Issue 12 / December 2015

European Commission

NEWSLETTER on STI Data and Indicators

DG RTD, A4, Analysis and monitoring of national research policies

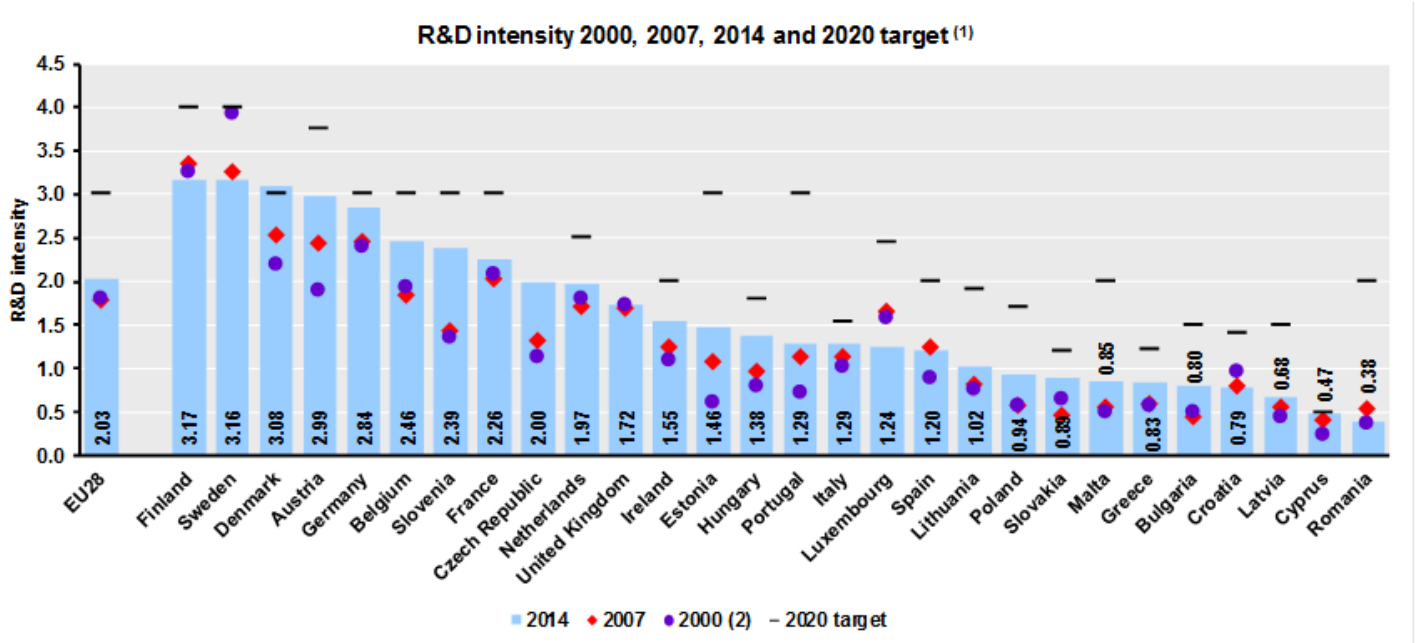
1. Eurostat data on R&D expenditure

In mid-November Eurostat released 2014 R&D expenditure data. On 30 November Eurostat issued a press release on the results (link see below).

In 2014 EU 28 R&D intensity remained at 2.03% of GDP at the same level as in 2013. Countries which progressed most in 2014 include Bulgaria (+0.15 percentage points), the Czech Republic (+0.09), Latvia (+0.08), Lithuania (+0.07) and Poland (+0.07). The increase is even more impressive against the backdrop of robust economic growth in these economies (translating into >10% growth of R&D spending in absolute terms in all 4 countries).

Countries where R&D intensity declined include Estonia (-0.28), Slovenia (-0.21), Sweden (-0.14), and Finland (-0.13, and this in a shrinking economy). Despite the decrease Finland and Sweden are still the top EU performers, followed by Denmark. Austria overtook Germany in recent years and is now the country with the fourth highest R&D intensity in the EU.

