

NEWSLETTER on STI Data and Indicators

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

1. Eurostat data on businesses with web sales

On 14 December 2017, **Eurostat** published a news release on **e-Commerce** in 2016. According to this release, in 2016, 1/6 (16%) of enterprises located in the European Union (EU) and employing at least 10 persons had received orders via a website or via apps (web sales hereby include both sales to individual consumers and to other enterprises).

The share of EU enterprises making web sales rose from 12% in 2010 to around 16% in 2014, since when it has been relatively stable.

Ireland (26%) is the EU Member State with the highest share of companies with web sales, followed by Sweden (25%), Denmark (24%), The Netherlands (22%) and Belgium (21%). The share is lowest in Romania (7%). Poland (9%) and Bulgaria (9%).

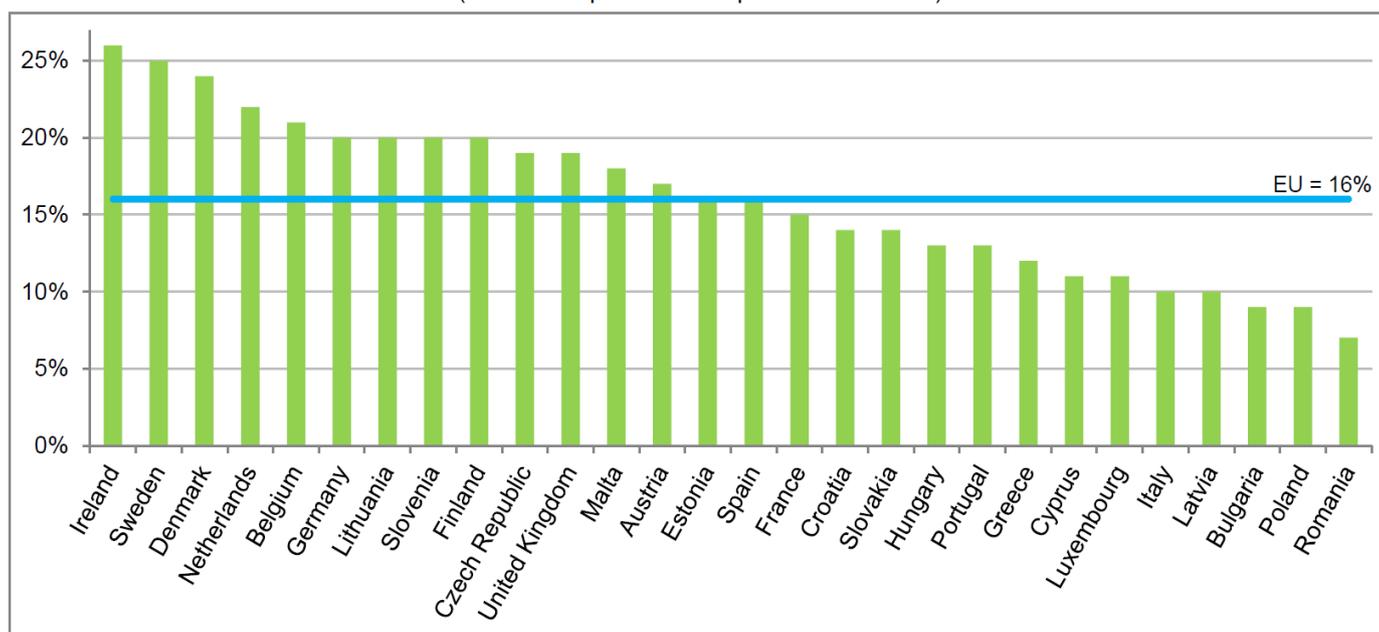
While almost all enterprises (97%) in the EU with web sales sold to national customers, less than half (44%) sold to customers located in other EU Member States and over a quarter (28%) to non-EU customers.

According to Eurostat the largest proportions of EU enterprises with web sales in 2016 that sold to customers located in other EU Member States were recorded in Cyprus (71%) and Austria (69%), followed by Luxembourg (61%), Lithuania (57%), Italy, Greece and Malta (all 55%). In contrast, web sales to other EU countries were relatively low in the Nordic Member States – Finland (24%), Denmark (30%) and Sweden (33%) – as well as in Romania (28%).

Regarding commerce with non-EU countries, in Cyprus over half (62%) of enterprises with web sales had web sales sell to non-EU customers, followed by Malta (44%), Ireland (41%), Portugal (40%), Greece and Austria (both 39%).

