

NEWSLETTER on STI Data and Indicators

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

1. Eurostat data on scientists and engineers

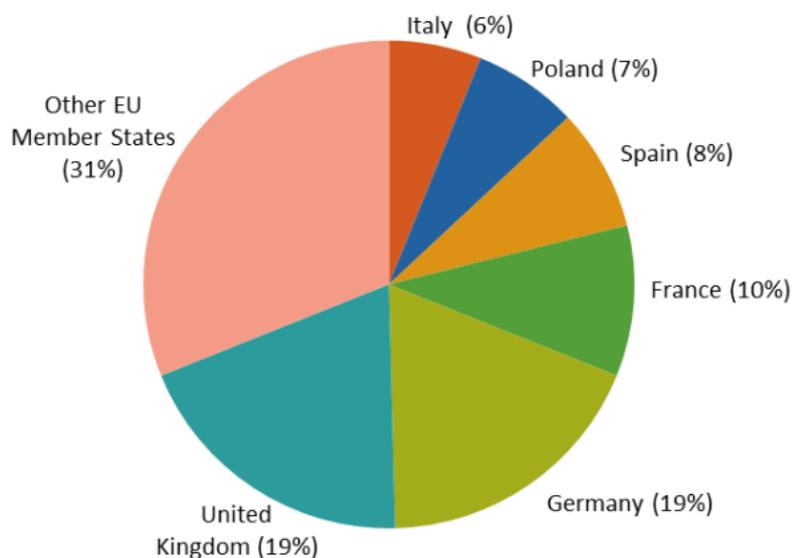
On 20 September, Eurostat published data on the number of scientists and engineers in the EU in 2017. According to Eurostat *'In 2017, the number of scientists and engineers in the European Union (EU) aged between 25 and 64 increased by 2% when compared with 2016. The total number of scientists and engineers in the EU is estimated to be 16.5 million, and they represent one in five (21%) of all workers employed in science and technology occupations in the EU. The United Kingdom and Germany together accounted for 38% of the scientists and engineers in the EU, which is higher than their combined share of the EU population (29%).*

As regards the share of scientists and engineers in the population, Sweden (5.5%) leads in the EU, followed by the UK (4.8%), Finland (4.7%) and Denmark (4.7%). Ireland (4.5%), the Netherlands (4.5%), Luxembourg (4.2%) and Belgium (4.1%) also have relatively high

shares. Italy is the EU country with the lowest share of scientists and engineers in the population (1.7%), followed by Slovakia (1.8%) and Croatia (2.0%). Greece (2.3%), Hungary (2.4%) and Latvia (2.4%) also have relatively low shares.

Compared to 2016 the number of scientists and engineers increased in all EU Member States (average growth 2%), except in Italy. Growth (in countries without breaks in series) was strongest in Cyprus (+16.3%) and Slovakia (+13.5%). It was also relatively strong in Croatia (+6.0%), Luxembourg (+5.6%), Portugal (+5.2%), Finland (+5.1%) and Poland (+5.0%). In absolute terms it was strongest in Poland (+54 000 scientists and engineers) and Spain (+41 000).

Location of scientists and engineers across the EU, 2017 (%)



