Highlights from the OECD Science, Technology and Industry Scoreboard 2017 - The Digital Transformation: Belgium

Science, innovation and the digital revolution:

- In 2015, **Belgium** had a high share of domestic scientific documents with a high citation impact. Nearly 13% of its scientific publications were amongst the world's 10% most cited publications [Scoreboard fig. 3.1.1]. **Belgium** had the fourth largest rate of scientific collaboration in the OECD area in 2015, at nearly 40% [fig. 3.2.1].
- The development of AI technologies is fairly concentrated. R&D corporations based in Japan, Korea, Chinese Taipei and China account for about 70% of all AI-related inventions belonging to the world's 2 000 top corporate R&D investors and their affiliates, and US-based companies for 18%. Firms headquartered in **Belgium** accounted for 0.1% of all AI-related inventions from 2012 to 2014 [fig. 1.25].
- In 2015, **Belgium** was among the 20 economies with the highest numbers of top cited publications relating to machine learning [fig. 1.27 - see below].

Growth, jobs and the digital transformation:

- In 2014, 47% of jobs in **Belgium's** business sector were sustained by foreign demand [fig. 1.38].
- In **Belgium**, women earn about 11% less than men, even after individual and job-related characteristics are taken into consideration, and about 8% less when skill differences are also taken into account [fig. 1.41].
- More than 86% of people in **Belgium** used the Internet in 2016, up from 62% in 2006 [fig. 1.57]. 98% of 16-24 year olds used the Internet in 2016, and 71% of 55-74 year-olds [fig. 1.58].
- In 2016, firms in **Belgium** had one of the highest uptake rates for Enterprise Resource Planning (ERP) systems among OECD countries, at over 50% of all firms. Use of big data was also among the largest at close to 18% [fig. 5.2.1].
- In 2015, **Belgium** invested 2.8% of GDP in ICT, above the OECD average and up from 2.4% in 2005 [fig. 2.1.3]. Belgium has higher than average levels of robot intensity and ICT task intensity of manufacturing jobs [fig. 1.29 - see below].
- At over 15%, **Belgium** exhibited one of the largest contributions from knowledge-based assets and ICT equipment investment to productivity growth over the 2000-2014 period, principally accounted for by R&D and organisational capital [fig. 1.50].

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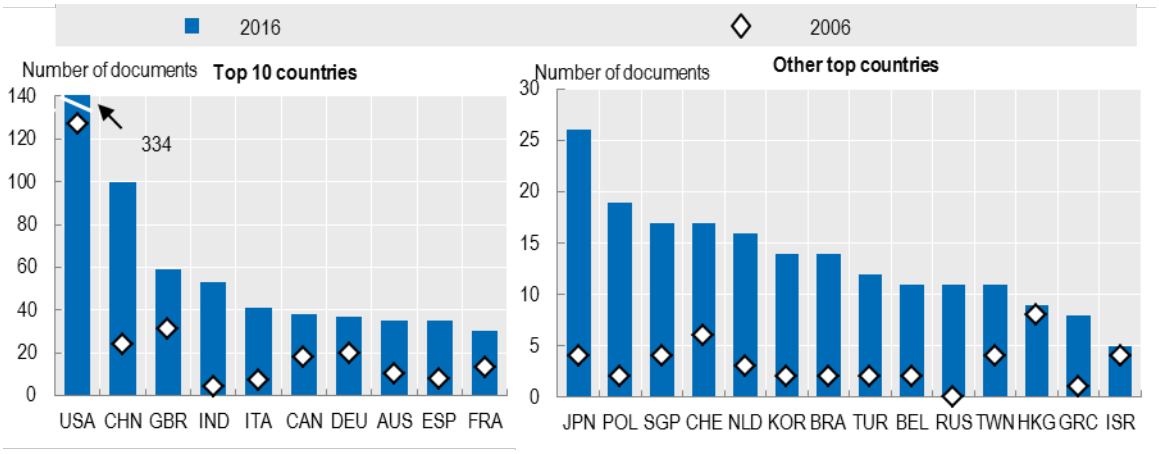
- In 2015, **Belgium** had (together with France) the highest rate of combined public support for business R&D in the entire OECD area, at 0.4% of GDP. More than 70% of this support is accounted for by R&D tax incentives [fig. 1.71 - see below].
- Data on the international mobility of scientific authors for 2002 to 2016 shows that **Belgium** has lost as many authors as it has gained, having become a net attractor since 2006 [figure 1.69 - see below].

