



NEW MEASUREMENT CHALLENGES IN THE DIGITAL ECONOMY

STIS 2017, TUNISIA

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OUTLINE

- 1) Convergence and connectivity trends
- 2) Major measurement challenges from the households and individuals (EGH) perspective:
 1. Children protection online
 2. Trust in the digital economy
 3. Cross-border e-commerce
- 3) Use of the Internet-based statistics
- 4) Work ahead



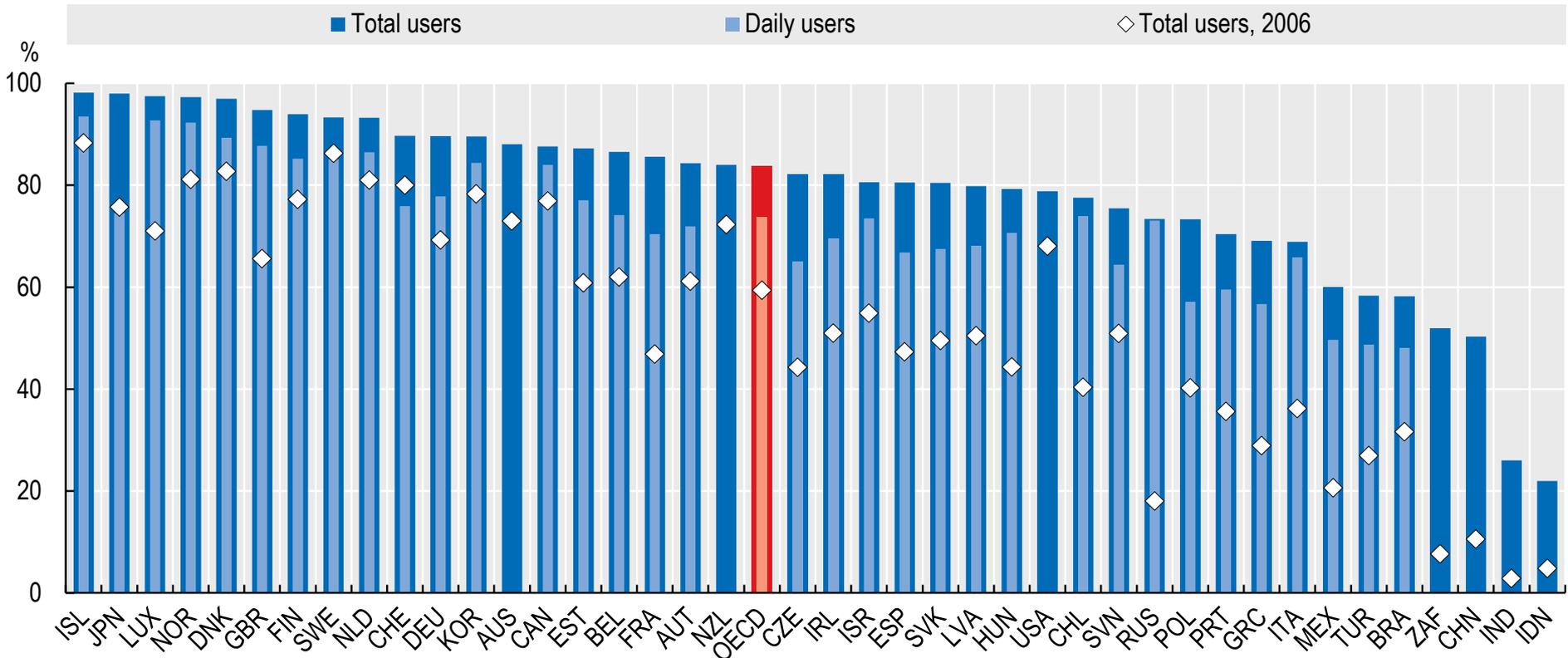
1. THE DIGITAL ECONOMY IS CHARACTERISED TODAY BY CONVERGENCE ...

- Between formerly distinct parts of communication ecosystems such as:
 - Fixed and wireless networks;
 - Voice and data; and
 - Telecommunications and broadcasting.



... AND CONNECTIVITY BETWEEN INDIVIDUALS ...

