

# NEWSLETTER on STI Data and Indicators

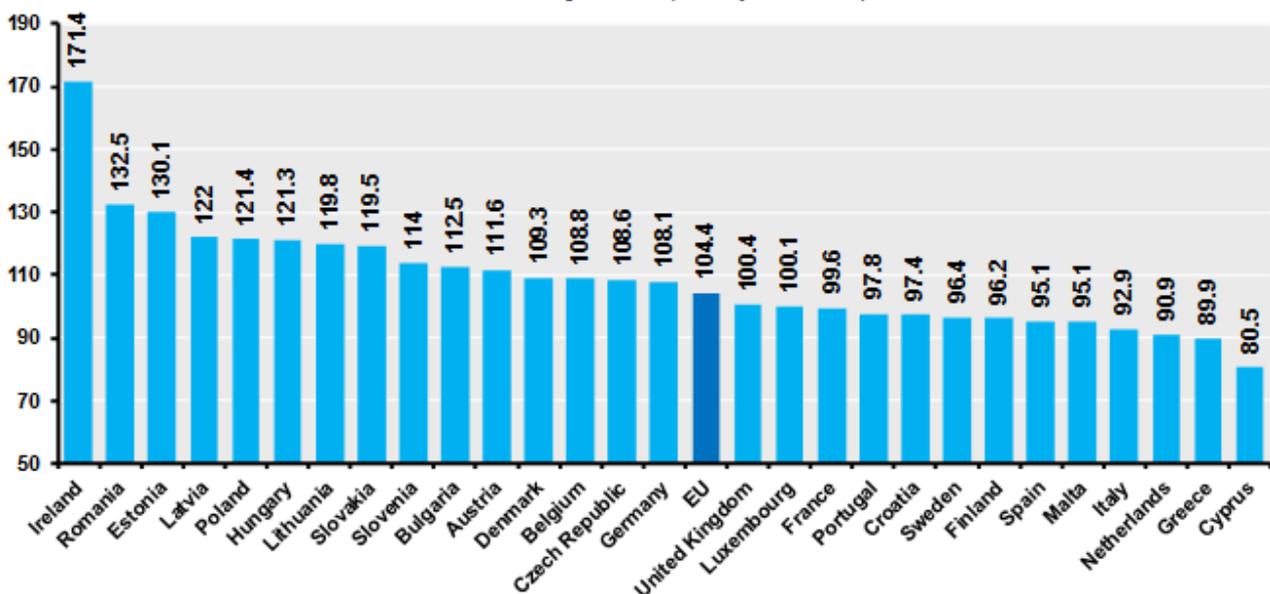
DG RTD, A4, Analysis and monitoring of national research policies

## 1. Eurostat data on industrial production

On 13 October 2016 **Eurostat** released the latest monthly data on industrial production (including manufacturing, mining, electricity, gas and water supply, but not construction, which has a specific business cycle). In August 2016 industrial production in the EU 28 increased by 1.6% compared to the previous month and by 1.8% compared to the same month of the previous year. Growth compared to the previous year was highest in the Czech Republic (+7.7%) and lowest in Ireland (-8.5%). While monthly results fluctuate a lot and are more affected by business cycles than the economy as a whole, it is revealing to look at longer term trends (see graph below). Compared to 2010 industrial production in the EU increased by 4.4%. Ireland showed the strongest increase (+71.4%), followed by Romania (+32.5%) and

Estonia (+30.1%). All central and eastern European countries, except Croatia, saw an increase in production. Because of wage differentials some western European companies shifted production to the east, notably in the automobile sector. However, some western European countries, including Austria, Germany, Belgium and Denmark, still saw an above EU average increase of industrial production. Industrial production has stagnated since 2010 in France, the UK, and Luxembourg. It decreased in most southern European countries, notably Greece and Cyprus (where an important power plant exploded in 2011 reducing electricity production) and in Sweden, Finland (decline in paper and pulp production) and the Netherlands (decline in natural gas production).