ec.europa.eu/eurostat 

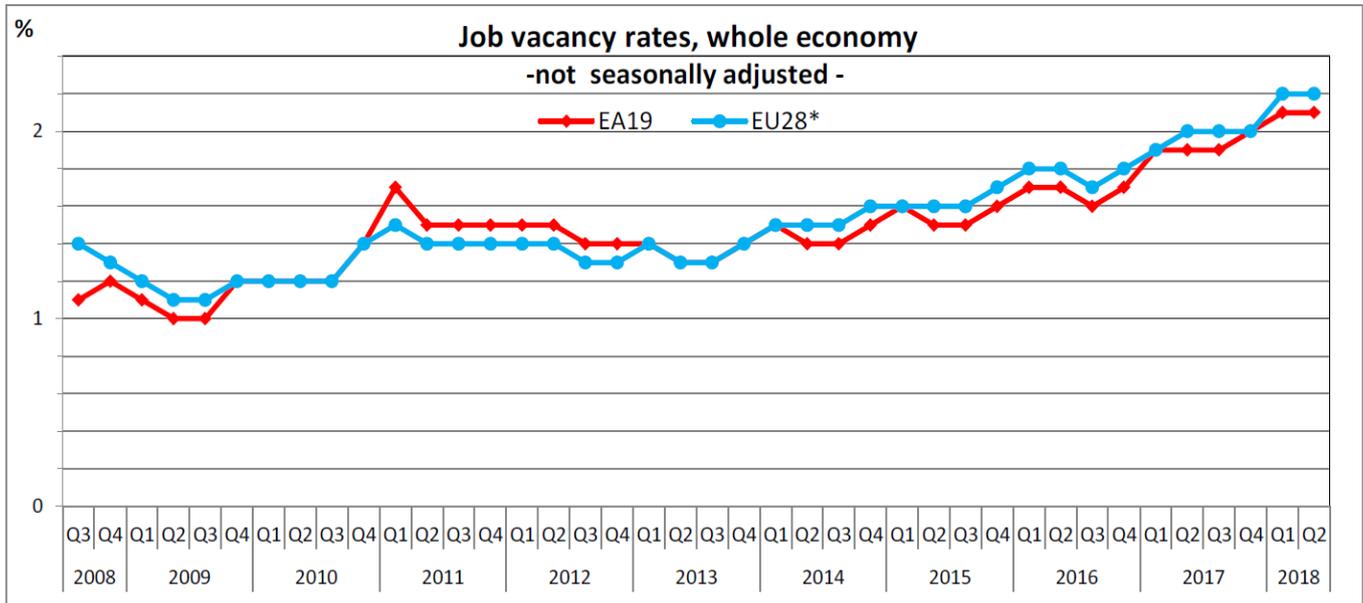
More info:

<https://ec.europa.eu/eurostat/web/products-eurostat-news/-/DDN-20180920-1?inheritRedirect=true&redirect=%2Fnews%2Fwhats-ne>

2. Eurostat data on job vacancy rates

On 17 September 2018, Eurostat published data on job vacancy rates in the EU. The EU job vacancy rate in the second quarter of 2018 was stable compared to the

first quarter. In both quarters it reached 2.2% (2.1% in the Euro area), the highest level since 2008.

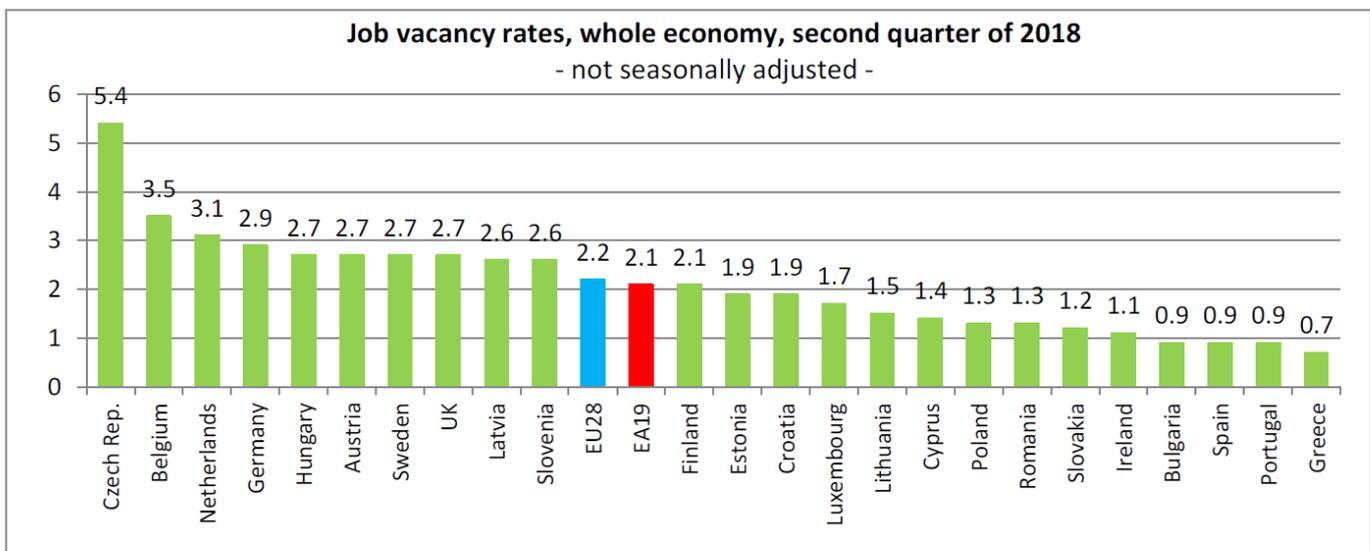


* Data for EU27 up to Q4 2009, data for EU28 from Q1 2010.