EU businesses with web sales in 2016

(% of enterprises of 10 persons or more)



More info: <http://ec.europa.eu/eurostat/documents/2995521/8536129/9-14122017-AP-EN.pdf/084bc3ac-be33-4090-ad3a-cc326f0e2232>

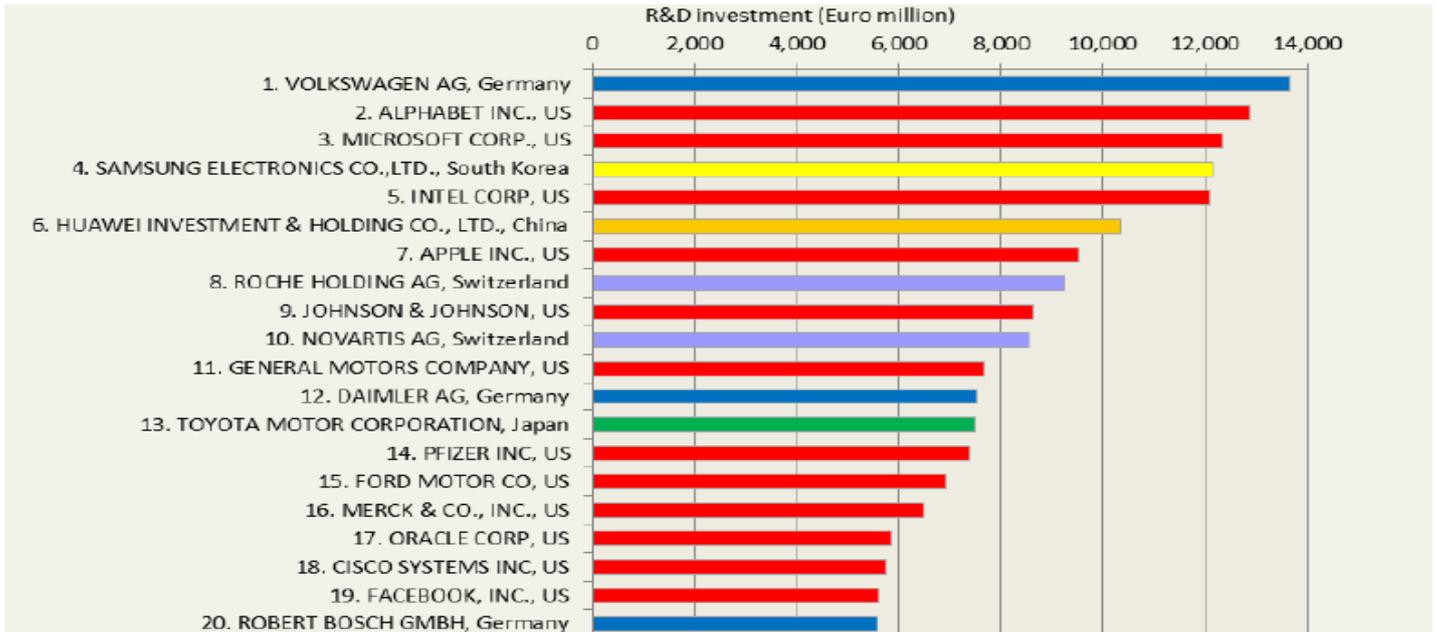
2. 2017 EU Industrial R&D Investment Scoreboard

On 4 December 2017 the Commission (JRC/RTD) published the 2017 edition of the **EU Industrial R&D Investment Scoreboard**.

The Scoreboard highlights that 'the 2500 companies raised their total R&D by 5.8% over the previous year (compared to a sales growth of only 0.1%), the sixth consecutive year of significant increases. The increase was driven by the ICT services sector (up 11.7%). The EU group raised its R&D by 7.0% - more than the global average, just less than the US (7.2%) but much more than Japan (-3.0%). China increased its R&D by 18.8%.

