiutilities (757)	Japan	36.12	2.9	1,626	2.2	14.9
915	Mori Seiki	Industrial machinery (2757)	Japan	36.11	28.0	1,605	2.2	15.3
916	EXEDY	Automobiles & parts (335)	Japan	36.08	28.0	1,487	2.4	11.1
917	Belden	Electrical components & equipment (2733)	USA	36.04	84.2	1,443	2.5	-16.6
917	Synaptics	Software (9537)	USA	36.04	27.2	260	13.9	11.3
919	Dendreon	Biotechnology (4573)	USA	36.03	-34.6	0	45,037.5	-63,375.0
920	Emergent BioSolutions	Biotechnology (4573)	USA	36.00	23.6	128	28.0	17.2
921	Steelcase	Household goods & home construction (372)	USA	35.97	-17.9	2,290	1.6	0.3
922	Vitesse Semiconductor	Semiconductors (9576)	USA	35.96	5.9	166	21.6	4.0
923	Warner Chilcott	Pharmaceuticals (4577)	Bermuda	35.94	-8.4	675	5.3	11.7
924	Siegfried	Pharmaceuticals (4577)	Switzerland	35.87	11.1	195	18.4	-33.6
925	Unicharm	Personal goods (376)	Japan	35.76	4.0	2,674	1.3	10.1
926	Curtiss-Wright	Aerospace & defence (271)	USA	35.70	3.5	1,317	2.7	10.0
927	ION Geophysical	Oil equipment, services & distribution (57)	USA	35.64	7.0	489	7.3	-31.3
928	RadiSys	Computer hardware (9572)	USA	35.49	6.7	268	13.2	-20.4
929	Ixia	Computer services (9533)	USA	35.39	3.8	127	28.0	-12.8
930	Cabot Microelectronics	Semiconductors (9576)	USA	35.36	-1.6	270	13.1	13.3
931	Miraca	Pharmaceuticals (4577)	Japan	35.34	14.2	1,137	3.1	9.9
932	Daido Steel	Industrial metals & mining (175)	Japan	35.30	3.1	4,694	0.8	6.5
933	Archer Daniels Midland	Food producers (357)	USA	35.25	8.9	50,228	0.1	4.0
934	Analogic	Electronic equipment (2737)	USA	35.21	1.4	297	11.8	5.9
935	ev3	Health care equipment & services (453)	USA	35.10	0.8	304	11.6	-78.6
936	Sirona Dental Systems	Health care equipment & services (453)	USA	35.07	3.8	545	6.4	8.4
937	CV Therapeutics (now part of Gilead Sciences)	Biotechnology (4573)	USA	35.03	-38.0	111	31.5	-53.1
938	Silicon Graphics	Computer hardware (9572)	USA	34.96	-17.3	255	13.7	-36.1
939	AO Smith	Electronic equipment (2737)	USA	34.89	1.5	1,658	2.1	5.6
939	Shinko Electric Industries	Semiconductors (9576)	Japan	34.89	10.6	1,706	2.0	9.4
941	LeapFrog Enterprises	Leisure goods (374)	USA	34.87	-18.4	330	10.6	-14.9

				R&D Investment		Net Sales	R&D/Net Sales ratio	Operating Profit
Rank	Company	ICB Sector	Country	2008	change 08/07	2008	2008	2008
				€m	%	€m	%	% of Net Sales
942	Manhattan Associates	Software (9537)	USA	34.83	3.9	243	14.4	8.8
943	Spirit Aerosystems	Aerospace & defence (271)	USA	34.82	-7.5	2,714	1.3	10.7
944	Sierra Wireless	Telecommunications equipment (9578)	Canada	34.75	24.2	408	8.5	7.9
945	Constellation Software	Software (9537)	Canada	34.69		238	14.6	5.5
946	Tsumura	Pharmaceuticals (4577)	Japan	34.67	-9.5	752	4.6	15.1
947	Shindengen Electric Manufacturing	Electrical components & equipment (2733)	Japan	34.65	3.8	800	4.3	-0.1
948	Biomarin Pharmaceutical	Biotechnology (4573)	USA	34.53	-4.6	213	16.2	11.3
949	Delta Electronics PCL	Computer hardware (9572)	Thailand	34.50		680	5.1	8.3
950	Cipla	Pharmaceuticals (4577)	India	34.30	32.2	592	5.8	19.0
951	Symyx Technologies	Software (9537)	USA	34.16	159.2	114	29.9	-73.2
952	Anesiva	Biotechnology (4573)	USA	34.12	33.2	0	15,509.1	-32,700.0
953	Alkermes	Pharmaceuticals (4577)	USA	34.10	32.5	235	14.5	40.8
953	Sycamore Networks	Telecommunications equipment (9578)	USA	34.10	3.2	83	41.0	-33.2
955	Kose	Personal goods (376)	Japan	33.99	-0.4	1,430	2.4	8.4
956	Crown	General industrials (272)	USA	33.81	-2.1	5,975	0.6	9.3
957	China Motor	Automobiles & parts (335)	Taiwan	33.69	-16.7	600	5.6	-26.9
958	Technitrol	Electrical components & equipment (2733)	USA	33.67	33.0	789	4.3	-24.9
959	CombinatoRx	Biotechnology (4573)	USA	33.66	15.6	10	331.3	-466.9
960	K-V Pharmaceutical	Biotechnology (4573)	USA	33.55	48.2	433	7.7	21.7
961	CAE	Industrial machinery (2757)	Canada	33.51	18.8	969	3.5	14.7
962	Lennox International	Construction & materials (235)	USA	33.45	8.1	2,513	1.3	6.0
963	3par	Computer hardware (9572)	USA	33.34	36.0	133	25.1	-1.6
964	China Railway	Construction & materials (235)	China	33.32	3.3	23,728	0.1	3.1
965	American Medical Systems	Health care equipment & services (453)	USA	33.27	6.8	361	9.2	17.9
965	EPIX Pharmaceuticals	Pharmaceuticals (4577)	USA	33.27	-2.2	21	161.5	-119.6
967	Hypercom	Computer hardware (9572)	USA	33.24	53.3	318	10.5	-17.3
968	Deltek	Software (9537)	USA	33.22	6.5	208	16.0	16.1
969	ZyXEL Communications	Telecommunications equipment (9578)	Taiwan	33.18	48.0	331	10.0	2.5
970	Harris Stratex Networks	Telecommunications equipment (9578)	USA	33.17		517	6.4	-1.9
971	Newport	Electronic equipment (2737)	USA	33.14	8.2	320	10.3	-27.7
972	LTX (now LTX-	Semiconductors (9576)	USA	33.11	-8.0	98	33.9	-3.5