While no 2014 results are yet available for non-European countries, the Eurostat data show that China (2.08%), which has a 2.5% national target for 2020, has overtaken the EU in R&D intensity in 2013 and that Japan (3.47%, national target: 4%) and Korea (4.15%, national target: 5.0%, for 2012) are zooming further ahead.



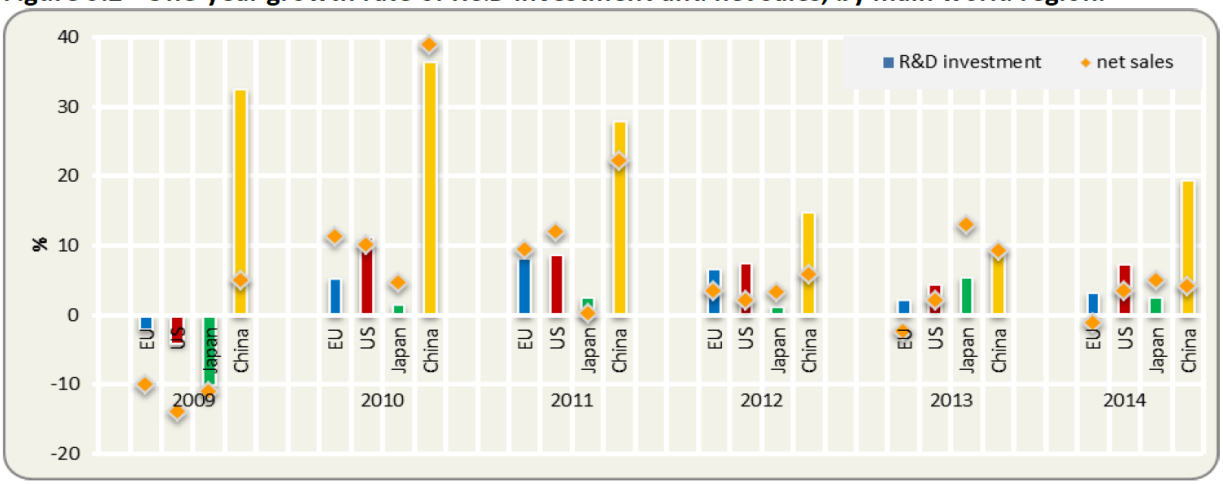
Source: DG Research and Innovation - Unit for the Analysis and Monitoring of National Research Policies
Data: Eurostat
Notes: (1) CZ, UK: R&D intensity targets are not available.
IE: The R&D intensity target is 2.5% of GNP which is estimated to be equivalent to 2.0% of GDP.
LU: The R&D intensity target is between 2.30% and 2.60% (2.45% was assumed).
PT: The R&D intensity target is between 2.7% and 3.3% (3% was assumed).
(2) EL, SE: 2001; HR, PL: 2002, LT, MT: 2004.
(3) DK, EL, FR, HU, NL, PT, RO, SI, SE: Breaks in series occur between 2000 and 2013.

More info: http://ec.europa.eu/eurostat/web/products-press-releases/-/9-30112015-AP