Figure 1.27 Top-cited scientific publications related to machine learning, 2006 and 2016

Economies with the largest number of ML documents among the 10% most cited, fractional counts

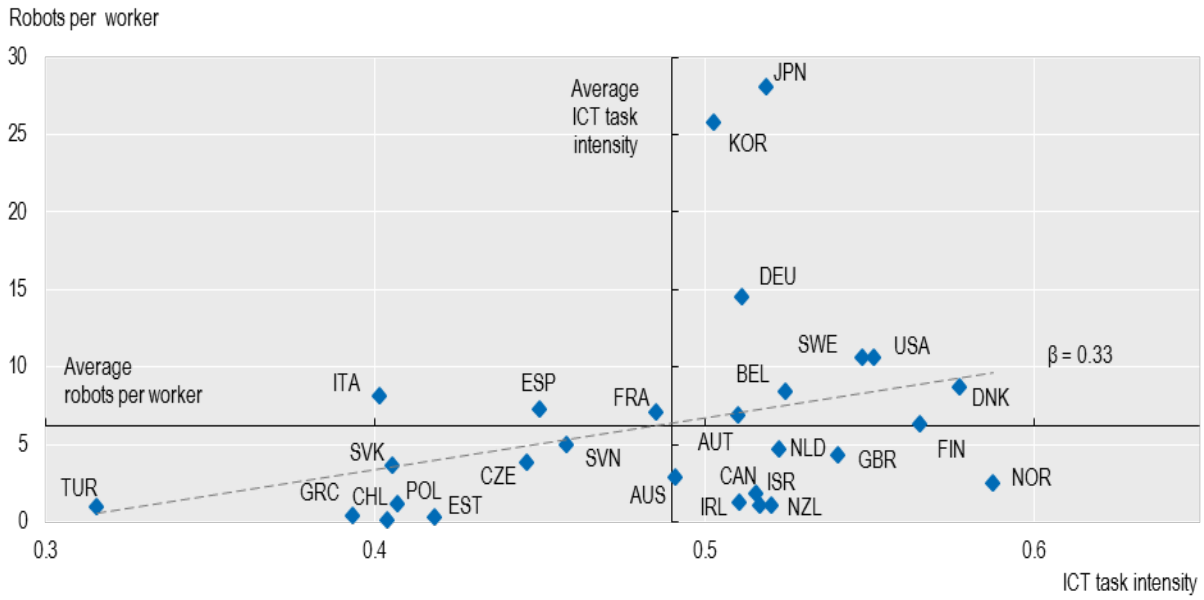


StatLink http://dx.doi.org/10.1787/888933617358

Source: OECD Science, Technology and Industry Scoreboard 2017: The Digital Transformation, OECD Publishing, Paris, http://dx.doi.org/10.1787/sti_scoreboard-2017-en.