According to Eurostat, the Czech Republic, which is the Member State with the lowest unemployment rate, has the highest job vacancy rate in the EU, more than twice its unemployment rate (which was equal to 2.5% in August 2018). The Czech Republic is also the Member State with the steepest rise in the vacancy rate compared to one year ago (+1.8 percentage points). Belgium ranks second in the EU with regard to the job vacancy rate, although its unemployment rate is near the EU average, followed by the Netherlands and

Germany, countries with low unemployment rates. The lowest job vacancy rates in the second quarter were observed in Greece, Portugal and Spain, countries characterised by high unemployment rates. Bulgaria and Ireland also have relatively low job vacancy rates, despite low unemployment rates.

For the EU as a whole the job vacancy rate currently amounts to one third of the unemployment rate, a record high since 2008.



Denmark, France, Italy and Malta: not shown as data are not strictly comparable.

More info: <https://ec.europa.eu/eurostat/documents/2995521/9102909/3-17092018-BP-EN/36ac815a-ed19-4d54-9ee6-cf302d7ff463>

3. OECD Education at a Glance 2018

On 11 September 2018, the OECD published the 2018 edition of its annual indicator based 'Education at a Glance'. Among the many tables and graphs included in the publication is the one below on total expenditure on educational institutions as a percentage of GDP (in Nordic countries there is in addition a considerable amount of spending going directly to tertiary students to help them finance their studies).

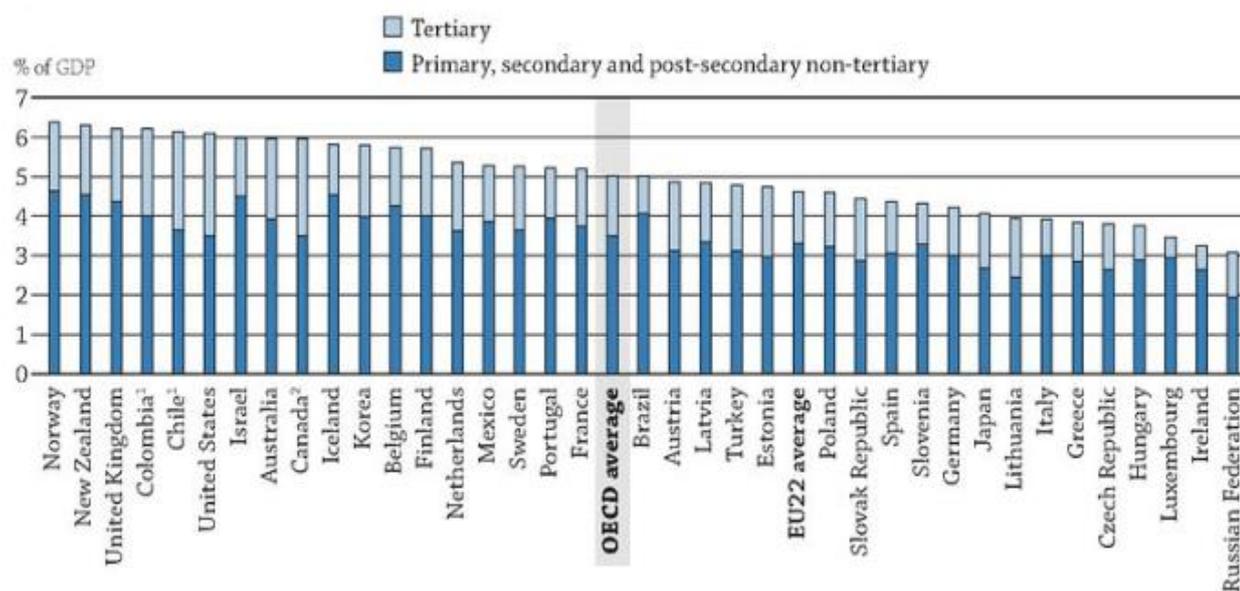
According to the OECD, total spending on educational institutions as a percentage of GDP in the EU (data for 22 EU countries covering over 90% of the EU) is below the OECD average and significantly below the US level. The gap with the US is mainly accounted for by tertiary education, where private spending is an important element in the US. Spending per tertiary student amounted to around 30 000 US Dollars in the US (converted using purchasing power parities), compared to only 16 000 US\$ in the EU. Given the EU tertiary student population of around 20 million, the EU would have to spend an additional 280 billion US\$ (or € 250 bn) to match the tertiary spending levels of the US.