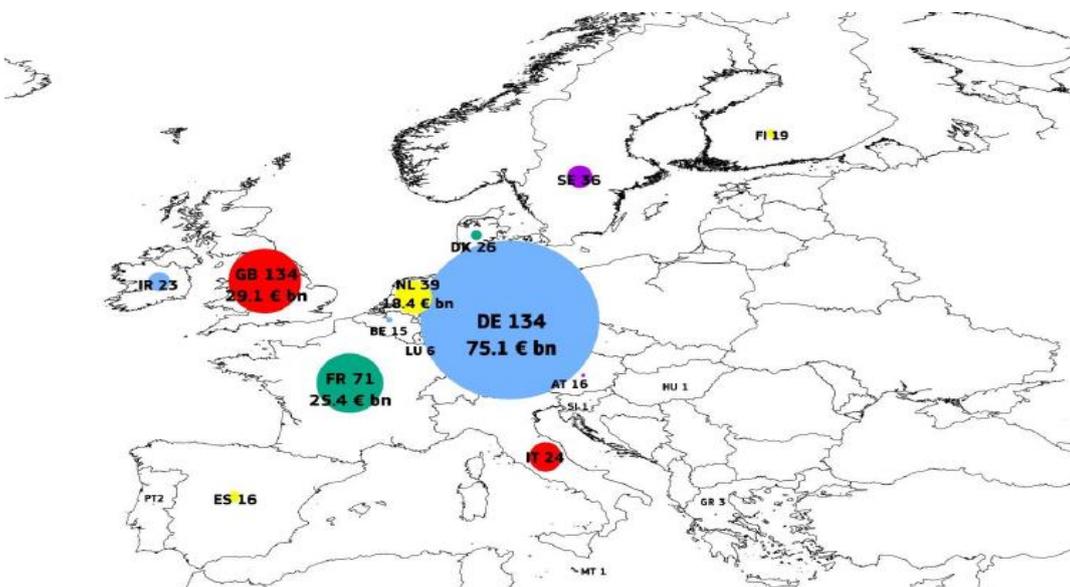
EU companies' R&D growth is led by automotive together with ICT and health whereas in non-EU companies it is led by the ICT and health industries.

Global R&D is concentrated in the largest companies with 40% of total R&D accounted for by the top 50 companies and 53% by the top 100. A substantial number of the world's top R&D investors are based in the EU with the top investor for the fourth consecutive year being Volkswagen. There are 16 EU companies in the world top 50 and 30 in the world top 100. The top 50 also contains 22 companies from the US, 10 from Asia and 2 from Switzerland.'



According to the Scoreboard, there are 567 EU companies among the 2500 biggest R&D spenders worldwide, of which 134 based in Germany (investing over 75 bn € in R&D) , 134 in the UK, 71 in France and

39 in the Netherlands. Only three companies are based in EU-13 countries (HU, SI, MT), just half the number of Luxembourg-based top R&D spending companies.



More info: <http://iri.jrc.ec.europa.eu/scoreboard.html>

3. WIPO World Intellectual Property Indicators 2017

On 6 December 2017 the *World Intellectual Property Organisation* (WIPO) published the 2017 edition of the **World Intellectual Property Indicators**.

As regards patents, the publication shows that applications increased by 8.3% in 2016 to reach 3.1 million. China's State Intellectual Property Office (SIPO) received 1.3 million patent applications, over 40% of the world total and a strong growth compared to the year before (+21.5%). It was followed by the United States Patent and Trademark Office (USPTO) (606,000, +2.7%), the Japan Patent Office (JPO) (318,000, -0.1%), the Korean Intellectual Property Office (KIPO) (209,000, -2.3%) and the European Patent Office (EPO) (159,000 -0.4%). However, on a per capita basis, patent filings in China ranked behind those in Germany, Japan, South Korea and the US (China's share is also lower in PCT patents, which on average have a higher quality than patents filed at national offices only).