**Production indices for total industry, calendar and seasonally adjusted, for July 2016 (base year 2010)**



Source: DG Research and Innovation - Unit for the Analysis and Monitoring of National Research Policies  
Data: Eurostat

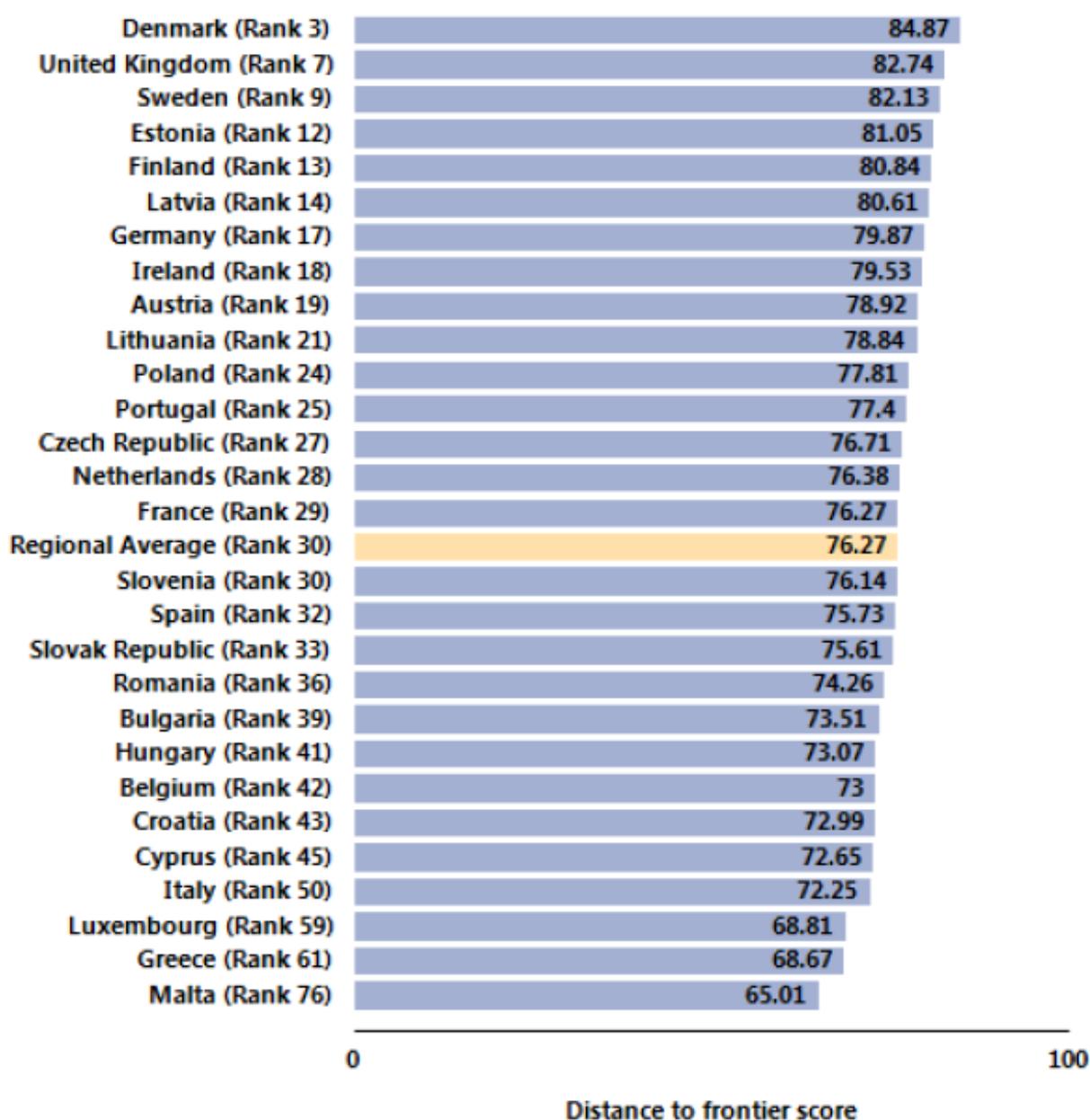
**More info:** <http://ec.europa.eu/eurostat/web/science-technology-innovation/data/database>

## 2. World Bank Doing Business Report 2017 edition

On 25 October 2016 the **World Bank** published the 2017 edition of its annual **Doing Business** report. Doing Business measures regulations affecting 11 areas in the life of a business: starting a business, dealing with construction permits, getting electricity, registering property, getting credit, protecting minority investors, paying taxes, trading across borders, enforcing contracts resolving insolvency and labour market regulation, the last mentioned, however, was not included in the ranking in the 2017. While New Zealand is the leading country worldwide in the ease of

doing business, Denmark comes out as top performer in the EU, followed by the UK and Sweden. Greece and Malta rank lowest in the EU.

