



**MULTINATIONALS: FINANCIAL AGGREGATES (2018)**

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(397 COMPANIES)**

**(2018)**

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*an R & S publication*

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## FOREWORD

This is the twenty-third edition of R&S's annual survey of major multinational companies. It covers 397 firms, 328 of which have industrial activity as their core business (manufacturing and energy), 25 of which provide telecommunications services, 23 are utilities operating on an international scale and 21 are software&web companies. Of the 328 industrial multinationals, 254 are located in what we call the triad regions (i.e. Europe, North America and Japan), 50 in the Asian-Russian area, and 24 in the rest of the world. A description of the geographical areas is listed in the table at the end of this foreword.

In Section I we highlight the conclusions emerging from our analysis of the data. Long-term trends are illustrated, as are earnings and financial data for the industrial multinationals in the triad regions (Europe, North America and Japan), the Asian-Russian area and the rest of the world, the telecommunications companies, the utilities and the software&web companies.

Section II contains statistical tables providing aggregate sales, earnings and financial data, flows of funds and other financial indicators, with breakdowns by country and industry. Aggregates for Austrian, Canadian, Irish, Spanish, and the individual Asian-Russian and rest of the world countries have been omitted, on the grounds that they are relatively few when taken in isolation. Figures for all the companies cover the 2013-2017 period.

Section III describes the principles and methods employed to select the companies and restate their figures. The tables at the end list the companies included in the survey, and chart the mergers and acquisitions that took place in the period from 2013 to 2018.

\* \* \*

This report may be downloaded in pdf format free of charge from website [www.mbres.it](http://www.mbres.it). The statistical tables for individual countries and sectors may also be downloaded from this site.

## GEOGRAPHICAL AREAS

Europe	Triad regions		Asia-Russia	Rest of world
	North America	Japan		
Austria (AT) *	Canada (CA)	Japan (JP)	China (CN)	Australia (AU)
Belgium (BE) *	U.S.A. (US)		India (IN)	Brazil (BR)
Denmark (DK)			Israel (IL)	Colombia (CO)
Finland (FI) *			Malaysia (MY)	Mexico <sup>1</sup> (MX)
France (FR) *			Philippines (PH)	South Africa (ZA)
Germany (DE) *			Russia (RU)	
Ireland (IE) *			Saudi Arabia (SA)	
Italy (IT) *			Singapore (SG)	
Liechtenstein (LI)			South Korea (KR)	
Luxembourg (LU) *			Taiwan (TW)	
Netherlands (NL) *			Thailand (TH)	
Norway (NO)				
Spain (ES) *				
Sweden (SE)				
Switzerland (CH)				
United Kingdom (UK)				

\* Eurozone.

<sup>1</sup> Mexico was excluded from North America as its GDP level is not consistent with that of the U.S.A. and Canada.

## GLOSSARY

Automotive	Road transport vehicles (cars, industrial vehicles, buses).
Capital invested (CI)	Calculated as net worth plus borrowings.
Capital turnover	Value added as a percentage of capital invested.
Cash flow	Annual cash flow generated by operations. Calculated as current profit plus depreciation/amortization.
Current pre-tax profit (loss)	Profit (loss) for the year before extraordinary income and expenses and income tax.
Export sales	Sales by a domestic company forming part of the group outside its country of origin.
Gross operating margin (GOM)	Difference between value added and labour costs.
Intangible assets	Balance-sheet items arising against outlays incurred in respect of charges or non-tangible goods (goodwill included).
Investment rate	Capital expenditure as a percentage of gross tangible fixed assets.
Net operating margin (NOM)	Gross operating margin less depreciation and amortization.
Net tangible fixed assets	Book value of tangible assets with a useful working life of more than one year.
Net value added	Value added less depreciation and amortization.
Net worth	Capital, reserves and profit (loss) for the period and minority interests. Corresponds to the difference between total assets and total liabilities.
Non-domestic sales	Sales by a domestic company forming part of the group outside its country of origin plus sales by foreign subsidiaries to third parties outside the parent company's home country.
Return on equity (ROE)	Profit or loss for the period as a percentage of company capital plus reserves (net of profit or loss for the period).
Return on investment (ROI)	Net operating margin plus interest income and other profits and losses of a financial nature as a percentage of capital invested.

Tangible capital invested	Capital invested less intangible assets.
Tangible net worth	Net worth less intangible assets.
Tax rate	Income taxes as a percentage of pre-tax profits.
Telecommunications	Telecommunications and internet services.
Turnover rate	Net sales as a percentage of capital invested.
Transport sector	Means of transport: automotive, aerospace and shipbuilding.
Utilities	Public utility services, i.e. production and distribution of electricity and gas to end-consumers, integrated water resource management, and environmental services. Telecommunications are excluded.
Value added (VA)	Net sales plus other operating revenues less purchases and sundry operating expenses.
INTENSITY OF TECHNOLOGY (Eurostat method)	
High technology industries: HT	Pharmaceuticals, electronics, aerospace and defence, medical and optical instruments, watches and clocks.
Low technology industries: LT	Food and drinks, textiles and clothing, paper, printing and publishing, wood and furniture, hide and leather, other manufacturing industries (eyewear, jewellery, tobacco, buildings etc.).
Low-medium technology industries: LMT	Metallurgy, energy, construction industry products, glass and tyres, ship-building.
Medium-high technology industries: MHT	Mechanical and electro-mechanical engineering, vehicles, chemicals and cables.



## I. SUMMARY OF RESULTS

### SYMBOLS AND ABBREVIATIONS

The followings conventional symbols have been used:

- null data
- ... unknown or insignificant data
- n.c. not calculated

Some column totals may not correspond owing to figures being rounded up or down.

## 1. FIVE-YEAR PERIOD 2013-2017

This survey covers the leading industrials, telecommunications, utilities and software&web companies in the world, considered at group level. The methods of selection are illustrated in Section III.

### 1.1 Distribution and relevance of multinationals

The aggregate turnover recorded in 2017 by companies covered by the survey amounts to €13,075bn, €10,757bn of which is generated by the industrial groups, €1,060bn by the telecoms companies, €632bn by the utilities, and €626bn by the software&web companies (Table 1). Their aggregate total assets excluding intangibles amount to €16,553bn, and together they employ a total of around 34 million staff (for a detailed list of the companies, see Table III.5).

TABLE 1 - MULTINATIONALS IN 2017: HIGHLIGHTS

	No. of companies	Net sales in EUR bn	Total assets <sup>1</sup> in EUR bn	No. of employees in '000
Europe .....	153	3,954	4,522	10,323
North America .....	64	2,626	2,967	6,061
Japan .....	37	1,389	1,686	3,990
<b>Total, triad regions.....</b>	<b>254</b>	<b>7,969</b>	<b>9,175</b>	<b>20,374</b>
Asia-Russia .....	50	2,468	3,030	6,949
Rest of world.....	24	320	553	1,391
<b>Total industrials.....</b>	<b>328</b>	<b>10,757</b>	<b>12,758</b>	<b>28,714</b>
<b>Software &amp; Web .....</b>	<b>21</b>	<b>626</b>	<b>918</b>	<b>1,606</b>
<b>Telecoms.....</b>	<b>25</b>	<b>1,060</b>	<b>1,580</b>	<b>3,097</b>
<b>Utilities.....</b>	<b>23</b>	<b>632</b>	<b>1,297</b>	<b>1,006</b>
<b>Total .....</b>	<b>397</b>	<b>13,075</b>	<b>16,553</b>	<b>34,423</b>

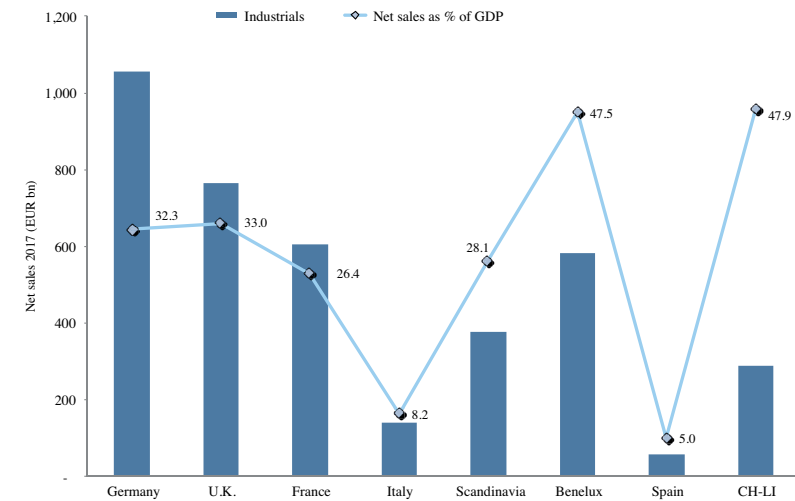
<sup>1</sup> Excluding intangibles.

The companies analysed here do not show the same degree of domestic presence. Measured by net sales as a percentage of GDP in their respective home countries, Switzerland-Liechtenstein has the highest concentration of industrial multinationals in Europe (sales to GDP ratio equal to 47.9%), followed by Benelux (47.5%) and Germany (32.3%); Italy and Spain have the lowest, featuring prevalently small and medium-sized enterprises. The European industrial companies together generated consolidated value added equal to approx. 9% of European GDP in 2017.

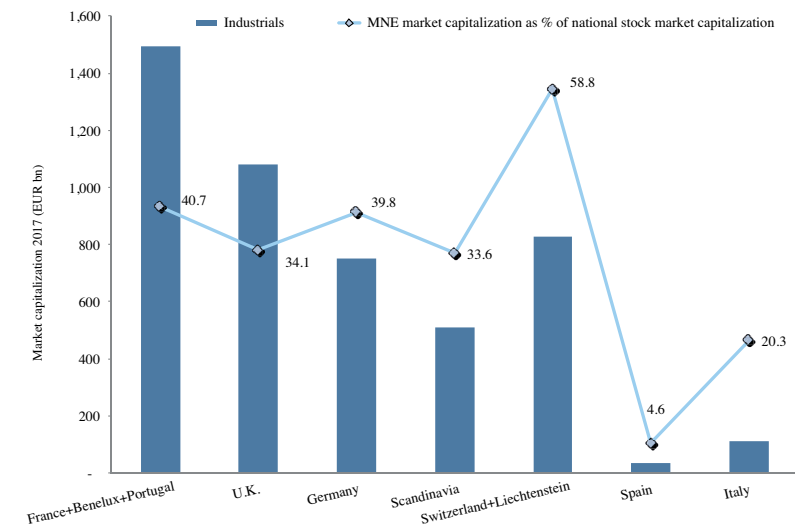
By stock market value for the respective countries too, Switzerland-Liechtenstein stand out because their industrial multinationals account for the highest share of the country's overall value (58.8%), and Italy (20.3%) and Spain (4.6%) account for the lowest (Fig. 1).

A similar conclusion can be reached by investigating the density of the multinationals in their home countries in proportion to population (Fig. 2): according to this ratio, in Europe the density of industrial multinationals is highest in Switzerland, followed by Benelux and Scandinavia. In terms of employment in the country where the parent company's head office is located, France and Germany are the European countries where industrial multinationals offer most employment opportunities to their own citizens: 14 German and 9 French citizens per 1,000 inhabitants respectively work in a multinational of their country. At the opposite end of the spectrum are, once again, Italy and Spain, where just 2 and 1 workers respectively find jobs in Italian and Spanish multinationals. Companies with head offices in Switzerland, Scandinavia and Benelux have the highest propensity to expand abroad by establishing new affiliated production firms outside their home country, due to the small size of their internal markets. Due to the predominant weight of the oil industry in the UK, where total net sales are by far higher than manufacturing industry, the British industrial multinationals as a whole have a high significance in terms of country's GDP, but a lesser impact on employment.

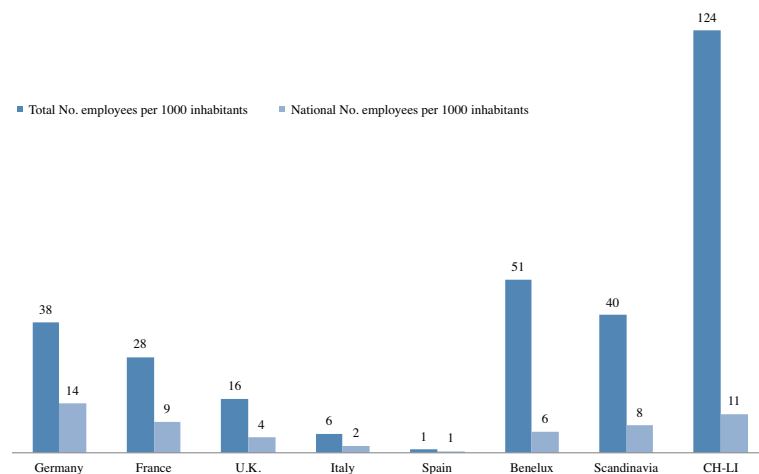
**Fig. 1**  
**Importance of multinationals in Europe**  
**Net sales of industrial multinationals in Europe in 2017**  
**(countries in decreasing order in terms of GDP from left to right)**



**Stock market value of industrial multinationals in Europe in 2017**  
**(countries in decreasing order in terms of stock market size from left to right)**



**Fig. 2**  
**Density of industrial multinationals in Europe in 2017**  
**(countries in decreasing order in terms of population from left to right)**



### 1.2 Breakdown of multinationals by sector and geographical area

Globally, the majority of industrial activities as measured by total net sales are located in Europe (37%), followed by North America (24.3%) (Table I.1). It is worth noting the low presence of electronics in Europe, where this sector accounts for only 6.5% of aggregate world net sales, the lowest percentage in the world; at the opposite end of the spectrum there is the Asian-Russian area (40.5%), followed by North America (37.1%). Europe leads North America especially in the tyres and cables (66.2%), in the chemicals and pharmaceuticals (48.6%), in the metallurgical sector (45.8%) and in the food and drinks industry (47.2%). Japan leads North America in the automotive sector, with 27.3%, but below the European share (41.8%). Despite the presence of several major players, the North American energy industry weighs less than in Europe, where the two UK-based oil companies play a leading role.

