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

Science, innovation and the digital revolution

- Among G20 economies, Italy had the fifth-highest penetration of Machine to Machine subscriptions (the number of M2M SIM cards per inhabitant) in June 2017, the same as in Germany and just behind China [Scoreboard fig. 1.3].
- **Italy** accounted for almost 4% of the world's top 10% of most-cited scientific publications in 2016, behind the United States, China, the United Kingdom and Germany [fig. 1.11 - see below].
- **Italy** is the fifth largest producer of most-cited scientific documents on machine learning after the United States, China, India and the United Kingdom [fig.1.27].

Growth, jobs and the digital transformation

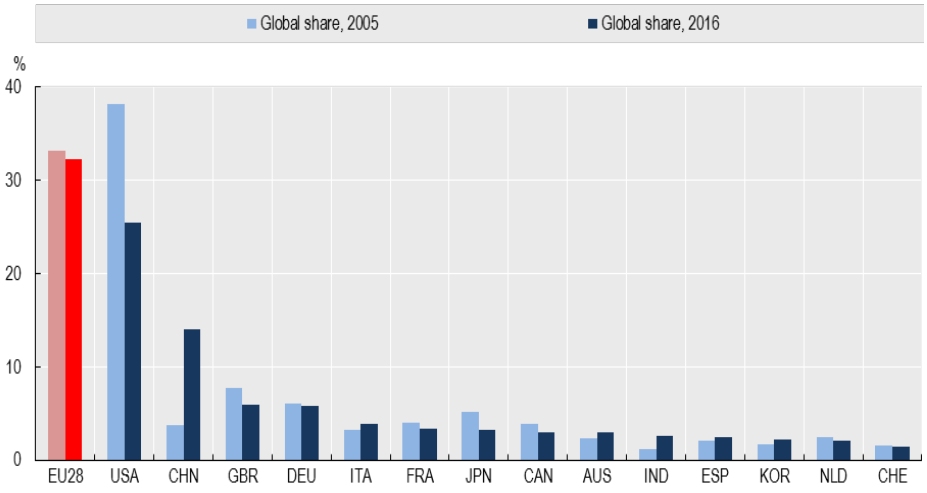
- Data for 2015 on the deployment of industrial robot technologies show that **Italy** is among the leading economies in Europe (behind Germany, the Czech Republic, the Slovak Republic and Slovenia) in terms of robot intensity (i.e. the industrial stock of robots over manufacturing value added). Manufacturing robot intensity in **Italy** is about one-third of that in Korea [fig. 1.28 - see below].
- **Italy** is among a small number of OECD countries that made modest gains in labour productivity growth from 2001-2007 to the 2009-2015 period, mainly due to stronger productivity growth in the manufacturing sector [fig. 1.44].
- From 2010 to 2016, **Italy** had modest net employment gains, due to net gains in wholesale and retail trade, business services and public services, and net losses in manufacturing and construction [fig. 1.34].
- In 2014, just over 35% of jobs in **Italy**'s business sector were sustained by foreign demand, up from 29.5% in 2004 [fig. 1.38].
- Less than one-third of workers in **Italy** received firm-level training, compared to over 75% in Finland, Denmark and the Netherlands [fig. 1.40 - see below].
- Women in **Italy** earn about 13% less than men, even after individual and job-related characteristics are taken into consideration, and about 10% less when skills differences are also taken into account [fig. 1.41].
- **Italy** was the eighth-most important hub for IT manufacturing in 1995, and fell to 10th place among the top-10 IT manufacturing hubs in 2011 [fig. 1.56]. It was the 3rd most important hub in ICT services in 1995, but fell to 6th place in 2011.
- Almost 69% of individuals in **Italy** used the Internet in 2016, up from 36.2% in 2006 [fig. 1.57]. Over 90% of 16-24 year olds used the Internet in 2016, and 42.1% of 55-74 year olds [fig. 1.58].