On the important indicator 'days to start a business' Denmark (3 days) performs best, followed by Estonia (3.5) and France (3.5). On average it takes longest to start a business in Poland (37 days) and in Malta (26 days). The tax rate on profits according to the report is lowest in Luxembourg (20.8%) and Croatia (20.9%) and highest in France (62.8%) and in Italy (62.0%).



**More information:** <http://www.doingbusiness.org/reports/global-reports/doing-business-2017>

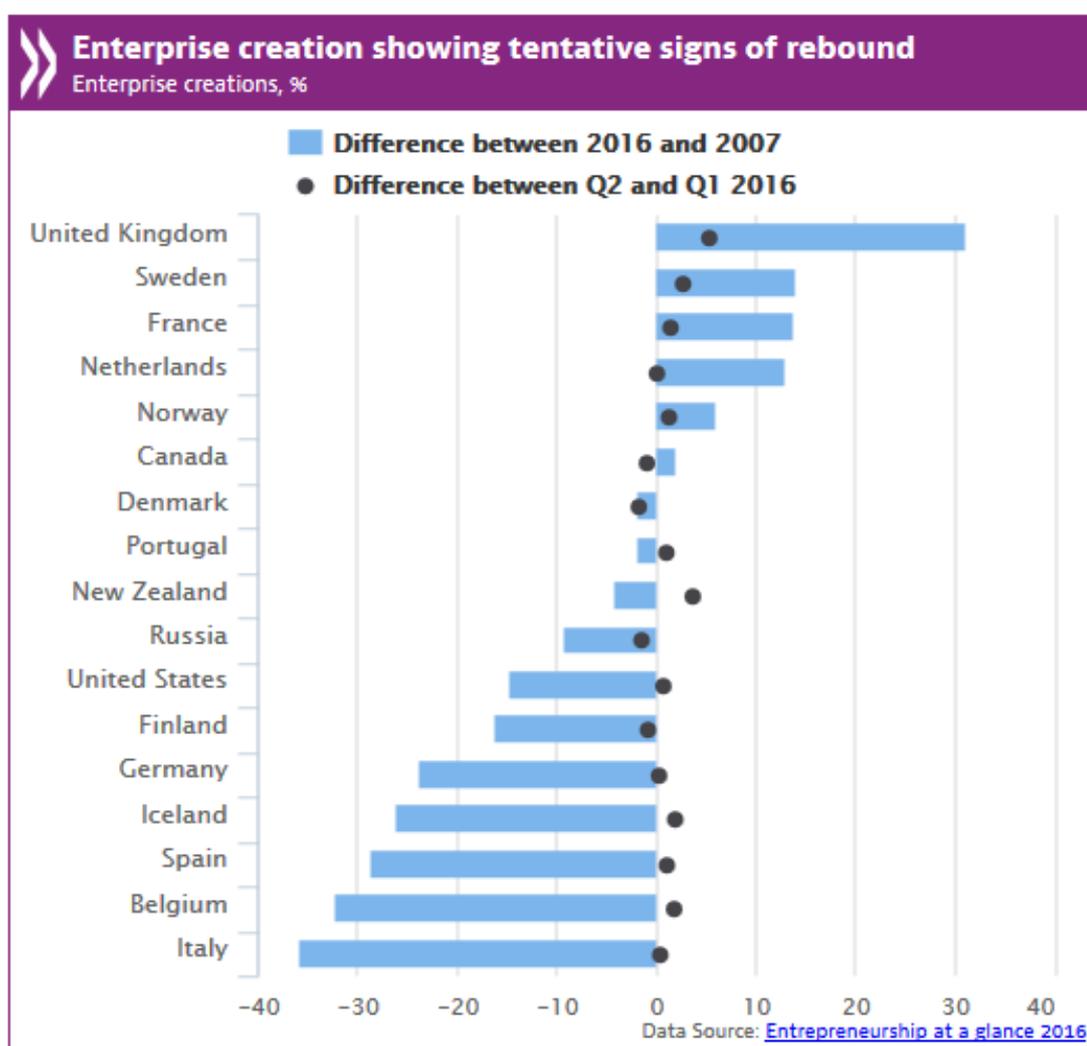
### 3. OECD Entrepreneurship at a Glance 2016