Figure 1.29 Robot intensity and ICT task intensity of manufacturing jobs, 2012 or 2015

Correlation of robots per worker and average ICT task intensity



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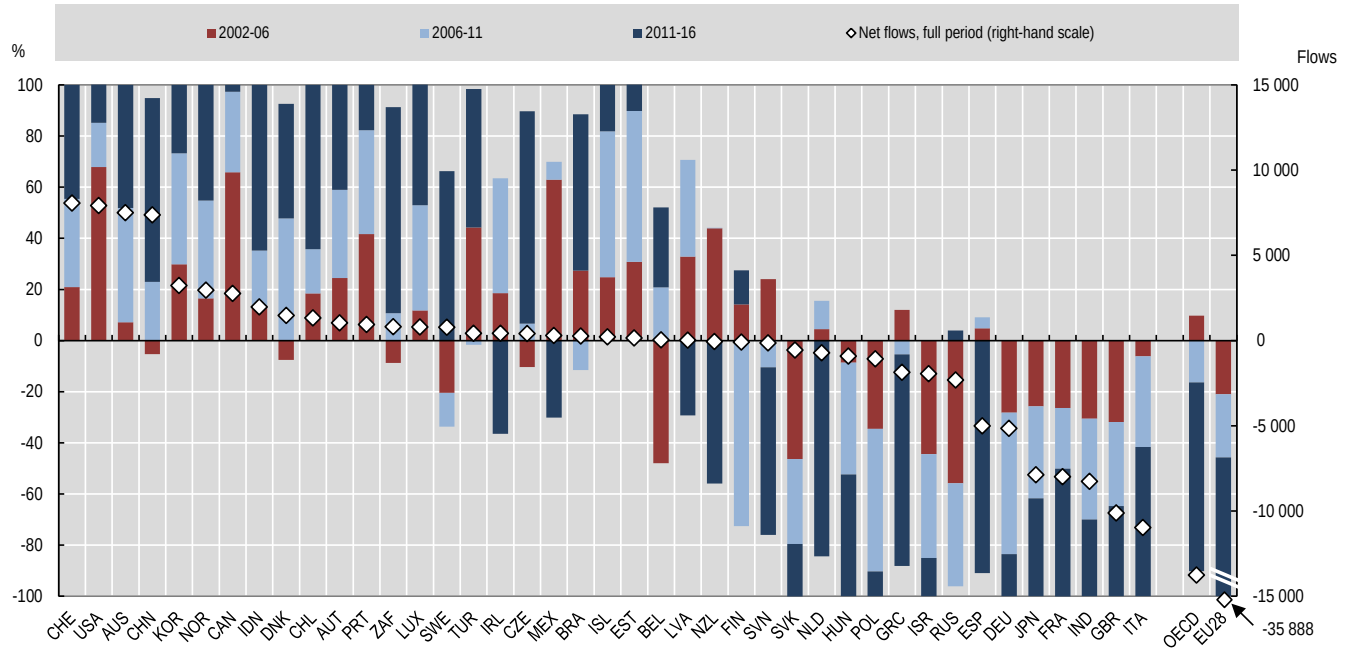
Source: OECD Science, Technology and Industry Scoreboard 2017: The Digital Transformation, OECD Publishing, Paris, http://dx.doi.org/10.1787/sti_scoreboard-2017-en.

Figure 1.69 International net flows of scientific authors, selected economies, 2002-16

Difference between annual fractional inflows and outflows, as a percentage of total flows

