

# NEWSLETTER on STI Data and Indicators

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

## 1. Eurostat data on ICT specialists

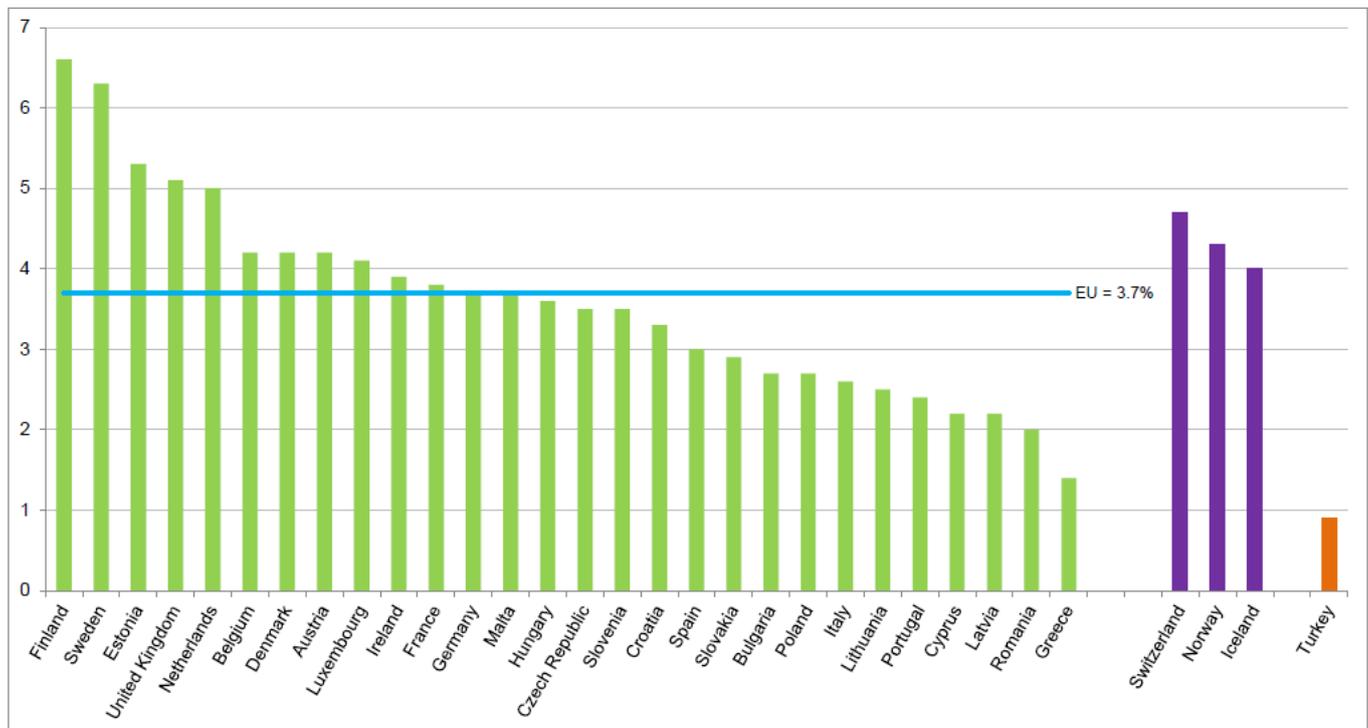
On 18 July 2017 **Eurostat** published 2016 data on ICT specialists.

The 8.2 million ICT specialists in the EU (an increase of 29% compared to 2011) represent 3.7% of total EU employment in 2016 (up from 3.1% in 2011). Finland (6.6%) and Sweden (6.3%) have the highest shares, followed by Estonia (5.3%), the UK (5.1%) and the Netherlands (5.0%). The share is lowest in Romania (2.0%, despite a booming software sector) and in Greece (1.4%).

The share increased most since 2011 in Estonia (up 1.9 percentage points), France (+1.3) and Germany (+1.1). It slightly declined in Luxembourg and Slovenia.

In 2016 83% of ICT specialists in the EU were men and 62 % had a tertiary degree. According to Eurostat *'in 2016, 1 in 5 enterprises in the EU (20%) employed ICT specialists and nearly 1 in 10 (9%) recruited or tried to recruit ICT specialists. However, 41% of enterprises, which recruited or tried to recruit ICT specialists had difficulties in filling vacancies'*.