2. 2015 EU Industrial R&D Investment Scoreboard

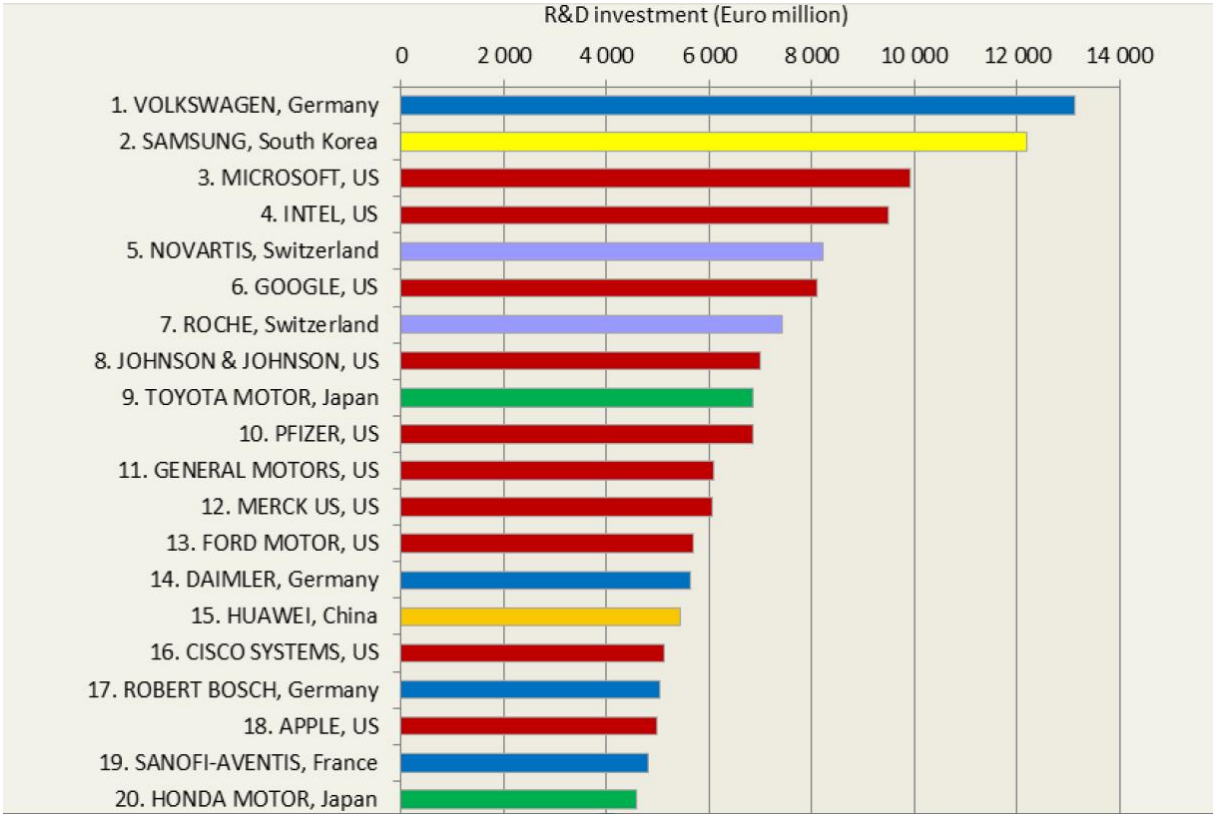
At the end of November the Commission (JRC) published the **2015 EU Industrial R&D Investment Scoreboard**. The Scoreboard reports economic and financial information on the world's top 2500 companies. It comprises 608 companies based in the EU, 829 in the US, 360 in Japan and 703 from the rest of the world.
Despite a decline in net sales in 2013 and 2014 R&D investment of EU companies increased in both years. R&D investment of top companies grew at a slower pace in Japanese enterprises, except in 2013. US companies showed both in net sales and in R&D investment more growth than EU companies. In China the very rapid growth of R&D investment of top companies has slowed down in recent years.

Figure S.2 - One-year growth rate of R&D investment and net sales, by main world region.



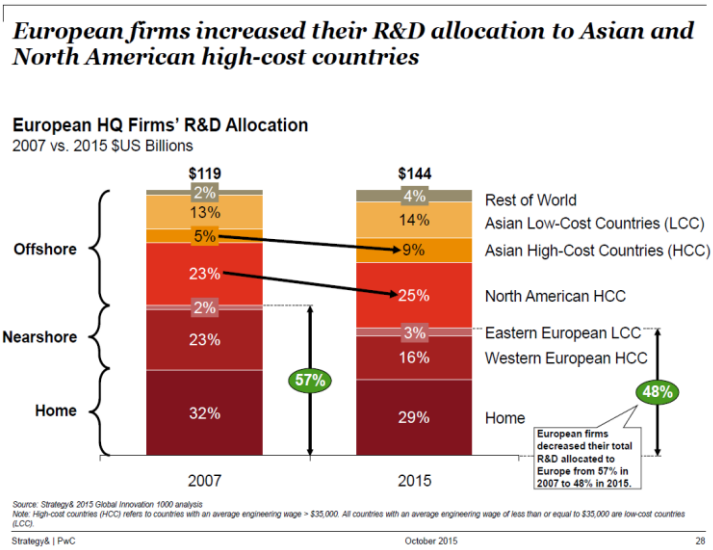
Note: Figures for the two variables have been computed on 516 EU, 667 US, 350 Japanese and 145 Chinese companies for which data are available for the entire period 2009-2014
Source: *The 2015 EU Industrial R&D Investment Scoreboard*, European Commission, JRC/DG RTD.