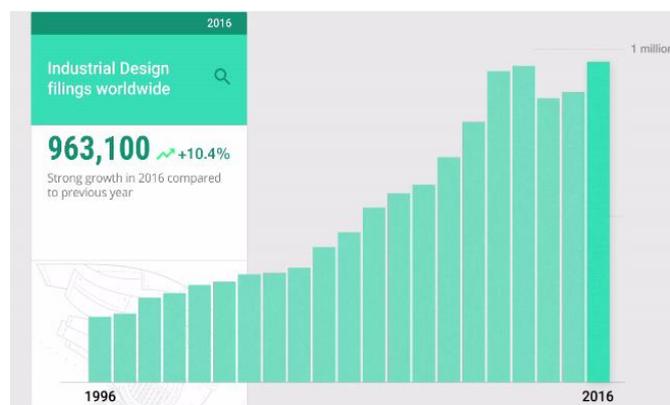
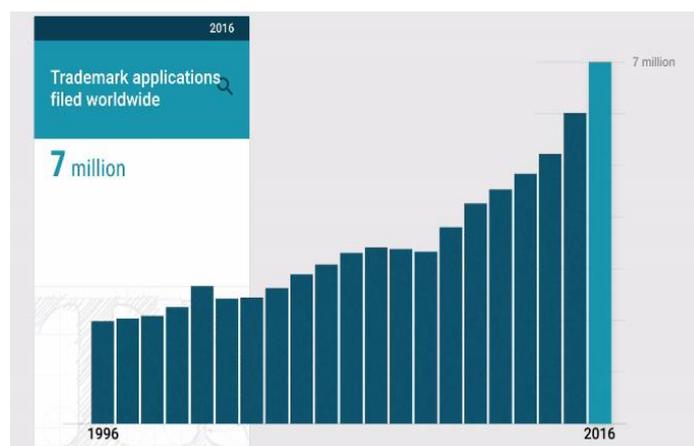
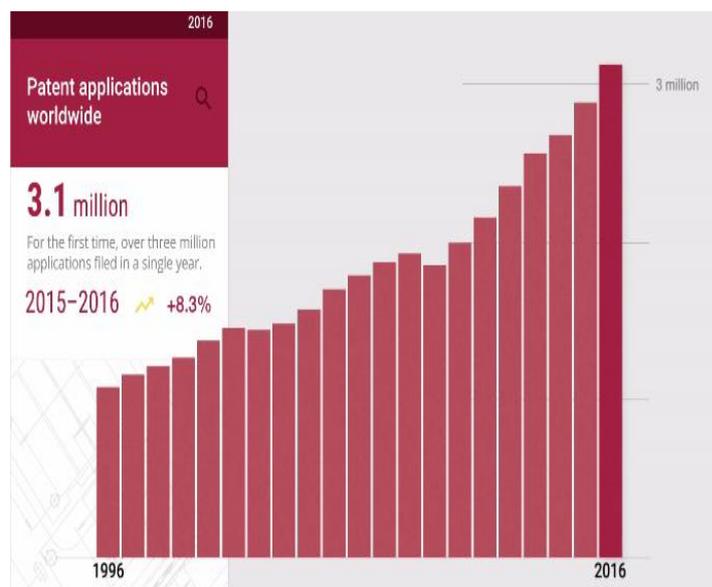
The top five offices accounted for 84% of the world total. The patent offices of Germany (67,899), India (45,057), the Russian Federation (41,587), Canada (34,745) and Australia (28,394) also featured among the top 10 offices.

In 2016 trademark applications showed a strong growth of 16.4% to reach about 7 million covering 9.77 million classes. According to WIPO 'the office of China had the highest volume of filing activity with a class count of around 3.7 million (38% of the world total), followed by the U.S. (545,600), Japan (451,300), the European Union Intellectual Property Office (EUIPO) (370,000) and India (313,600). Among the top five offices, China (+30.8%), Japan (+30.8%) and India (+8.3%) reported solid annual growth. Other offices among the top 20 with strong growth were Russia (+14.8%) and the U.K. (+19.1%)'.

Global industrial design filing activity in 2016 grew by 10.4% to nearly 1 million applications containing 1.2 million designs. Design counts worldwide grew by 8.3%, driven by strong growth in China. China received applications containing 650,000 designs in 2016, corresponding to more than half (52%) of the world total.

It was followed by the EUIPO (104,500), the KIPO (69,100), Germany (56,200) and surprisingly Turkey (46,300). Among the top 20 offices, the fastest growth in design counts occurred in Iran (+34.8%), Ukraine (+17.4%), China (+14.3%) and the US (+12.1%).

The three sets of data on IP hence confirm the rapid rise of China in IP filings.