Share of ICT specialists, 2016  
(as % of total employment)



More info: <http://ec.europa.eu/eurostat/documents/2995521/8115840/9-18072017-AP-EN.pdf/b775e424-a14c-4037-9b33-5cc97164bc11>

## 2. IEA Global EV (Electric Vehicle) Outlook 2017

On 13 May 2017 the *International Energy Agency (IEA)* published the 2017 edition of the **Global EV Outlook**.

According to this publication the global electric car stock reached 2 million in 2016 (out of a global car stock of about 1 billion, hence a share of 0.2%).

New registrations of electric cars reached a new record in 2016, with sales of over 750 000 worldwide (out of 69 million cars sold in 2016, a share of over 1%).

With a 29% market share of electric cars Norway, with its many incentives for such vehicles (electric cars are for example exempt from acquisition tax), is the clear leader in the deployment of electric cars. It is followed by the Netherlands, with a 6.4% electric car market share, and Sweden with 3.4%.

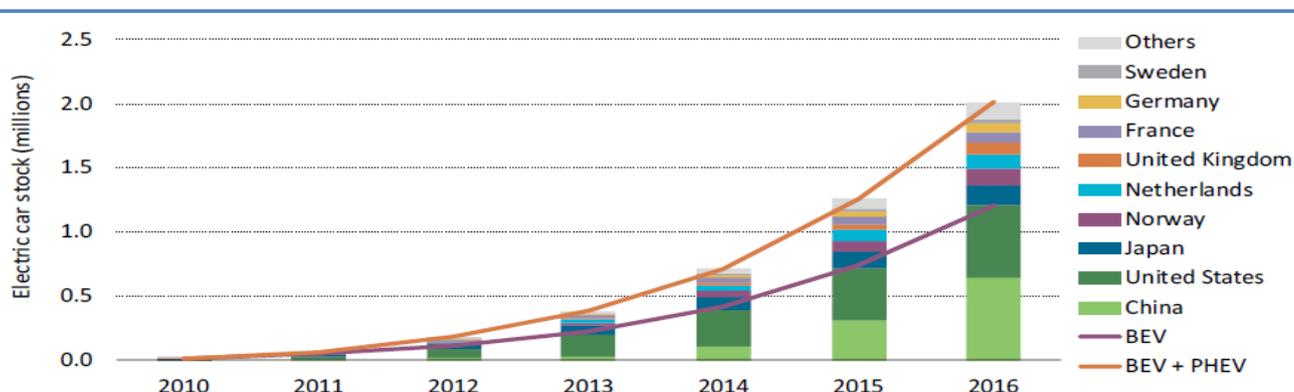
China, France and the United Kingdom all have electric car market shares close to 1.5%. In 2016, China was by far the largest electric car market, accounting for more

than 40% of the electric cars sold worldwide and more than double the amount sold in the United States.

As shown in the graph below (screenshot from IEA publication), battery electric vehicle (BEV) uptake has been consistently ahead of the uptake of plug-in hybrid electric vehicles (PHEVs). In 2016 Norway (+164%) and Canada (+143%) had the highest growth in the sales of PHEV, while China (+75%) and Korea (+75%) showed the highest growth in BEV.

There are now over 210 000 slow chargers worldwide, nearly one fourth of which in China, while Germany showed in 2016 the strongest growth (almost quadrupling the number to over 16 000). As regards the fast charger stock China showed the strongest growth in 2016 (growing sevenfold to almost 90 000) and now has 80% of the world's fast chargers.

Figure 1 • Evolution of the global electric car stock, 2010-16



Notes: The electric car stock shown here is primarily estimated on the basis of cumulative sales since 2005. When available, stock numbers from official national statistics have been used, provided good consistency with sales evolutions.

Sources: IEA analysis based on EVI country submissions, complemented by EAFO (2017a), IHS Polk (2016), MarkLines (2017), ACEA (2017a, 2017b) and EEA (2017).

More info: <https://www.iea.org/publications/freepublications/publication/GlobalEVOutlook2017.pdf>

## 3. IMF World Economic Outlook update

On 7 July the *International Monetary Fund (IMF)* published an update of its **World Economic Outlook**. Compared to the *April 2017 Outlook* the projected GDP growth was lowered for the US by 0.2 percentage points for 2017 and 0.4 pp for 2018. For the UK the update projects 0.3 pp lower growth in 2017. The update on the other hand expects 0.2 pp faster growth in the Euro area and Germany and even 0.5 pp faster growth than projected in April for Italy and Spain. The new projection is also more optimistic about China (GDP growth of 6.7% in 2017 and 6.4% in 2018), while it confirms the rapid growth expected for India (7.2% in 2017, 7.7% in 2018).