In 2014 Volkswagen was the company with the highest R&D expenditure worldwide (13.1 bn Euro, reflecting a research intensity of 6.5%), followed by Samsung (12.2 bn), Microsoft (9.9 bn) and Intel (9.5 bn). Daimler and Robert Bosch, headquartered in Germany, and Sanofi-Aventis from France were other EU companies in the top 20.



More info: http://iri.jrc.ec.europa.eu/scoreboard15.html

3. The PwC 2015 Global Innovation 1000



End of October PwC Strategy released the 2015 edition of its annual **Global Innovation 1000**. This publication looks at R&D spending of the world's 1000 largest public companies (although latest results are marked as 2015 they in reality refer to the last fiscal year as of June 2015, i.e. mostly to 2014).
The PwC report has some interesting data on the geographic allocation of firms' R&D, see for example graph below (based mainly on data on companies' subsidiaries).

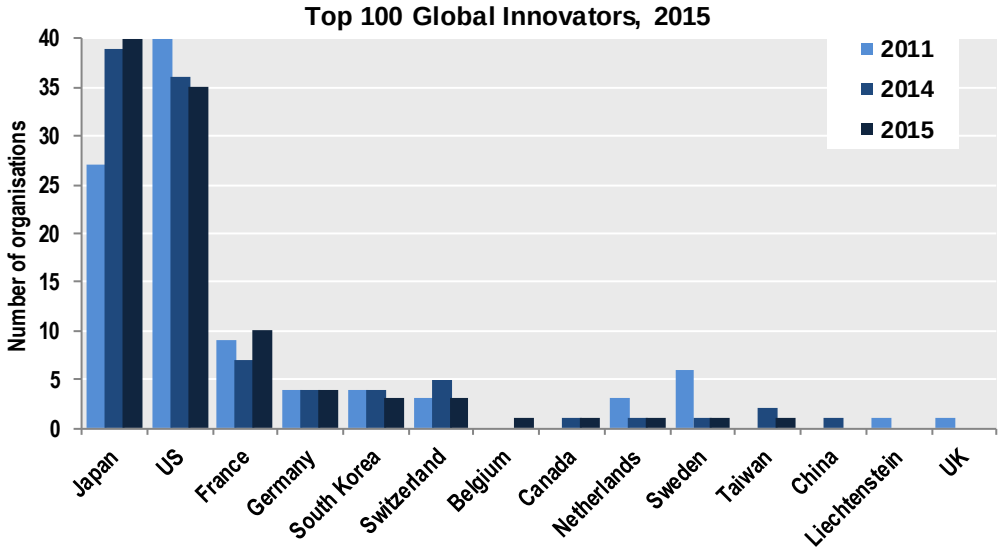
Although the PwC report provides some relevant insights, preference should be given to the data from the Commission R&D Industrial Scoreboard (carried out by JRC for RTD), which has more methodological information, takes better R&D capitalization into account, shows a more realistic reference year, provides data in € and for the EU and covers more EU companies.

More info: http://www.strategyand.pwc.com/innovation1000

4. Thomson Reuters Top 100 Global Innovators

In November Thomson Reuters published the 4th edition of its annual **Top 100 Global Innovators**. The identification of top innovators is based on patent and citation data across four criteria: *volume* (an organization must have at least 100 inventions protected), *success* (the success rate of grant applications), *globalization* (ratio of patents proteced in 4 main patent offices), *influence* (based on citations of patents).
Japan has most organisations on the list (40), followed by the US (35), France (7) and Germany (4). Other EU countries represented are the Netherlands, Belgium and Sweden (1 each). 3 European RTOs are on the list (Fraunhofer from Germany, CEA and IFP from France).