EU Member States with a high level of spending on educational institutions as a percentage of GDP include the UK, Belgium and Finland, with the Netherlands, Sweden, Portugal and France also above the EU average. Per student, Luxembourg has the highest spending of all OECD countries (but in Luxembourg and Ireland very high levels of GDP per capita result in low levels of spending per student if measured as a percentage of GDP). EU Member States with a low level of spending as a percentage of GDP include Hungary, the Czech Republic, Greece, Italy, Lithuania and Germany. Slovenia, Spain, Slovakia and Poland are other Member States below the EU average.

The OECD data also include information on spending on R&D in tertiary education per tertiary student. Here Sweden has the highest spending in the EU (13 100 US\$ per tertiary student), followed with around 7 000 US\$ per tertiary student, by Finland, the Netherlands, Germany and Luxembourg (no data for Denmark).

Figure C2.1. Total expenditure on educational institutions as a percentage of GDP (2015)

From public, private and international sources, by level of education



1. Year of reference 2016.

2. Primary education includes data from pre-primary and lower secondary education.

Countries are ranked in descending order of total expenditure on primary to tertiary educational institutions.

Source: OECD/UIS/Eurostat (2018), Table C2.1. See Source section for more information and Annex 3 for notes (<http://dx.doi.org/10.1787/eag-2018-36-en>).

More info: <http://www.oecd.org/education/education-at-a-glance/>

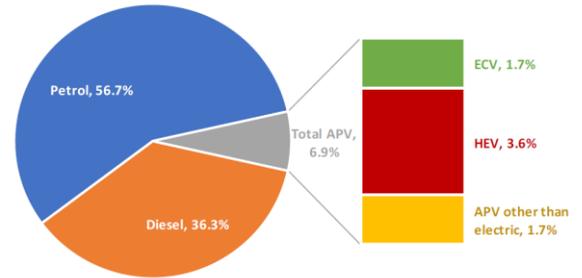
4. ACEA statistics on electric passenger car registrations

On 6 September, the European car manufacturers' association, ACEA, published data on new passenger car registrations in Q2 2018 in the EU by fuel type.

In the second quarter of 2018 petrol cars represented 56.7% of new registrations in the EU (2.41 million, an increase in the number of registrations of 19.8% compared to the second quarter of 2017), diesel cars 36.3% of registrations (1.54 million, -15.5%). Alternatively powered vehicles (APV) represented 6.9% of registrations (295 000, +44.3%), of which 1.7% was accounted for by electrically chargeable vehicles, ECV (72 000, +43.8%), which include battery electric vehicles (32 000, +45.5%) and plug in hybrid electric vehicles (40 000, +42.4%). Hybrid electric vehicles (HEV, non plug-in) represented 3.6% of passenger car registrations in the EU (152 000, +49.2%), whereas alternatively powered vehicles other than electric accounted for 1.7% of registrations (71 000, +35.%).

The largest market for electrically chargeable vehicles (ECV) in the EU by number of vehicles registered is currently Germany, followed by the UK and France. In Sweden (5.2%) the ECV share in registrations is highest, followed by the Netherlands (2.7%) and Finland (2.6%), while Estonia, Romania, Greece, Italy are countries with a low ECV share in new registrations (0.2%), see also