In Europe the sector which generates the highest levels of net sales is the energy industry (23.6% of the total), the percentage accounted for by which varies according to changes in oil prices, and in North America is the electronics (24.9%). The automotive sector ranks first in Japan (35.7%), followed by electronics (20%), while energy is of limited importance (Table I.2). The energy industry is particularly important in the UK (72.5% of aggregate UK net sales), essentially due to the presence of Royal Dutch Shell (joint UK/Dutch-owned) and BP, while the automo-

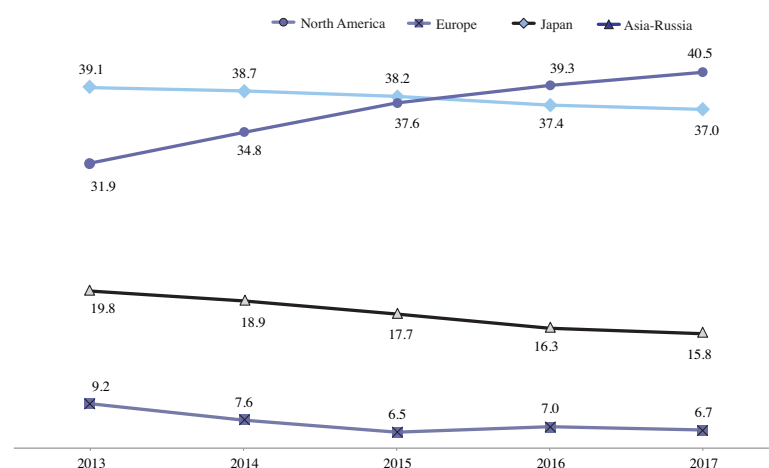
tive sector dominates in Germany (43.1%). Switzerland is distinguished by the significant presence of the chemical-pharmaceutical sector (41.6%) and food industry (25.3%), the latter represented by Nestlé, the largest food multinational in the world by net sales, with Barry Callebaut and Lindt & Sprungli (chocolate). Much of the turnover generated by the countries which go to make up the Benelux region comes from the food and drinks industry (27.8%) and the automotive (23.7%), as a result of the presence of Exor (that changed the location of its parent company's head office from Italy to Netherlands in December 2016).

In Asia-Russia, the sectors yielding the highest net sales levels are energy, which accounts for almost half of the aggregate turnover, followed by electronics, which represented more than one-quarter in 2017 (Table I.4). Energy is clearly concentrated in Russia (100%) and predominant in China (58.8%), while electronics is high in Taiwan (91.9%) and South Korea (49.7%) where automotive is also important (accounting for around one-fifth of revenues), in particular as a result of the presence of Hyundai Motor. The sectors from which the Asian-Russian multinationals are virtually absent are paper, textiles, construction materials and tyres and cable industries.

In the rest of the world too, the energy and mining sector is by far the most important, followed at some distance by food and drinks. Mexico is distinguished by the food and drinks industry which is mostly concentrated in this country.

For the 2013-2017 period, the Asian-Russian area has shown a gradual increase in the percentage accounted for by electronics (its share having increased by 8.6 percentage points), compared with a reduction in other areas (Fig. 3), and in 2016 it overcame the North America percentage of the aggregate world net sales in electronics (37% North America and 40.5% Asia-Russia in 2017).

**Fig. 3**  
**Electronic: % of aggregate world net sales**



### 1.3 Size of companies

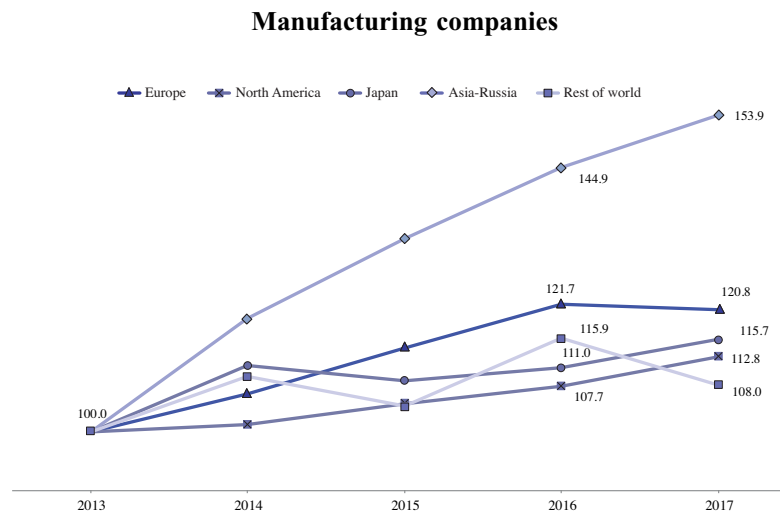
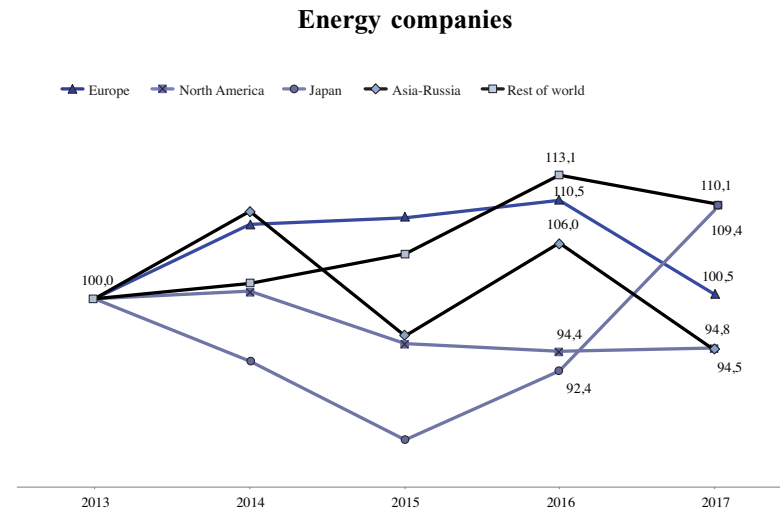
In the five years between 2013 and 2017, the average size of the companies by total tangible assets and by number of employees (where exchange rate differences have no impact) increased, with the exception - in terms of employees -of the utilities and energy companies (Table 2). Energy groups continue to be the largest by total tangible assets (almost €100bn) and telecoms the largest when measured by number of staff (above 120 thousand), but the strongest growth both in terms of assets and employees was reported by software&web firms. It is worth noting that the energy multinationals increased in average size between 2013 and 2017 in terms of total assets, but they decreased if size is measured by rate of employment. In 2017 the manufacturing companies are the smallest companies among multinationals by total tangible assets and utilities are the smallest companies among multinationals by number of staff (in 2013 they were the software&web firms).

**TABLE 2 - AVERAGE SIZE OF MULTINATIONALS**

	Average size of multinationals					
	By total assets (excluding intangibles)			By number of employees		
	2013	2017	change 2013-2017	2013	2017	change 2013-2017
	EUR m	EUR m	%	No.	No.	%
World energy companies	90,493	97,635	7.9	101,537	101,180	-0.4
Telecoms .....	51,881	63,211	21.8	115,548	123,896	7.2
Utilities .....	55,095	56,387	2.3	46,583	43,733	-6.1
Software & web .....	18,766	43,710	132.9	37,894	76,459	101.8
World manufacturing companies.....	23,468	30,611	30.4	83,122	85,894	3.3

In the years from 2013 to 2017, the strongest growth in terms of tangible assets was reported by companies located in Asia-Russia (Fig. 4). Manufacturing companies operating in Asia-Russia in particular have increased their size by total assets (up 53.9%).

**Fig. 4**  
**Growth by industrial companies**  
**(total assets excluding intangibles) - index numbers 2013=100**



1.4 Net sales

If the net sales figures for 2013 constitute 100, the 2017 index closes above 110 only for software&web companies and telecoms (Table 3). The software&web multinationals record the highest value (223.2), followed by telecoms (117.0). As for industrials, the highest increases in net sales are reported by the mechanical engineering (127.4) and transport sector (122.9), while energy companies are the worst following the decrease in oil prices (Table III.4).

TABLE 3 - NET SALES

	Net sales index 2013=100				
	2013	2014	2015	2016	2017
<b>Industrials</b>					
Asia-Russia .....	100.0	109.0	100.1	100.7	109.8
Japan .....	100.0	103.3	103.2	97.6	105.8
Europe .....	100.0	102.0	98.4	95.2	100.6
Rest of world.....	100.0	108.7	92.0	101.8	94.4
North America .....	100.0	98.9	88.5	85.0	89.6
<b>Software &amp; Web</b> .....	<b>100.0</b>	<b>130.6</b>	<b>166.2</b>	<b>199.8</b>	<b>223.2</b>
<b>Telecoms</b> .....	<b>100.0</b>	<b>108.0</b>	<b>119.6</b>	<b>124.3</b>	<b>117.0</b>
<b>Utilities</b> .....	<b>100.0</b>	<b>96.6</b>	<b>96.5</b>	<b>90.0</b>	<b>91.3</b>
<b>Industrials-triad regions</b>					
Mechanical engineering.....	100.0	111.2	122.0	127.3	127.4
Transport .....	100.0	108.0	120.7	123.6	122.9
Electronics .....	100.0	108.0	122.0	122.5	121.8
Tyres and cables.....	100.0	100.3	111.1	109.7	114.4
Chemical and pharmaceutical .....	100.0	107.8	112.4	113.3	110.6
Iron and steel.....	100.0	108.6	103.7	99.9	108.7
Food and drinks .....	100.0	111.1	114.3	114.2	106.1
Paper .....	100.0	100.8	104.9	103.1	98.0
Construction materials .....	100.0	98.3	100.1	99.8	96.5
Energy .....	100.0	102.9	76.7	70.7	78.1

NB: Calculated in local currency for Japan and North America.

Multinationals increased the international dimension of their activities during the 2013-2017 period (Table I.6). Japan groups recorded the highest growth rates in the ratio of non-domestic sales to total sales over the five-year period (up 4.7 percentage points, to reach 59.9% of net sales in 2017). Net sales generated by companies based in Europe outside their respective home countries have increased too (up 2.4 percentage points, to reach 85.6% of net sales in 2017). The multinationals with the most extensive non-domestic sales in the Eurozone continue to be those based in Ireland

and in the Benelux region, along with those in Switzerland-Liechtenstein, Sweden and Denmark. Spanish and Norwegian multinationals are the companies with the lowest share of non-domestic sales in the Eurozone and in Europe respectively.

Among the countries which go to make up the Asian-Russian area, China is by far the least globalized, chiefly because of the state oil companies Sinopec, CNPC and CNOOC; by contrast, the Taiwanese firms show the highest degree of globalization, with non-domestic sales accounting for 89.1% of their net sales. The last area, the rest of the world, is less globalized, with growth rates for the companies in this area still wide; Brazilian companies in particular are the least globalized, largely due to Petrobras, without which their share of non-domestic sales would be just below that of the Mexican based companies.

Non-domestic sales have the index with 2013 as its base exceeding 100 in all the areas in 2017, with the exception of the rest of world companies. Japan records the highest value (123.1) (Table 4).

TABLE 4 - NON-DOMESTIC SALES

	Non-domestic sales index 2013=100				
	2013	2014	2015	2016	2017
<b>Industrials</b>					
Japan .....	100.0	108.9	124.8	123.3	123.1
Asia-Russia .....	100.0	109.2	99.7	101.8	110.2
Europe .....	100.0	100.4	104.2	103.0	107.8
North America .....	100.0	112.0	109.3	107.7	101.0
Rest of world.....	100.0	103.0	90.9	100.1	94.5

In terms of large geographical areas, net sales outside their respective home macro-area account for 51.2% of total net sales for the North American manufacturing firms and 57% for the European manufacturing multinationals (Table 5). Looking at the world market as a whole, North American companies sell their products to Asia and Oceania a little bit more than the European firms do: 21.6% versus 21.1% (the percentage recorded by Japanese corporations is the highest: 52.2%); conversely, European companies sell their products to Central and Latin America more than the North American firms do: 5.6% versus 4.9%. Moreover, net sales to North America account for 24.9% of total net sales for the European multinationals and net sales to Europe account for 22.9% of total net sales for the North American multinationals. The companies headquartered in the rest of the world generate 43% of their total net sales in the markets of Central and Southern America, 37.5% in North America and only 10% in Europe. Conversely, Europe is an important end-market not just for the

European and North American multinationals, but also for the Asian-Russian groups as well (which generate 15.4% of their net sales there).

TABLE 5 - NET SALES BY GEOGRAPHICAL AREA

	% breakdown of 2017 manufacturing - net sales by geographical areas (by customer location)				
	Europe	North America	Asia and Oceania	Central and Latin America	Other areas
Austria .....	73.4	4.5	5.7	–	16.4
Benelux .....	28.9	32.2	23.6	11.1	4.2
France .....	49.2	21.3	18.4	2.4	8.7
Germany.....	50.1	21.7	21.2	4.5	2.5
Italy.....	46.5	19.7	16.6	9.0	8.2
Scandinavia .....	45.5	21.3	19.8	5.9	7.5
Switzerland and Liechtenstein.....	30.2	31.9	23.4	5.4	9.1
United Kingdom.....	31.3	31.8	32.7	0.3	3.9
Europe .....	43.0	24.9	21.1	5.6	5.4
North America .....	22.9	48.8	21.6	4.9	1.8
Japan .....	12.3	29.2	52.2	0.2	6.1
Asia-Russia .....	15.4	29.8	53.7	0.6	0.5
Rest of world.....	10.0	37.5	7.4	43.0	2.1

NB: Partial data, for the most part referring to more than half of the sample.