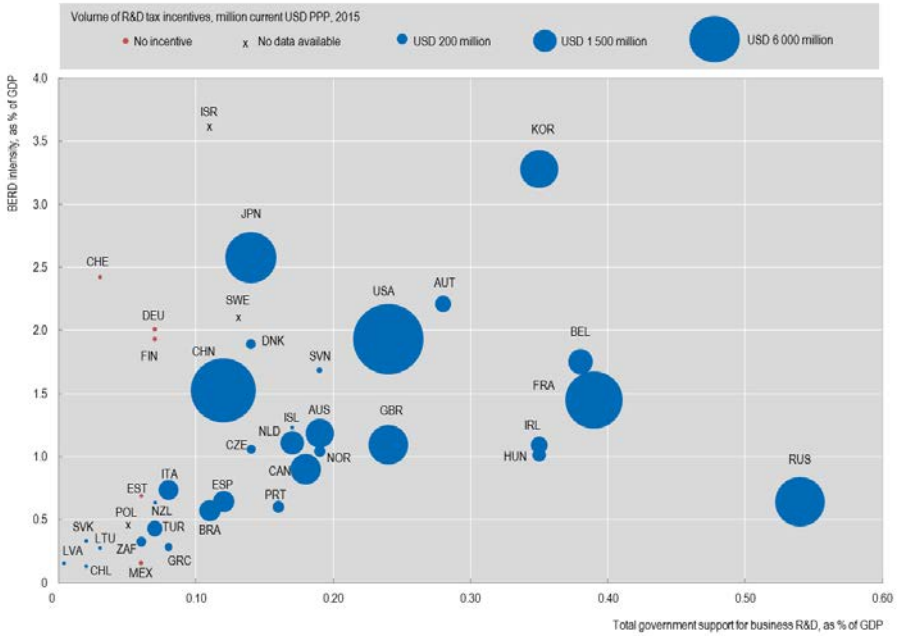


StatLink http://dx.doi.org/10.1787/888933618156

Source: OECD Science, Technology and Industry Scoreboard 2017: The Digital Transformation, OECD Publishing, Paris, http://dx.doi.org/10.1787/sti_scoreboard-2017-en.

Figure 1.71 Business R&D intensity and government support to business R&D, 2015

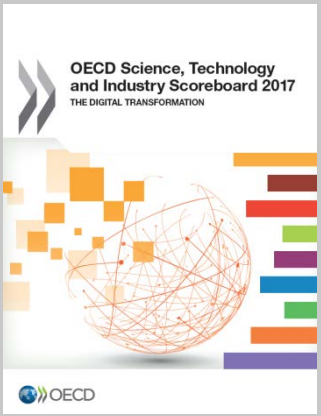
As a percentage of GDP



StatLink http://dx.doi.org/10.1787/888933618194

Source: OECD Science, Technology and Industry Scoreboard 2017: The Digital Transformation, OECD Publishing, http://dx.doi.org/10.1787/sti_scoreboard-2017-en.

The OECD Science, Technology and Industry Scoreboard 2017: The Digital Transformation



The 2017 edition of the Scoreboard contains over 200 indicators showing how the digital transformation affects science, innovation, the economy, and the way people work and live.

The aim of the STI Scoreboard is not to "rank" countries or develop composite indicators. Instead, its objective is to provide policy makers and analysts with the means to compare economies with others of a similar size or with a similar structure, and monitor progress towards desired national or supranational policy goals.

It draws on OECD efforts to build data infrastructure to link actors, outcomes and impacts, and highlights the potential and limits of certain metrics, as well as indicating directions for further work.

The charts and underlying data in the STI Scoreboard 2017 are available for download and selected indicators contain additional data expanding the time and country coverage of the print edition. For more resources, including online tools to visualise indicators, see the OECD STI Scoreboard webpage (http://www.oecd.org/sti/scoreboard.htm).

The OECD Directorate for Science, Technology and Innovation

It is part of the DNA of the Directorate for Science, Technology and Innovation (DSTI) to constantly look for ways of better understanding where our economies and societies are today, and where they are going tomorrow. We pride ourselves on tackling topics at the boundaries of our scientific and technological understanding, such as using biotechnology and nanotechnology to alter modes of production, and how digital shifts like "big data," earth observation and digital platforms are changing our world.

Discover DSTI at www.oecd.org/sti and the OECD's Going Digital project at www.oecd.org/going-digital.

Further reading

OECD (2017), *OECD Digital Economy Outlook 2017*, OECD Publishing, Paris. http://dx.doi.org/10.1787/9789264276284-en

OECD (2016), *OECD Science, Technology and Innovation Outlook 2016*, OECD Publishing, Paris. http://dx.doi.org/10.1787/sti_in_outlook-2016-en