More info:

<http://www.imf.org/en/Publications/WEO/Issues/2017/07/07/world-economic-outlook-update-july-2017>

	Estimate		Projections		Difference from April 2017 WEO Projections 1/	
	2015	2016	2017	2018	2017	2018
World Output	3.4	3.2	3.5	3.6	0.0	0.0
Advanced Economies	2.1	1.7	2.0	1.9	0.0	-0.1
United States	2.6	1.6	2.1	2.1	-0.2	-0.4
Euro Area	2.0	1.8	1.9	1.7	0.2	0.1
Germany	1.5	1.8	1.8	1.6	0.2	0.1
France	1.1	1.2	1.5	1.7	0.1	0.1
Italy	0.8	0.9	1.3	1.0	0.5	0.2
Spain	3.2	3.2	3.1	2.4	0.5	0.3
Japan	1.1	1.0	1.3	0.6	0.1	0.0
United Kingdom	2.2	1.8	1.7	1.5	-0.3	0.0

## 4. UNESCO UIS education statistics 2017 update (and Eurostat data)

The **UNESCO Institute for Statistics (UIS)** released on 1 June an update of its **Education Data** (data up to 2015). As regards the number of tertiary students the data show that the growth of the world tertiary student population has slowed down in 2015. While the number of tertiary students doubled from about 100 million in 2000 to about 200 million in 2013 (growth of about 5% per year), the number grew by less than 2% in 2015.

The number of tertiary students is for demographic reasons (shrinking cohort size) and because participation rates approach saturation, already shrinking in the EU, the US and Russia and stagnating in Japan. In China, which has 20% of all tertiary students worldwide, more than twice the EU figure, and in India, which has 15% of world tertiary students, it is still increasing, but growth is slowing.

### UNESCO data (e=estimate), World tertiary student population (million)

UNESCO	2000	2010	2013	2014	2015
<b>World</b>	<b>99.7</b>	<b>181.4</b>	<b>199.0</b>	<b>210.7</b>	<b>212.7</b>
EU (Eurostat)	16.0	20.0	19.8	19.7	19.5
USA	13.2	20.4	20.0	19.7	19.5
China	7.4	31.0	34.1	41.9	43.4
India	9.4	20.7	28.2	30.3	32.1
Japan	4.0	3.8	3.9	3.9	3.9e
Brazil	2.8	6.6	7.5	8.1	8.3
Russia	6.3	9.3e	7.5	7.0	6.6

### Eurostat data, EU tertiary student population (ISCED 5-8) (e=estimate)

While the UNESCO data do not provide EU totals, *Eurostat* data (also used for the table above) show that the number of tertiary students is shrinking since 2013 in the EU as a whole, and in many Member States.

For demographic reasons the decline is strongest in central and eastern European countries (where the small cohorts of the post-1990 transition and demographic crisis are now in the tertiary student age). The number shrank in the period 2013-2015 by more than 10% in Estonia (-14.8%), Hungary (-14.3%), Poland (-12.5%), Romania (-12.4%), Slovenia (-12.4%), Slovakia (-12.0%) and Lithuania (-11.9%). In EU-15 the decline since 2013 was strongest in Portugal (-9.0%). The number of tertiary students is still increasing in some EU-15 Member States and in Cyprus (+16.3%) and Malta (+5.1%) (countries whose relatively new higher education systems are still in an expansion phase). Despite an unfavourable demography, student numbers are still increasing in Germany (+7.1%), a result of a growing number of foreign students and an ongoing increase in participation rates (which as a result of an orientation towards vocational education have traditionally been lower than in many other Member States). Denmark (+7.8%) and Ireland (+7.6%) show similar growth rates. The number is also still increasing, although at a lower pace, in France (+3.7%), Belgium (+3.3%) and Austria (+0.8%). The student population is also getting more international. The number of mobile students from abroad increased in the EU from 1.43 million in 2013 to 1.54 million in 2015 (+8.2%), of which 0.88 million from outside Europe.