## 1.5 Labour

Compared to 2013 levels, the work force grew in all geographical areas for the industrial groups, with the exception of North America (-6.3%); even utilities recorded a reduction in employment, while the software&web multinationals recorded the highest increase in their headcount (+111.9%) (Table 6).

TABLE 6 - EMPLOYEES

	Employees index 2013=100				
	2013	2014	2015	2016	2017
<b>Industrials</b>					
Rest of world.....	100.0	101.9	104.0	105.5	108.9
Japan.....	100.0	101.5	101.5	101.7	103.3
Asia-Russia.....	100.0	103.5	100.7	101.2	102.6
Europe.....	100.0	99.8	100.5	100.4	100.1
North America.....	100.0	97.8	95.6	93.1	93.7
<b>Software &amp; web</b> .....	<b>100.0</b>	<b>121.5</b>	<b>139.7</b>	<b>166.4</b>	<b>211.9</b>
<b>Telecoms</b> .....	<b>100.0</b>	<b>101.8</b>	<b>110.9</b>	<b>112.2</b>	<b>111.7</b>
<b>Utilities</b> .....	<b>100.0</b>	<b>97.0</b>	<b>97.2</b>	<b>93.9</b>	<b>93.9</b>

In the five years from 2013 to 2017 the largest increases in work force have been recorded by the Irish and German companies (with the European firms alone accounting for around half of the triad) (Table I.15). Instead Spanish, British, Italian and French companies have reduced their work force by 23.9%, 13.8%, 8.5% and 2.9% respectively, partly because these countries feature a strong presence of energy corporations, which tend to cut staff-levels more than manufacturing firms do. By macro-area in the last five years, the rise in employment has been recorded by the companies based in the rest of the world and Asia-Russia (up 8.9% and 2.6% respectively).

With reference to the globalization process, there appears to be an established trend towards reducing domestic employment levels. This is the case for the North American industrial companies in the five-year period under review, with the domestic employment rate reducing by 1.5 percentage points, from 42.7% in 2013 to 41.2% in 2017; the domestic employment in North America for the five years is down 9.6%, while non-domestic recruitment decreases by only 3.8%. A similar trend is seen in Europe, where the domestic employment rate reduces by 1.6 percentage points, from 32.1% in 2013 to 30.5% in 2017; the fall in domestic employment is 3.4%, against 4% growth in non-domestic employment.

The progressively increasing globalization of multinationals affects productivity and labour costs; the most reliable method of measuring productivity is by value added (net of depreciation and amortization) calculated on a per capita basis.<sup>1</sup> In manufacturing, this indicator shows an increase of 15.1% for the European multinationals between 2013 and 2017, against a rise in the cost of labour per employee of 10.2% (Table 7). So there is an improvement in margins for the European companies: in the last five years, the ratio between increase in per capita value added and per capita labour cost is 1.5.<sup>2</sup> In Europe the largest gains in terms of productivity are by the French companies, for which the increase in per capita value of production is 4.6 times the rise in salaries.

Looking at the productivity figures for 2017 in Europe, Switzerland-Liechtenstein has the highest level, Italy the lowest; the cost of labour per employee are lowest in Italy again. Measured by values per staff member, the British manufacturing firms, whose staff costs absorb the lowest amount of value added per employee, are the most competitive of the European companies in 2017, with the Italian firms the least competitive in this area. Looking at the services groups, software&web companies, whose staff costs absorb only the 50% of value added per employee, are the most competitive (Fig. 5).

1 It is very hard to measure productivity from the financial statements of multinationals, as the companies concerned operate in different countries, and the calculations are made based on data stated at current prices; indeed, it is impossible to identify a suitable deflator, precisely because the businesses are spread across different countries.

2 Data on cost of labour is not available for Japan and US companies, which means it is not possible to calculate value added data either.

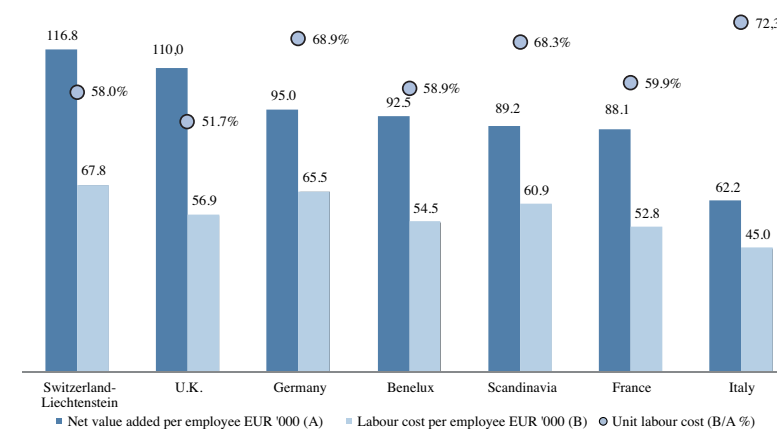
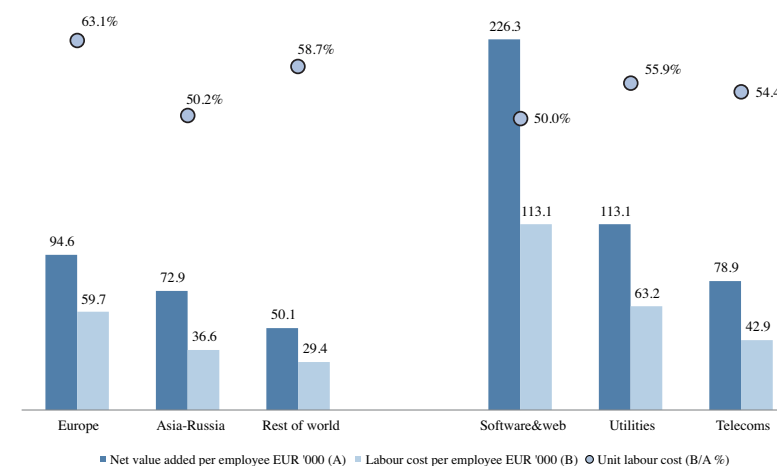


TABLE 7 - NET VALUE ADDED AND COST OF LABOUR

	Net value added per employee			Cost of labour per employee			a / b	a' / b'	ULC - unit labour cost	
	2017	% change vs 2013		2017	% change vs 2013				2013	2017
	EUR '000	EUR (a)	Local currency (a')	EUR '000	EUR (b)	Local currency (b')			Cost of labour per employee/Net value added per employee %	
<b>Manufacturing companies<sup>1</sup></b>										
Switzerland and Liechtenstein .....										
Liechtenstein .....	116.8	+6.6	+1.6	67.8	+16.2	+10.8	0.4	0.1	53.2	58.0
United Kingdom.....	110.0	+9.5	+3.7	56.9	+12.2	+19.5	0.8	0.2	50.4	51.7
Germany.....	95.0	+14.2	-	65.5	+8.6	-	1.7	-	72.6	68.9
Scandinavia.....	89.2	+18.1	-	60.9	+11.8	-	1.5	-	72.1	68.3
Benelux.....	92.5	+24.6	-	54.5	+13.9	-	1.8	-	64.5	58.9
France.....	88.1	+18.5	-	52.8	+4.0	-	4.6	-	68.3	59.9
Italy.....	62.2	+1.6	-	45.0	-2.1	-	n.c.	-	75.1	72.3
Europe .....	94.6	+15.1	-	59.7	+10.2	-	1.5	-	66.0	63.1
Asia-Russia .....	72.9	+55.2	-	36.6	+57.2	-	1.0	-	49.6	50.2
Rest of world.....	50.1	+8.6	-	29.4	+10.0	-	0.9	-	57.9	58.7
<b>Triad energy companies<sup>2</sup></b>										
.....	232.5	-12.2	-	87.5	+5.4	-	n.c.	-	31.3	37.6
<b>Software &amp; Web<sup>3</sup></b>										
.....	226.3	+31.4	-	113.1	+25.4	-	1.2	-	52.4	50.0
<b>Telecoms</b>										
.....	78.9	-6.3	-	42.9	+3.2	-	n.c.	-	49.9	54.4
<b>Utilities</b>										
.....	113.1	-8.3	-	63.2	+2.9	-	n.c.	-	49.8	55.9

1 Data on cost of labour not available for Japan and US companies, which means it is not possible to calculate value added data either.  
 2 European companies only (see note 1).  
 3 Data refer to 14% of the companies.

Fig. 5  
 Net value added, cost of labour per employee and unit labour cost (ULC) in 2017  
 (manufacturing companies)



## 1.6 Earnings results

Net profit earned by the triad industrial multinationals reached €618bn in 2017 (its high for the five years) from €506bn in 2016 and 2015. If we look at net profit as a percentage of net sales, in 2017 this ratio was 7.8% (higher than 6.3% in 2016 and 6.2% in 2015).

If we look at the European industrials, in 2017 the highest indicators in terms of net operating margins and current pre-tax profits as a percentage of net sales are by Swiss firms (around 16%, for both net operating margin and current profit), due to the major presence of the food and pharmaceutical sectors in this country (i.e. the two most anti-cyclical sectors), and French corporations (around 12%, for both net operating margin and current profit) (Table 8). By macro-areas, North America shows the highest levels (around 13%) and Japan the lowest, with ratios around 7-8%. The performance recorded by industrial companies located in Asia-Russia is less than the triad average. The margins generally are above 2013 levels in all geographical areas with the exception of Switzerland, U.K. and Italy, which show decreases of both net operating and current profit margins (Table 8). In the 2013-2017 period, the levels of current pre-tax profit as a percentage of net sales reported by the North American manufacturing multinationals have at all times been higher than those of the European and Japanese companies (Fig. 6). The North American companies generally show higher indicators than those based in Europe and Japan, also considering ROI and ROE (Table 9).<sup>3</sup> In the same five-year period, the levels of NOM as a percentage of net sales posted by the manufacturing multinationals have been always higher than those of the energy companies (Fig. 7).

With reference to taxation, the tax rate, which is calculated excluding loss-making companies, stabilized in 2015-16 at around 23.5% for industrial firms in the triad regions, with an increase of 4.6 percentage points in 2017 compared to 2016, mostly as a result of the US tax reform at the end of December 2017 (the Tax Cuts and Jobs Act). Japanese companies show the lowest level in the triad regions in 2017, while firms based in North America show the highest, as the impact of the tax reform was more evident in the United States.<sup>4</sup>

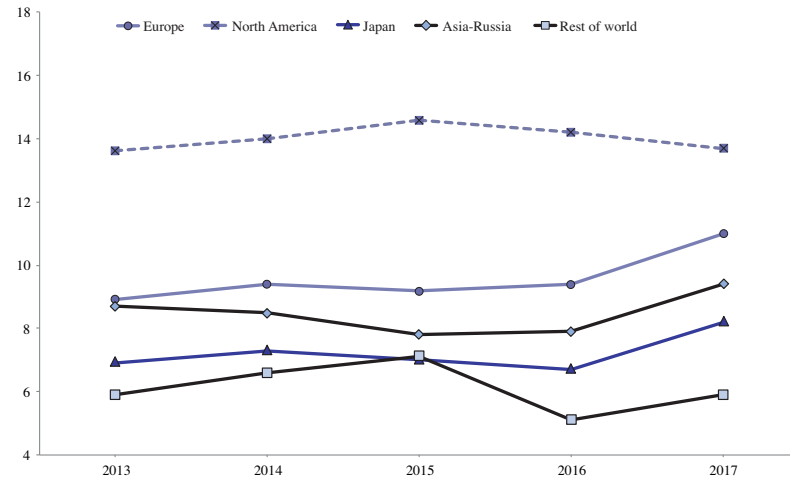
<sup>3</sup> As usual, the figures for ROI and ROE should be treated with caution, as they are affected by the different accounting standards and policies adopted by the various companies (see Section III).

<sup>4</sup> The tax rates recorded reflect average charges resulting from the different tax regimes in force in the various countries where the companies belonging to the groups included in the survey are headquartered. Trends should therefore be viewed in the light of the increasingly international nature of operations, which means that income is also increasingly subject to different tax regimes.