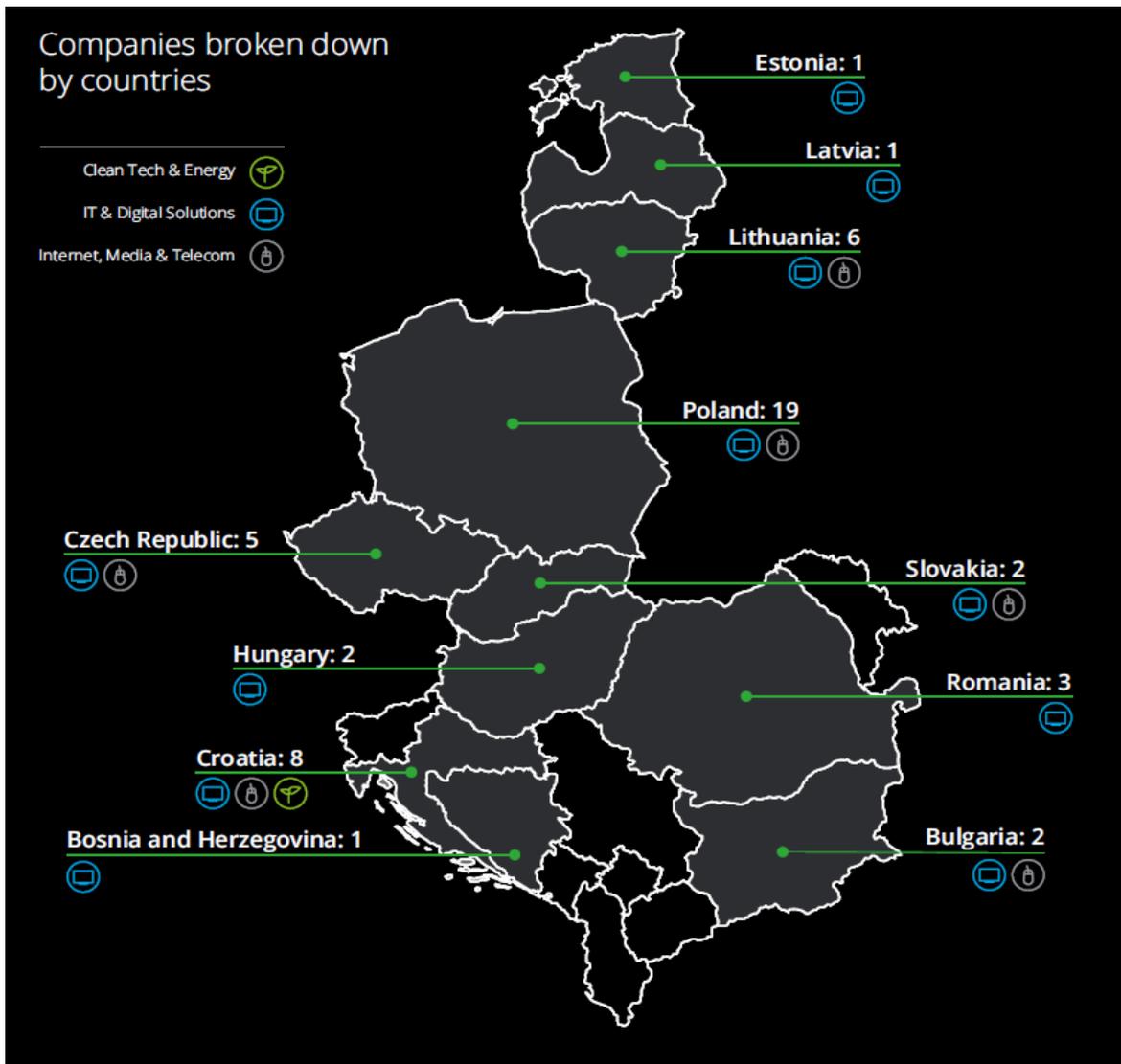
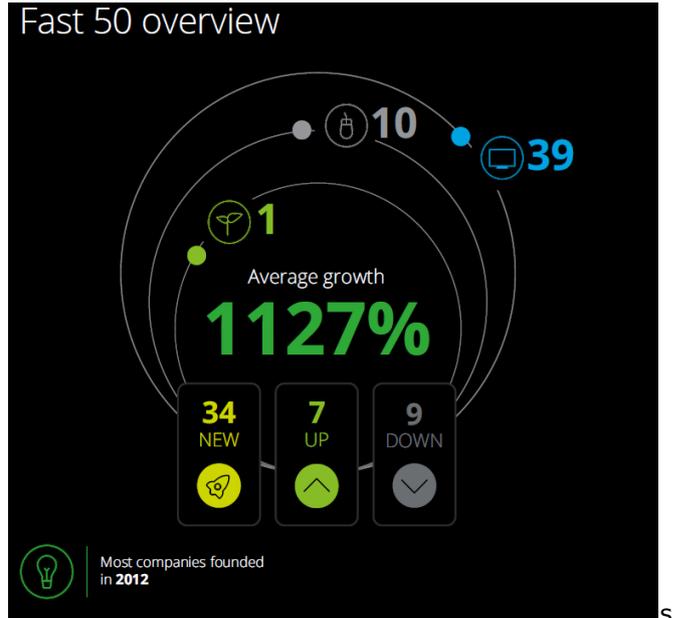