To note is the absence of China and the UK on the list. The absence of China (which had one company on the list in 2014, Huawei) is explained in the report by the fact most of China's innovation activity is domestic and that only 6% is protected and commercialized outside China.



Source: DG Research and Innovation - Unit for the Analysis and Monitoring of National Research Policies
Data: Thomson Reuters (Top 100 Global Innovators, 2015)

More info: http://top100innovators.stateofinnovation.thomsonreuters.com/

5. Truffle Top 100 European Software Vendors (2015)

In November Truffle capital has updated the list of **top 100 European software vendors**. The fact that Europe lacks companies like the GAFA (Google, Apple, Facebook, Amazon), which are all US (West coast) based is often deplored. While not matching the market capitalization of GAFA, Europe has at least one relatively large software company: SAP (founded in 1972 by former IBM employees). SAP and another large player, the Software AG, are located in the so called *Software Cluster* of the Upper Rhine valley between Darmstadt and Karlsruhe, also called '*Europe's Silicon Valley for Enterprise Software*'.

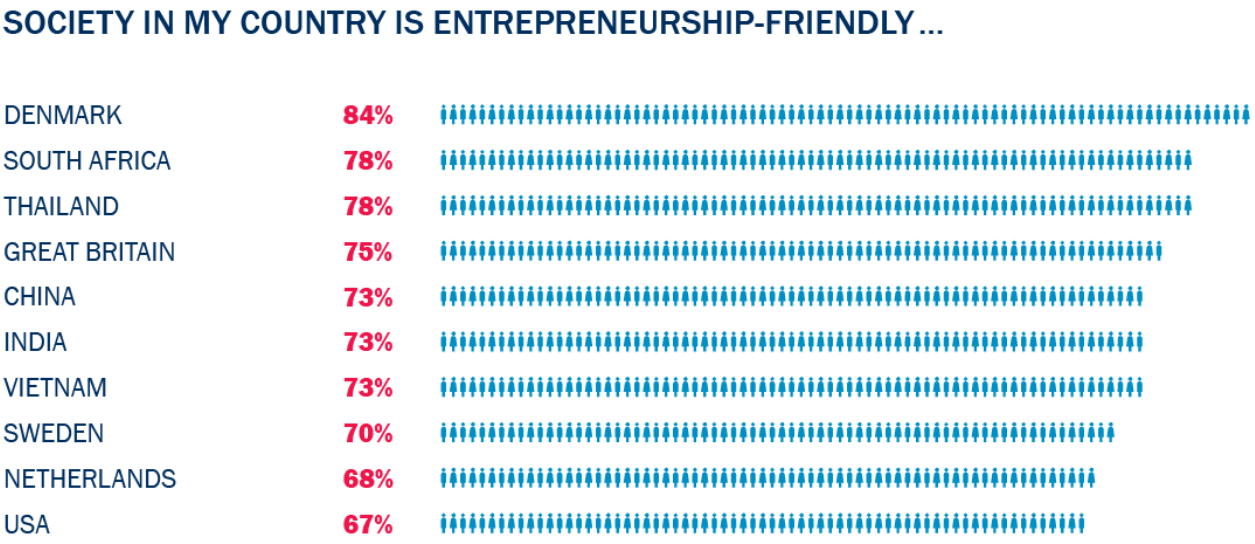
While Germany has Europe's biggest software company, France (22) has the highest number of top-100 software vendors, followed by the UK (19). Sweden and Finland have the highest number per million inhabitants. There are only 5 EU-13 companies on the list, 2 from Poland (with Asseco being a top-10 company), 2 from the Czech Republic and one from Slovakia. In total Europe's 100 top software companies had combined revenues of 62 bn Euro in 2014 and 67 000 R&D employees.