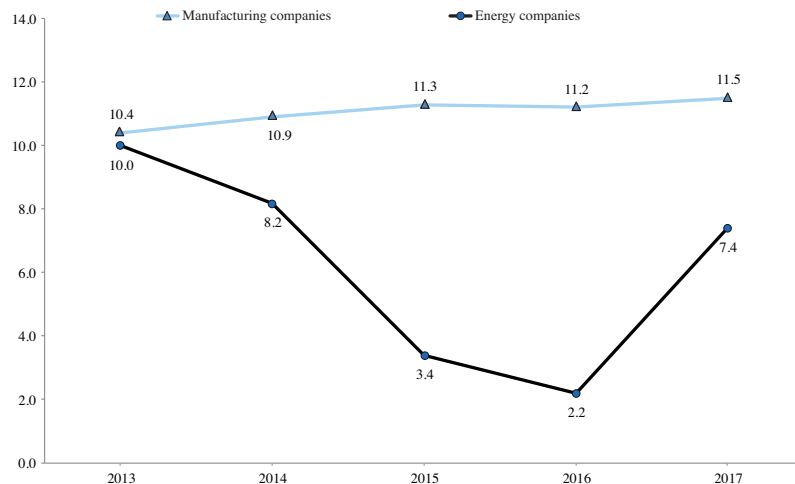
TABLE 8 - NOM AND CURRENT PRE-TAX PROFIT

	As % of net sales 2017		2017 as % of 2013	
	NOM	Current pre-tax profit	NOM	Current pre-tax profit
Switzerland and Liechtenstein.....	16.5	16.0	90.9	92.0
Scandinavia .....	11.7	11.0	103.8	111.8
France .....	11.5	12.0	114.5	128.2
United Kingdom.....	11.3	11.0	95.8	95.7
Benelux .....	10.2	9.1	127.1	144.2
Germany.....	8.8	9.0	119.0	126.7
Italy.....	7.7	5.9	88.4	76.2
North America .....	13.1	12.6	101.4	91.9
Europe .....	10.7	10.4	106.5	112.2
Japan .....	6.7	8.0	113.1	124.5
<b>Total, triad regions.....</b>	<b>10.8</b>	<b>10.7</b>	<b>104.4</b>	<b>104.1</b>
<b>Asia-Russia.....</b>	<b>8.6</b>	<b>8.6</b>	<b>100.5</b>	<b>96.4</b>
<b>Rest of world.....</b>	<b>15.0</b>	<b>9.0</b>	<b>95.2</b>	<b>80.8</b>

**Fig. 6**  
**Current pre-tax profit as % of net sales - Manufacturing companies**



**Fig. 7**  
**NOM as % of net sales - Triad companies**



**TABLE 9 - ROI-ROE-TAX RATE**

	Industrials				
	2013	2014	2015	2016	2017
	ROI (%)				
North America .....	18.8	18.7	15.2	13.3	13.6
Europe .....	12.9	12.2	9.6	9.2	11.8
Japan .....	8.6	8.1	8.3	7.7	9.6
<b>Total, triad regions</b> .....	<b>14.1</b>	<b>13.7</b>	<b>11.4</b>	<b>10.4</b>	<b>12.1</b>
<b>Asia-Russia</b> .....	<b>11.7</b>	<b>10.3</b>	<b>9.1</b>	<b>8.6</b>	<b>10.3</b>
<b>Rest of world</b> .....	<b>10.5</b>	<b>8.7</b>	<b>5.3</b>	<b>8.9</b>	<b>9.7</b>
	ROE (%)				
Europe .....	13.7	12.7	9.4	9.5	16.9
North America .....	23.9	24.2	20.9	19.9	16.5
Japan .....	10.4	8.9	8.9	8.2	14.3
<b>Total, triad regions</b> .....	<b>16.8</b>	<b>16.2</b>	<b>13.5</b>	<b>13.0</b>	<b>16.4</b>
<b>Asia-Russia</b> .....	<b>13.2</b>	<b>9.6</b>	<b>8.5</b>	<b>8.4</b>	<b>9.3</b>
<b>Rest of world</b> .....	<b>7.3</b>	<b>2.7</b>	<b>-6.1</b>	<b>2.6</b>	<b>8.6</b>
	Tax Rate (%) <sup>1</sup>				
North America .....	26.0	25.9	22.4	20.6	36.0
Europe .....	31.4	30.8	23.4	25.5	24.8
Japan .....	30.8	29.3	29.1	28.2	17.9
<b>Total, triad regions</b> .....	<b>28.9</b>	<b>28.2</b>	<b>23.6</b>	<b>23.5</b>	<b>28.1</b>
<b>Rest of world</b> .....	<b>37.5</b>	<b>35.4</b>	<b>30.8</b>	<b>36.6</b>	<b>29.0</b>
<b>Asia-Russia</b> .....	<b>22.0</b>	<b>24.1</b>	<b>21.9</b>	<b>23.6</b>	<b>22.0</b>

<sup>1</sup> Tax rate calculated excluding loss-making companies.

If we look at the industrials in the triad regions by sector, in 2017 the highest indicators in terms of net operating margin and current pre-tax profit as a percentage of net sales are recorded by the chemicals-pharmaceuticals firms (around 19%), followed by the food and drinks industries (12-13%), while the companies reporting the least satisfactory performances are metallurgical (Table I.7); the energy sector is the only away from recovering its 2013 net operating margins (-2.6 percentage points). It is worth noting that if the pharmaceuticals and mining sectors' results are stripped out from the aggregate chemicals and energy industries' data, these two industries show the highest ratios of all in terms of NOM as a percentage of net sales, at 25.5% and 24.1% respectively in 2017 (above the software&web companies' ebit margin). In Asia-Russia the electronic sector shows the highest returns, with little lower ratios than those posted by the electronic companies in the triad regions. Looking at the services groups, the telco companies rank midway between the levels reported by the software&web (which are always the highest) and the utilities.

### 1.7 Sources and applications of funds

Table I.8 and Table I.9 provide an overview of the sources and applications of funds for the last four years covered by our survey. The main issues relating to sources of funds are described below:

- i) The funds available to multinationals are basically generated from cash flow. For the last three-year period, cash flow reaches 101.9% of the North American companies' total funds, a higher figure than the approx. 88-98% reported by the other industrial groups based in the rest of the world. Cash flow always comfortably exceeds the outlays made in respect of capital expenditure, leaving ample room for financial investments.
- ii) In the last four years, European companies have increased their borrowings, reaching 12.8% of total funds; North American groups have increased their borrowings, reaching 25.2% of total funds, and Japan borrowings have reached levels equal to 3.9% of total funds. For the multinationals in Asia-Russia and the rest of the world, borrowings represented approx. 11-12% of the total funds available to them in the last three-year period.
- iii) The balance of contributions from shareholders for industrial companies is negative during the last three-year period, and North American multinationals show the highest value for treasury share buybacks (27.1% of total funds in 2014-2017).

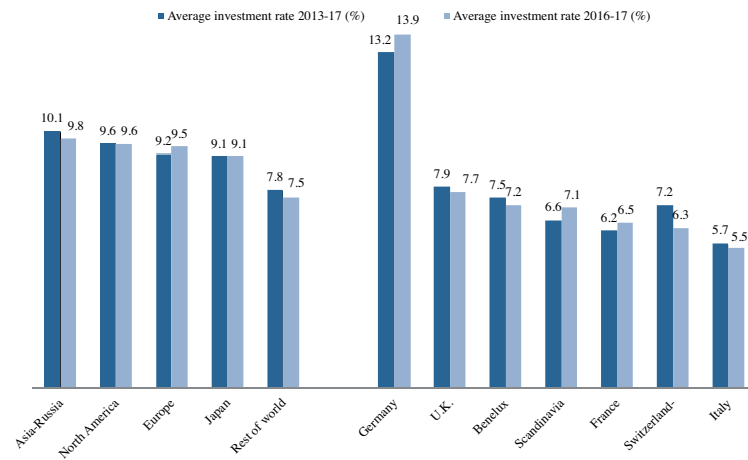
As already suggested, the area most affected by treasury share buybacks is North America, which over the five years accumulated an amount of USD 910bn; European companies recorded much lower amounts of buybacks (Table I.10). The amount spent on share buybacks by European and North American multinationals reached their highs in 2014. The trend shown by the North American companies is different from the one shown by the European firms, for which the amount spent in buybacks is always lower than that in dividends paid out. The share buybacks are generally made in order to support share offerings made on the stock market, increase earnings per share, and reduce the degree of capitalization, and hence also the weighted average cost of capital. For the North American companies, the balance between rights issues, share buybacks and dividends paid totalled USD 1,540bn in the 2013-2017 period, accounting for 51.8% of cash flow, compared with around half for the European firms (25.6%).

As far as applications of funds by the industrial companies in the triad regions are concerned, the main points are described below:

- i) Capital expenditure for the European and North American companies has reached 44% and 30.8% of total applications of funds in the last four-year period. Capital expenditure is the main item especially for Japanese companies, whereas in Europe and North America financial investments are equally significant: these account for 32.8% and 40.9% respectively of total applications of funds in 2014-2017. These last percentages are higher than the ratios recorded by the rest of the world area (15%), where capital expenditure is still relevant (72.4%). Japanese companies have generally shown a low propensity for acquisitions: their financial investments continue to show the lowest level of the triad (21.6% in 2014-2017).
- ii) Dividends account for a significant proportion of multinationals' outlays (North American and European in particular). In cash terms, for the North American and European companies, they have reached 28.7% and 21.6% respectively of total applications of funds in the last four-year period. In 2014-2017, the same indicator for the multinationals based in Asia-Russia and the rest of the world total around 11.9% and 13.5% respectively. The North American firms confirm their policy of reducing risk-taking by returning capital to shareholders. At the opposite end of the scale are the Japanese firms, whose dividends paid account for 10.9% of their total applications of funds.

The average triad investment rate (capital expenditure as a percentage of gross tangible fixed assets) for the manufacturing companies in the last two-year period is equal to 9.4%. By macro area in the triad regions, in 2016-17 North America has the highest investment rate (9.6%), just above Europe (9.5%), while Japanese investment rate is the lowest (9.1%) (Fig. 8). Of the European countries, Germany records the highest investment rate in 2016-17 (13.9%) by far. In 2013-17 the investment rate by Asian-Russian manufacturing companies is the highest in the world, at 10.1%, while firms based in the rest of the world show 7.8%.

**Fig. 8**  
**Average investment rate - Manufacturing companies**



### 1.8 Financial structure

In the five years from 2013 to 2017, the industrial companies in the triad regions increased their capital invested by 27.5% to reach €7,834bn in 2017. This growth was driven by an 42.5% rise in borrowings, while net worth has grown more slowly, by 18.7%.

As for capital structure in the manufacturing companies, in 2017 tangible capital invested was financed by net worth as to 31-61% for the rest of world and Asian-Russian companies; while European multinationals' tangible capital invested was financed as to 19% by net worth, and as to the remainder by borrowings, and North American manufacturing firms showed the lowest levels of financial solidity (tangible net worth is negative).

As for capital structure in the manufacturing companies in 2017, tangible capital invested was financed by net worth with a percentage which varies between 31% for the rest of world and 61% for Asian-Russian companies; while European multinationals' tangible capital invested was financed as to 19% by net worth, and as to the remainder by borrowings. In the triad regions, Japanese manufacturing corporations reflect the highest level of financial solidity in 2017, with capital invested financed as to 58.2% by net worth (Table I.11). Unlike what is generally the case with smaller-sized companies, the capital of multinationals is mostly absorbed by fixed assets (plants, buildings, investments), and the share represented by working assets is lower;

for North American companies the liquid component (cash and marketable securities) is particularly significant, representing more than half of tangible capital invested. Tangible net worth is therefore not sufficient to cover the applications of fixed assets; hence substantial long-term borrowings are required, which exceed short-term borrowings with a percentage which varies between 58% and 85% in all the geographical areas; if we add net worth, medium/long-term resources cover more than 77% of the tangible capital invested. This prevalence of medium/long term borrowings over short-term term ones is another distinguishing feature of multinationals compared to smaller-sized companies.

In order to evaluate debt repayment capability, it is useful to consider the borrowings/cash flow ratio. In 2017 North American and European companies show levels of 2.5 and 2.6 times respectively; indeed, in the event that net working capital could not be liquidated, these firms could repay their outstanding borrowings with the cash flow generated in the space of roughly two years and half; the companies based in the rest of the world do not fare so well, in that they would take almost five years to repay their borrowings (borrowings/cash flow ratio equal to 4.6 times).

Energy and services companies are a different case, in that their financial structure is rather different. Software&web corporations and energy groups in all the geographical areas show the highest levels of financial solidity in 2017, with capital invested mostly financed by net worth. Capital of energy companies is mostly invested in fixed assets, and the share represented by net working assets is negligible; hence tangible net worth plus medium/long-term resources are sufficient to cover the applications of fixed assets. In the event that net working capital could not be liquidated, these firms could repay their outstanding borrowings with the cash flow generated in the space of around two years (almost four years for companies based in the rest of world). Conversely, tangible capital invested of the telecoms and utilities is mostly financed by borrowings. Their capital is predominant invested in fixed assets (mostly network infrastructure and technical equipment), and the share represented by net working assets is negative. Tangible net worth is therefore not sufficient to cover the applications of fixed assets; so substantial long-term borrowings are required which are much bigger than short-term borrowings (82-86% of total borrowings). Unlike the case of the industrial multinationals, the balance between working assets and short-term borrowings is not acceptable because it is negative for telecoms and utilities. As for the borrowings/cash flow ratio, in the event of net working capital not being able to be liquidated, utilities firms could repay their outstanding borrowings with the cash flow generated in the space of roughly five years. Software and web companies are well capitalized (more than half of tangible capital invested is financed by tangible net worth) and their capital is around half invested in net working assets; moreover they generate a big amount of cash flow so, in the event that net working capital could not be liquidated, these firms could repay their out-

standing borrowings with the cash flow generated in the space of only one year and half.

The composition of capital invested has changed since 2013, albeit with differing trends in the various areas (Table I.12 and Table I.13). Net worth still accounts for the lion's share. For the European companies the changes in this item have been relatively modest, with the structure of capital invested characterized by a little decrease in the incidence of net worth during the 2013-2017 period (by roughly 1.5 percentage points); consequently, borrowings (essentially bonds) increased in the same period by the same amount (pro rata). A similar and even sharper trend is seen in the North American companies which continue to favour bond issuance. In 2017 in Europe, the German companies reported the lowest level of net worth and Benelux the highest level of bond issuance.

As for the composition of capital for the multinationals based in the Asian-Russian area, net worth again represents the lion's share (with 70.5% of capital invested in 2017), more so than for the corporations based in the triad regions. The multinationals in this area use bond issuance less than those based in the triad regions, in particular those based in Taiwan and Russia. By individual countries, in Asia-Russia the Chinese and South Korean companies show the highest levels of net worth as a percentage of capital invested. In the rest of the world, the Australian and Central South American companies show the highest levels of bond issuance.

