Measuring the Digital Transformation and Going Digital Toolkit

IX NIC.br Annual Workshop on Survey Methodology
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BETTER POLICIES FOR BETTER LIVES

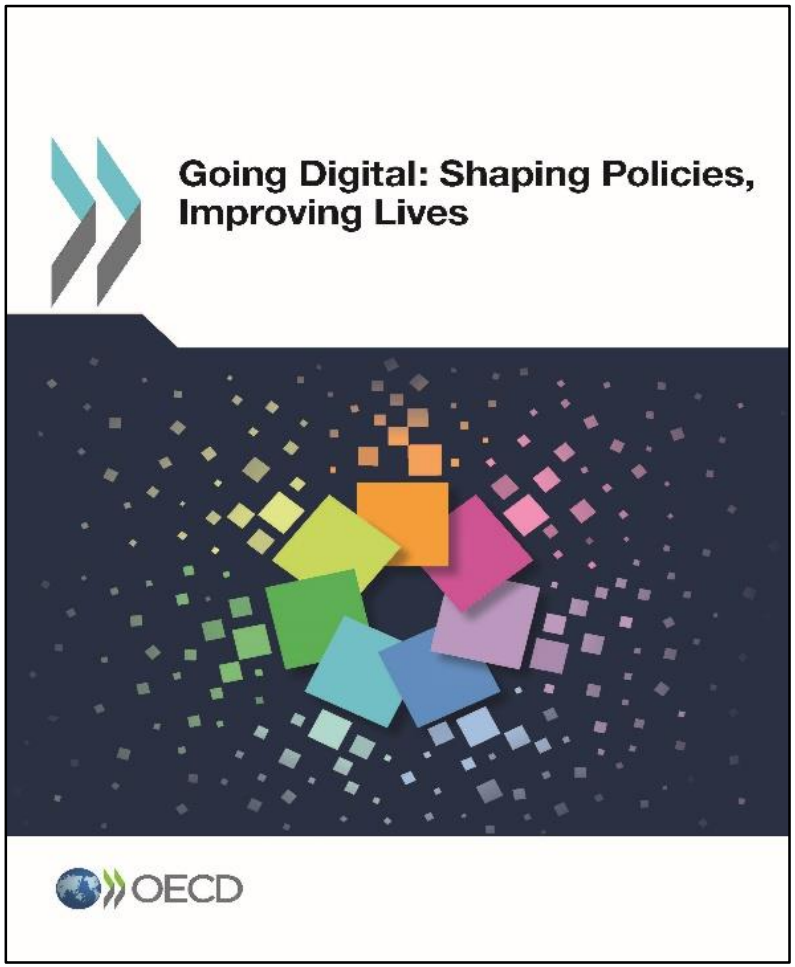
The project

- 2 years (and counting…)
- 14 OECD committees – Science and Technology + Economics, Education, Finance, Labour market, Public Governance, Trade…
- + other OECD bodies, International Organisations
- + academics, business…
- 100+ outputs
- https://www.oecd.org/going-digital/topics/

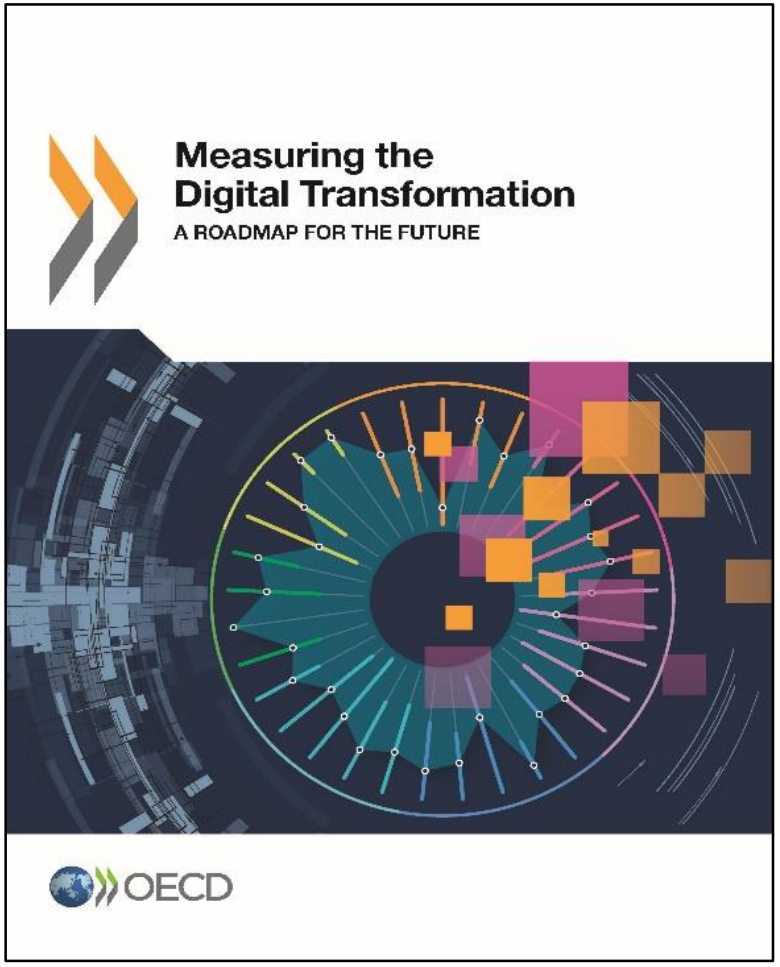
The OECD Going Digital Summit

- Over 20 sessions, reflecting the 7 dimensions of the Going Digital integrated policy framework
- 700 participants:100+ speakers and moderators incl. 25 Ministers and State Secretaries
- Webcast: www.oecd.org/going-digital/summit

Key publications



https://doi.org/10.1787/9789264312012-en



https://doi.org/10.1787/9789264311992-en

An integrated policy framework

Understand

- Indicators mapped to Going Digital policy framework
- Monitor the digital transformation and "tell stories"
- Position countries and monitor progress
- Data visualisation and discovery

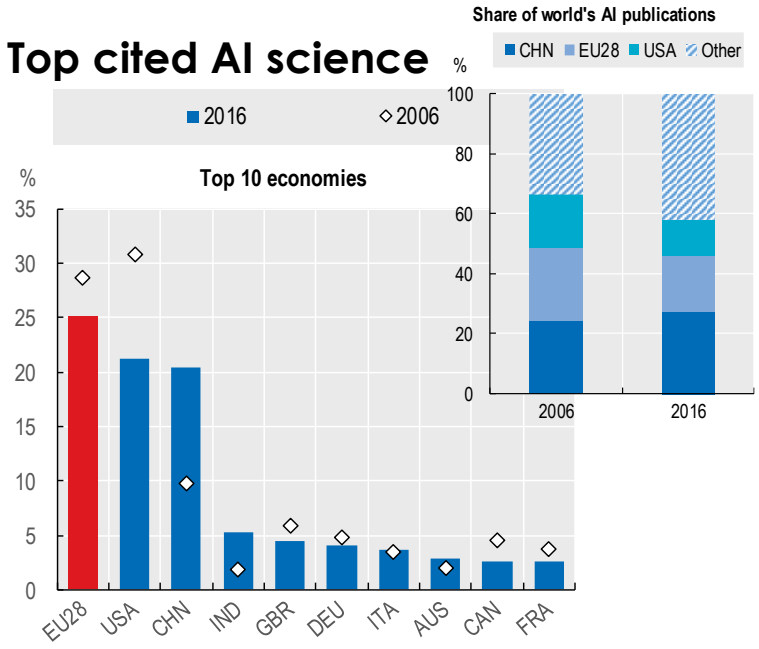
Advance

- Highlight main weaknesses of current metrics and measurement frameworks
- Identify key areas for action (9) – "roadmap"
- Co-develop with stakeholders

http://dx.doi.org/10.1787/9789264311992-en

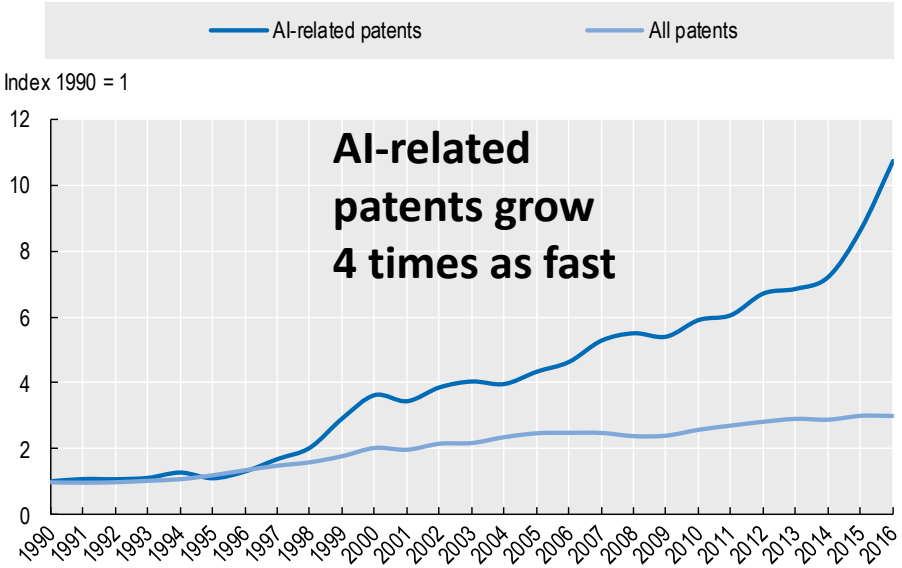
Trends

Top cited AI science

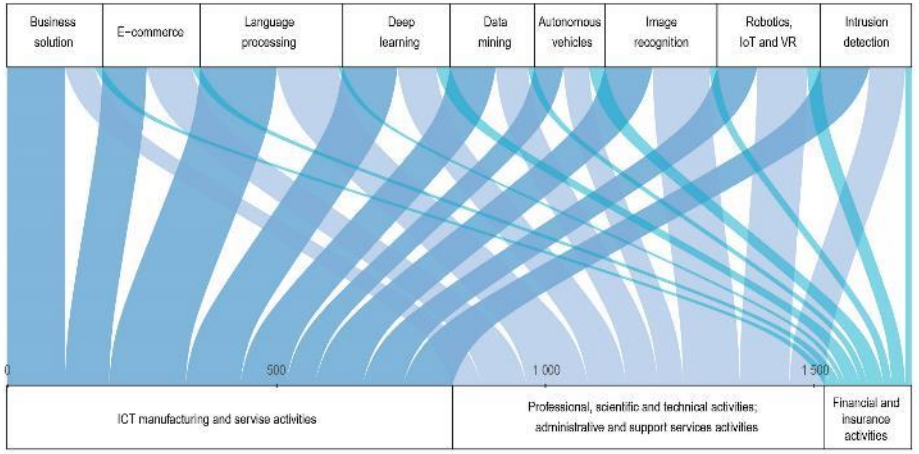


Source: OECD, *Measuring the Digital Transformation*, 2019

Patents in AI-related technologies, 1990-2016



AI-related technologies developed by UK companies, selected sectors, 2018

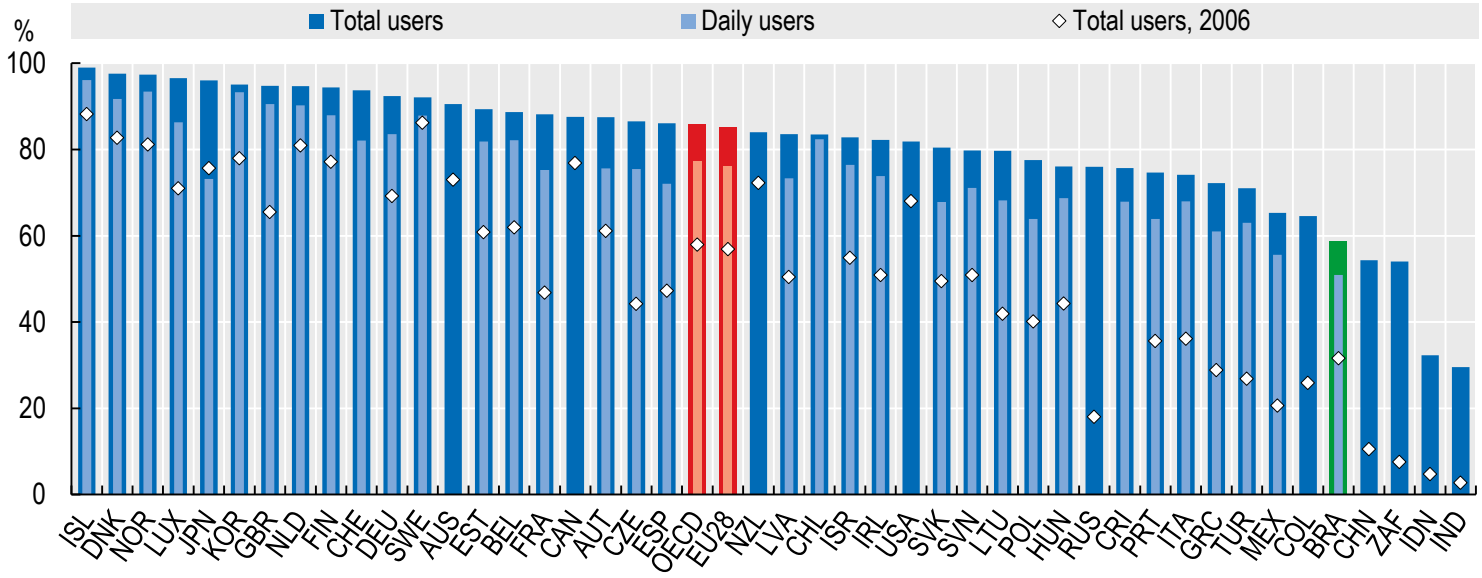


The Internet is near *ubiquitous* in many countries and the range of activities that people and businesses do online is increasing. However, *divides* still persist.