Number of tertiary students in the EU (Eurostat)			
Country/Year	2013	2014	2015
EU	19.800.388	19.718.513	19.530.500e
Belgium	488.488	495.910	504.745
Bulgaria	283.959	283.294	278.953
Czech Rep.	427.441	418.624	395.529
Denmark	291.147	301.399	313.756
Germany	2.780.013	2.912.203	2.977.781
Estonia	64.806	59.998	55.214
Ireland	199.428	203.912	214.632
Greece	659.284	677.429	677.429
Spain	1.969.413	1.982.162	1.963.924
France	2.338.135	2.388.880	2.424.158
Croatia	164.623	166.061	162.022
Italy	1.872.693	1.854.360	1.826.477
Cyprus	31.965	33.674	37.166
Latvia	94.474	89.671	85.881
Lithuania	159.695	148.389	140.629
Luxembourg	:	:	6.896
Hungary	359.040	329.455	307.729
Malta	12.574	12.610	13.216
Netherlands	:	:	842.601
Austria	422.778	421.225	425.972
Poland	1.902.718	1.762.666	1.665.305
Portugal	371.000	362.200	337.507
Romania	618.157	578.706	541.653
Slovenia	97.706	99.877	85.616
Slovakia	209.543	197.854	184.390
Finland	309.009	306.080	302.478
Sweden	436.603	429.444	428.557
UK	2.386.199	2.352.933	2.330.334

**More info:** <http://data.uis.unesco.org/>; <http://ec.europa.eu/eurostat/data/database>

## 5. Open Data Barometer-Fourth Edition

On 23 May 2017 the **World Wide Web Foundation** published the 4<sup>th</sup> edition of the *Open Data Barometer* (labelled as 2016).

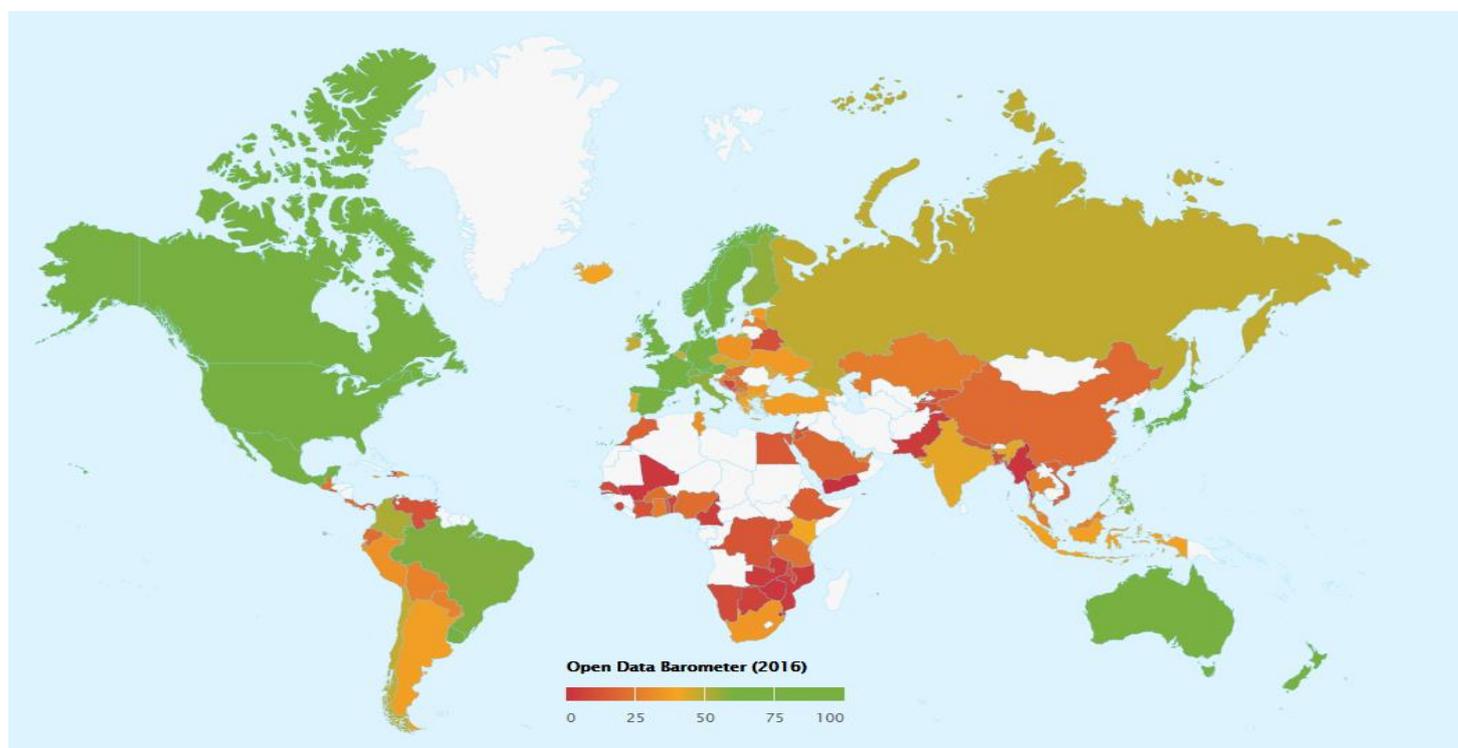
According to the Web Foundation the Barometer ranks governments on:

- **Readiness** for open data initiatives.
- **Implementation** of open data programmes.
- **Impact** that open data is having on business, politics and civil society.

According to the report 93% of government data is still not open, only one of every two datasets is machine readable and only one in four datasets has an open licence.

The report found that 'highly sought after datasets are all too often still closed, and those that are open tend to be out-of-date, of poor quality and hard to find. Data on important accountability metrics such as government spending, public contracts and company ownership are the least open and low quality'. For example, government spending data is public in just 3% of countries.

The Barometer covers 115 countries, of which 22 EU countries. Best ranked country worldwide, according to the Barometer, is the UK. Other EU countries in the top 10 include France (ranked 3<sup>rd</sup>) and the Netherlands (8). EU countries in the top 20 include Spain (11), Denmark (13), Austria, Sweden, Germany (all ranked 14) and Italy and Finland (both rank 20). Lowest ranked EU countries are Croatia (58) and Hungary (65).



More info: <http://opendatabarometer.org/>

## 6. Times Higher Education: best universities in Europe

On 21 June *Times Higher Education (THE)* published data on the top ranked higher education institutions in Europe. The ranking is based on 13 indicators related to teaching, research, knowledge transfer and the international outlook. Of the 980 universities ranked by THE, about 400 are located in Europe (of which 91 in the UK, 41 in Germany and 38 in Italy). Oxford University comes out as the best university in Europe (and worldwide). The top 10 Europe include 6 institutions from the UK (Oxford, Cambridge, Imperial College London, University College London, LSE London, Edinburgh), 2 from Switzerland (EPFL

Lausanne and ETH Zurich) one from Sweden (Karolinska) and one from Germany (LMU Munich). The UK has also the largest number of institutions in the top 100 (32), followed by Germany (22), the Netherlands (13), Switzerland (7), Sweden (6), France (4), Belgium (3) and Denmark (3). There are only 2 Italian institutions in the *THE* top 100 and none from Portugal, Greece and from EU-13 countries).

More info: <https://www.timeshighereducation.com/student/best-universities/best-universities-europe>

## 7. Miscellaneous results from national data sources

### Finland: lowest number of births since 1868 famine

On 9 July **Statistics Finland** released data showing that the number of births in the first 5 months of 2017 was 7 % lower than in the same period in 2016. This implies that the number of births in Finland is likely to fall below 50 000 in 2017, the first time since the famine of 1868 (when 43 757 births were recorded).

Some other developed countries currently report record lows too. This concerns more the absolute number of births (because of a shrinking number of women in the reproductive age cohort) than the fertility rate (which is expressed in terms of births or children per woman).

The **Statistical Office of Italy** (ISTAT) earlier this year reported that the number of births in Italy in 2016 had fallen below 500 000, the lowest number since the beginning of records in 1861 (when Italy was unified).

The **Statistical Bureau of Japan** reported in June that the number of babies born in Japan in 2016 had fallen for the first time since records began in 1899 below 1 million. In February the **Statistical Office of Korea** reported that the number of births in 2016 amounted to only 406 000, the lowest number ever recorded in the country. In July the same source projected it to fall in 2017 to 360 000, i.e. the first time below 400 000. The South Korean fertility rate in 2016 amounted to only 1.17 children per woman, the lowest among OECD countries.

**Statistics Iceland** in April reported a 2016 fertility rate of 1.75 and that it was never before so low in Iceland.

The US **National Center of Health Statistics** reported in July that in 2016 the US fertility rate (measured by NCHS as births per 1000 woman aged 15-44) had dropped to the lowest level ever recorded.