On 28 September OECD published **Entrepreneurship at a Glance**. The report presents indicators of entrepreneurship collected by the OECD-Eurostat Entrepreneurship Indicators Programme (EIP). In addition it shows results from a new innovative online survey prepared by Facebook, the OECD and World Bank and covering small businesses with active Facebook sites in 22 countries.

The report shows that while in the OECD as a whole enterprise creation rates were still below pre-crisis level, in Canada, France, the Netherlands, Norway, Sweden and the United Kingdom rates were higher at the end of 2015

and at the beginning of 2016 than before the crisis. Trends in the second quarter of 2016 are pointing upwards in most OECD countries.

According to the report 'bankruptcy rates in 2015 were below pre-crisis levels in the United States, Japan, Canada, Germany, Brazil and South Africa. By contrast, they were significantly higher in Austria, France, the Netherlands and Norway, and were over double their pre-crisis rates in Italy and nearly four times as high in Spain, although recent quarter on quarter trends point strongly downwards in both countries'.



Interestingly the report shows that 'growth in the number of SMEs in the euro area has outpaced that in the US but the reverse is true for large enterprises. Because SMEs typically have lower labour productivity, this may point to structural factors underpinning the productivity gap between the euro area and the United States'. As regards

gender the report confirms that 'most countries continue to show gender gaps in factors that are key to entrepreneurship, but new evidence from the *Future of Business Survey* reveals that, once up and running, women are as confident as men about their business'.

**More info:** <http://www.oecd.org/std/business-stats/entrepreneurship-at-a-glance-22266941.htm>

## 4. Miscellaneous results from national data sources

### a) Ireland: preliminary results of 2016 census show population growth

In July 2016 the Statistical Office of Ireland CSO published preliminary results of the 2016 population census. While many countries carry out a population census every 10 years, Ireland holds a census every 5 years.

The total population enumerated on census night 24 April 2016 was 4.76 million, an increase of 170 000 persons or 3.7 % over the 2011 census. Over the five year period there was a net outward migration of 28 600 (more people leaving the country than coming in). While net

migration amounted in Donegal to - 6700 persons, Dublin City (7300) and Cork City (4400) showed positive net migration figures. In the same period there was a natural increase (births minus deaths) of 198 300 in Ireland. Ireland is the EU country with the highest birth rate (14 births per 1000 people) and after France the EU country with the highest fertility rate (children per woman, however this rate has been falling slightly in recent years from about 2.0 in 2012 to 1.9 in 2015)

**More info:** <http://www.cso.ie/en/census/census2016reports/census2016preliminaryreport/>

### b) Israel: civilian R&D intensity at 4.3% of GDP in 2015

In August 2016 the Central Bureau of Statistics of Israel published data on R&D spending. The data released imply that Israel is among the top performers worldwide in terms of R&D intensity and one of only two countries (the other is South Korea) with an R&D intensity of over 4% of GDP, despite the fact that the data released for Israel include only civilian spending.

National expenditure on civilian R&D amounted to NIS 50 billion or 4.3 % of GDP in 2015, 4.8% more in real terms than in the year before. R&D intensity was up from 3.9% in 2010, but remained at the same level as in 2014. In

2015 86% of R&D spending was performed by the business sector, 11% by higher education, 1% by general government and 2% by private non-profit institutions. In 2013 (latest available year) 49% of R&D expenditure was financed by funds from abroad, 37% was financed by business and 12% was financed by government. The financing from abroad, which represents about half of R&D expenditure in Israel, mainly went to business R&D. Over 40% of R&D spending goes to development centres of multinational companies in Israel.