### 1.9 Research and development expenditure

According to the Eurostat method of classifying R&D expenditure based on intensity of spending, it is possible to divide the companies' activities into four different industrial groupings based on how technology-intensive they are.<sup>5</sup> Sales with high or medium-high technology content account for 76% of the total net sales by manufacturing multinationals in the triad regions (Table 10).<sup>6</sup> The European companies' presence in these groupings is the lowest at 68.3%, with the exception of the German companies (84.6%) which rank above the level of the Japanese corporations, whose commitment to electronics is significant in this respect. The electronic industry is of absolute importance for Asia-Russia too, which confirms its status as the area with the highest net sales levels from HT activities along with North America (around 57%), whereas the rest of the world reflects a bias towards the more traditional sectors (LMT and LT) as the iron and steel and food industries dominate. Italy appears to be the weakest country in the HT-MHT grouping (39.9%). United Kingdom, Switzerland-Liechtenstein and Benelux show the highest high-technology component: the United Kingdom and Switzerland due to the pharmaceutical component, Benelux due to the presence of supranational entities (mostly electronics and aerospace companies).<sup>7</sup>

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5 The term "research and development" (R&D) comprises three different types of research (Frascati manual): basic research (i.e. experimental or theoretical work undertaken primarily to acquire new knowledge of the underlying foundation of phenomena and observable facts, without any particular application in mind), applied research (i.e. original investigation undertaken in order to acquire new knowledge, but directed towards a specific and practical objective), and experimental development (i.e. systematic work drawing on existing knowledge gained from research and practical experience directed to producing new materials, products, processes or services, or to substantially improving those already produced or installed). For an analysis of R&D centres run by triad multinationals see MFA (2011), p. LXVI.

6 The classification has been made based on income per segment. Source: figures based on Eurostat classification (Eurostat indicators of High-tech industry and knowledge - intensive services, February 2015 - Annex 3 - High-tech aggregation by NACE Rev. 2).

7 The aerospace company is Airbus Group (ex-EADS-European Aeronautic Defence and Space Company) which is the entity resulting from the merger in July 2000 between Aerospatiale Matra SA of France, Construcciones Aeronáuticas SA of Spain, and DaimlerChrysler Aerospace AG of Germany.

TABLE 10 - TECHNOLOGY INTENSITY BASED ON % BREAKDOWN OF 2017 NET SALES

	Manufacturing multinationals					
	Triad regions	Japan	North America	Europe	Asia-Russia	Rest of world
HT .....	37.9	27.1	57.1	28.5	56.9	22.8
MHT .....	38.1	55.7	25.4	39.8	29.2	–
<b>HT-MHT</b> .....	<b>76.0</b>	<b>82.8</b>	<b>82.5</b>	<b>68.3</b>	<b>86.1</b>	<b>22.8</b>
LMT .....	6.4	8.2	–	10.3	6.1	27.2
LT .....	17.6	9.0	17.5	21.4	7.8	50.0
<b>LMT-LT</b> .....	<b>24.0</b>	<b>17.2</b>	<b>17.5</b>	<b>31.7</b>	<b>13.9</b>	<b>77.2</b>
<b>Total</b> .....	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>

of which: Europe

	of which: Europe						
	Germany	Scandinavia	Benelux	Switzerland	France	United Kingdom	Italy
HT .....	19.4	22.0	26.2	43.7	57.0	35.0	27.5
MHT .....	65.2	43.7	37.4	19.4	5.2	24.2	12.4
<b>HT-MHT</b> .....	<b>84.6</b>	<b>65.7</b>	<b>63.6</b>	<b>63.1</b>	<b>62.2</b>	<b>59.2</b>	<b>39.9</b>
LMT .....	4.8	11.4	14.4	7.7	4.2	11.5	29.4
LT .....	10.6	22.9	22.0	29.2	33.6	29.3	30.7
<b>LMT-LT</b> .....	<b>15.4</b>	<b>34.3</b>	<b>36.4</b>	<b>36.9</b>	<b>37.8</b>	<b>40.8</b>	<b>60.1</b>
<b>Total</b> .....	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>

Based on the rankings in terms of R&D spending as a percentage of net sales, Swiss companies lead the way, followed by firms based in UK and Germany (Table 11). Scandinavia and Switzerland-Liechtenstein show the highest percentages for the HT segment. At the global level, triad regions corporations rank above the Asian-Russian companies, whereas R&D spending by firms based in the rest of world is the lowest.

TABLE 11 - R&D SPENDING AS % OF 2017 NET SALES GROUPINGS BY TECHNOLOGY INTENSITY

	Manufacturing multinationals					Total
	HT	MHT	LMT	LT		
Switzerland and Liechtenstein...	17.1	3.6	0.4	1.7	8.2	
United Kingdom.....	14.4	1.6	–	0.5	7.6	
Germany.....	14.2	5.4	3.2	0.9	5.7	
Scandinavia.....	18.2	3.5	0.6	0.7	5.5	
Italy.....	13.4	0.7	3.3	1.2	4.8	
France.....	9.9	4.0	1.7	0.7	4.2	
Benelux.....	6.9	2.6	0.4	0.5	3.0	
North America.....	9.3	4.4	–	0.7	6.5	
Europe.....	13.1	4.4	1.8	0.9	5.2	
Japan.....	5.0	4.3	1.6	3.0	4.3	
<b>Total, triad regions</b> .....	<b>9.5</b>	<b>4.4</b>	<b>1.7</b>	<b>0.9</b>	<b>5.5</b>	
<b>Asia-Russia</b> .....	<b>5.6</b>	<b>1.7</b>	<b>0.6</b>	<b>0.4</b>	<b>3.8</b>	
<b>Rest of world</b> .....	<b>5.7</b>	<b>0.5</b>	<b>0.1</b>	<b>0.3</b>	<b>1.1</b>	

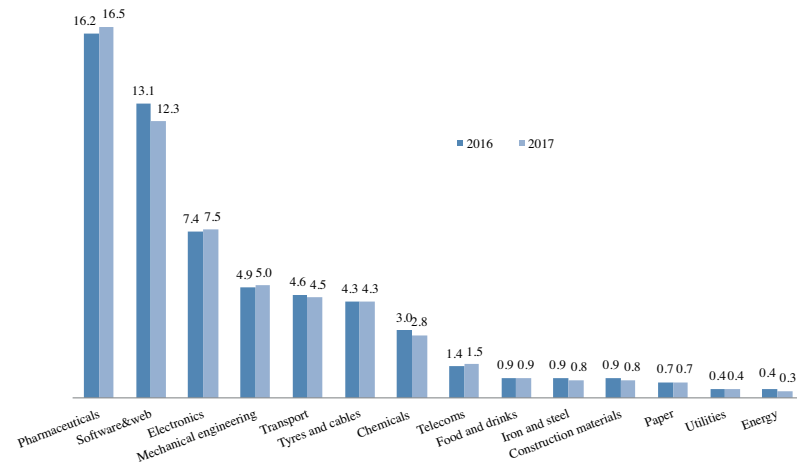
Table 12 shows the leading industrial groups in the world in decreasing order in terms of R&D spending as a percentage of net sales in 2017 and 2013. Looking at the data for 2017, there is clear dominance by the pharmaceutical companies: Bristol-Myers Squibb ranks first followed by Eli Lilly and AstraZeneca.

TABLE 12 - TOP 10 MANUFACTURING MULTINATIONALS BY R&D SPENDING AS % OF NET SALES

	2017		2013
Bristol-Myers Squibb (US).....	30.9	Eli Lilly (US) .....	24.2
Eli Lilly (US) .....	28.0	Bristol-Myers Squibb (US).....	22.8
AstraZeneca (UK).....	25.6	STMicroelectronics (NL).....	22.5
Merck & Co. (US).....	25.4	Amgen (US).....	21.9
Qualcomm (US) .....	24.6	Intel (US) .....	20.1
Nokia (FI).....	21.2	Qualcomm (US) .....	20.0
Roche Holding (CH) .....	21.2	Roche Holding (CH) .....	19.8
Intel (US) .....	20.9	Boehringer Ingelheim (DE).....	19.5
LM Ericsson (SE).....	18.8	Gilead Sciences (US).....	18.9
Abbvie (US).....	18.8	AstraZeneca (UK).....	18.7

As for the breakdown of R&D spending between sectors in the triad area, again the pharmaceutical industry, considered separately from the chemical industry, reports the highest R&D spending level (Fig. 9), followed by the software&web companies.

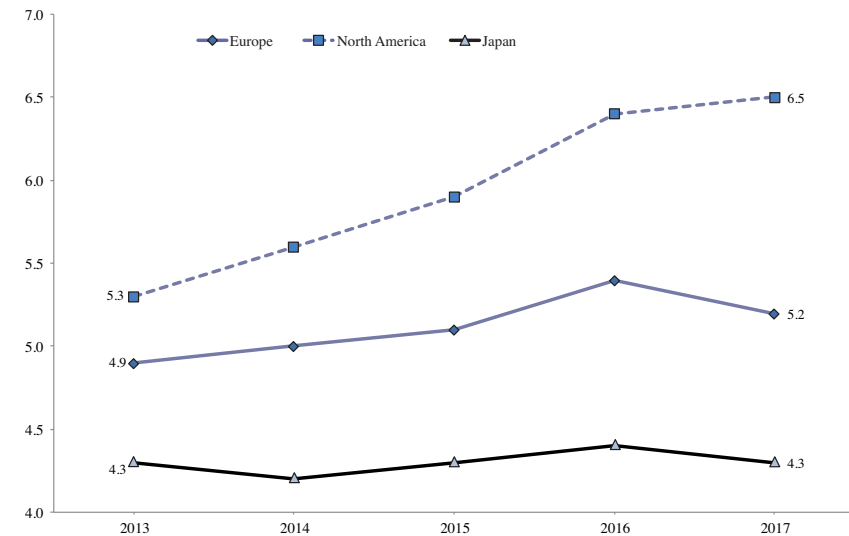
**Fig. 9**  
R&D spending as % of net sales in 2016 and 2017 (triad companies)



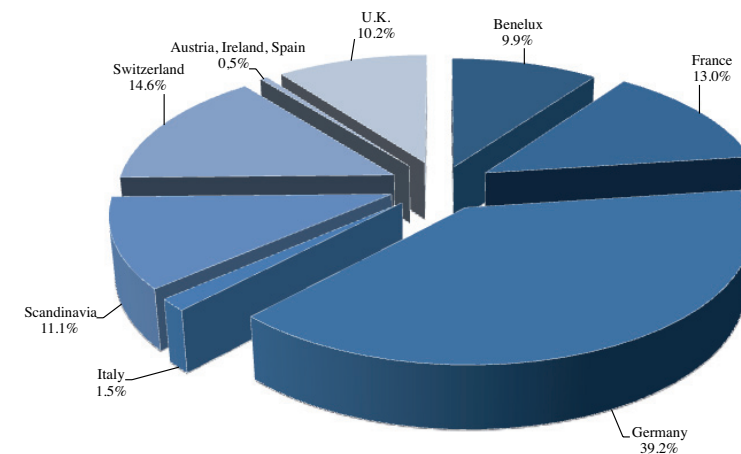
If we look at the manufacturing aggregate by macro-area, in the last five years the trend of R&D spending in the triad regions has always seen North American corporations above European and Japanese; in 2017 the gap between European and North America R&D levels has increased (0.4 percentage points in 2013 and 1.3 percentage points in 2017) (Fig. 10).

Breakdown of European R&D spending in 2017 sees Germany first (39.2%) and Italy (1.5%) along with Austria-Ireland-Spain (0.5%) at the end (Fig. 11).

**Fig. 10**  
R&D spending as % of net sales by manufacturing companies



**Fig. 11**  
European industrial companies: breakdown of R&D spending in 2017





TABLES

TABLE I.1 - MULTINATIONALS: % BREAKDOWN OF 2017 NET SALES BY GEOGRAPHICAL AREAS

	Triad regions			Asia-Russia	Rest of world	Total
	Europe	North America	Japan			
Oil, energy and mining .....	36.2	15.3	3.8	39.5	5.2	100.0
Iron, steel and non-ferrous metals	45.8	–	21.6	21.7	10.9	100.0
Chemicals and pharmaceuticals....	48.6	32.5	5.7	10.3	2.9	100.0
Tyres and cables.....	66.2	–	33.8	–	–	100.0
Mechanical engineering.....	41.7	23.8	22.2	12.1	0.2	100.0
<i>automotive</i> .....	41.8	15.9	27.3	15.0	–	100.0
<i>aerospace and shipbuilding</i> .....	38.9	59.5	0.3	–	1.3	100.0
<i>domestic appliances</i> .....	26.7	12.6	17.9	42.8	–	100.0
<i>other engineering</i> .....	45.0	27.1	21.4	6.5	–	100.0
Electronics .....	6.5	37.1	15.9	40.5	–	100.0
Building and civil engineering .....	–	–	50.6	49.4	–	100.0
Cement, glass and bdg. products ..	82.0	–	3.7	3.4	10.9	100.0
Paper, printing and publishing .....	61.5	32.2	–	2.0	4.3	100.0
Food and drinks .....	47.2	31.0	1.7	9.9	10.2	100.0
Textiles and clothing .....	66.4	33.6	–	–	–	100.0
Other mfg. industries.....	50.6	28.2	17.4	2.5	1.3	100.0
Services industries .....	36.2	17.4	27.5	14.2	4.7	100.0
<b>Total industrial companies.....</b>	<b>37.0</b>	<b>24.3</b>	<b>13.0</b>	<b>22.8</b>	<b>2.9</b>	<b>100.0</b>
<b>Software &amp; Web .....</b>	<b>3.7</b>	<b>73.2</b>	<b>2.4</b>	<b>20.7</b>	<b>–</b>	<b>100.0</b>
<b>Telecoms.....</b>	<b>28.0</b>	<b>25.3</b>	<b>18.2</b>	<b>22.8</b>	<b>5.7</b>	<b>100.0</b>
<b>Utilities .....</b>	<b>87.1</b>	<b>9.9</b>	<b>–</b>	<b>1.6</b>	<b>1.4</b>	<b>100.0</b>
<b>Total companies .....</b>	<b>36.9</b>	<b>26.1</b>	<b>12.2</b>	<b>21.8</b>	<b>3.0</b>	<b>100.0</b>