**More info:** [https://yle.fi/uutiset/osasto/news/finnish\\_birth\\_rate\\_on\\_course\\_to\\_be\\_among\\_lowest\\_since\\_1868\\_famine/9710030](https://yle.fi/uutiset/osasto/news/finnish_birth_rate_on_course_to_be_among_lowest_since_1868_famine/9710030)

### Switzerland: world's leading gold trader

On 21 July the Swiss Customs Administration (SCA) published the annual report on *Swiss foreign trade* in 2016.

Exports in 2016 increased in nominal terms by 3.7% but declined in real terms by 0.9%. Imports increased in nominal terms by 4.3% and in real terms by 1.4%. The trade surplus amounted to 36.9 billion Swiss Francs (€ 32.9). In 2016 about 45% of exports were chemical and pharmaceutical products (Switzerland has the highest per capita exports of pharmaceuticals among OECD countries), 15% machinery and electronics, 9 % watches and 7% precision instruments. Despite the high absolute amounts of high-tech exports, international statistics show for Switzerland a below EU average share of exports of medium and high-technology products. This is explained by exports of precious metals (mainly gold),

which represented in 2016 according to the SCA report more than one fourth of Swiss exports. However, the main SCA trade tables do not include data on trade in precious metals. Such data are only included since 2014 in Swiss trade statistics and the key figures shown in the annual report and many Swiss data sets on short term trends in trade still do not include this item.

Switzerland is the largest gold trader worldwide, it is the leading country both in terms of gold imports and exports. It has 4 of the 7 largest gold refineries (mostly based in Ticino near the Italian border). A large share of gold is exported to Asia (mainly to Hong Kong, mainland China and India). The high monetary value of gold exports leads to a relatively modest medium/high tech share in Swiss exports, despite strong exports of pharmaceuticals and precision instruments.

**More info:** [www.aussenhandel.admin.ch](http://www.aussenhandel.admin.ch)

## 8. Statistical portals

### BASEXT –Statistical portal of international data and metadata

On 1 February 2016 a new version of the Commission statistical portal BASEXT was launched. Recently Eurostat started activities to draw more attention to BASEXT. According to the BASEXT homepage

*'BASEXT provides a presentation of the main statistical databases from external sources used by the Commission. It covers all external data negotiated by EUROSTAT for use within the European Commission. All users of statistical data in the Commission can take advantage of this tool for accessing information on statistical sources and data'.*

The screenshot on the right provides an example of databases accessible via BASEXT.

**More info:** <https://webgate.ec.europa.eu/multisite/basext/>

Recently published

- Futures and non-futures prices  
28/07/2017 - 08:53
- IMF -- International Financial Statistics   
26/07/2017 - 10:45
- OECD -- Main economic indicators (MEI)   
11/07/2017 - 14:43
- STATISTA -- Market data and international statistics  
10/07/2017 - 17:49
- OECD -- Quarterly national accounts data   
07/07/2017 - 12:37

## Calendar of data releases and indicator based publications

Update of: 28/7/2017 (grey= already published)

2017	Eurostat data updates	Commission indicator based reports	Data and indicator based reports of other organisations
<b>January</b>			Transparency International Corruption Perception Index Bloomberg Innovation Index
<b>February</b>	Tertiary attainment (2016, prov.) High growth enterprises data (provisional, 2015)	Winter forecast (ECFIN)	OECD MSTI statistics (R&D expenditure)
<b>March</b>		DESI indicator (CNECT)	European Patent Office , annual results Reuters Most Innov. Institutions OICA world motor vehicle production data OECD R&D Statistics
<b>April</b>	Education headline indicators (LFS)		Internet Minute (Excelacom/Allaccess)
<b>May</b>	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
<b>June</b>	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
<b>July</b>	IPR (Patents, 2014), Community Trademarks (2016), RC Designs (2016)		UNESCO UIS STI stats release
<b>August</b>			Academic Ranking of World Universities (Shanghai)
<b>September</b>	GBAORD (2016 preliminary) Final high growth ent. data (2015) Economic data on high-tech (2016)		WEF Global Competitiveness Index OECD Education at a Glance
<b>October</b>			World Bank Doing Business OECD STI Scoreboard (2-yearly)
<b>November</b>	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
<b>December</b>	ICT household data (2016) ICT enterprise data (2016) HRST stocks (2016)	Industrial R&D Investment Scoreboard (JRC) Joint Employment Report (EMPL)	WIPO World Intellectual Property Indicators

**Contact for more information:** Richard Deiss (unit A4, Tel 64881)