Total and daily and mobile Internet users, 2016
As a percentage of 16-74 year-olds

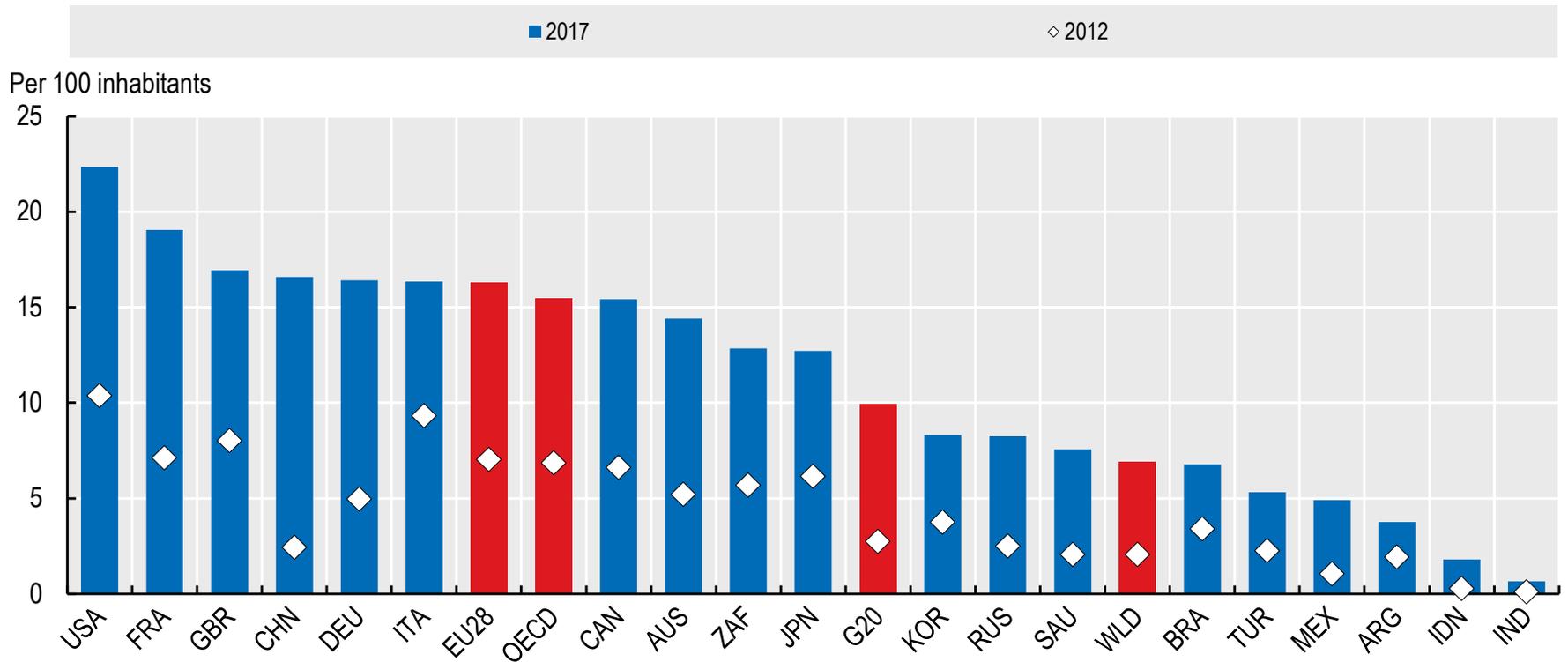


In 2016, 74% of individuals in OECD countries for which data are available connect to the Internet on a daily basis – **OECD STI SCOREBOARD 2017, FORTHCOMING**



... AND CONNECTIVITY BETWEEN DEVICES ...

M2M SIM card penetration, OECD, World and G20 countries, June 2017
Per 100 inhabitants