TABLE I.2 – INDUSTRIAL COMPANIES (TRIAD REGIONS): % BREAKDOWN OF 2017 NET SALES BY SECTOR

	Europe										North America					
										Switzerland and Liechtenstein						
	Austria	Benelux	France	Germany	Ireland	Italy	Scandinavia	Spain	U.K.	Total	Canada	USA	Total	Japan	Total	
Oil, energy and mining .....	46.2	2.0	25.9	0.3	–	47.7	17.1	92.0	–	72.5	23.6	24.3	14.9	15.2	7.1	<b>18.0</b>
Iron, steel and non-ferrous metals	29.4	11.2	–	1.9	–	5.8	9.3	8.0	–	1.0	3.9	–	–	–	5.2	<b>2.8</b>
Chemicals and pharmaceuticals	17.3	16.0	14.5	18.1	–	2.6	6.7	–	41.6	10.7	15.4	–	16.2	15.7	5.1	<b>13.7</b>
Tyres and cables .....	–	–	4.4	1.1	–	9.5	–	–	–	–	1.3	–	–	–	1.9	<b>1.0</b>
Mechanical engineering .....	–	35.2	31.4	65.1	–	18.2	36.3	–	19.9	5.7	33.9	52.4	28.8	29.5	51.7	<b>35.6</b>
<i>automotive</i> .....	–	23.7	17.2	43.1	–	–	14.4	–	2.5	–	19.2	–	11.5	11.1	35.7	<b>19.4</b>
<i>aerospace and shipbuilding</i>	–	11.5	3.7	–	–	11.8	–	–	0.5	4.3	3.5	15.4	8.0	8.2	0.1	<b>4.5</b>
<i>domestic appliances</i> .....	–	–	0.9	1.7	–	–	3.3	–	0.3	–	0.9	–	0.7	0.7	1.8	<b>1.0</b>
<i>other engineering</i> .....	–	–	9.6	20.3	–	6.4	18.6	–	16.6	1.4	10.3	37.0	8.6	9.5	14.1	<b>10.7</b>
Electronics .....	–	6.8	1.2	1.3	–	–	11.6	–	1.6	0.8	2.9	5.8	25.5	24.9	20.0	<b>13.1</b>
Building and civil engineering	–	–	–	–	–	–	–	–	–	–	–	–	–	–	0.4	<b>0.1</b>
Cement, glass and bldg. products	7.1	–	6.3	1.6	52.5	–	–	–	7.8	–	2.6	–	–	–	0.3	<b>1.3</b>
Paper, printing and publishing	–	–	1.1	1.2	21.3	–	9.3	–	–	–	1.6	–	1.3	1.3	–	<b>1.2</b>
Food and drinks .....	–	27.8	6.0	–	15.9	7.3	8.0	–	25.3	3.0	8.6	–	8.9	8.6	0.9	<b>7.2</b>
Textiles and clothing .....	–	–	5.3	2.0	–	2.2	–	–	0.4	–	1.5	–	1.2	1.2	–	<b>1.1</b>
Other mfg. industries .....	–	–	1.2	1.8	–	6.7	1.5	–	3.4	5.2	2.3	–	2.0	1.9	2.2	<b>2.2</b>
Services industries .....	–	1.0	2.7	5.6	10.3	–	0.2	–	–	1.1	2.4	17.5	1.2	1.7	5.2	<b>2.7</b>
<b>Total</b> .....	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>

TABLE I.3 – MULTINATIONALS: % BREAKDOWN OF 2017 NET SALES BY COUNTRY OF LOCATION

	Europe										North America							
										Switzerland and Liechtenstein								
	Austria	Benelux	France	Germany	Ireland	Italy	Scandinavia	Spain	U.K.	Total	Canada	USA	Total	Japan	Total			
Oil, energy and mining	1.4	0.8	11.7	0.2	–	4.6	4.5	3.7	–	38.5	–	65.4	1.5	26.2	27.7	6.9	–	<b>100.0</b>
Iron, steel and non-ferrous metals .....	5.7	28.9	–	8.8	–	3.6	15.6	2.0	–	3.4	–	68.0	–	–	–	32.0	–	<b>100.0</b>
Chemicals and pharmaceuticals .....	0.7	8.5	8.5	17.4	–	0.3	2.3	–	10.9	7.4	–	56.0	–	37.5	37.5	6.5	–	<b>100.0</b>
Tyres and cables .....	–	–	35.4	14.2	–	16.6	–	–	–	–	–	66.2	–	–	–	33.8	–	<b>100.0</b>
Mechanical engineering .....	–	7.2	7.1	24.0	–	0.9	4.8	–	2.0	1.5	–	47.5	1.6	25.6	27.2	25.3	–	<b>100.0</b>
<i>automotive</i> .....	–	8.8	7.1	29.3	–	–	3.5	–	0.5	–	–	49.2	–	18.7	18.7	32.1	–	<b>100.0</b>
<i>aerospace and shipbuilding</i> .....	–	18.6	6.7	–	–	4.6	–	–	0.4	9.2	–	39.5	3.8	56.4	60.2	0.3	–	<b>100.0</b>
<i>domestic appliances</i> .....	–	–	7.3	22.8	–	–	15.4	–	1.2	–	–	46.7	–	22.0	22.0	31.3	–	<b>100.0</b>
<i>other engineering</i> .....	–	–	7.2	24.8	–	1.0	8.1	–	5.6	1.3	–	48.0	3.8	25.3	29.1	22.9	–	<b>100.0</b>
Electronics .....	–	3.8	0.8	1.3	–	–	4.2	–	0.4	0.6	–	11.1	0.5	61.7	62.2	26.7	–	<b>100.0</b>
Building and civil engineering .....	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	100.0	–	<b>100.0</b>
Cement, glass and bldg. products .....	2.9	–	37.6	15.1	19.4	–	–	–	20.6	–	–	95.6	–	–	–	4.4	–	<b>100.0</b>
Paper, printing and publishing .....	–	–	7.3	13.1	8.8	–	36.4	–	–	–	–	65.6	–	34.4	34.4	–	–	<b>100.0</b>
Food and drinks .....	–	27.8	6.7	–	1.1	1.8	5.2	–	12.6	4.0	–	59.2	–	38.7	38.7	2.1	–	<b>100.0</b>
Textiles and clothing .....	–	–	38.2	23.5	–	3.4	–	–	1.3	–	–	66.4	–	33.6	33.6	–	–	<b>100.0</b>
Other mfg. industries .....	–	0.1	4.6	10.9	–	5.3	3.2	–	5.6	23.0	–	52.7	–	29.3	29.3	18.0	–	<b>100.0</b>
Services industries .....	–	2.6	8.2	27.7	1.9	–	0.4	–	–	3.8	–	44.6	7.2	14.3	21.5	33.9	–	<b>100.0</b>
<b>Total industrial companies</b> .....	<b>0.5</b>	<b>7.2</b>	<b>8.1</b>	<b>13.2</b>	<b>0.5</b>	<b>1.7</b>	<b>4.7</b>	<b>0.7</b>	<b>3.6</b>	<b>9.5</b>	<b>49.7</b>	<b>1.1</b>	<b>31.7</b>	<b>32.8</b>	<b>17.5</b>	<b>–</b>	<b>–</b>	<b>100.0</b>
<b>Software &amp; Web</b> .....	–	–	–	3.8	–	–	–	–	–	–	–	3.8	–	73.2	73.2	2.4	20.6	<b>100.0</b>
<b>Telecoms</b> .....	–	2.2	3.9	7.1	–	1.8	1.2	4.9	–	6.9	–	28.0	1.4	23.9	25.3	18.2	28.5	<b>100.0</b>
<b>Utilities</b> .....	–	–	27.8	24.2	–	11.6	3.4	8.6	–	7.7	3.7	87.0	6.1	3.9	10.0	–	–	<b>100.0</b>

\* Australia, China, India, Mexico, Singapore, South Korea and Saudi Arabia.

TABLE I.4 – INDUSTRIAL COMPANIES BASED IN ASIA-RUSSIA AND REST OF WORLD: % BREAKDOWN OF 2017 NET SALES BY SECTOR

	Asia-Russia					Rest of world							
	China	India	Russia	South Korea	Taiwan	Other countries *	Total	Brazil	Mexico	Australia	Other countries **	Total	
Oil, energy and mining .....	58.8	43.7	100.0	6.3	8.1	40.3	41.8	53.7	14.9	–	67.8	42.0	<b>41.8</b>
Iron, steel and non-ferrous metals .....	–	16.0	–	7.2	–	0.8	3.0	8.5	5.4	56.9	–	11.5	<b>3.9</b>
Chemicals and pharmaceuticals .....	5.7	7.5	–	0.5	–	24.2	5.3	6.6	6.2	43.1	19.7	11.5	<b>6.0</b>
Tyres and cables .....	–	–	–	–	–	–	–	–	–	–	–	–	–
Mechanical engineering .....	18.2	30.4	–	29.7	–	–	15.9	2.6	–	–	–	1.5	<b>14.4</b>
<i>automotive</i> .....	13.1	24.4	–	18.7	–	–	11.1	–	–	–	–	–	<b>9.9</b>
<i>aerospace and shipbuilding</i> .....	–	–	–	–	–	–	–	2.6	–	–	–	1.5	<b>0.2</b>
<i>domestic appliances</i> .....	4.7	–	–	2.8	–	–	2.4	–	–	–	–	–	<b>2.2</b>
<i>other engineering</i> .....	0.4	6.0	–	8.2	–	–	2.4	–	–	–	–	–	<b>2.1</b>
Electronics .....	14.9	1.1	–	49.7	91.9	8.7	28.9	–	–	–	–	–	<b>25.6</b>
Building and civil engineering .....	–	–	–	1.0	–	–	0.2	–	–	–	–	–	<b>0.2</b>
Cement, glass and bdg. products .....	–	–	–	–	–	1.7	0.2	1.6	16.3	–	–	4.3	<b>0.6</b>
Paper, printing and publishing .....	–	–	–	–	–	0.8	0.1	–	–	–	12.5	1.4	<b>0.2</b>
Food and drinks .....	1.9	–	–	–	–	21.6	2.9	26.4	37.0	–	–	23.2	<b>5.2</b>
Textiles and clothing .....	–	–	–	–	–	–	–	–	–	–	–	–	–
Other mfg. industries .....	–	0.7	–	0.4	–	0.4	0.2	0.4	2.4	–	–	0.8	<b>0.3</b>
Services industries .....	0.5	0.6	–	5.2	–	1.5	1.5	0.2	17.8	–	–	3.8	<b>1.8</b>
<b>Total</b> .....	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>

\* Israel, Malaysia, Saudi Arabia, Philippines, Singapore and Thailand.

\*\* Colombia and South Africa.

TABLE I.5 – INDUSTRIAL COMPANIES BASED IN ASIA-RUSSIA AND REST OF WORLD: % BREAKDOWN OF 2017 NET SALES BY COUNTRY OF LOCATION

	Asia-Russia					Rest of world							
	China	India	Russia	South Korea	Taiwan	Other countries *	Total	Brazil	Mexico	Australia	Other countries **	Total	
Oil, energy and mining .....	48.2	7.6	19.2	2.9	2.1	8.4	88.4	8.6	0.9	–	2.1	11.6	<b>100.0</b>
Iron, steel and non-ferrous metals .....	–	29.5	–	35.1	–	1.8	66.4	14.5	3.3	15.8	–	33.6	<b>100.0</b>
Chemicals and pharmaceuticals .....	32.4	9.0	–	1.4	–	35.3	78.1	7.4	2.5	7.8	4.2	21.9	<b>100.0</b>
Tyres and cables .....	–	–	–	–	–	–	–	–	–	–	–	–	–
Mechanical engineering .....	43.6	15.4	–	39.8	–	–	98.8	1.2	–	–	–	1.2	<b>100.0</b>
<i>automotive</i> .....	45.7	17.9	–	36.4	–	–	100.0	–	–	–	–	–	<b>100.0</b>
<i>aerospace and shipbuilding</i> .....	–	–	–	–	–	–	–	100.0	–	–	–	–	<b>100.0</b>
<i>domestic appliances</i> .....	75.1	–	–	24.9	–	–	100.0	–	–	–	–	–	<b>100.0</b>
<i>other engineering</i> .....	5.8	20.5	–	73.7	–	–	100.0	–	–	–	–	–	<b>100.0</b>
Electronics .....	19.9	0.3	–	37.2	39.6	3.0	100.0	–	–	–	–	–	<b>100.0</b>
Building and civil engineering .....	–	–	–	100.0	–	–	100.0	–	–	–	–	–	<b>100.0</b>
Cement, glass and bdg. products .....	–	–	–	–	–	23.5	23.5	16.1	60.4	–	–	76.5	<b>100.0</b>
Paper, printing and publishing .....	–	–	–	–	–	31.4	31.4	–	–	–	68.6	68.6	<b>100.0</b>
Food and drinks .....	12.8	–	–	–	–	36.2	49.0	34.0	17.0	–	–	51.0	<b>100.0</b>
Textiles and clothing .....	–	–	–	–	–	–	–	–	–	–	–	–	–
Other mfg. industries .....	–	19.3	–	30.7	–	15.1	65.1	11.9	23.0	–	–	34.9	<b>100.0</b>
Services industries .....	8.7	2.7	–	56.3	–	7.5	75.2	0.8	24.0	–	–	24.8	<b>100.0</b>
<b>Total</b> .....	<b>34.2</b>	<b>7.3</b>	<b>8.0</b>	<b>19.2</b>	<b>11.0</b>	<b>8.8</b>	<b>88.5</b>	<b>6.7</b>	<b>2.4</b>	<b>1.1</b>	<b>1.3</b>	<b>11.5</b>	<b>100.0</b>

\* Israel, Malaysia, Saudi Arabia, Philippines, Singapore and Thailand.