More info: http://www.wipo.int/pressroom/en/articles/2017/article_0013.html

4. Deloitte Fast 50 Central Europe 2017

On 15 November 2017 Deloitte published its **Fast 50** annual list of fast growing Central European companies. Applications from 300 innovative companies headquartered in Central/Eastern Europe, being at least 4 years old and with a minimum turnover of 50 000 Euro were hereby considered. The 50 fastest growing companies (turnover in fiscal year 2016 relative to 2013) were then identified among these.

The 2017 list shows Poland as the Central European country with the largest number of fast 50 companies. Croatia has the second highest number and is also the second best per million population, after Lithuania. Fastest growing company on the list is Kiwi (7165% revenue growth 2013-2016), a company that helps customers to search cheap flights. Kiwi was founded in 2012 in Brno/Czech Republic and already employs 1400 people. Second ranked is Deeper (+7048%), a Lithuanian consumer electronics company founded in 2012, while the Czech 3-D printing company Prusa (+6910%) ranks third. The winner in the category most disruptive company was the Serbian heating/ventilation company Dadanco Europe.



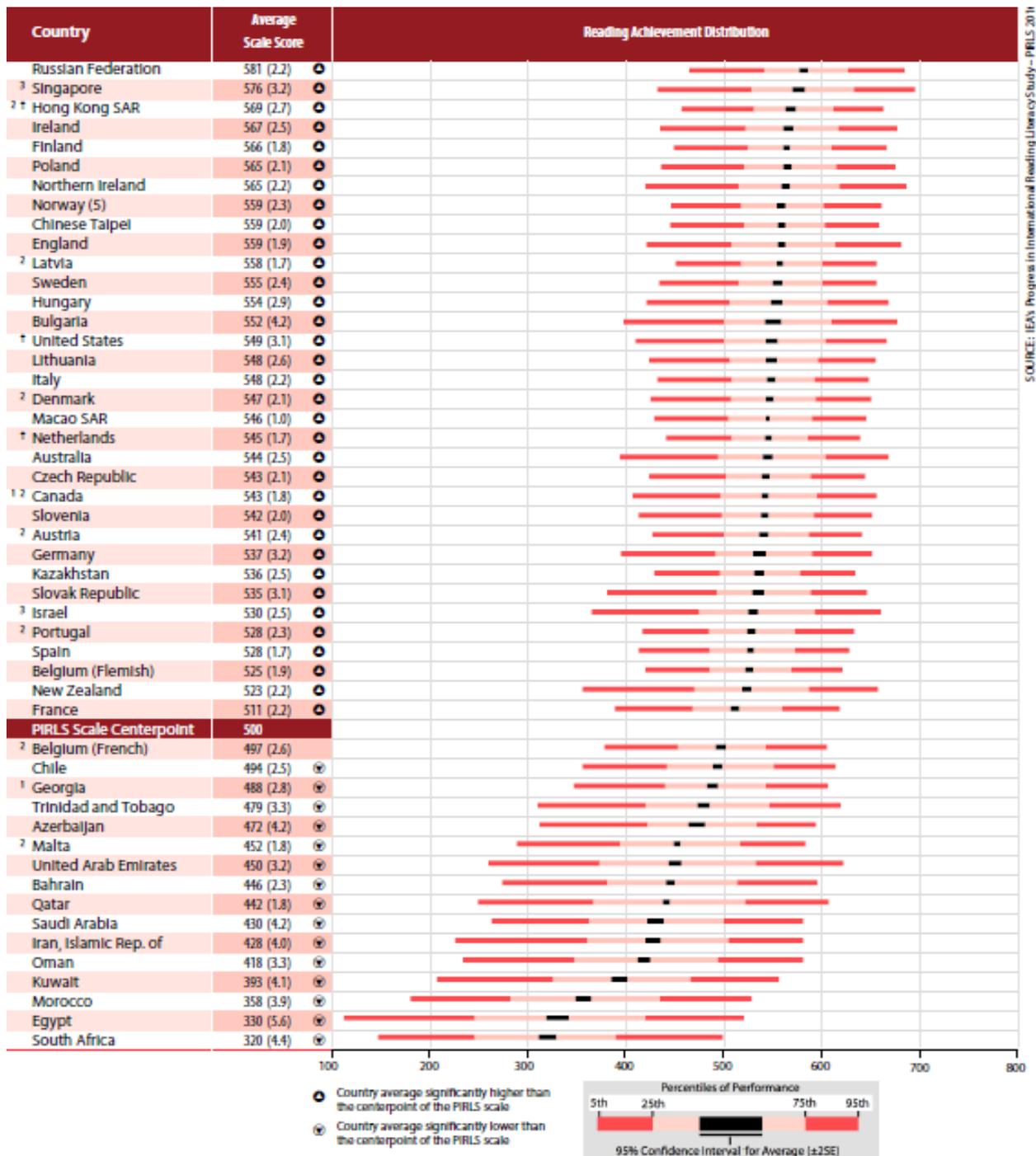
(Graphs: Screenshots from website)