Use: individuals

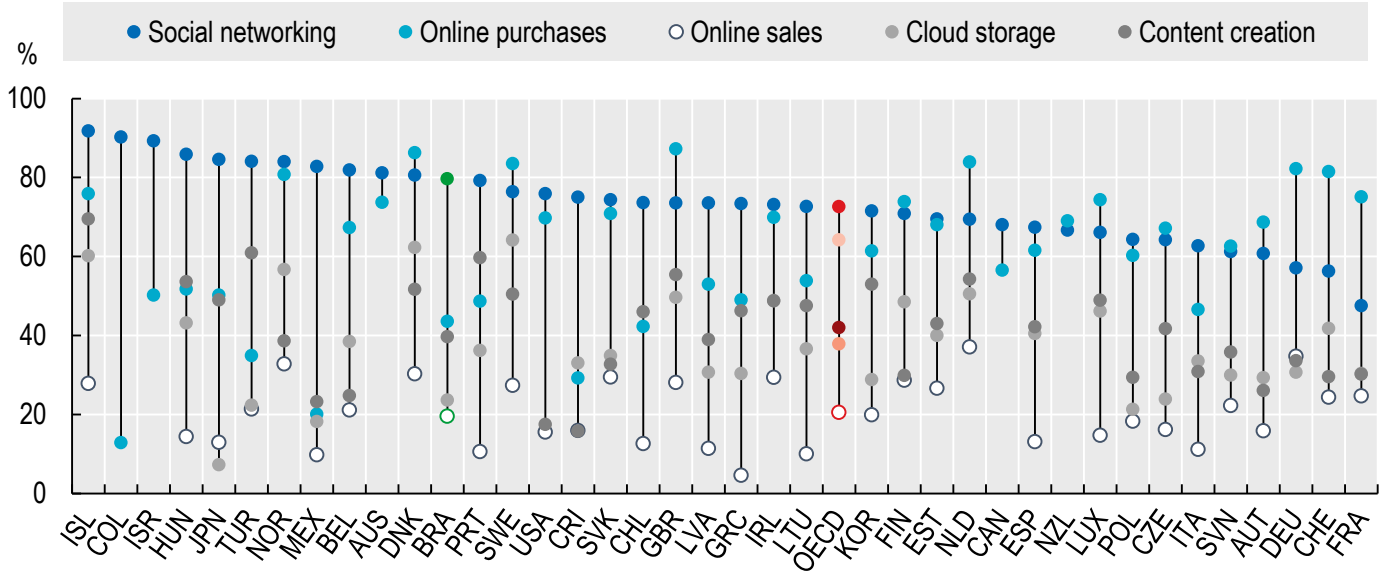
Internet users, 2018

As a percentage of persons aged16-74



Diffusion of selected online activities, 2018

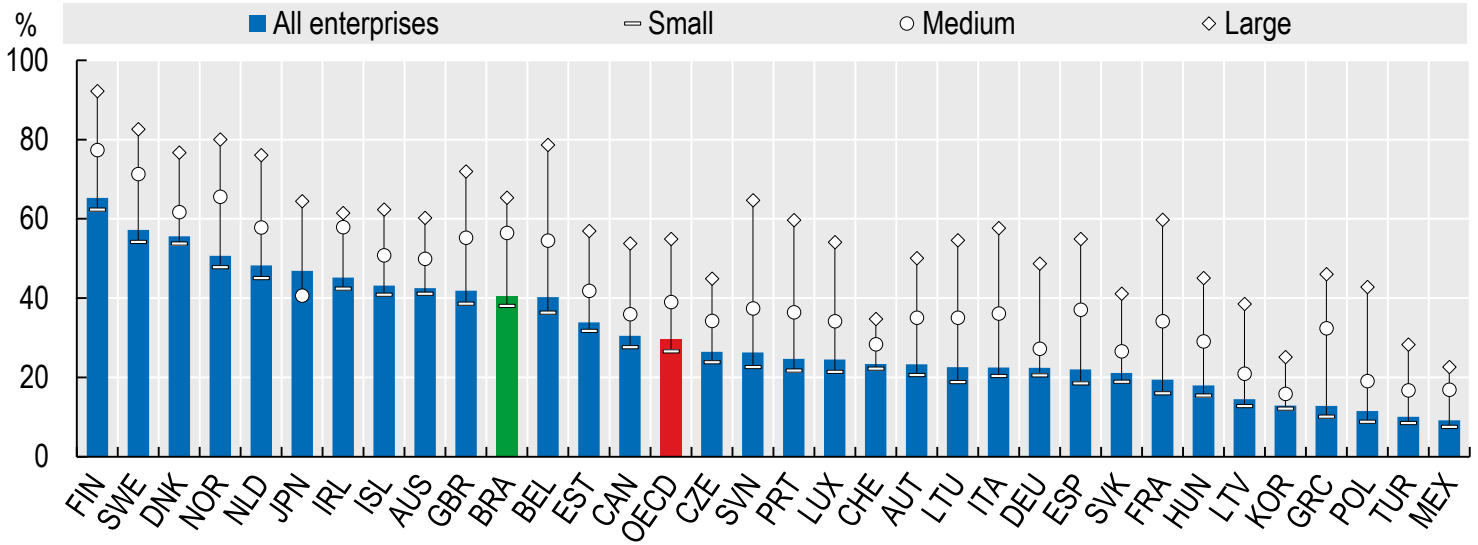
As a percentage Internet users



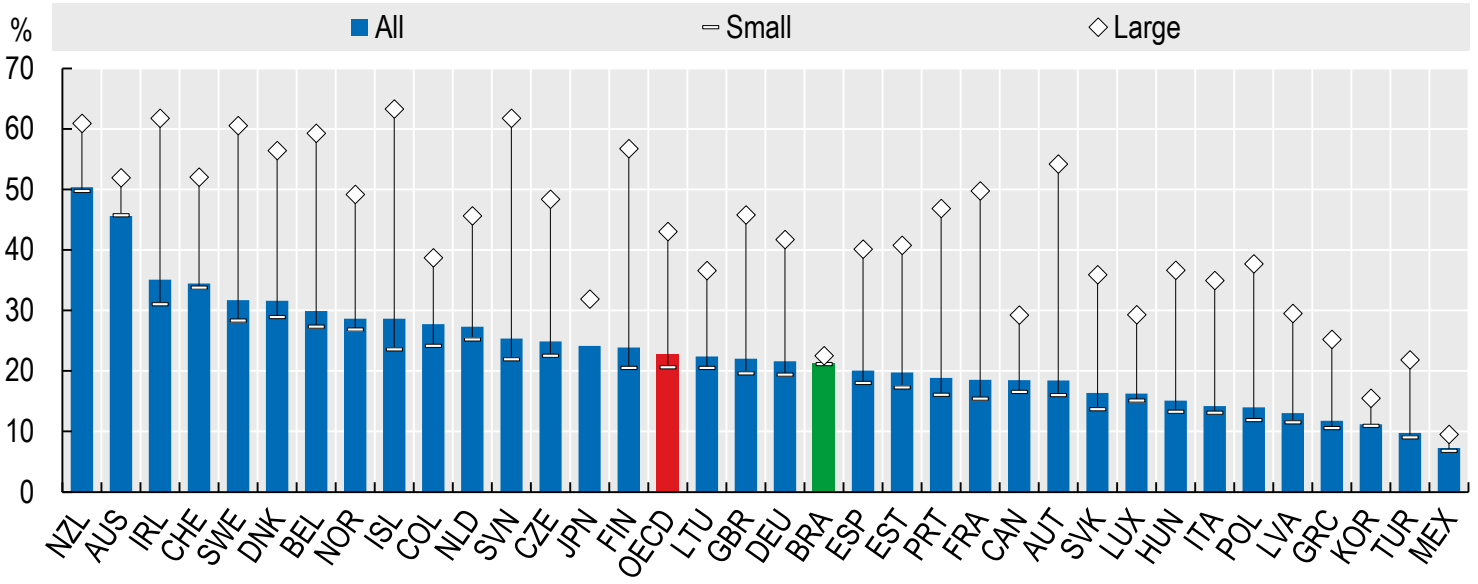
Source: OECD (2019), *Measuring the Digital Transformation*, based on ICT Usage by Households and Individuals Database, December 2018.
https://doi.org/10.1787/888933929775 , https://doi.org/10.1787/888933929775

Use: businesses

Enterprises purchasing cloud services
As a percentage of enterprises in each employment size class



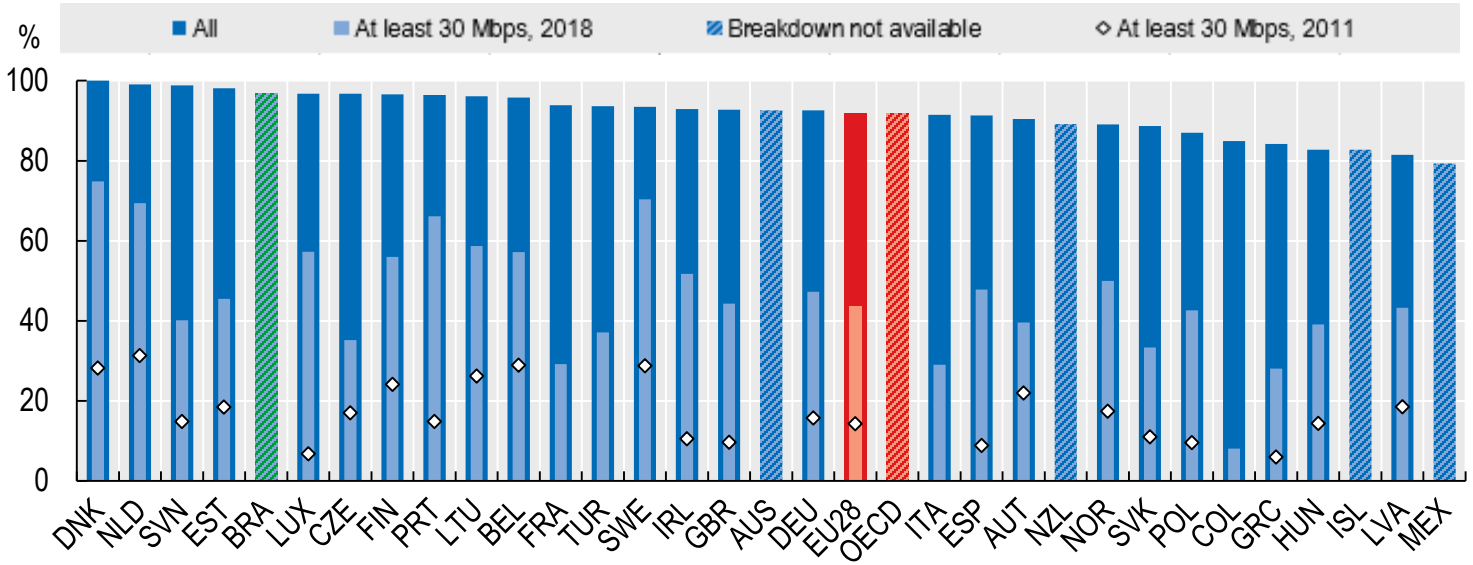
Enterprises making e-commerce sales, 2017
As a percentage of enterprises in each employment size class