\*\* Colombia and South Africa.

TABLE I.6 - NON-DOMESTIC SALES

	Non-domestic sales <sup>1</sup> as % of total net sales		Change (percentage points) 2013-2017
	2013	2017	
<b>Industrials</b>			
Ireland.....	97.0	97.5	0.5
Benelux.....	92.9	92.8	-0.1
Finland.....	88.0	88.8	0.8
France.....	82.0	83.5	1.5
Germany.....	81.2	83.4	2.2
Austria.....	74.7	82.1	7.4
Italy.....	74.0	74.0	-
Spain.....	56.6	62.8	6.2
<b>Eurozone<sup>2</sup></b> .....	<b>82.1</b>	<b>84.4</b>	<b>2.3</b>
Switzerland and Liechtenstein.....	97.5	97.7	0.2
Sweden.....	94.6	94.7	0.1
Denmark.....	92.6	93.0	0.4
United Kingdom.....	88.6	89.9	1.3
Norway.....	43.4	51.5	8.1
<b>Europe<sup>2</sup></b> .....	<b>83.2</b>	<b>85.6</b>	<b>2.4</b>
<b>Japan</b> .....	<b>55.2</b>	<b>59.9</b>	<b>4.7</b>
<b>North America<sup>2</sup></b> .....	<b>54.8</b>	<b>53.7</b>	<b>-1.1</b>
<b>Asia-Russia<sup>2</sup></b> .....	<b>57.1</b>	<b>58.3</b>	<b>1.2</b>
of which: Taiwan.....	86.9	89.1	2.2
South Korea.....	68.3	70.1	1.8
Russia.....	63.4	60.9	-2.5
India.....	67.0	58.7	-8.3
China.....	37.4	38.6	1.2
<b>Rest of world<sup>2</sup></b> .....	<b>48.9</b>	<b>49.3</b>	<b>0.4</b>
of which: Mexico.....	60.1	57.6	-2.5
Brazil.....	41.2	41.4	0.2

1 Exports from home country plus sales by foreign subsidiaries outside home country.

2 Sales generated by companies based in this macro-area outside their respective home countries.

TABLE I.7 - INDICATORS BY SECTOR IN 2017

	As % of net sales 2017		As % of net sales 2013		2017	
	NOM	Current pre-tax profit	NOM	Current pre-tax profit	ROI	ROE
<b>Industrials</b>						
<b>Triad regions</b>						
Chemical and pharmaceutical	19.6	18.8	16.9	16.0	16.1	19.9
Food and drinks.....	13.3	12.2	12.0	11.4	11.7	15.8
Electronics.....	11.7	11.8	11.1	11.0	13.6	19.7
Paper.....	11.5	10.0	8.7	7.1	14.9	29.3
Tyres and cables.....	10.6	9.6	9.9	8.5	16.9	16.7
Construction materials.....	8.9	7.6	7.8	5.0	8.2	4.2
Mechanical engineering.....	8.5	7.3	8.3	8.8	10.1	10.7
Transport.....	7.6	8.6	6.6	6.9	11.0	17.6
Energy.....	7.4	7.8	10.0	10.8	7.9	6.3
Iron and steel.....	6.1	5.8	2.4	0.4	9.9	10.9
<b>Asia-Russia</b>						
Electronics.....	11.5	11.6	8.6	8.5	20.4	23.6
Energy.....	8.3	7.6	9.0	9.1	7.9	6.6
Iron and steel.....	7.8	6.4	5.5	3.8	7.4	9.2
Transport.....	3.2	5.5	6.6	10.6	7.3	9.8
<b>Rest of world</b>						
Energy.....	22.6	13.0	22.2	16.0	9.5	7.5
Iron and steel.....	6.2	2.7	5.1	0.9	7.4	4.3
Food and drinks.....	5.9	3.4	6.6	4.9	9.3	8.9
<b>Software &amp; Web</b> .....	<b>18.4</b>	<b>18.3</b>	<b>21.8</b>	<b>21.9</b>	<b>15.6</b>	<b>18.6</b>
<b>Telecoms</b> .....	<b>14.1</b>	<b>11.5</b>	<b>16.6</b>	<b>14.5</b>	<b>9.3</b>	<b>17.0</b>
<b>Utilities</b> .....	<b>9.7</b>	<b>7.1</b>	<b>10.4</b>	<b>7.2</b>	<b>7.7</b>	<b>10.0</b>

TABLE I.8 - INDUSTRIAL COMPANIES: SOURCES OF FUNDS IN 2014-2017

	Cash flow	New equity issues *	Change in borrowings	Total
Europe (EUR bn).....	2,357	-51	339	2,645
%	89.1	-1.9	12.8	100.0
North America (USD bn) .....	2,336	-619	575	2,292
%	101.9	-27.1	25.2	100.0
Japan (JPY bn).....	87,999	-2,174	3,533	89,358
%	98.5	-2.4	3.9	100.0
Asia-Russia (EUR bn).....	1,199	-2	166	1,363
%	87.9	-0.1	12.2	100.0
Rest of world (EUR bn) .....	210	-6	25	229
%	91.6	-2.5	10.9	100.0

\* Net of share buybacks.

TABLE I.9 - INDUSTRIAL COMPANIES: APPLICATIONS OF FUNDS IN 2014-2017

	Capital expenditure	Financial investments *	Dividends paid	Other flows	Total
Europe (EUR bn).....	1,165	869	570	41	2,645
%	44.0	32.8	21.6	1.6	100.0
North America (USD bn) ....	707	940	657	-12	2,292
%	30.8	40.9	28.7	-0.4	100.0
Japan (JPY bn).....	55,143	19,310	9,714	5,191	89,358
%	61.7	21.6	10.9	5.8	100.0
Asia-Russia (EUR bn).....	645	397	162	159	1,363
%	47.4	29.1	11.9	11.6	100.0
Rest of world (EUR bn) .....	166	34	31	-2	229
%	72.4	15.0	13.5	-0.9	100.0

\* Includes change in sundry residual items.

TABLE I.10 - EUROPEAN AND NORTH AMERICAN INDUSTRIAL COMPANIES: NEW EQUITY ISSUES, SHARE BUYBACKS AND DIVIDEND PAYOUTS

	New equity issues (a)	Share buybacks <sup>1</sup> (b)	Dividends paid (c)	Balance (d=b+c-a)	Cash flow (e)	d / e %
European industrials (EUR m)						
2013 .....	14,506	23,920	118,360	127,774	569,984	22.4
2014 .....	13,701	32,702	144,063	163,064	591,837	27.6
2015 .....	6,232	26,176	144,430	164,374	550,271	29.9
2016 .....	16,157	16,411	140,077	140,331	556,305	25.2
2017 .....	14,975	27,391	141,669	154,085	658,589	23.4
<b>Total .....</b>	<b>65,571</b>	<b>126,600</b>	<b>688,599</b>	<b>749,628</b>	<b>2,926,986</b>	<b>25.6</b>

North American industrials (USD m)

2013 .....	49,635	178,321	135,974	264,660	637,944	41.5
2014 .....	29,433	226,793	150,828	348,188	637,759	54.6
2015 .....	34,423	191,856	161,819	319,252	577,605	55.3
2016 .....	23,813	175,631	170,129	321,947	540,681	59.5
2017 .....	24,494	137,124	173,675	286,305	579,452	49.4
<b>Total .....</b>	<b>161,798</b>	<b>909,725</b>	<b>792,425</b>	<b>1,540,352</b>	<b>2,973,441</b>	<b>51.8</b>

<sup>1</sup> Net of treasury shares sold.

TABLE I.11 - CAPITAL STRUCTURE INDICATORS IN 2017

	Manufacturing companies				
	Europe	North America	Japan	Asia-Russia	Rest of world
<i>% of tangible capital invested</i>					
Short-term borrowings.....	22.7	15.1	17.4	16.1	11.6
Medium- and long-term borrowings .....	58.3	87.8	24.4	22.8	57.3
Tangible net worth .....	19.0	-2.9	58.2	61.1	31.1
<b>Total.....</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>
<i>represented by:</i>					
Fixed assets .....	70.3	71.3	81.9	62.8	79.2
Net working assets .....	29.7	28.7	18.1	37.2	20.8
<i>of which: cash and marketable securities .....</i>	<i>25.5</i>	<i>55.2</i>	<i>15.4</i>	<i>28.3</i>	<i>19.1</i>
Medium- and long-term borrowings + tangible net worth as % of tangible capital invested .....	77.3	84.9	82.6	83.9	88.4
Medium- and long-term borrowings as % of borrowings.....	72.0	85.3	58.4	58.6	83.2
Working assets less short-term borrowings as % of tangible capital invested .....	7.0	13.6	0.7	21.1	9.2
<i>Borrowings/cash flow (times) .....</i>	<i>2.6</i>	<i>2.5</i>	<i>2.5</i>	<i>1.9</i>	<i>4.6</i>

	Energy companies					
	Triad regions	Asia-Russia	Rest of world	Software & Web	Telecoms	Utilities
<i>% of tangible capital invested</i>						
Short-term borrowings.....	5.8	11.0	3.5	6.1	16.8	9.7
Medium- and long-term borrowings..	26.6	16.1	46.9	41.4	78.4	57.5
Tangible net worth .....	67.6	72.9	49.6	52.5	4.8	32.8
<b>Total.....</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>
<i>represented by:</i>						
Fixed assets .....	92.5	89.0	89.5	52.7	102.1	126.5
Net working assets .....	7.5	11.0	10.5	47.3	-2.1	-26.5
<i>of which: cash and marketable securities .....</i>	<i>12.0</i>	<i>14.5</i>	<i>11.3</i>	<i>78.7</i>	<i>22.5</i>	<i>13.5</i>
Medium- and long-term borrowings + tangible net worth as % of tangible capital invested .....	94.2	89.0	96.5	93.9	83.2	90.3
Medium- and long-term borrowings as % of borrowings .....	82.1	59.4	93.1	87.2	82.4	85.6
Working assets less short-term borrowings as % of tangible capital invested .....	1.7	0.0	7.0	41.2	-18.9	-36.2
<i>Borrowings/cash flow (times) .....</i>	<i>1.8</i>	<i>2.3</i>	<i>3.7</i>	<i>1.6</i>	<i>2.8</i>	<i>5.1</i>

TABLE I.12 - INDUSTRIAL COMPANIES IN TRIAD REGIONS: CAPITAL INVESTED AT YEAR-END

		Capital invested		
		Net worth	Total borrowings	<i>of which: bonds</i>
		<i>as % of capital invested</i>		
<b>Europe</b> .....	2017	58.8	41.2	29.9
	2016	57.2	42.8	30.7
	2013	60.3	39.7	27.8
<i>of which:</i>				
Benelux .....	2017	50.1	49.9	37.0
	2016	47.2	52.8	37.7
	2013	53.5	46.5	30.6
France .....	2017	65.0	35.0	26.0
	2016	63.5	36.5	26.6
	2013	61.9	38.1	27.9
Germany .....	2017	49.6	50.4	32.1
	2016	47.3	52.7	33.5
	2013	50.1	49.9	30.9
Italy .....	2017	64.2	35.8	22.2
	2016	62.7	37.3	21.2
	2013	66.9	33.1	22.9
Scandinavia.....	2017	68.3	31.7	20.4
	2016	66.6	33.4	21.6
	2013	62.7	37.3	20.1
Switzerland and Liechtenstein .....	2017	68.8	31.2	25.3
	2016	70.8	29.2	24.2
	2013	72.5	27.5	22.3
United Kingdom .....	2017	61.4	38.6	33.1
	2016	59.0	41.0	35.2
	2013	65.9	34.1	29.6
<b>Japan</b> .....	2017	61.3	38.7	17.8
	2016	58.3	41.7	17.9
	2013	57.4	42.6	17.4
<b>North America</b> .....	2017	57.9	42.1	38.7
	2016	58.2	41.8	37.8
	2013	70.7	29.3	26.5
<b>Software &amp; Web</b> .....	2017	67.2	32.8	26.4
	2016	70.5	29.5	24.1
	2013	79.2	20.8	16.7
<b>Telecoms</b> .....	2017	50.5	49.5	37.6
	2016	49.3	50.7	37.1
	2013	54.7	45.3	34.5
<b>Utilities</b> .....	2017	48.3	51.7	41.3
	2016	45.3	54.7	42.3
	2013	46.2	53.8	41.1

TABLE I.13 - INDUSTRIAL COMPANIES IN ASIA-RUSSIA AND REST OF WORLD: CAPITAL INVESTED AT YEAR-END

		Capital invested		
		Net worth	Total borrowings	of which: bonds
<i>as % of capital invested</i>				
<b>Asia-Russia</b> .....	2017	70.5	29.5	13.7
	2016	70.3	29.7	14.5
	2013	72.0	28.0	12.9
<i>of which:</i>				
China .....	2017	73.7	26.3	12.2
	2016	74.0	26.0	13.7
	2013	74.7	25.3	14.4
India.....	2017	51.5	48.5	22.3
	2016	48.9	51.1	20.6
	2013	47.4	52.6	14.2
Russia.....	2017	71.4	28.6	10.1
	2016	72.1	27.9	10.9
	2013	79.0	21.0	9.2
South Korea.....	2017	74.5	25.5	13.8
	2016	73.0	27.0	15.0
	2013	72.1	27.9	13.4
Taiwan.....	2017	69.2	30.8	9.5
	2016	73.0	27.0	11.1
	2013	62.3	37.7	9.0
<b>Rest of world</b> .....	2017	50.4	49.6	28.4
	2016	46.7	53.3	30.3
	2013	58.8	41.2	21.0
<i>of which:</i>				
Africa.....	2017	66.8	33.2	16.1
	2016	65.9	34.1	18.5
	2013	67.9	32.1	21.2
Australia .....	2017	58.7	41.3	28.4
	2016	52.4	47.6	25.5
	2013	47.6	52.4	31.5
Central South America .....	2017	48.7	51.3	29.2
	2016	45.2	54.8	31.4
	2013	59.0	41.0	20.4