Innovation today - Taking action

- **Italy** is among the OECD countries where government budgets for R&D have declined since 2008, falling 22% from 2008 to 2015 [fig. 1.62].
- 12.7% of domestic scientific documents in **Italy** were in the world's top-10% most cited, ahead of the European Union at 11.9%, but behind the United States at 13.9% [fig. 1.12].
- In 2012-15, in **Italy**, 7.8% of patents were invented by women, compared to 10% in the United States and 7% in the EU [fig. 1.61].
- Data on the international mobility of scientific authors for 2002 to 2016 shows that **Italy** has lost more authors than it has attracted [fig. 1.69 - see below]. Over the past 15 years, almost 11 000 more scientific authors left **Italy** than entered, making the country the largest relative net donor among economies with high levels of scientific output.

Figure 1.11 Economies with the largest volume of top-cited scientific publications, 2005 and 2016

As a percentage of the world's top 10% most-cited publications

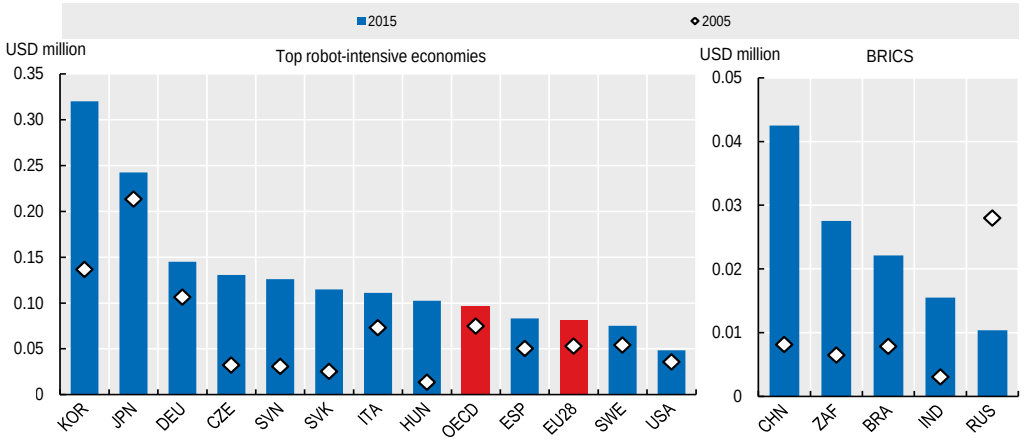


StatLink : http://dx.doi.org/10.1787/888933617054

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 1.28 Top robot-intensive economies and BRICS, 2005 and 2015

Industrial robot stock over manufacturing value added, millions USD, current values



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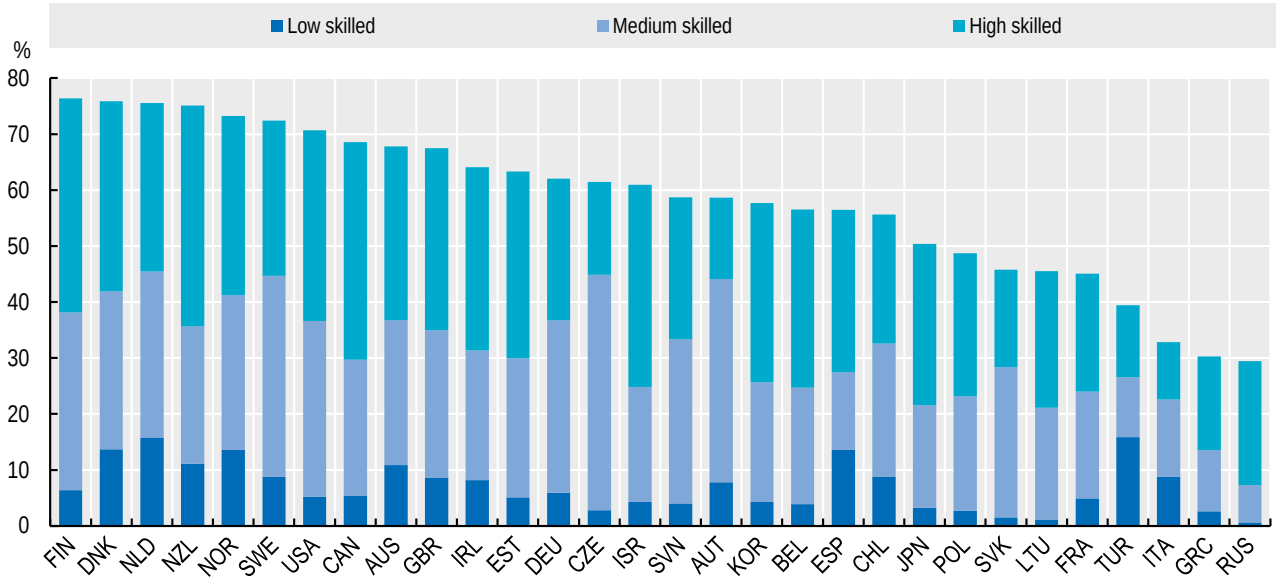
Source: OECD Science, Technology and Industry Scoreboard 2017: The Digital Transformation, OECD Publishing, Paris, http://dx.doi.org/10.1787/sti_scoreboard-2017-en.