				R&D Investment		Net Sales	R&D/Net Sales ratio	Operating Profit
Rank	Company	ICB Sector	Country	2008	change 08/07	2008	2008	2008
				€m	%	€m	%	% of Net Sales
	Credence)							
973	SAIC	Computer services (9533)	USA	33.09	-6.1	7,250	0.5	7.5
973	Zarlink Semiconductor	Semiconductors (9576)	Canada	33.09	-3.6	163	20.2	-20.4
975	Aspen Technology	Software (9537)	USA	33.06	-0.5	224	14.7	7.0
976	Cheng Shin Rubber Industry	Chemicals (135)	Taiwan	32.89	274.6	1,668	2.0	8.0
977	Nucleus Software Exports	Software (9537)	India	32.86	27.5	49	67.8	27.8
978	Stoneridge	Automobiles & parts (335)	USA	32.83	3.2	542	6.1	-4.0
979	OSI Systems	Semiconductors (9576)	USA	32.63	2.0	448	7.3	2.9
980	Eltek	Telecommunications equipment (9578)	Norway	32.62	9.0	612	5.3	-10.3
981	FMC Technologies	Oil equipment, services & distribution (57)	USA	32.59	-23.9	3,715	0.9	10.5
982	EMS-Chemie	Chemicals (135)	Switzerland	32.55	-9.9	1,017	3.2	15.0
983	Computershare	Other financials (877)	Australia	32.50	49.6	784	4.1	26.9
983	Blackboard	Software (9537)	USA	32.50	59.8	225	14.5	1.4
985	Nabtesco	Industrial machinery (2757)	Japan	32.39	1.4	1,383	2.3	11.1
986	Microsemi	Semiconductors (9576)	USA	32.38	6.8	370	8.8	12.3
987	ImmunoGen	Biotechnology (4573)	USA	32.36	121.0	29	111.7	-84.3
987	Mentor (now part of Johnson & Johnson)	Health care equipment & services (453)	USA	32.36	28.4	269	12.1	21.1
989	Hannstar Display	Leisure goods (374)	Taiwan	32.21	18.2	1,326	2.4	-3.8
990	Ardea Biosciences	Biotechnology (4573)	USA	32.05	122.7	0	14,568.2	-18,413.6
991	Corel	Software (9537)	Canada	32.02	-0.5	193	16.6	8.1
992	CGI	Computer services (9533)	Canada	31.91	-25.1	2,198	1.5	11.4
993	Cirrus Logic	Semiconductors (9576)	USA	31.88	-5.9	126	25.4	1.9
994	MicroStrategy	Software (9537)	USA	31.78	12.4	259	12.3	18.8
994	SonicWALL	Telecommunications equipment (9578)	USA	31.78	12.1	157	20.2	2.0
996	Freeport-McMoRan Copper & Gold	Industrial metals & mining (175)	USA	31.66	33.4	12,803	0.2	-71.5
997	Shutterfly	Internet (9535)	USA	31.63	53.5	154	20.6	1.7
998	Mitsui	General industrials (272)	Japan	31.61	1.2	45,547	0.1	8.3
999	Borland Software (now part of Micro Focus International, UK)	Software (9537)	USA	31.56	-24.1	141	22.4	-113.4
1000	Hercules (now part of Ashland)	Chemicals (135)	USA	31.51	12.9	1,537	2.1	9.7



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## Abstract

The 2009 "EU Industrial R&D Investment Scoreboard" (the Scoreboard) presents information on the top 1000 EU companies and the top 1000 non-EU companies ranked by their investments in research and development (R&D).

The Scoreboard data are drawn from the latest available companies' accounts, i.e. the fiscal year 2008. In the last part of this reporting period, the world economy entered into a strong financial and economic crisis that affected companies throughout the world. Some of the effects of the crisis are already reflected in these company results, namely on indicators such as sales, operating profits and market capitalisation. However, the full effects of the crisis, especially on R&D, tend to lag and are not yet captured in this Scoreboard.



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