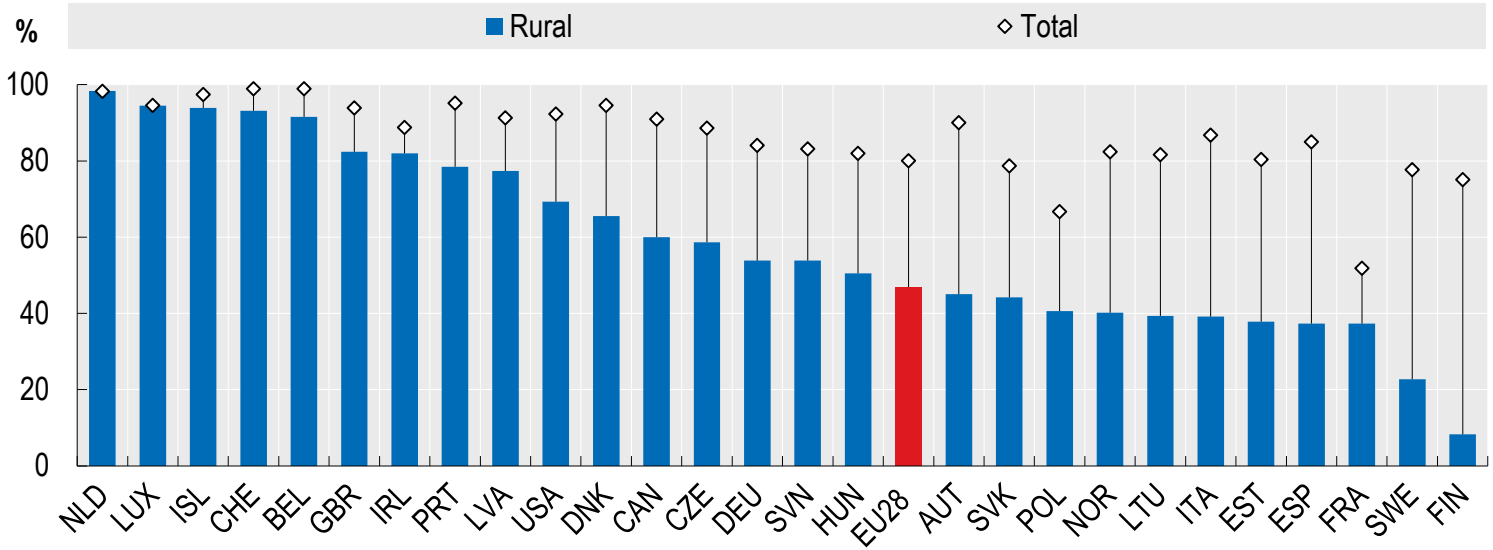
Source: OECD (2019), *Measuring the Digital Transformation*, based on ICT Usage by Businesses Database, December 2018.
https://doi.org/10.1787/888933929908 , https://doi.org/10.1787/888933929851

Access: divides

Enterprises with broadband connections, by speed, 2018
As a percentage of all enterprises



Households in areas where fixed broadband of 30Mbps or more is available, 2017
As a percentage of households



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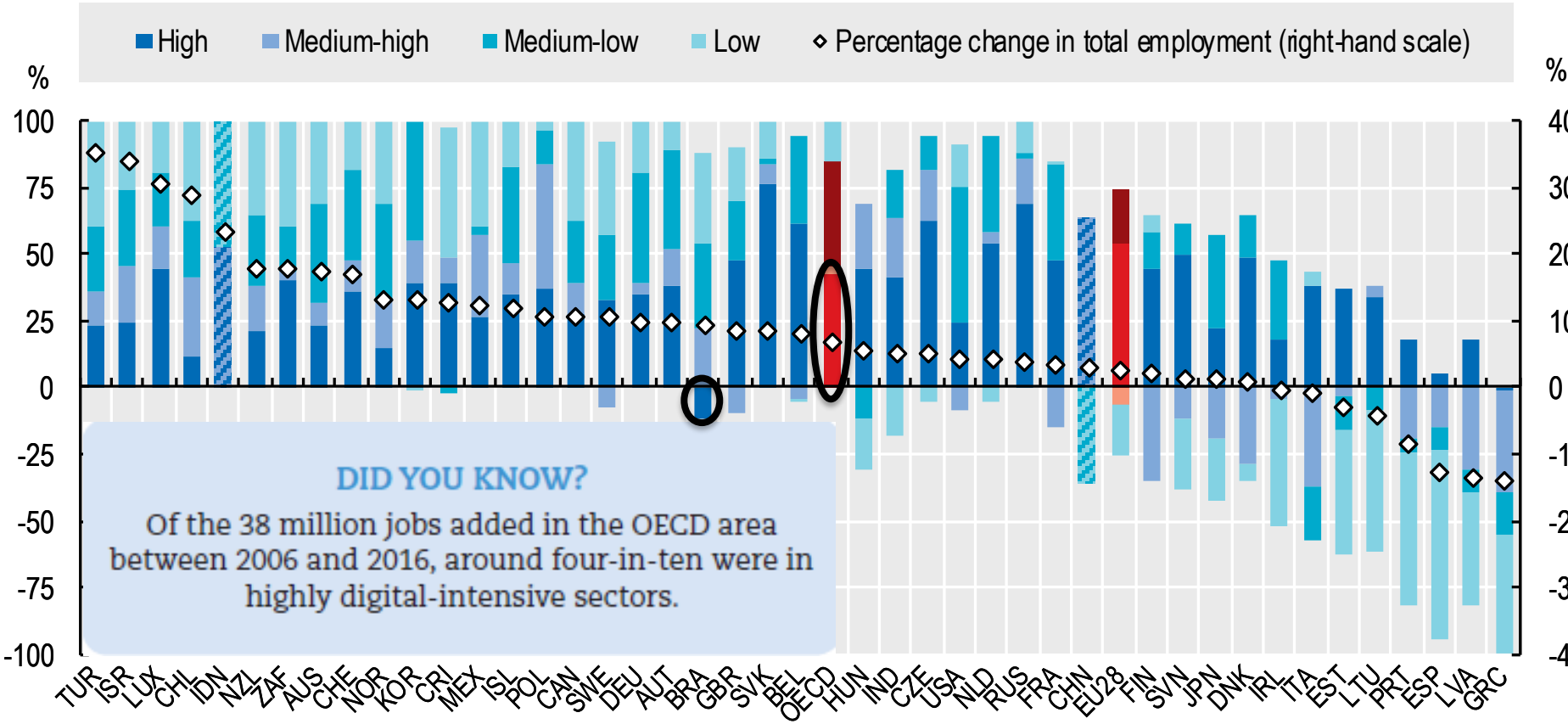
https://doi.org/10.1787/888933929908 , https://doi.org/10.1787/888933929851

Firms in highly digital-intensive sectors are adding jobs, placing the spotlight on skills and the need for training.

Jobs: Digital intensity in sectors

Contributions to changes in total employment, by digital intensity of sectors 2006-16

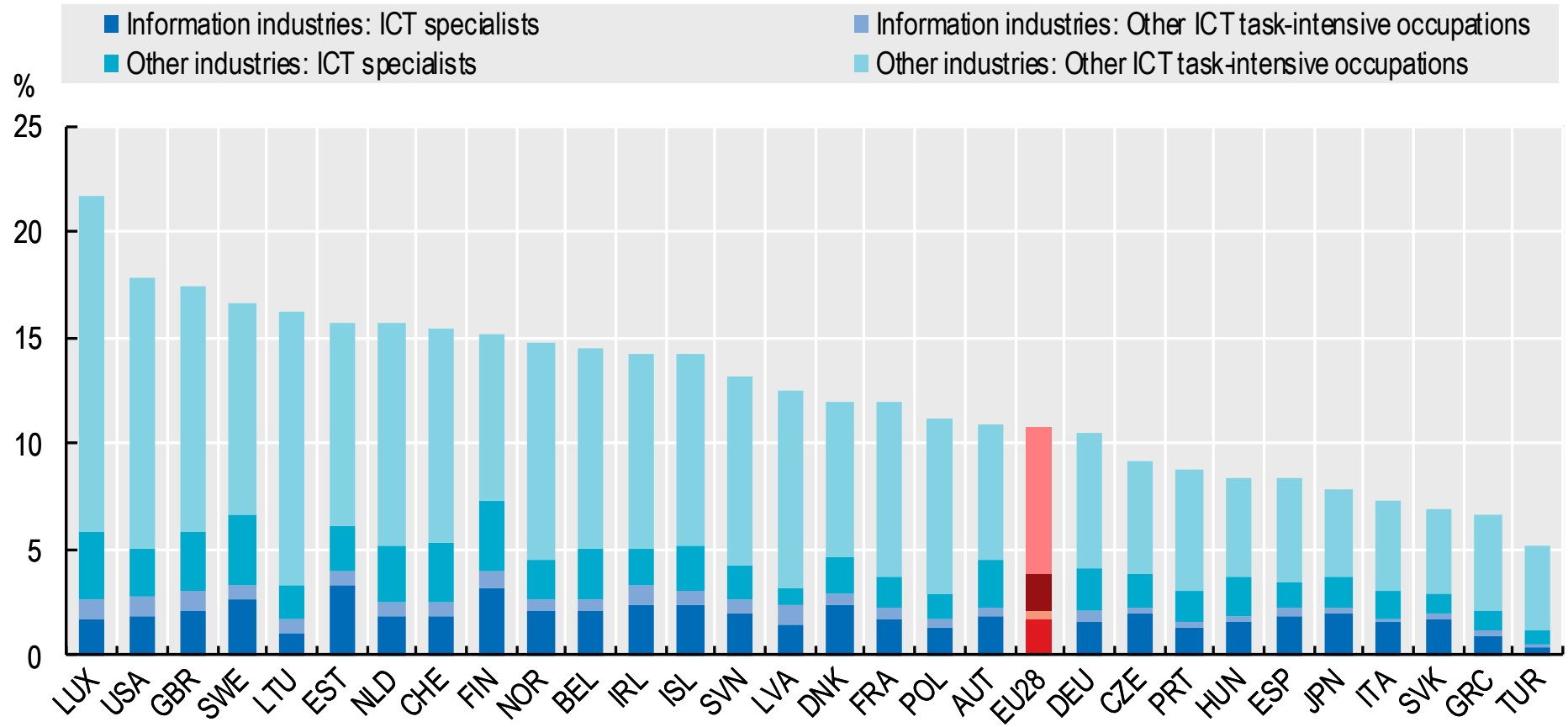


Source: OECD (2019), *Measuring the Digital Transformation*, based STAN Database, http://oe.cd/stan, National Accounts Statistics, national sources and Inter-Country Input-Output Database, http://oe.cd/icio, December 2018 https://doi.org/10.1787/888933930573

JOBS: ICT OCCUPATIONS V. ICT TASK INTENSITY

Employment in ICT specialists and ICT-task intensive occupations within and outside information industries, 2017

As a percentage of total employment

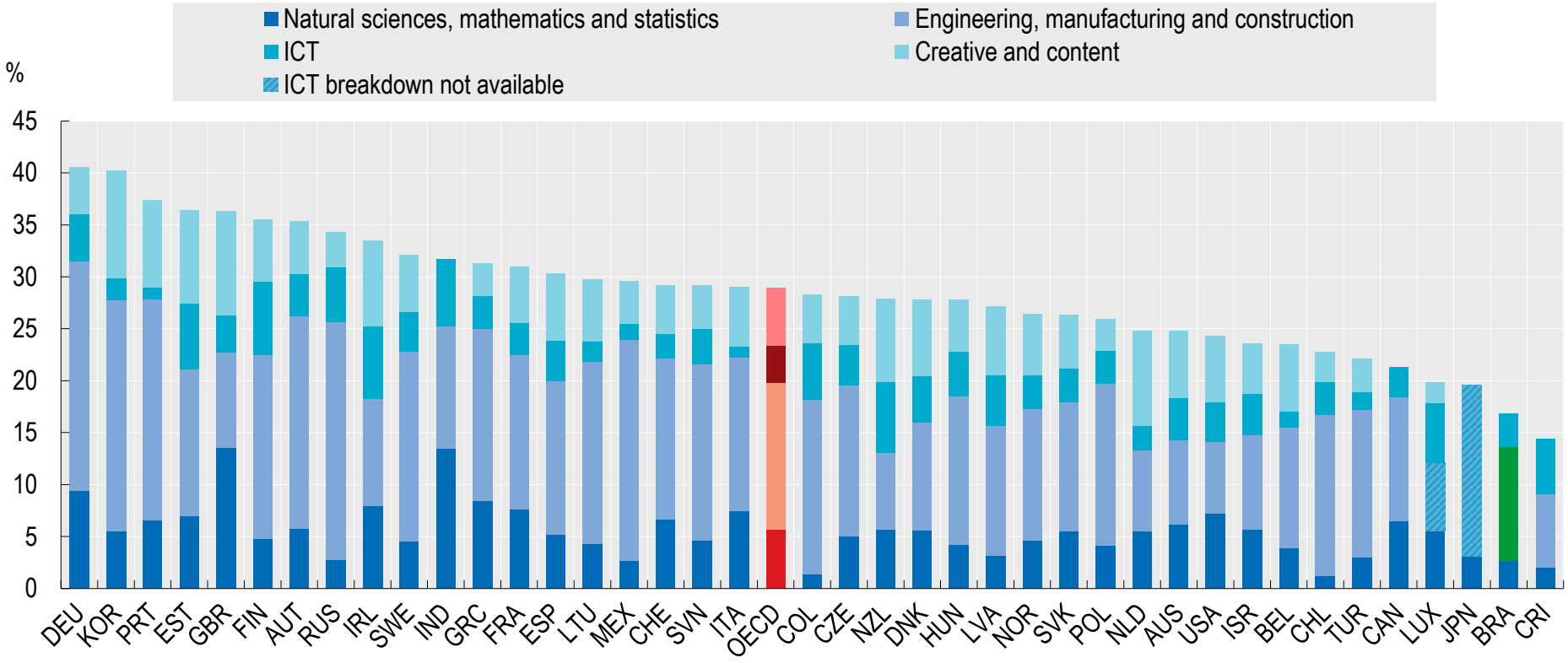


Source: OECD (2019), *Measuring the Digital Transformation*, based on European Labour Force Surveys and other national sources, December 2018. https://doi.org/10.1787/888933930535