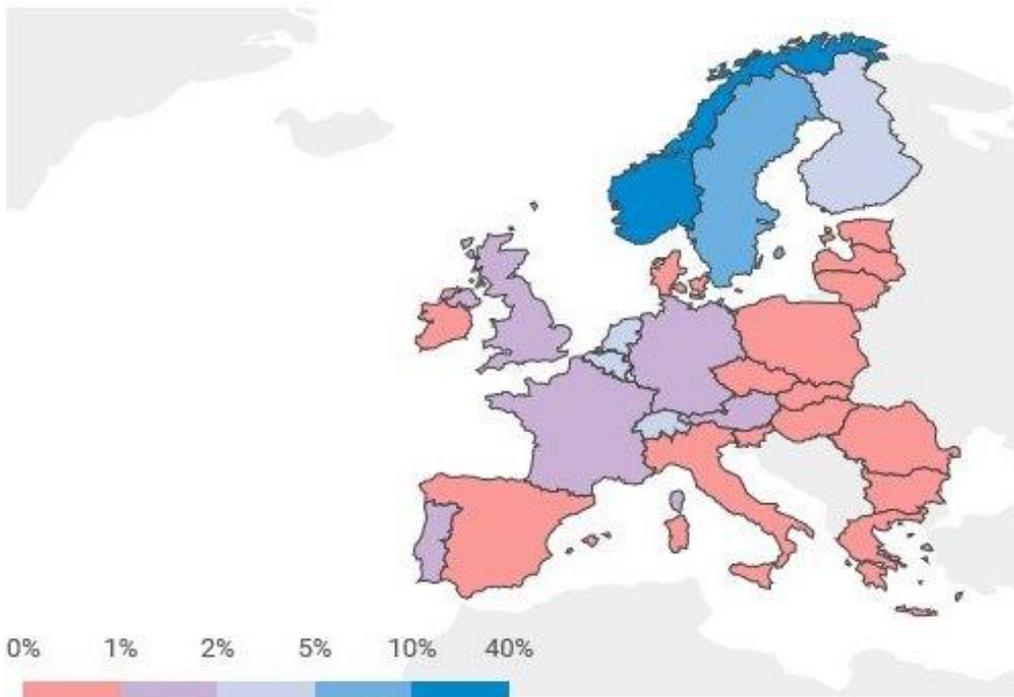
Fuel types of new cars: diesel -15.5%, petrol +19.8%, electric +43.8% in second quarter of 2018



map below. In Europe Norway leads in absolute terms and has the highest share of electric vehicles among new passenger car registrations (39.3%). As regards alternatively powered vehicles other than electric, the number of registrations is high in Italy, a country, which has a large fleet of LPG vehicles.

Market share of electrically chargeable vehicles

EU+EFTA member states



More info: https://www.acea.be/uploads/press_releases_files/20180905_Fuel_types_Q2_2018_FINAL.pdf

5. Miscellaneous results from national data sources

India: growing number of unicorn companies

In September 2018, two new unicorn companies emerged in India: the e-commerce company Udaan and the travel-tech company Oyo Room. In June 2018, two Indian companies had already joined the unicorn list: the on-demand company Swiggy and the Fintech company Policy Bazaar. In August, the Ed tech company BYJU'S also entered the list. With 14 unicorn companies India now ranks fourth in the world, after the US (130 unicorns), China (79) and the UK (15). It might soon overtake the UK, as many Indian companies are expected to become unicorns soon (in India nicknamed 'soonicorn'). India provides a large market for new tech

companies, with over 1 billion mobile phone users and half a billion Internet users at the end of 2017.

All Indian unicorns are either based in the Delhi agglomeration (8, of which 4 are in the tech suburb Gurgaon) or in Bangalore (6), also nicknamed 'The Silicon Valley of India'.

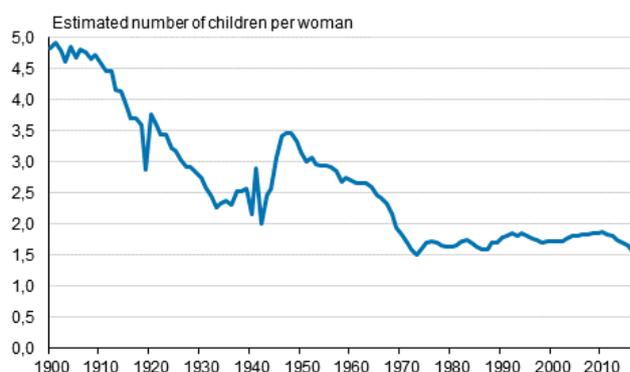
The most successful Indian unicorn so far is the e-commerce company Flipkart, which in 2017 had a 34% share of the 20 bn\$ Indian e-commerce market. It was acquired in May 2018 by US retailer Walmart for 16 billion US\$.

More info: <https://www.cbinsights.com/research-unicorn-companies>

Finland: Total fertility rate reaches an all-time low

According to data released by Statistics Finland earlier this year the total fertility rate in Finland decreased for the 7th year in succession to reach 1.49 children/woman in 2017 (2016: 1.57), the lowest ever recorded in Finland. While Nordic countries tended to have relatively high fertility rates compared to other European countries, Finland is now below the EU average of 1.6 children/woman. While the fertility rate of Sweden has been more stable and is still above the EU average, in 2017 it dropped to 1.78, the lowest level since 2005. In Denmark there was only a slight drop from 1.79 in 2016 to 1.75 in 2017. However, both Iceland and Norway report for 2017 the lowest levels ever recorded. In Iceland it dropped from 1.75 in 2016 to 1.71 in 2017, while Norway's rate declined from 1.71 in 2016 to 1.62 in 2017.