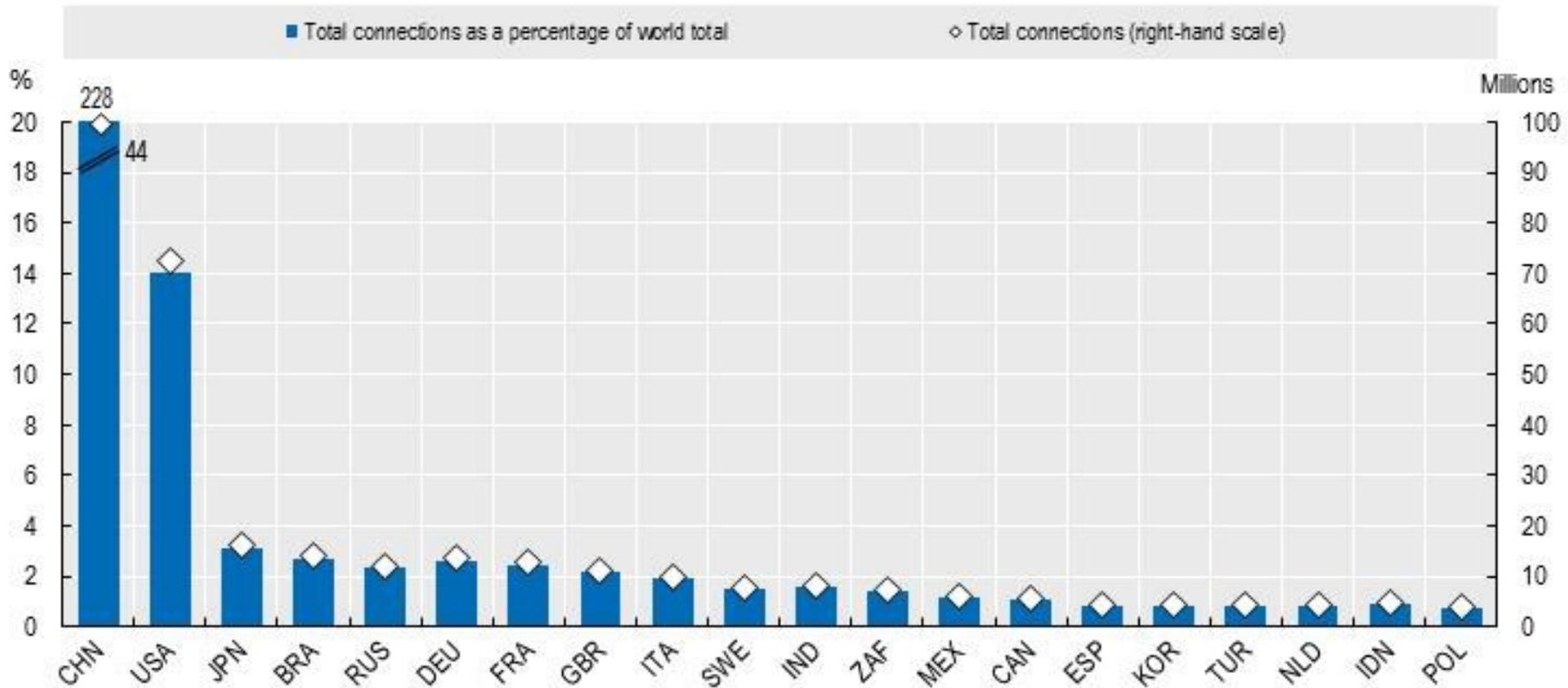
In June 2017, M2M sim card penetration in the G20 economies was 10 per 100 inhabitants as compared to 2.7 per 100 inhabitants in 2012 – OECD STI SCOREBOARD 2017, FORTHCOMING



... WHICH IS PART OF THE IOT INFRASTRUCTURE

Top M2M SIM card connections, June 2017

Total connections and as a percentage of world total



In June 2017, China accounted for 44% of worldwide M2M, representing three times the share of the United States – OECD STI SCOREBOARD 2017, FORTHCOMING



OECD CONTRIBUTION TO IMPROVE MEASUREMENT

Task-force to improve the **IoT measurement** aiming to:

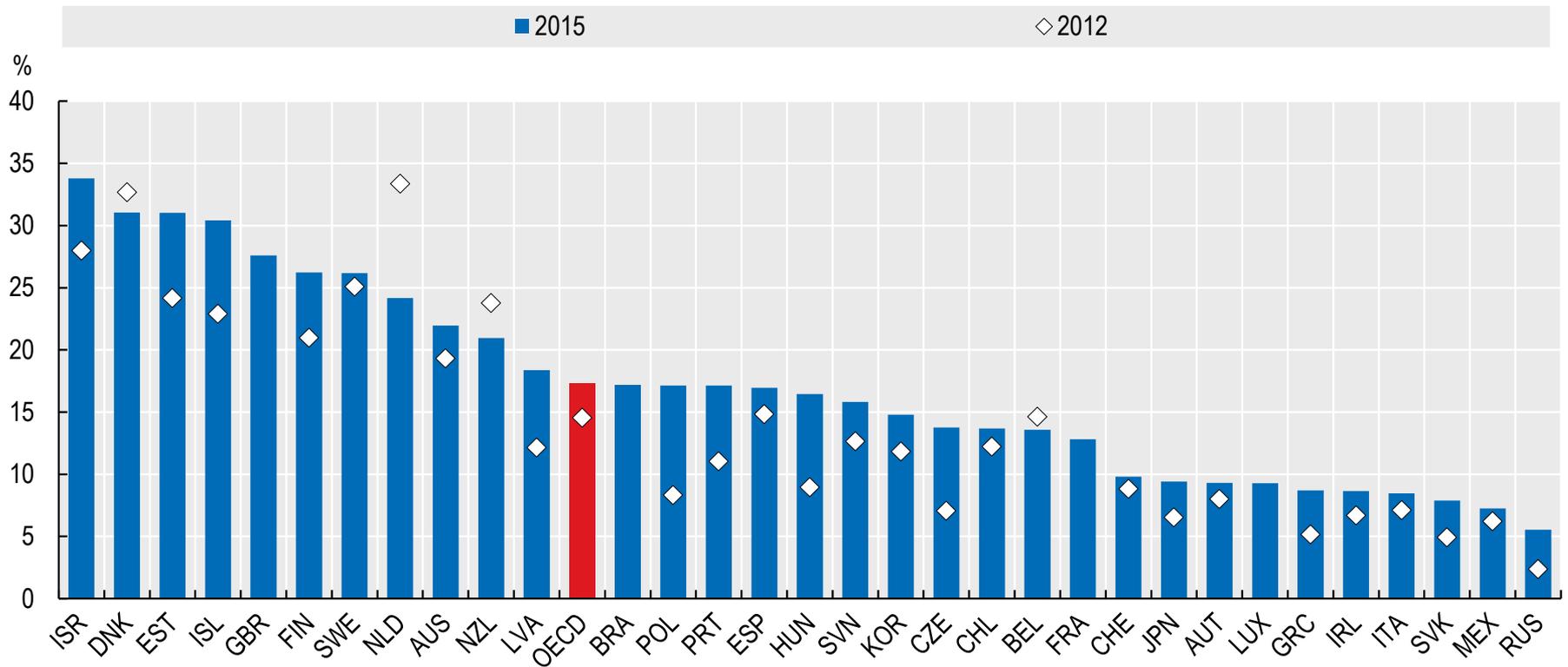
- i. Develop statistical definitions and nomenclatures about IoT;
- ii. Provide a survey of existing data on IoT from official and private sources;
- iii. Develop a module about IoT to be included in the OECD Model Surveys on ICT Usage by Enterprises and by Households, as appropriate; and
- iv. Collect and publish statistical indicators on IoT based on the above sources.



2.1 CHILDREN ONLINE ARE INCREASINGLY YOUNGER ...

Students who accessed the Internet for the first time at the age of 6 or before,
2012 and 2015

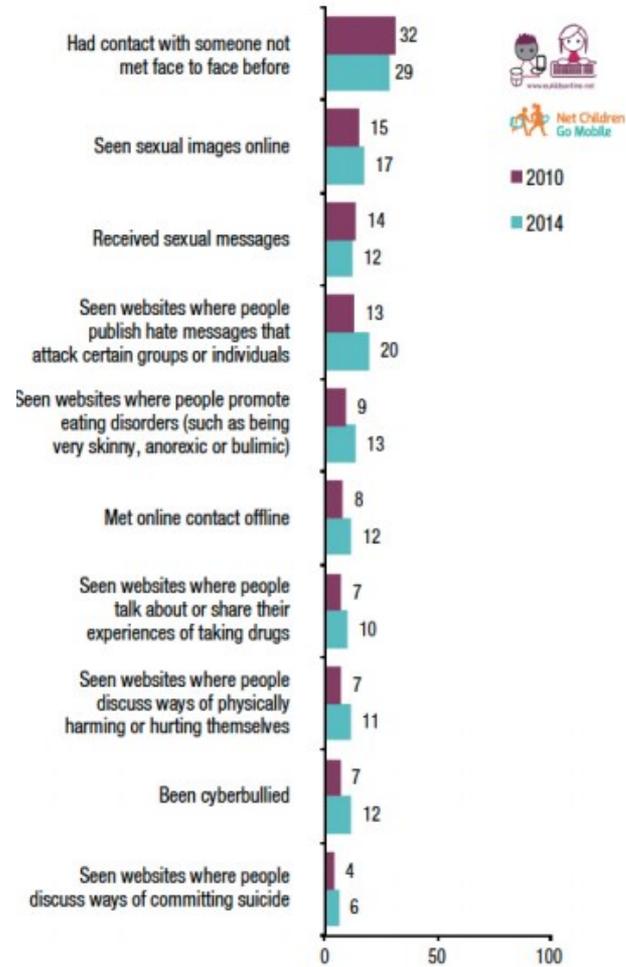
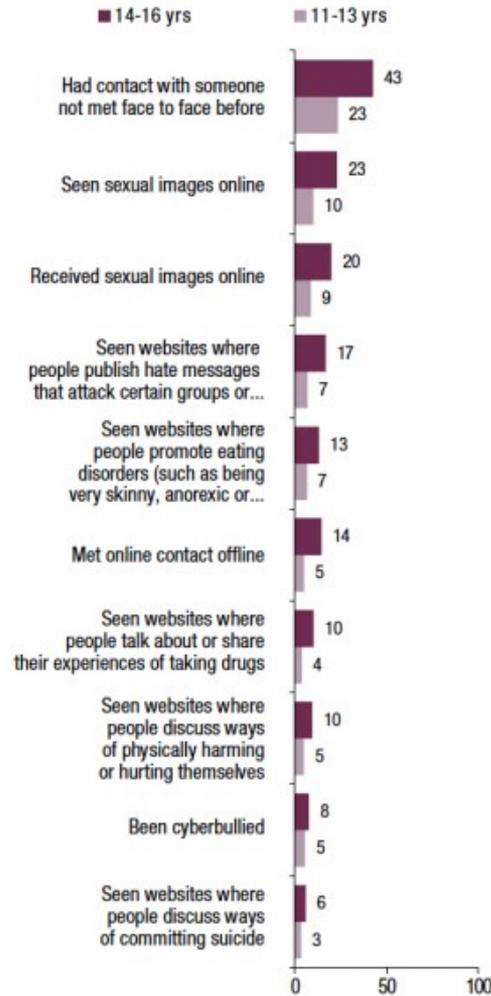
As a percentage of 15 year-old students