Jobs: Skills pipeline

Tertiary graduates in the natural sciences, engineering, ICTs, and creative and content fields of education, 2016

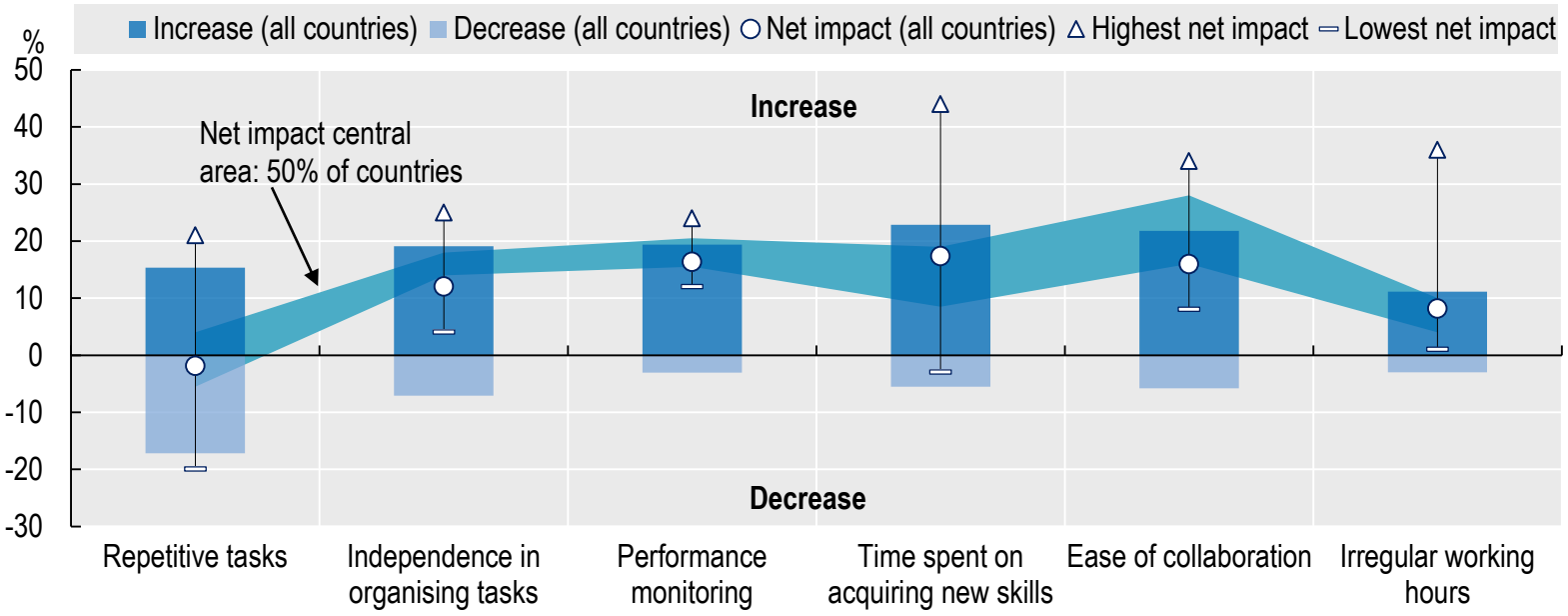
As a percentage of students graduating at the tertiary level in 2016



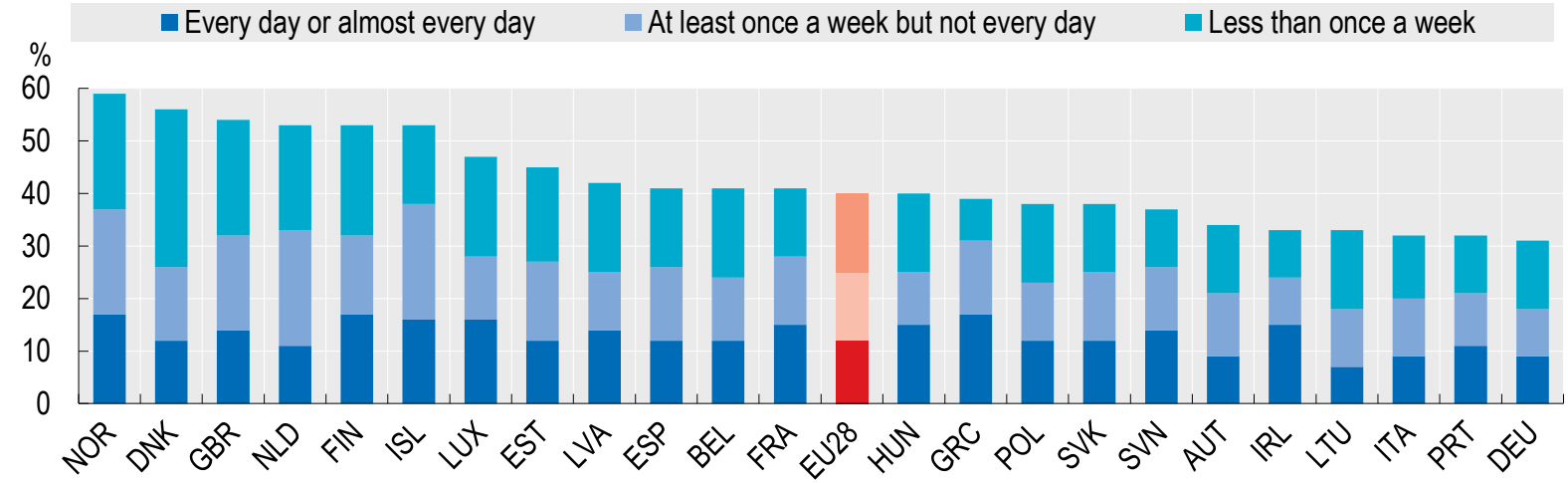
Source: OECD (2019), *Measuring the Digital Transformation*, based on OECD Education Database, September 2018.
https://doi.org/10.1787/888933930687

For many people, the impacts of the digital transformation are felt especially strongly at work.

Perceived impacts of digital technologies on specific aspects of work, EU countries, 2018
As a percentage of individuals using digital equipment at work



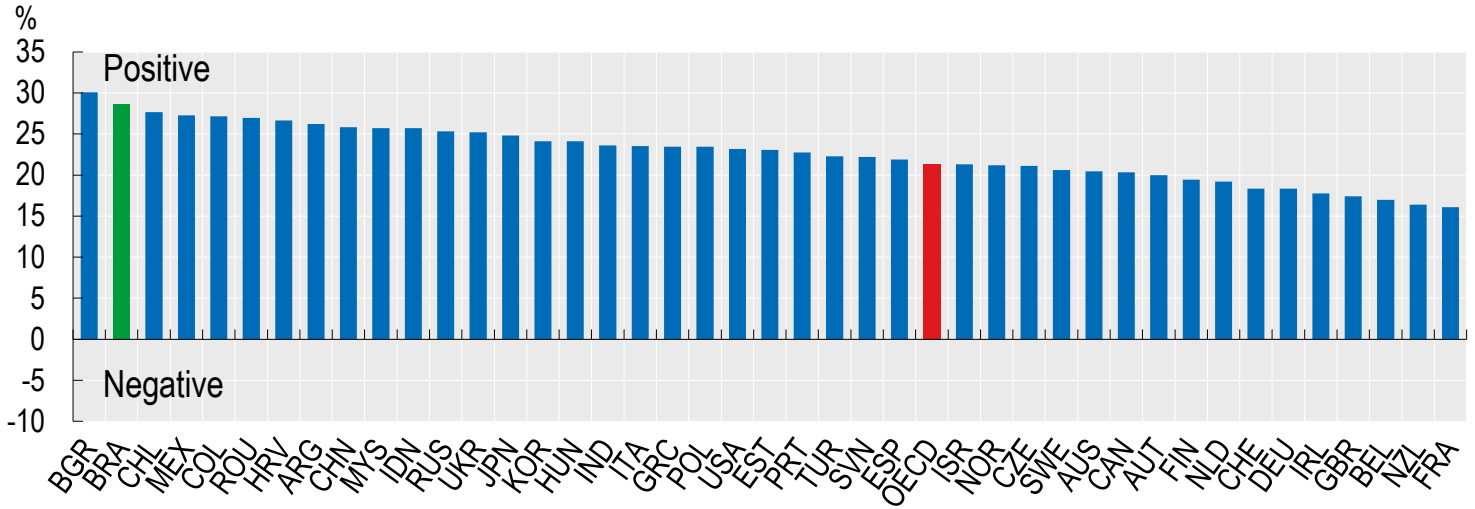
Individuals teleworking from home in the last 12 months, 2018
As a percentage of individuals using digital equipment at work



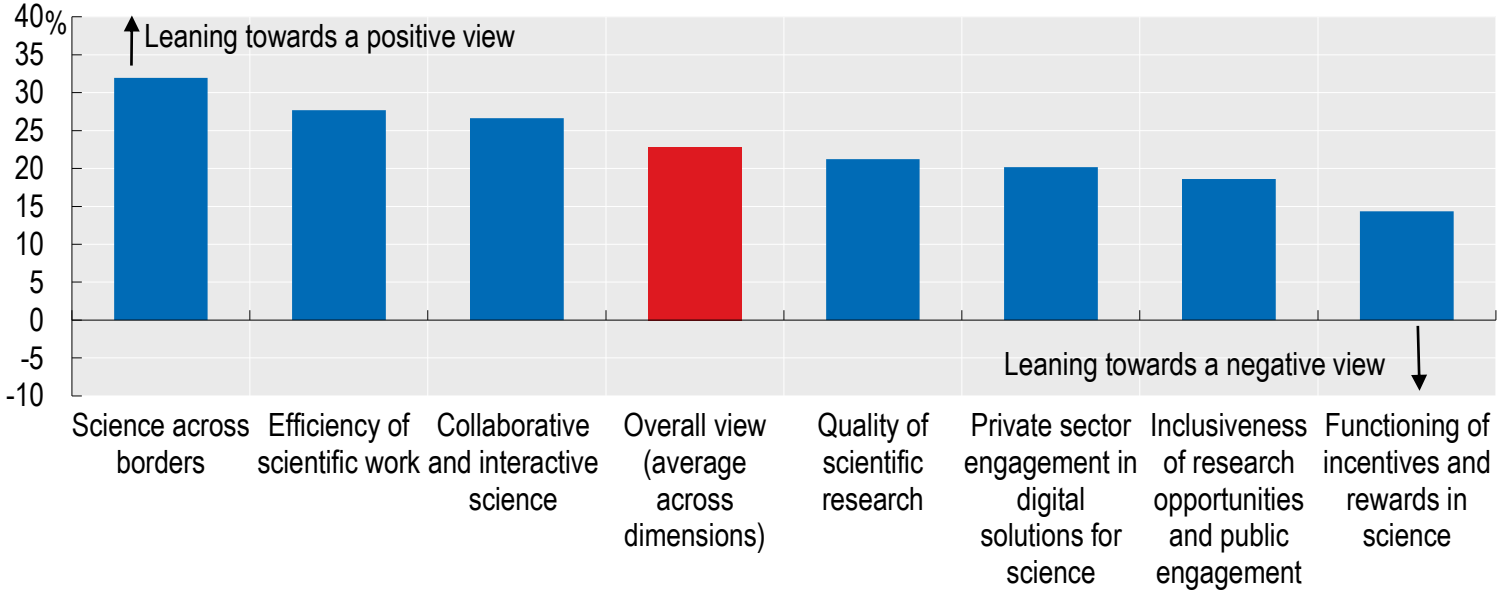
Source: OECD (2019), *Measuring the Digital Transformation*, based on Eurostat Digital Economy and Society Statistics, January 2019.
https://doi.org/10.1787/888933928787 ,

Innovation

Scientific authors' views on the digitalisation of science, by country of residence, 2018



Scientific authors' views on the digitalisation of science and its potential impacts, 2018