More info: <https://www2.deloitte.com/content/campaigns/ce/technology/fast-50/fast-50-central-europe.html>

5. IEA PIRLS study

On 5 December 2017 the *International Association for the Evaluation of Educational Achievement (IEA)* published the results of the 2016 **Progress in International reading Literacy Study (PIRLS)**. PIRLS is a 5-yearly assessment of the reading literacy of 4th grade pupils (who are about 10 years old). While the OECD PISA study is aged based (15 year olds), PIRLS is grade based. However, differences in the average age of pupils tested can have an impact on cognitive development and results. Whilst the Russian and Bulgarian pupils tested were on average 10.8 years

old, the average age of Italian pupils tested was 9.7 years. Nevertheless the study shows broadly a similar performance pattern as the PISA study. Best performing EU countries as regards the share of pupils with advanced reading skills (see graph) in 2016 were Ireland, Finland, Poland and the UK (N. Ireland and England) Lowest EU performers were the French speaking part of Belgium and Malta (where the pupils tested were, however, relatively young).



More info: <http://timssandpirls.bc.edu/pirls2016/international-results/>

6. Miscellaneous results from national data sources

France : largest startup incubator created in Paris

On 22 November 2017 French media reported that Symaps, a start-up incubated at Station F, had won a French technology prize (prix de Tech in France).

Station F is a startup incubator, that was inaugurated on 29 June in Paris by its US (Silicon Valley) born director Roxanne Varza, and French president Emmanuel Macron. The Station F campus spreads over 34 000 m² in the Halle Freysinnet, a former railway building near Gare de Lyon. The project was initiated and financed with an amount of 250 million € by French entrepreneur Xavier Niel ('Freenet'). However, when Xavier Niel was asked in

an interview, from where a French Google could emerge, he didn't refer to Station F, but suggested the long declining industrial town of Roubaix, where OVH, a rapidly growing French cloud computing company, founded in 1999 by a Polish student, is based. In September 2017 OVH had a staff of about 2000. It plans to expand this number to about 3000 by September 2018 and over 5000 by September 2019.

More info: <https://stationf.co/fr/>

Romania: rapid economic growth

On 7 December Eurostat published Q3 GDP growth rates, showing the Romanian economy expanding by 8.6% compared to the same quarter of the previous year, the fastest growth in the EU.

German news magazine DER SPIEGEL shortly afterwards published on its website an article about the boom in Romania and investments by German companies triggered by this boom, the relatively low wages and the availability of skilled workers. According to the article 7500 German companies are active in Romania, having created 250 000 jobs. The automobile parts supplier Continental currently employs 18 000 people in Romania, of which 3000 in Sibiu, including parts of its R&D

facilities. The company is planning to double the number of engineers working there to 2000 in the near future.

While wages in Romania are still low, they are increasing quickly. The report quotes an increase of about 10% per year, with the vehicle industry seeing even a wage increase of 28% recently. Rapid wage increases contribute to a consumption driven growth, further fuelled by an expansionary fiscal policy (income and consumption taxes were cut in recent years). However, this reduces fiscal space and according to the article the risk of a crash is mounting.

More info: <http://www.spiegel.de/wirtschaft/unternehmen/rumaenien-deutsche-firmen-investieren-wirtschaft-boomt-a-1180955.html>

Brazil: number of births down

On 22 December 2017 the population clock on the website of IBGE, the Statistical Office of Brazil, showed the country's population at 208 million and growing by one inhabitant every 21 seconds (1.5 million per year).