Total fertility rate in 1900 to 2017



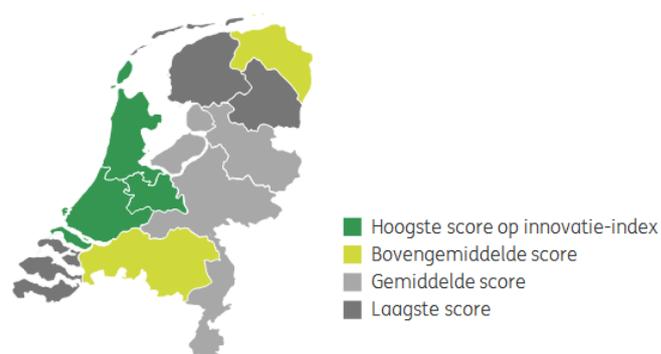
More info: https://www.stat.fi/til/synt/2017/synt_2017_2018-04-27_tie_001_en.html

Netherlands: Study shows Randstad provinces leading on innovation

A study on the innovation capacity of Dutch provinces published by ING on 2 October shows the three Randstad provinces as having the highest scores on the innovation index. Noord-Holland, which includes Amsterdam is ranked first, Utrecht second, Zuid-Holland, which includes Rotterdam and the Hague, third. Noord-Brabant, which includes the tech city Eindhoven ranks fourth, Groningen fifth. Drenthe, Friesland and Zeeland are the provinces with the lowest scores. The index is based on five indicators. The first indicator is the ratio between younger and older workers. The Randstad provinces have the youngest labour forces (Utrecht on top). The second indicator is the share of the labour force with high educational attainment. Here the Randstad provinces also lead, with Utrecht again scoring highest. The third indicator relates to enterprise dynamics. Here Flevoland leads, followed by Noord-Holland. The fourth indicator is the share of self-employed in total employment. Here Noord-Holland leads. The fifth indicator is patent applications per million inhabitants. Here Noord-Brabant (with Eindhoven and patent prolific Philips) leads.

Vierdeling in innovatievermogen

De score van de innovatie-index van de 12 provincies



Bron: CBS, ING Economisch Bureau

More info:

https://www.ing.nl/media/ING_Hoogste%20innovatievermogen%20in%20Randstad%20280918_tcm162-155435.pdf

Calendar of data releases and indicator based publications

Update of: 30/9/2018 (grey= already published)

2018	Eurostat data updates	Commission indicator based reports	Data and indicator based reports of other organisations
January			Bloomberg Innovation Index
February	Tertiary attainment (2017, prov.) High growth enterprises data (provisional, 2016)	Winter forecast (ECFIN) Science Research and Innovation Performance Report (RTD)	OECD MSTI statistics (R&D expenditure)
March	R&D expenditure data update (revision of preliminary 2016 results)		European Patent Office , annual results OICA world motor vehicle production data OECD R&D Statistics
April	Education headline indicators (LFS)		Reuters Most Innov. Institutions Internet Minute (Excelacom/Allaccess)
May	High-tech trade (2017) Education enrolment, graduates Knowledge-int. activities (2017)	Spring Forecast (ECFIN) DESI index (CNECT)	Invest Europe European Private Equity Report IMD World Competitiveness Yearbook
June	Education spending Employment high-tech (2017) HRST education inflows (2016)	European Innovation Scoreboard (GROW/RTD)	Times Higher Ed. Reputations Ranking IRF Industrial robot sales
July			UNESCO UIS STI stats release WIPO/Cornell/INSEAD Global Innovation Index
August			Academic Ranking of World Universities (Shanghai)
September	Final high growth ent. data (2016) Economic data on high-tech (2017)	Europe 2020 publication (ESTAT)	OECD Education at a Glance
October	GBARD (2017 preliminary)		WEF Global Competitiveness Index World Bank Doing Business
November	R&D intensity (2017 preliminary, 2016 final) Knowledge-int. activities (2017) Employment high-tech (2017)	Autumn Forecast (ECFIN) Education Monitor (EAC) Annual Growth Survey (ECFIN) Joint Employment Report (EMPL) (draft)	Top500.org: Top 500 Supercomputer list OECD STI Outlook (2-yearly)
December	ICT household data (2018) ICT enterprise data (2018) HRST stocks (2017)	Industrial R&D Investment Scoreboard (JRC)	WIPO World Intellectual Property Indicators

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