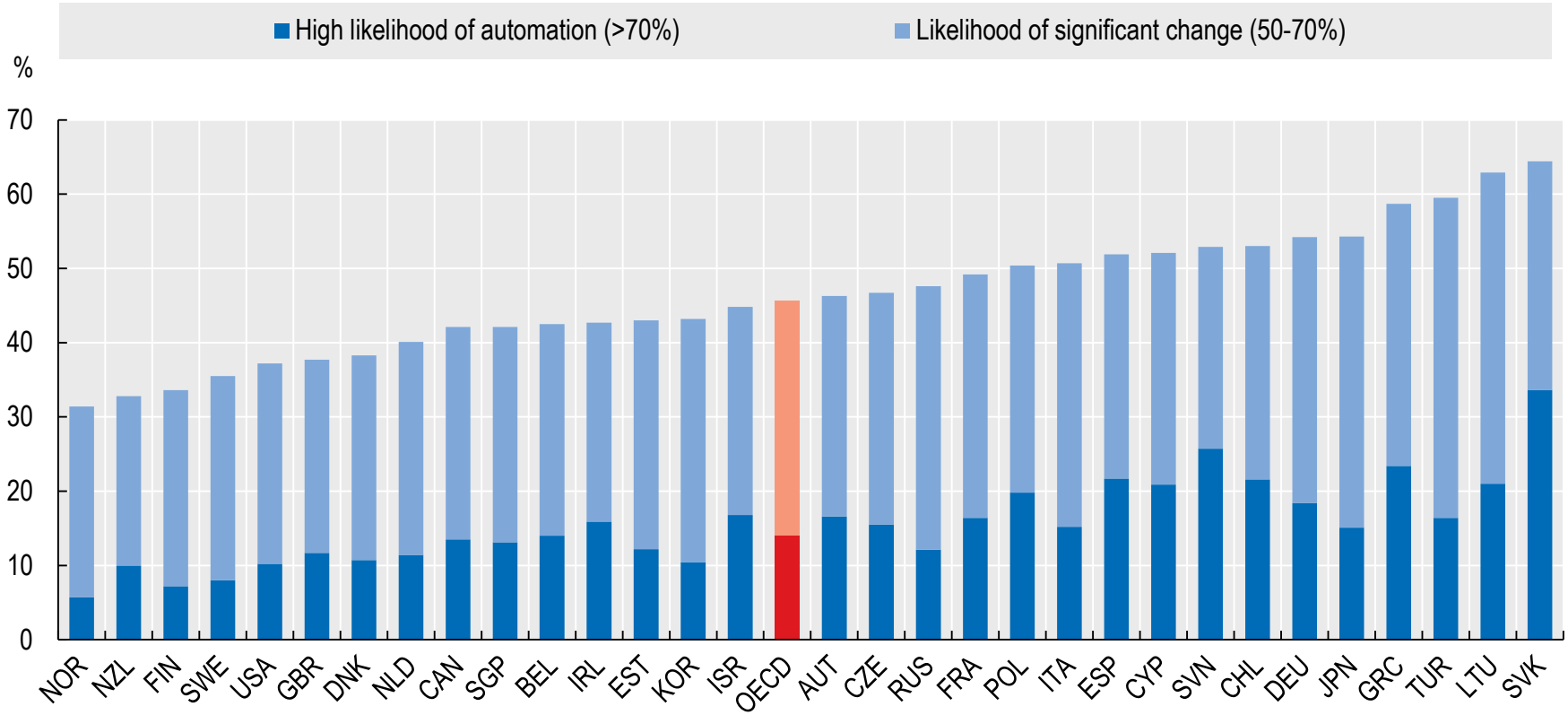


Source: OECD (2019), *Measuring the Digital Transformation*, based OECD International Survey of Scientific Authors, January 2019.
https://doi.org/10.1787/888933928996 , https://doi.org/10.1787/888933928977

Jobs: longer-term

Likelihood of automation or significant change to jobs, 2012 or 2015

As a percentage of all jobs



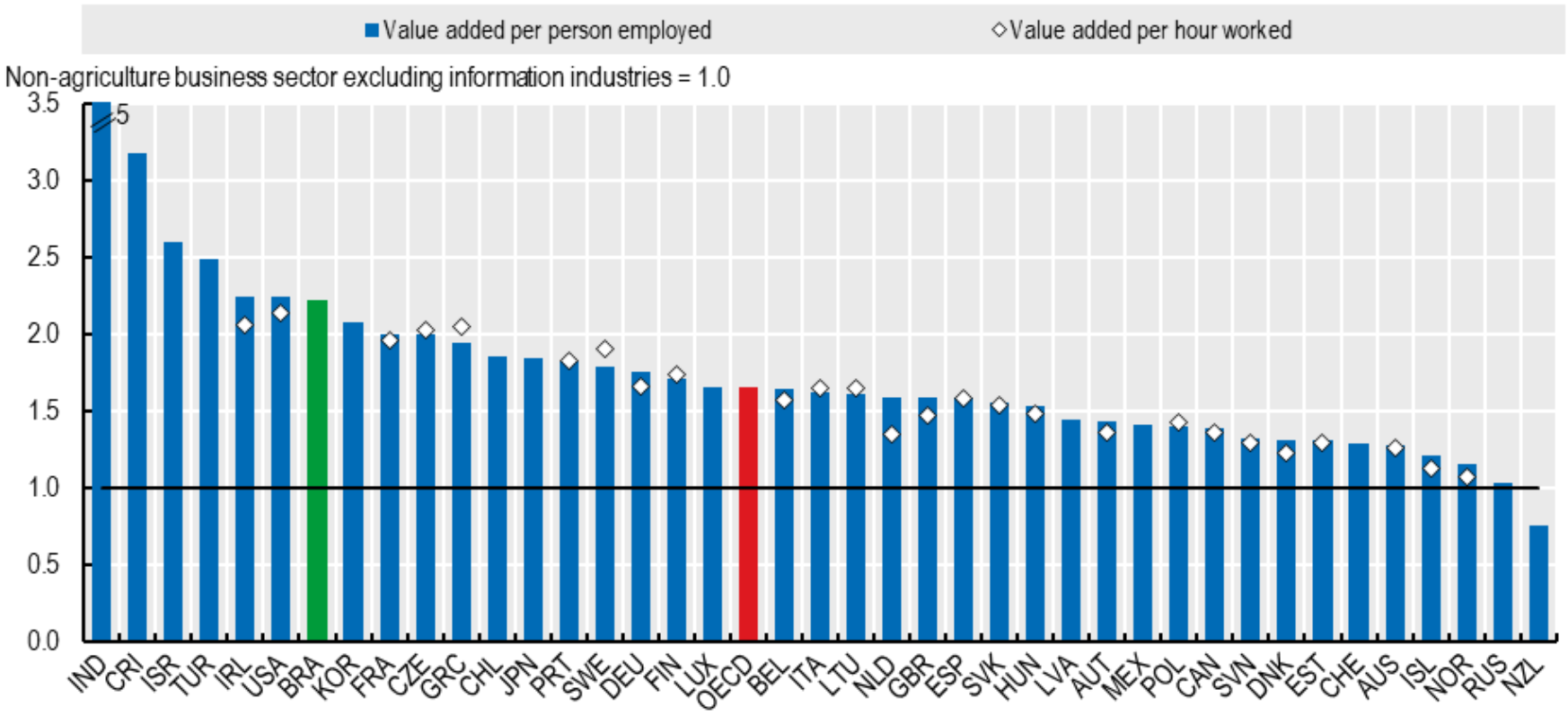
Source: OECD (2019), *Measuring the Digital Transformation*, reproduced from Nedelkoska and Quintini (2018).
https://doi.org/10.1787/88893393554

Digital transformation offers many *opportunities* but there are also *downsides,* and these tend to be less well understood.

Growth…

Labour productivity in information industries, 2016

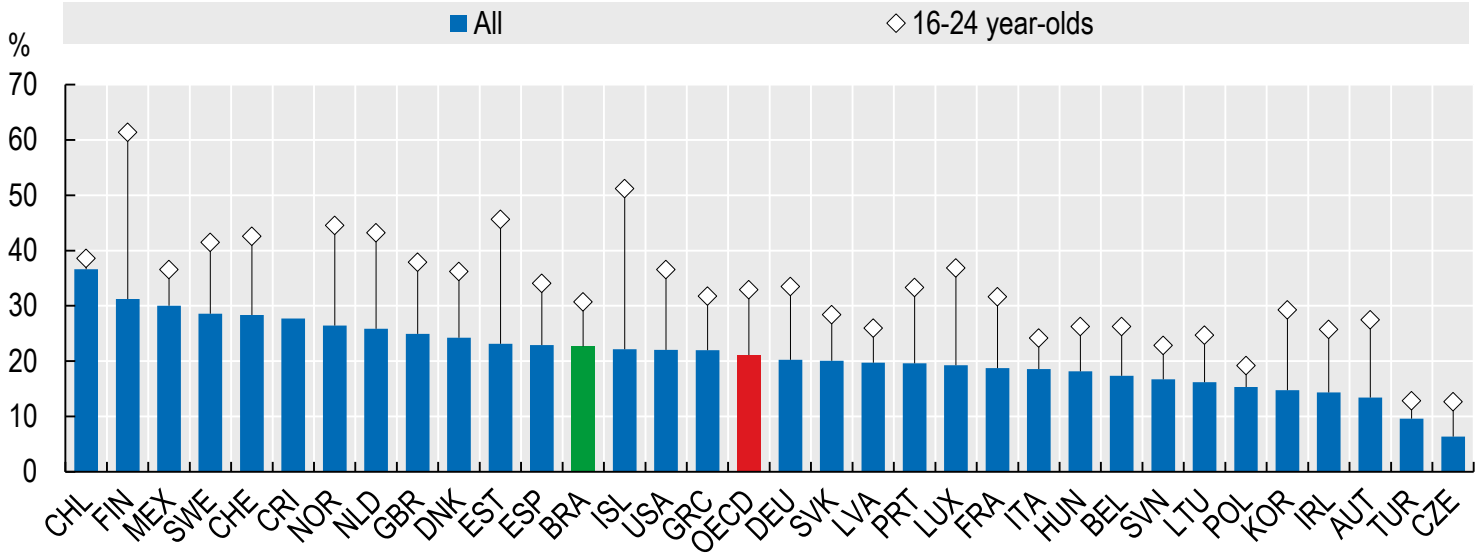
Relative to labour productivity of other industries in the non-agriculture business sector



Source: OECD (2019), *Measuring the Digital Transformation*, based on OECD, STAN Database, National Accounts Statistics and national sources, September 2018.. https://doi.org/10.1787/88893393554

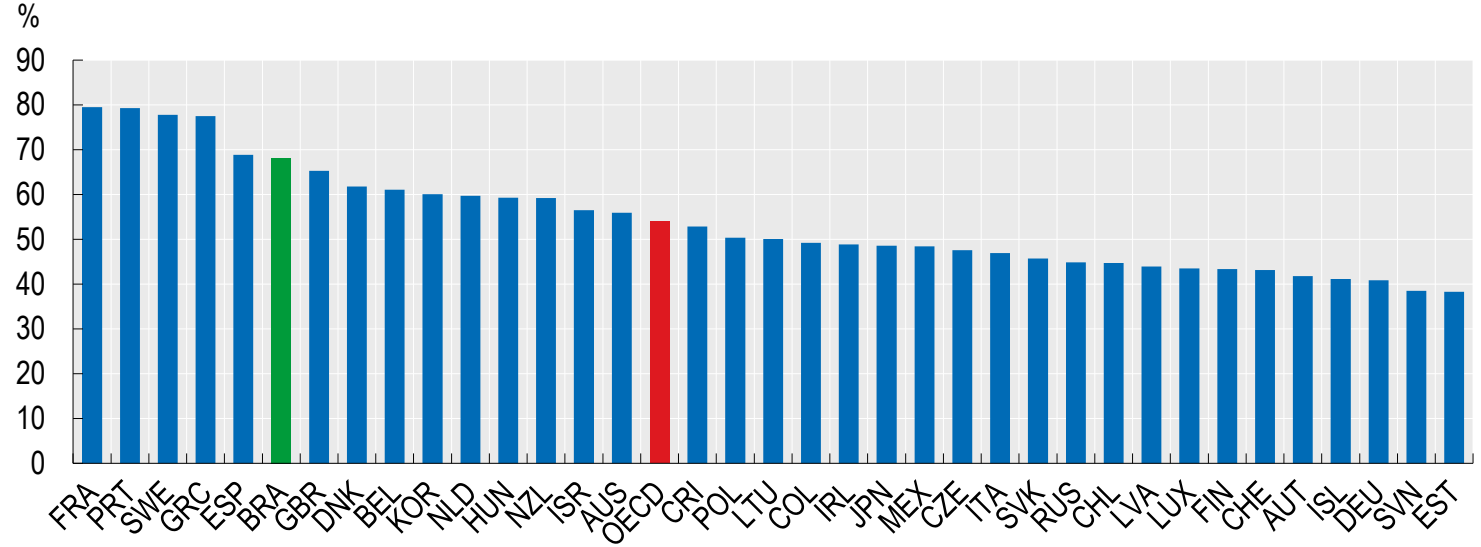
…and Well-Being

Internet users looking for a job or sending a job application online, by age, 2017