TABLE I.14 - RESEARCH AND DEVELOPMENT EXPENSES AS % OF NET SALES

	Breakdown by geographical area				
	2013	2014	2015	2016	2017
<b>Industrials</b>					
Switzerland and Liechtenstein.....	7.6	7.9	7.9	8.5	8.2
Germany.....	5.2	5.4	5.5	5.8	5.7
Scandinavia.....	3.9	3.9	3.9	4.6	4.6
France.....	3.4	3.4	3.7	3.5	3.4
Benelux.....	2.8	2.7	2.9	3.1	2.9
United Kingdom.....	1.5	1.7	2.3	2.4	2.2
Italy.....	1.6	1.5	1.7	2.0	2.0
<b>North America</b> .....	<b>4.1</b>	<b>4.4</b>	<b>5.0</b>	<b>5.5</b>	<b>5.5</b>
<b>Japan</b> .....	<b>3.9</b>	<b>3.9</b>	<b>4.0</b>	<b>4.1</b>	<b>4.0</b>
<b>Europe</b> .....	<b>3.5</b>	<b>3.6</b>	<b>4.0</b>	<b>4.3</b>	<b>4.1</b>
<b>Triad: manufacturing companies</b>	<b>4.9</b>	<b>5.1</b>	<b>5.2</b>	<b>5.5</b>	<b>5.5</b>
<b>Triad: industrial companies</b> .....	<b>3.7</b>	<b>3.9</b>	<b>4.3</b>	<b>4.7</b>	<b>4.5</b>
<b>Asia-Russia</b> .....	<b>2.0</b>	<b>2.2</b>	<b>2.7</b>	<b>2.9</b>	<b>2.9</b>
<b>Rest of world</b> .....	<b>0.9</b>	<b>1.0</b>	<b>1.0</b>	<b>0.9</b>	<b>0.9</b>
<b>Breakdown by sector</b>					
	2013	2014	2015	2016	2017
<b>Industrials</b>					
<b>Triad regions</b>					
Chemical and pharmaceutical ...	8.4	8.8	9.3	10.0	9.8
Electronics .....	6.7	6.9	6.9	7.4	7.5
Mechanical engineering.....	4.8	4.7	4.8	4.9	5.0
Transport .....	4.4	4.4	4.4	4.6	4.5
Tyres and cables.....	3.5	3.8	3.9	4.3	4.3
Food and drinks.....	0.8	0.8	0.9	0.9	0.9
Iron and steel.....	0.7	0.7	0.8	0.9	0.8
Construction materials.....	0.8	0.8	0.8	0.9	0.8
Paper.....	0.6	0.7	0.7	0.7	0.7
Energy.....	0.3	0.3	0.4	0.4	0.3
<b>Asia-Russia</b>					
Manufacturing.....	3.1	3.4	3.7	3.8	3.8
Energy.....	0.2	0.2	0.3	0.3	0.3
<b>Rest of world</b>					
Manufacturing.....	0.8	0.8	1.0	1.1	1.1
Energy .....	1.0	1.0	0.9	0.8	0.7
<b>Software &amp; Web companies</b> .....	<b>12.5</b>	<b>12.8</b>	<b>13.4</b>	<b>13.1</b>	<b>12.3</b>
<b>Telecoms</b> .....	<b>1.3</b>	<b>1.3</b>	<b>1.3</b>	<b>1.4</b>	<b>1.5</b>
<b>Utilities</b> .....	<b>0.3</b>	<b>0.4</b>	<b>0.3</b>	<b>0.4</b>	<b>0.4</b>



TABLE I.15 – EMPLOYEES

INDUSTRIAL COMPANIES

	2013		2014		2015		2016		2017	
	N.	home country <sup>1</sup>	N.	home country <sup>1</sup>	N.	home country <sup>1</sup>	N.	home country <sup>1</sup>	N.	home country <sup>1</sup>
AUSTRIA	91,625	34.4	92,396	33.8	92,475	35.2	91,791	37.3	91,705	38.4
Index No.	100.0		100.8		100.9		100.2		100.1	
BENELUX	1,490,310	...	1,478,524	...	1,462,894	...	1,498,635	...	1,476,927	...
Index No.	100.0		99.2		98.2		100.6		99.1	
FRANCE	1,944,247	35.9	1,894,701	35.5	1,836,829	34.6	1,812,701	35.2	1,887,707	32.3
Index No.	100.0		97.5		94.5		93.2		97.1	
GERMANY	2,798,354	40.0	2,853,313	39.7	2,989,959	39.0	3,058,631	38.2	3,155,992	37.9
Index No.	100.0		102.0		106.8		109.3		112.8	
IRELAND	140,964	...	140,996	...	144,683	...	155,338	...	155,682	...
Index No.	100.0		100.0		102.6		110.4		110.4	
ITALY	374,977	36.7	376,764	35.3	376,887	34.2	357,750	36.1	343,118	37.5
Index No.	100.0		100.5		100.5		95.4		91.5	
SCANDINAVIA	1,016,349	22.1	1,018,483	21.9	1,027,679	21.7	1,066,029	20.4	1,073,481	19.7
Index No.	100.0		100.2		101.1		104.9		105.6	
SPAIN	54,623	62.4	48,155	66.1	50,909	60.7	51,481	58.8	41,573	61.8
Index No.	100.0		88.2		93.2		94.2		76.1	
SWITZERLAND-LIECHTENSTEIN	1,030,099	9.4	1,039,861	9.5	1,061,470	9.4	1,046,950	9.2	1,049,146	9.2
Index No.	100.0		100.9		103.0		101.6		101.8	
UNITED KINGDOM	1,215,640	29.5	1,194,816	29.0	1,166,542	28.2	1,061,557	27.8	1,047,578	28.0
Index No.	100.0		98.3		96.0		87.3		86.2	
<b>TOTAL EUROPE</b>	<b>10,157,188</b>	<b>32.1</b>	<b>10,138,009</b>	<b>31.8</b>	<b>10,210,327</b>	<b>31.5</b>	<b>10,200,863</b>	<b>31.1</b>	<b>10,322,909</b>	<b>30.5</b>
Index No.	100.0		99.8		100.5		100.4		101.6	
NORTH AMERICA	6,466,071	42.7	6,322,518	42.9	6,180,900	42.3	6,020,041	41.0	6,061,277	41.2
Index No.	100.0		97.8		95.6		93.1		93.7	
JAPAN	3,862,976	...	3,919,432	...	3,921,155	...	3,929,249	...	3,989,919	...
Index No.	100.0		101.5		101.5		101.7		103.3	
<b>TOTAL TRIAD REGIONS</b>	<b>20,486,235</b>	<b>...</b>	<b>20,379,959</b>	<b>...</b>	<b>20,312,382</b>	<b>...</b>	<b>20,150,153</b>	<b>...</b>	<b>20,374,105</b>	<b>...</b>
Index No.	100.0		99.5		99.2		98.4		99.5	
ASIAN-RUSSIAN	6,772,592	...	7,008,826	...	6,823,167	...	6,853,103	...	6,948,973	...
Index No.	100.0		103.5		100.7		101.2		102.6	
REST OF WORLD	1,277,507	54.0	1,302,220	54.0	1,328,528	54.0	1,348,206	53.0	1,390,994	52.0
Index No.	100.0		101.9		104.0		105.5		108.9	
<b>TOTAL INDUSTRIALS</b>	<b>28,536,334</b>	<b>38.8</b>	<b>28,691,005</b>	<b>38.7</b>	<b>28,464,077</b>	<b>38.2</b>	<b>28,351,462</b>	<b>37.6</b>	<b>28,714,072</b>	<b>37.2</b>
Index No.	100.0		100.5		99.7		99.4		100.6	
SOFTWARE & WEB COMPANIES	757,883	55.7	920,878	57.4	1,059,097	59.3	1,261,068	61.6	1,605,638	64.1
Index No.	100.0		121.5		139.7		166.4		211.9	
TELECOMS.	2,773,149	58.3	2,823,930	58.0	3,074,836	56.2	3,112,487	58.3	3,097,408	59.6
Index No.	100.0		101.8		110.9		112.2		111.7	
UTILITIES	1,071,402	51.3	1,039,307	51.3	1,041,423	52.1	1,006,155	51.2	1,005,867	50.6
Index No.	100.0		97.0		97.2		93.9		93.9	

<sup>1</sup> Like-for-like. As % of total number of employees, covering only those companies which provide separate figures for employees in home country throughout the period and whose data account for more than 25% of total employees of the sample.

TABLE I.16 – NET SALES

INDUSTRIAL COMPANIES

	2013		2014		2015		2016		2017	
	EUR m	home country <sup>1</sup>	EUR m	home country <sup>1</sup>	EUR m	home country <sup>1</sup>	EUR m	home country <sup>1</sup>	EUR m	home country <sup>1</sup>
AUSTRIA	64,450	25.3	58,266	18.4	44,268	16.5	40,747	15.3	43,804	17.9
Index No.	100.0		90.4		68.7		63.2		68.0	
BENELUX	515,061	7.1	555,354	7.0	571,003	6.6	574,770	6.9	581,814	7.2
Index No.	100.0		107.8		110.9		111.6		113.0	
FRANCE	612,279	18.0	598,638	19.2	580,331	17.5	557,776	16.9	604,020	16.5
Index No.	100.0		97.8		94.8		91.1		98.7	
GERMANY	861,477	18.8	892,091	18.7	976,299	17.5	989,821	17.1	1,054,778	16.6
Index No.	100.0		103.6		113.3		114.9		122.4	
IRELAND	31,825	3.0	32,752	2.8	37,849	2.4	41,394	2.3	40,190	2.5
Index No.	100.0		102.9		118.9		130.1		126.3	
ITALY	183,045	26.0	176,839	25.3	151,368	26.0	129,963	27.8	139,750	26.0
Index No.	100.0		96.6		82.7		71.0		76.3	
SCANDINAVIA	373,237	21.6	357,492	20.9	362,008	16.9	360,158	16.0	377,283	16.7
Index No.	100.0		95.8		97.0		96.5		101.1	
SPAIN	80,131	43.4	70,534	41.4	58,709	37.2	52,475	40.9	58,197	37.2
Index No.	100.0		88.0		73.3		65.5		72.6	
SWITZERLAND-LIECHTENSTEIN	266,713	2.5	276,675	2.4	300,622	2.5	308,363	2.3	288,089	2.3
Index No.	100.0		103.7		112.7		115.6		108.0	
UNITED KINGDOM	942,932	11.4	992,855	11.2	787,055	11.8	685,257	10.5	766,332	10.1
Index No.	100.0		105.3		83.5		72.7		81.3	
<b>TOTAL EUROPE</b>	<b>3,931,150</b>	<b>16.8</b>	<b>4,011,496</b>	<b>16.4</b>	<b>3,869,512</b>	<b>14.9</b>	<b>3,740,724</b>	<b>14.4</b>	<b>3,954,257</b>	<b>14.4</b>
Index No.	100.0		102.0		98.4		95.2		100.6	
NORTH AMERICA	2,548,721	45.2	2,862,024	45.4	2,856,725	46.7	2,835,289	47.0	2,625,602	46.3
Index No.	100.0		112.3		112.1		111.2		103.0	
JAPAN	1,225,616	44.8	1,261,062	41.6	1,396,210	39.6	1,403,057	40.6	1,389,480	40.1
Index No.	100.0		102.9		113.9		114.5		113.4	
<b>TOTAL TRIAD REGIONS</b>	<b>7,705,487</b>	<b>33.0</b>	<b>8,134,582</b>	<b>33.0</b>	<b>8,122,447</b>	<b>32.5</b>	<b>7,979,070</b>	<b>32.7</b>	<b>7,969,339</b>	<b>31.5</b>
Index No.	100.0		105.6		105.4		103.6		103.4	
ASIAN-RUSSIAN	2,247,748	42.9	2,450,241	42.2	2,250,579	41.9	2,262,362	40.9	2,467,899	41.7
Index No.	100.0		109.0		100.1		100.7		109.8	
REST OF WORLD	338,778	51.1	368,384	53.2	311,745	51.1	344,727	51.7	319,867	50.7
Index No.	100.0		108.7		92.0		101.8		94.4	
<b>TOTAL INDUSTRIALS</b>	<b>10,292,013</b>	<b>35.9</b>	<b>10,953,207</b>	<b>35.8</b>	<b>10,684,771</b>	<b>35.0</b>	<b>10,586,159</b>	<b>35.1</b>	<b>10,757,105</b>	<b>34.5</b>
Index No.	100.0		106.4		103.8		102.9		104.5	
SOFTWARE & WEB COMPANIES	280,274	52.3	365,969	52.6	465,932	53.9	560,073	55.5	625,644	56.8
Index No.	100.0		130.6		166.2		199.8		223.2	
TELECOMS.	900,326	60.9	971,953	59.8	1,077,223	61.6	1,119,057	62.2	1,060,649	60.5
Index No.	100.0		108.0		119.6		124.3		117.8	
UTILITIES	696,546	47.2	674,205	45.9	673,219	44.4	627,948	45.5	631,976	46.0
Index No.	100.0		96.8		96.7		90.2		90.7	

<sup>1</sup> Like-for-like. As % of total sales, covering only those companies which provide separate figures for domestic sales throughout the period and whose data account for more than 30% of total net sales of the sample.