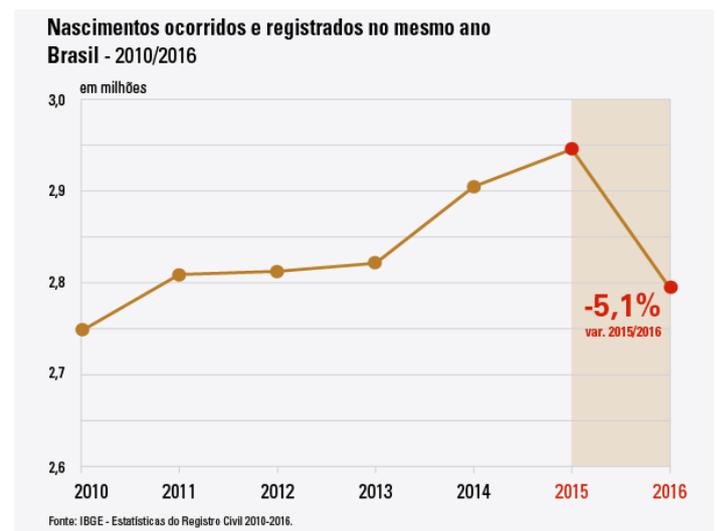


However, projections by IBGE expect the population to peak in 2042, at 228 million, and then to decline by 10 million by 2060.

The reason for this is the below replacement level fertility rate of Brazil (1.7 children/woman), one of the lowest on the American continent. North and Latin America together have a population of 1 billion, of which already 60% live in countries with below replacement fertility (< 2.1 children/woman), including the US, Canada, Brazil, Cuba; Uruguay and Chile. The Americas together have a fertility rate of 2.0. As in Europe and East Asia, the number of deaths will surpass the number of births in the long term, if current patterns continue.

On 14 November 2017 IBGE published data on the number of births in Brazil in 2016. The Zika virus crisis

and its link to microcephalie birth defects has led to a decline of births by over 5% in 2016, depressing Brazil's fertility level further.



More info: <https://agenciadenoticias.ibge.gov.br/agencia-noticias/2012-agencia-de-noticias/noticias/17933-registros-de-nascimentos-caem-pela-primeira-vez-desde-2010.html>

Calendar of data releases and indicator based publications

Update of: 22/12/2017 (grey= already published)

2017	Eurostat data updates	Commission indicator based reports	Data and indicator based reports of other organisations
January			Transparency International Corruption Perception Index Bloomberg Innovation Index
February	Tertiary attainment (2016, prov.) High growth enterprises data (provisional, 2015)	Winter forecast (ECFIN)	OECD MSTI statistics (R&D expenditure)
March		DESI indicator (CNECT)	European Patent Office , annual results Reuters Most Innov. Institutions OICA world motor vehicle production data OECD R&D Statistics
April	Education headline indicators (LFS)		Internet Minute (Excelacom/Allaccess)
May	High-tech trade (2016) Venture capital (2016) Education enrolment, graduates Knowledge-int. activities (2016)	Spring Forecast (ECFIN) Skills forecast (Cedefop) Europe 2020 publication (ESTAT)	Invest Europe European Private Equity Report IMD World Competitiveness Yearbook
June	Education spending Employment high-tech (2016) HRST education inflows (2015)	European Innovation Scoreboard (GROW/RTD) Regional Innovation Scoreboard (GROW/RTD)	OECD MSTI publication Times Higher Ed. Reputations Ranking WIPO/Cornell/INSEAD Global Innovation Index
July	IPR (Patents, 2014), Community Trademarks (2016), RC Designs (2016)		UNESCO UIS STI stats release OECD Education at a Glance
August			Academic Ranking of World Universities (Shanghai)
September	Final high growth ent. data (2015) Economic data on high-tech (2016)		WEF Global Competitiveness Index
October	GBAORD (2016 preliminary)		World Bank Doing Business
November	R&D intensity (2016 preliminary, 2015 final) Knowledge-int. activities (2016) Employment high-tech (2016)	Autumn Forecast (ECFIN) Education Monitor (EAC) Annual Growth Survey (ECFIN)	Top500.org: Top 500 Supercomputer list OECD STI Scoreboard (2-yearly)
December	ICT household data (2016) ICT enterprise data (2016) HRST stocks (2016)	Industrial R&D Investment Scoreboard (JRC) Joint Employment Report (EMPL) (draft)	WIPO World Intellectual Property Indicators

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