Students who feel bad if no Internet connection is available, 2015

As a percentage of 15 year-old students

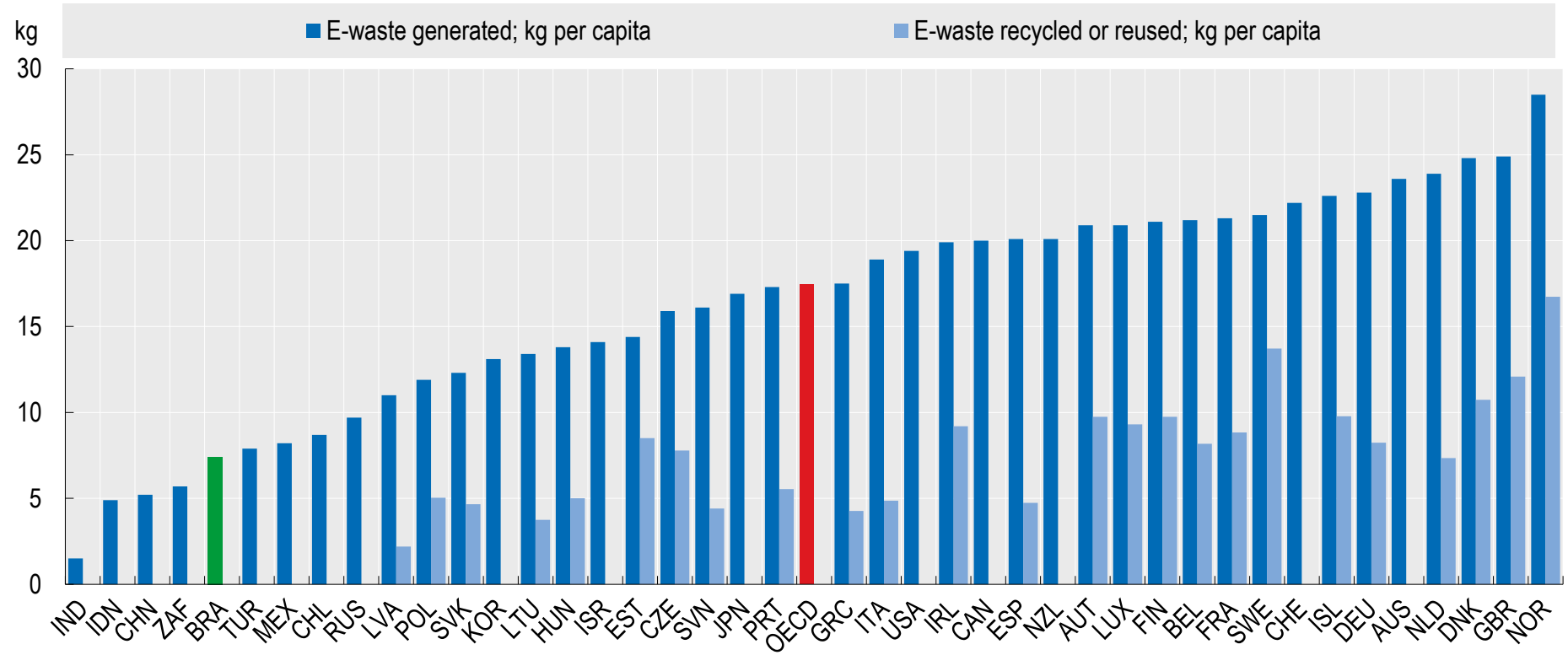


Source: OECD (2019), *Measuring the Digital Transformation*.
https://doi.org/10.1787/888933929338, https://doi.org/10.1787/888933929395.

Social prosperity

E-waste generation and recycling or reuse, 2016

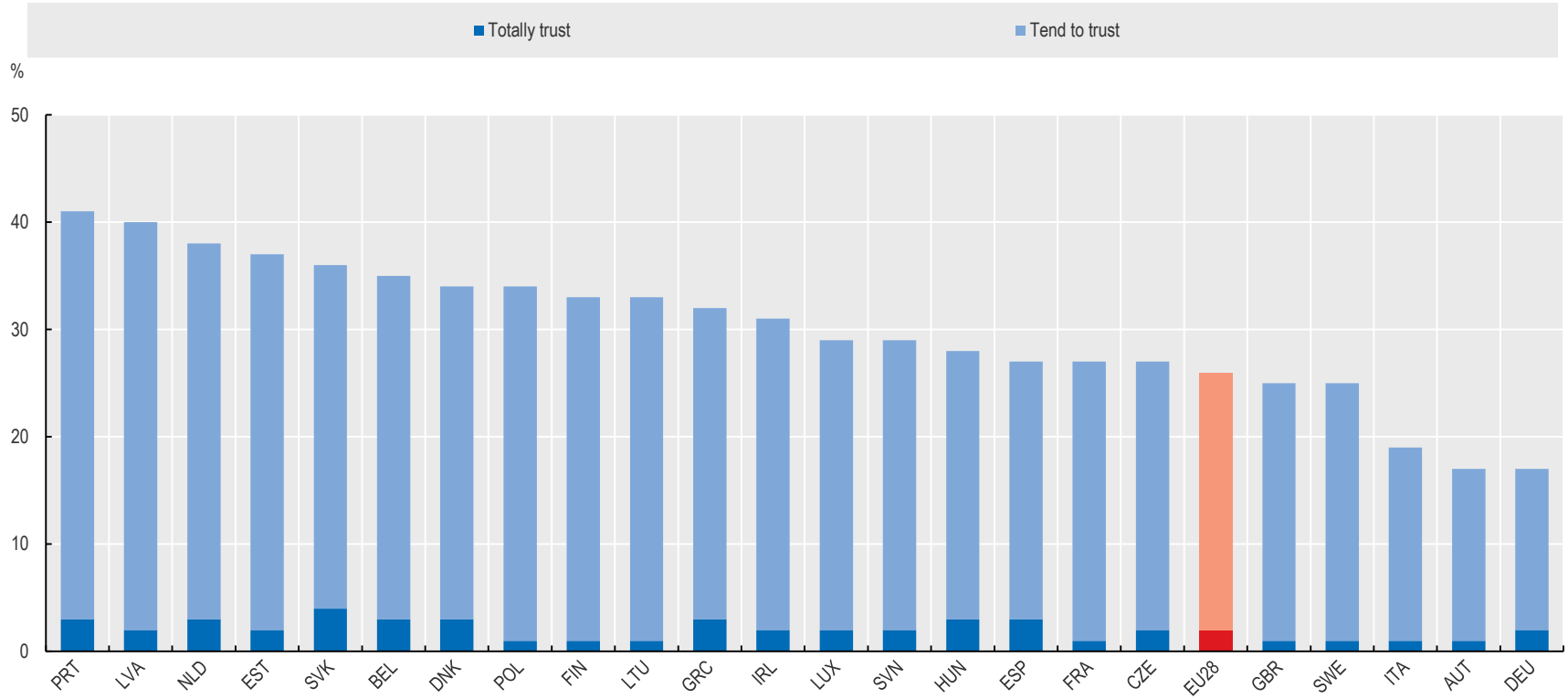
Kilograms per capita



Source: OECD (2019), *Measuring the Digital Transformation*, based on *Global E-waste monitor* and Eurostat WEEE Statistics.
https://doi.org/10.1787/888933931086

Trust in information accessed through online social networks and messaging applications, 2018

Percentage of respondents, *"How much do you trust or not the news and information you access through online social networks and messaging apps?"*



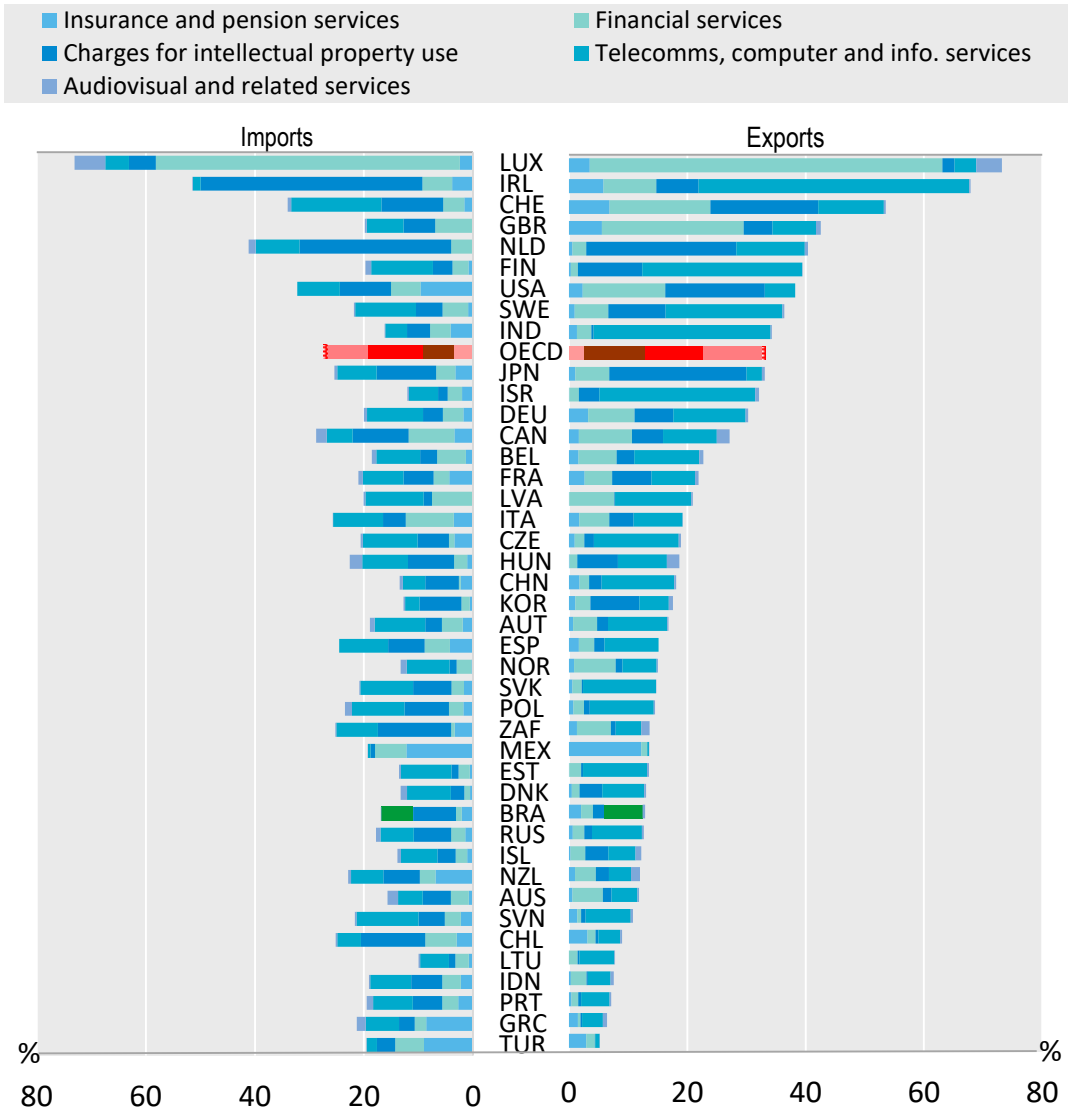
Source: OECD (2019), *Measuring the Digital Transformation*, reproduced from European Commission (2018).
https://doi.org/10.1787/888933931390

Governments can play an important role in *shaping* the digital transformation.