**More info:** [http://www.cbs.gov.il/www/hodaot2016n/12\\_16\\_270e.pdf](http://www.cbs.gov.il/www/hodaot2016n/12_16_270e.pdf)

## 5. Quotation check

***"Your cell phone today has more computing power than all of NASA when it put two men on the moon in 1969."***

**Michio Kaku**

This quotation can be found in Kaku's book 'Physics of the future' (2011) and it was repeated in 'The future of the mind' (2014). Michio Kaku (\*1947) is an American physicist and popularizer of science.

If this statement was true 5 years ago, it certainly holds today. According to Moore's law computing power doubles every 2 years as the numbers of transistors on integrated circuits doubles in the same period.

According to the source shown below the Apollo guidance computer, which the Apollo 11 command module had on board, had 64 kilobytes of memory and operated at 0.043MHz. NASA developed 6 megabytes of code to monitor the status of its space crafts and astronauts in 1969, while a smartphone today tends to have over 1 GB RAM.

An iPhone of today can perform instructions more than 100 million times faster than the best Apollo era computers. Another similar statement of Kaku 'When you receive a birthday card in the mail, it often has a chip which sings "Happy Birthday" to you. Remarkably, that chip has more computer power than all the Allied Forces of 1945'.

**More info:** [http://www.phonearena.com/news/A-modern-smartphone-or-a-vintage-supercomputer-which-is-more-powerful\\_id57149](http://www.phonearena.com/news/A-modern-smartphone-or-a-vintage-supercomputer-which-is-more-powerful_id57149)

## Calendar of data releases and indicator based publications

Update of: 27/10/2016 (grey= already published)

2016	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 (2015, prov.) High growth enterprises data (provisional, 2014) IPR (patent 2013, CTM 2014 and RCD 2014)	Winter forecast (ECFIN) DESI indicator (CNECT)	OECD R&D expenditure data Excelacom Internet Minute
<b>March</b>	R&D intensity (2014 update) GBAORD final (2014)	She Figures (online version; RTD) Science, Research and Innovation performance report (RTD)	European Patent Office , EPO annual results (2015) Reuters Most Innov. Institutions OICA world motor vehicle production data
<b>April</b>	Education headline indicators (LFS)		
<b>May</b>	High-tech trade (2015) Venture capital (2015) Education enrolment, graduates Knowledge-int. activities (2015)	Spring Forecast (ECFIN) Skills forecast (Cedefop)	Invest Europe 2015 European Private Equity Report Times Higher Ed. Reputations Ranking IMD World Competitiveness Yearbook
<b>June</b>	Education spending Employment high-tech (2015) HRST education inflows (2014)	Europe 2020 publication (ESTAT)	
<b>July</b>	IPR (Patents, 2013), Community Trademarks (2015), RC Designs (2015)	Innovation Union Scoreboard (GROW)	UNESCO UIS STI stats release
<b>August</b>			Academic Ranking of World Universities (Shanghai) WIPO/Cornell/INSEAD Global Innovation Index
<b>September</b>	GBAORD (2015 preliminary) Final high growth ent. data (2014) Economic data on high-tech (2015)		WEF Global Competitiveness Index
<b>October</b>			World Bank Doing Business
<b>November</b>	R&D intensity (2015 preliminary, 2014 final) Knowledge-int. activities (2015) CIS 2014 Employment high-tech (2015) IPR Statistics (CTM 2015 and RCD 2015)	Autumn Forecast (ECFIN) Education Monitor (EAC) European Competitiveness report (GROW) Industrial R&D Investment Scoreboard (JRC) Annual Growth Survey (ECFIN)	Top500.org: Top 500 Supercomputer list OECD Education at a Glance
<b>December</b>	ICT household data (2016) ICT enterprise data (2016) HRST stocks (2015)	Joint Employment Report (EMPL)	OECD STI Outlook (2-yearly) WIPO World Intellectual Property Indicators BDI/Telekom (German) Innovation Indicator

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