Rank	Company	Country of HQ location	Public	Software +Services 2014 (m€)	Total revenues 2014 (m€)	R&D employees 2014
1	SAP	DE		17 243.9	17 560.0	18908
2	Dassault Systemes	FR		2 078.6	2 346.7	5562
3	Sage	UK		1 539.5	1 620.5	1169
4	Hexagon	SE		1 442.3	2 622.4	3430
5	Wincor Nixdorf	DE		1 367.0	2 471.0	750
6	Asseco Group	PL		1 193.3	1 487.6	3696
7	Software AG	DE		835.6	857.8	968
8	DATEV	DE		790.7	843.5	1355
9	Wolters Kluwer	NL		740.2	3 660.0	2222
10	Misys	UK		639.5	639.5	1100

More info: http://www.truffle100.com/

6. Amway Global Entrepreneurship Report 2015 (AMGER)

In November the **Amway Global Entrepreneurship Report 2015** was published. Its results are based on a survey of 44 800 persons in 44 countries. One question asked '*How entrepreneuship-friendly is the society in* your country'. The EU countries with the highest share of respondents stating that their country was entrepreneurship friendly were Denmark (84%), Great Britain (75%), Sweden (70%) and the Netherlands (68%), while EU countries with the lowest shares include Romania (19%), Portugal (16%) and Bulgaria (8%). Outside Europe China (73%), India (73%) and the US (67%) were among the countries showing high shares. The graph below shows the top 10 countries:



Within the EU Denmark (96%) , Estonia (91%) and Sweden (90%), were the countries where the highest share of the population had positive attitudes towards entrepreneurship, while Romania (54%), Bulgaria (54%) and Austria (51%) were the countries with the lowest shares. As regards the share of respondents who could imagine starting a business these were highest in Greece (52%), Latvia (51%) and Lithuania (48%)

More info: http://globalnews.amway.com/amway-global-entrepreneurship-report

Calendar of data releases and indicator based publications
Update of: 14/12/2015 (grey= already published)

2015	Eurostat data updates	Commission indicator based reports	Data and indicator based reports other organisations
January			
February	**GBAORD final (2013)** Tertiary attainment (2014, prov.) High growth enterprises data (provisional, 2013) IPR (patent 2012), Community Trademarks (2013), RCD (2013)	Winter forecast (ECFIN)	European Patent Office , EPO annual results (2014)
March	**R&D intensity (2013 update)**	Europe 2020 publication (ESTAT)	Times Higher Ed. World Reputations Ranking OICA world motor vehicle production data
April	Education headline indicators (LFS)	Skills forecast (Cedefop)	**OECD R&D expenditure data**
May	High tech trade (2014) Venture capital (2014) Education enrolment, graduates	**Innovation Union Scoreboard (GROW)** Spring Forecast (ECFIN)	IMD World Competitiveness Yearbook European Venture Capital Association (EVCA) 2014 European Private Equity Report
June	Education spending		
July	IPR (Patents, 2012), Community Trademarks (2014), RC Designs (2014) Knowledge intensive activities (2014)		UNESCO UIS STI stats release
August			Academic Ranking of World Universities (Shanghai)
September	**GBAORD (2014 preliminary)** Employment high-tech (2014) **HRST (stocks and job mobility, 2014)** Final high growth enterprise data (2013)	EU Employment and Social Situation Quarterly Review (EMPL) September edition	**WIPO/Cornell/INSEAD Global Innovation Index**
October		Report on single market integration and competitiveness in the EU and its Member States (GROW)	**OECD STI Scoreboard (2-yearly)** **World Bank Doing Business** PwC Strategy Global 1000
November	**R&D intensity (2014 preliminary, 2013 final)** **Economic data on high-tech (2014)** **HRST (education inflows, 2013)**	Autumn Forecast (ECFIN) Education Monitor (EAC) Industrial R&D Investment Scoreboard (JRC) **Annual Growth Survey (ECFIN)**	Truffle Top 100 European Software vendors Thomson Reuters Top 100 Global Innovators Top500.org: Top 500 Supercomputer list Amway Global Entrepreneurship Report OECD Education at a Glance
December	ICT household data (2015) ICT enterprise data (2015) IPR Statistics (patents 2013), CTM (2014), RCD (2014)	SheFigures (3-yearly (RTD) Joint Employment Report (EMPL)	**WIPO World Intellectual Property Indicators** BDI/Telekom Innovation Indicator

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