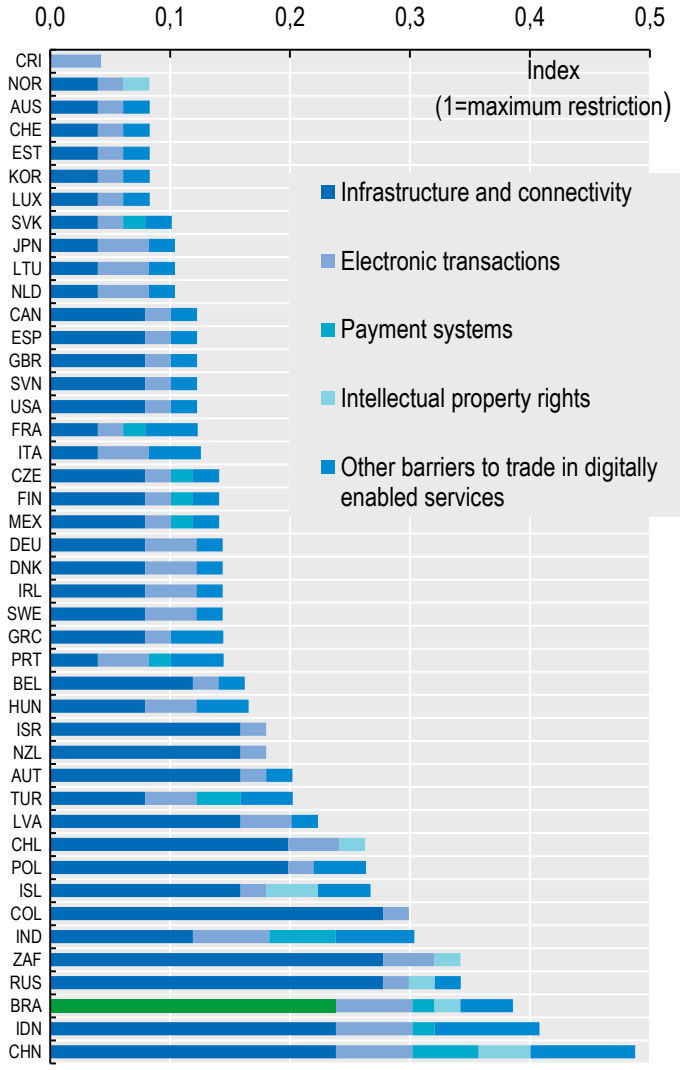
Market openness

Trade in predominantly digitally deliverable services, 2017

As a percentage of total services exports and imports, respectively



Digital Services Trade Restrictiveness Index (DSTRI), 2018



Source: OECD (2019), *Measuring the Digital Transformation*. https://doi.org/10.1787/888933931466, https://doi.org/10.1787/888933931561

Identifying gaps and co-developing a Roadmap for the future

Shorter term:

- improve the international comparability of current indicators
- make statistical systems more flexible and responsive to the introduction of new and rapidly-evolving concepts driven by the digital transformation

Longer term:

- design new and interdisciplinary approaches to data collection
- leverage the information captured by digital systems

The next generation of data infrastructure for policy making in the digital era needs to build partnerships with the private sector and engage with stakeholders to bring publicly available, reliable data into the policy-making process.

IDENTIFYING GAPS AND CO-DEVELOPING A ROADMAP FOR THE FUTURE

Strengthen the evidence base now to better design policies for digital transformation in the future - 9 ACTIONS

1. Make the digital transformation visible in economic statistics
2. Get the narrative on impacts right
3. Measure wellbeing in the digital age
4. Design new approaches to data collection
5. Monitor transformative technologies (notably IoT, AI, Blockchain)
6. Make sense of data and data flows
7. Define and measure the skills needed in the digital era
8. Measure trust in online environments
9. Assess governments' digital strengths

The OECD Going Digital Toolkit

Explore the Toolkit

The Going Digital Toolkit includes indicators, policy guidance and related publications to help countries realise the promises of digital transformation.

www.oecd.org/going-digital-toolkit

#GoingDigital

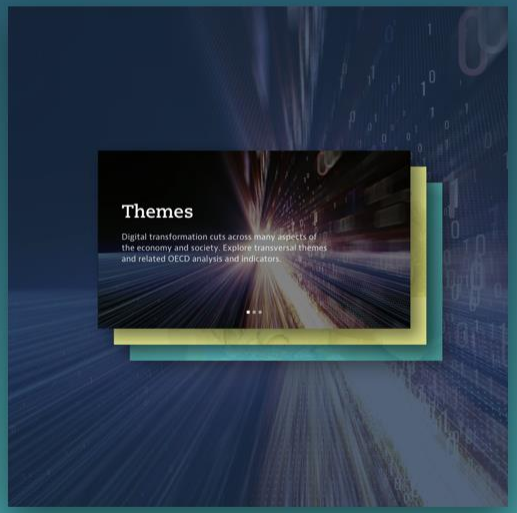
Three entry points

Discover and explore the Going Digital Toolkit in three ways

Policy dimensions

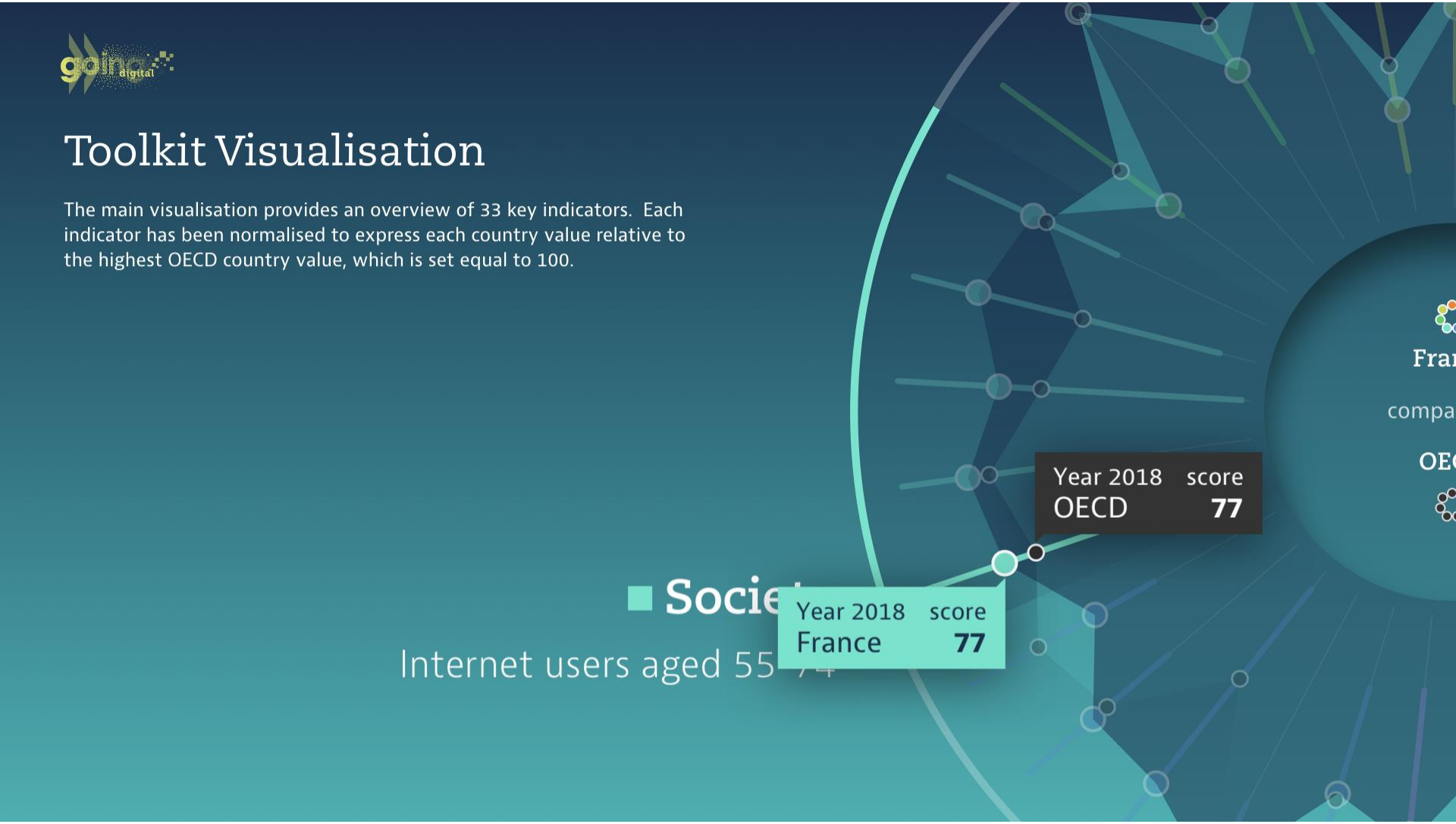
Countries

Themes

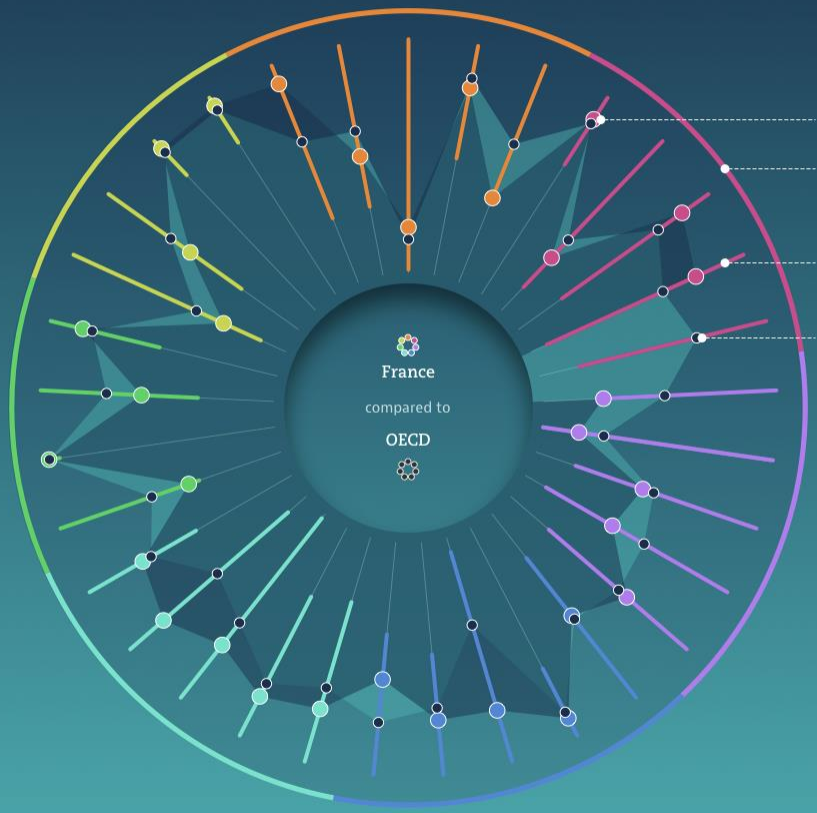


Toolkit Visualisation

The main visualisation provides an overview of 33 key indicators. Each indicator has been normalised to express each country value relative to the highest OECD country value, which is set equal to 100.



Reference & country values



Country value

Policy dimension

Indicator

Benchmark value

Reference value
OECD

- OECD
- EU28
- OECD countries
- BRIICS countries
- Accession countries

Highlighted country
France

- OECD countries
- BRIICS countries
- Accession countries

Policy Dimensions

Seven policy dimensions bring together interrelated areas to ensure a holistic approach balancing the opportunities and risks of digital transformation, all with the aim of delivering growth and well-being.

Access

Use

Society

Trust

Innovation

Jobs

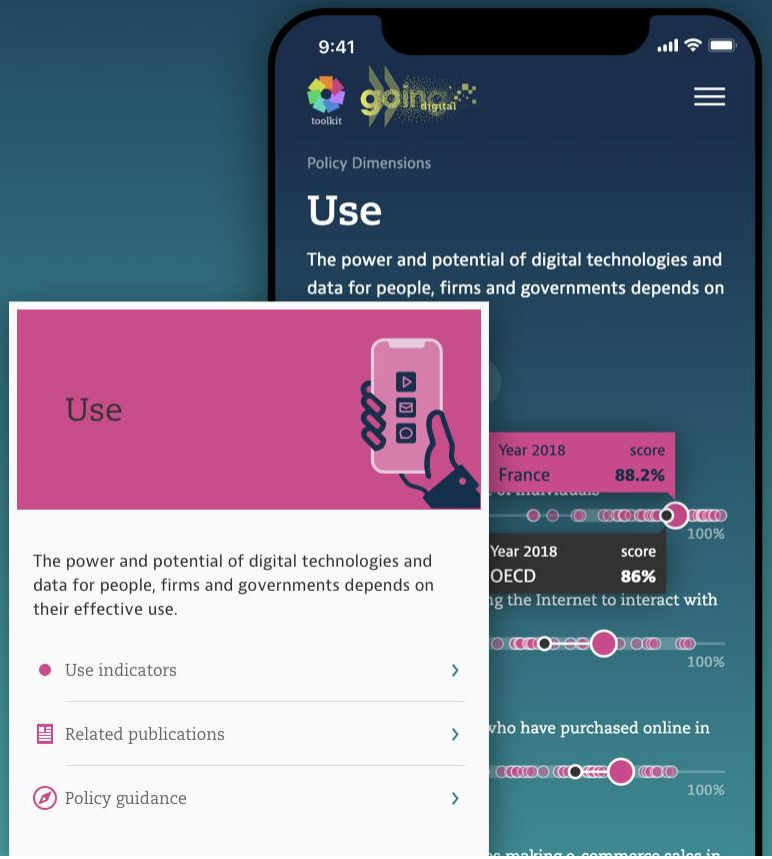
Market Openness

Growth & Well-being

Policy Dimension Pages

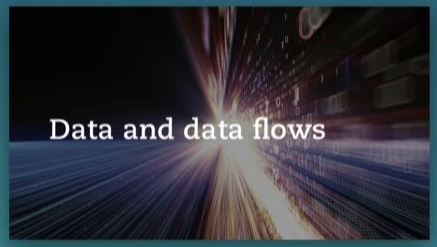
The Going Digital Toolkit allows users to assess performance in each dimension of the Going Digital Integrated Policy Framework. For example, the Use policy dimension includes indicators of how people and firms use digital technologies by country. Related publications and policy guidance are also provided to help design and develop well-suited policies.