Figure 1.40 Workers receiving firm-based training, by skill level, 2012 or 2015

As a percentage of total employed persons



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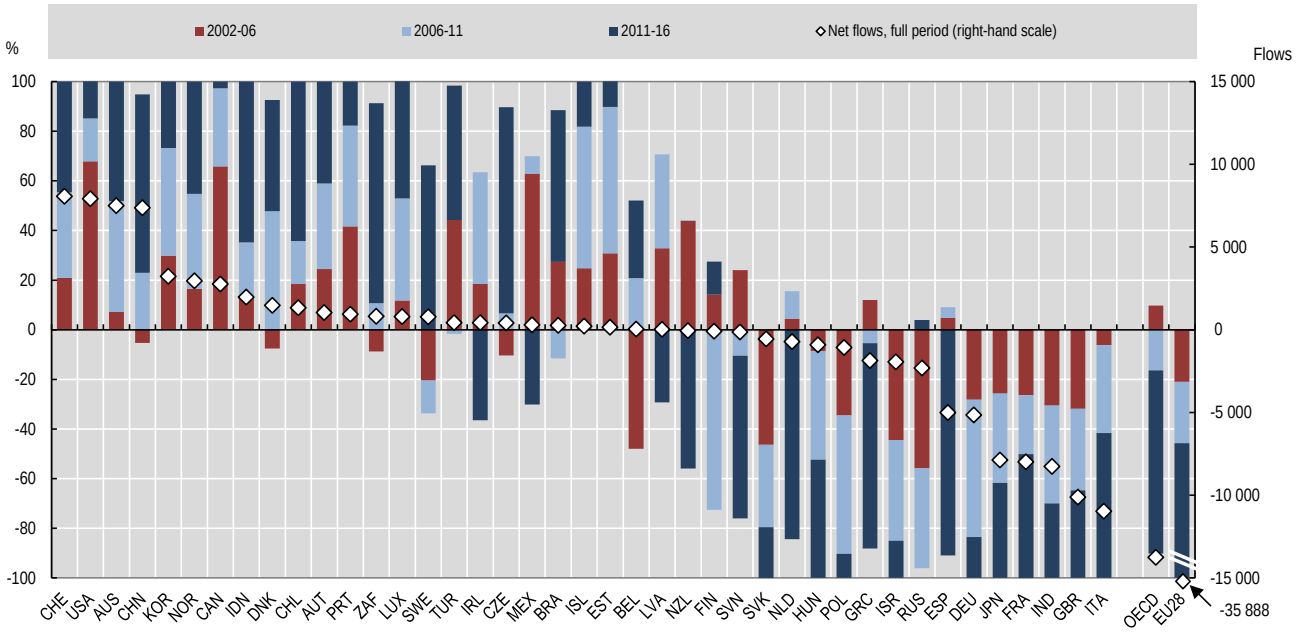
Source: OECD Science, Technology and Industry Scoreboard 2017: The Digital Transformation, OECD Publishing, Paris, http://dx.doi.org/10.1787/sti_scoreboard-2017-en.

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

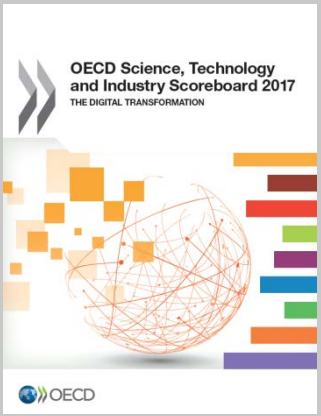
Difference between annual fractional inflows and outflows, as a percentage of total flows



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.

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