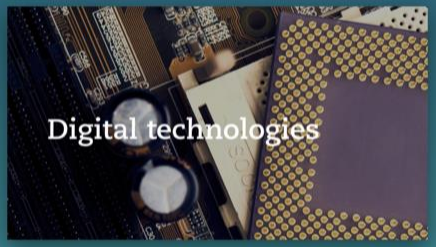
- Indicators
- Related publications
- Policy guidance

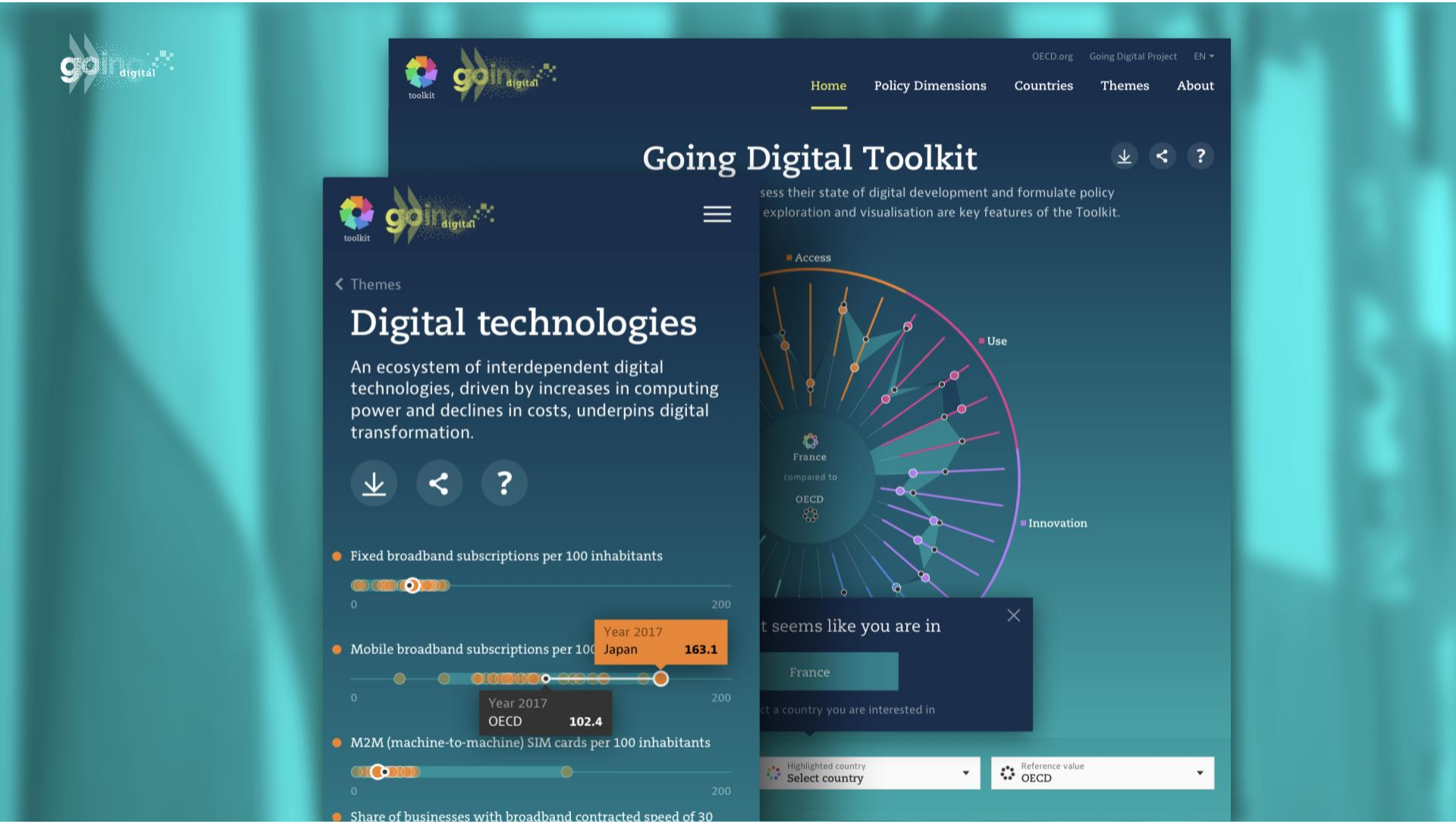


Explore by Themes

Digital transformation cuts across many aspects of the economy and society. Explore transversal themes and related OECD analysis and indicators.

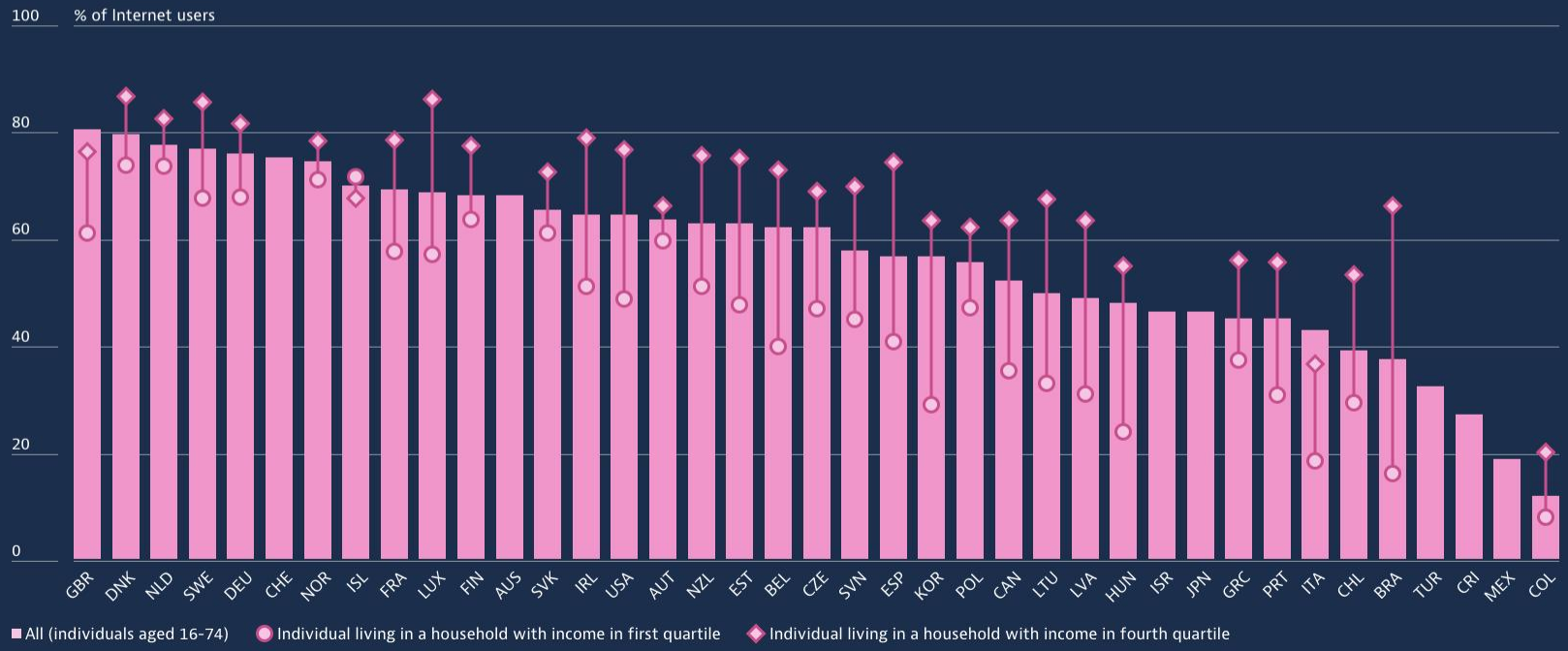





toolkit
going digital
OECD.org
Going Digital Project
EN
Home
Policy Dimensions
Countries
Themes
About
Going Digital Toolkit
sess their state of digital development and formulate policy
exploration and visualisation are key features of the Toolkit.
Access
Use
Innovation
France
compared to
OECD
Themes
Digital technologies
An ecosystem of interdependent digital technologies, driven by increases in computing power and declines in costs, underpins digital transformation.
Fixed broadband subscriptions per 100 inhabitants
0
200
Mobile broadband subscriptions per 100
Year 2017
Japan
163.1
Year 2017
OECD
102.4
M2M (machine-to-machine) SIM cards per 100 inhabitants
Share of businesses with broadband contracted speed of 30
t seems like you are in
France
ct a country you are interested in
Highlighted country
Select country
Reference value
OECD

Indicator Charts

The Going Digital Toolkit maps a core set of indicators to each of the seven policy dimensions and allows users to interactively explore data to assess a country's state of digital development.



Source: OECD, ICT Access and Usage by Households and Individuals Database, http://oe.cd/hhind.

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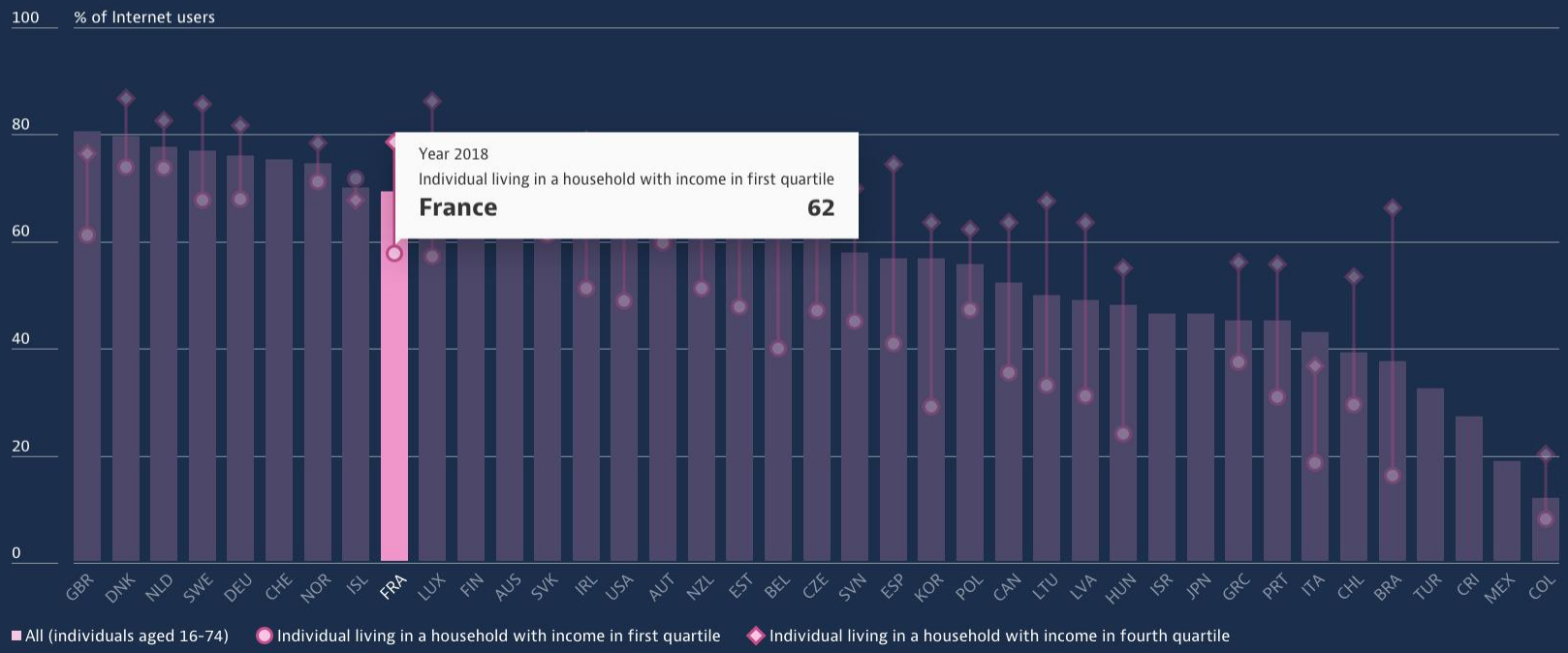

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Explore the Toolkit

The Going Digital Toolkit includes indicators, policy guidance and related publications to help countries realise the promises of digital transformation.

www.oecd.org/going-digital-toolkit

#GoingDigital

Going Digital: Phase II

- Improvements to the Toolkit
- Focus on two key technologies:
  - AI
  - Blockchain
- Country reviews:
  - Going Digital review – aligned with the policy framework
  - Telecommunications and broadcasting review

Brazil has commissioned the OECD to undertake both

→currently under way.

For more information:

Vincenzo.Spiezia@oecd.org (GD review)

Lorrayne.Porciuncula@oecd.org (Telecoms review)