From 2012 to 2015, the share of 15 year-olds having accessed the Internet for the first time at age 6 or before increased in a large majority of countries – OECD STI SCOREBOARD 2017, FORTHCOMING



... AND VULNERABLE IN THE ONLINE WORLD



43% of 14-16 year-olds had online contact with someone not met face to face before – EU KIDS ONLINE, 2014



OECD CONTRIBUTION TO IMPROVE MEASUREMENT ...

COMPLEMENTARY MODULES

Module J: Protection of Children Online (Household Level)³⁶

Definitions:

Cyber bullying means wilful and repeated harm inflicted through the use of computers, cell phones, and other electronic devices. Harm examples include communications that seek to intimidate, control, manipulate, put down or humiliate the recipient. Attacks which were successfully prevented by security measures in place are to be excluded.

Grooming here refers to adults establishing contact (over the Internet or via messaging on mobile phones) with a child with the intention of committing a sexual offence.

J1.	Diffusion of children online incidents (% of households with children, by type of incident)	Population: Households w/at least one child aged 6–15 who has access to the Internet (derived from module X). Children online incidents might include: a) Cyber bullying; b) Child solicitation or grooming.
J2.	Diffusion of children online-protection (% of HH with children, by type of action taken)	Population: households having at least one child aged 6–15, who has access to the Internet. Actions include: a. Agreeing house rules about use of the Internet (e.g. time and conditions of use); b. Installing an Internet content filter (parental control software); c. Supervising or monitoring child(ren)'s use of the Internet (e.g. direct adult presence; checking navigation history, etc.); d. Allowing the child(ren) to access the internet only from a public area in the house; e. Educating child(ren) about safe and appropriate use of the Internet (e.g. not make their full names public on social networking sites, what can be done and what should not be done or is unsafe to do in cyber relationships, etc. (Note: this item applies also to use of the Internet outside the household premises)



... AND RAISING POLICY AWARENESS

Ongoing **revision of the 2012 OECD recommendation on the protection of children online:**

- Three broad risk categories are considered by the Recommendation:
 - i. Internet technology risk** – further subdivided as content and contact risks, including exposure to pornography, cyber-grooming and cyberbullying;
 - ii. Consumer risks** related, for example, to online marketing and fraudulent transactions; and
 - iii. Privacy and security risks.**
- 89% of OECD member and accession countries agree that the Recommendation is still relevant.
- 60% consider that the risk typology needs to be updated to include new online risks such as cyberbullying, cybergrooming, hateful content, radicalisation, harmful advice, IoT.



2.2 TRUST IS CRUCIAL FOR THE DIGITAL ECONOMY TO FLOURISH

Consumer protection

TRUST

Digital security

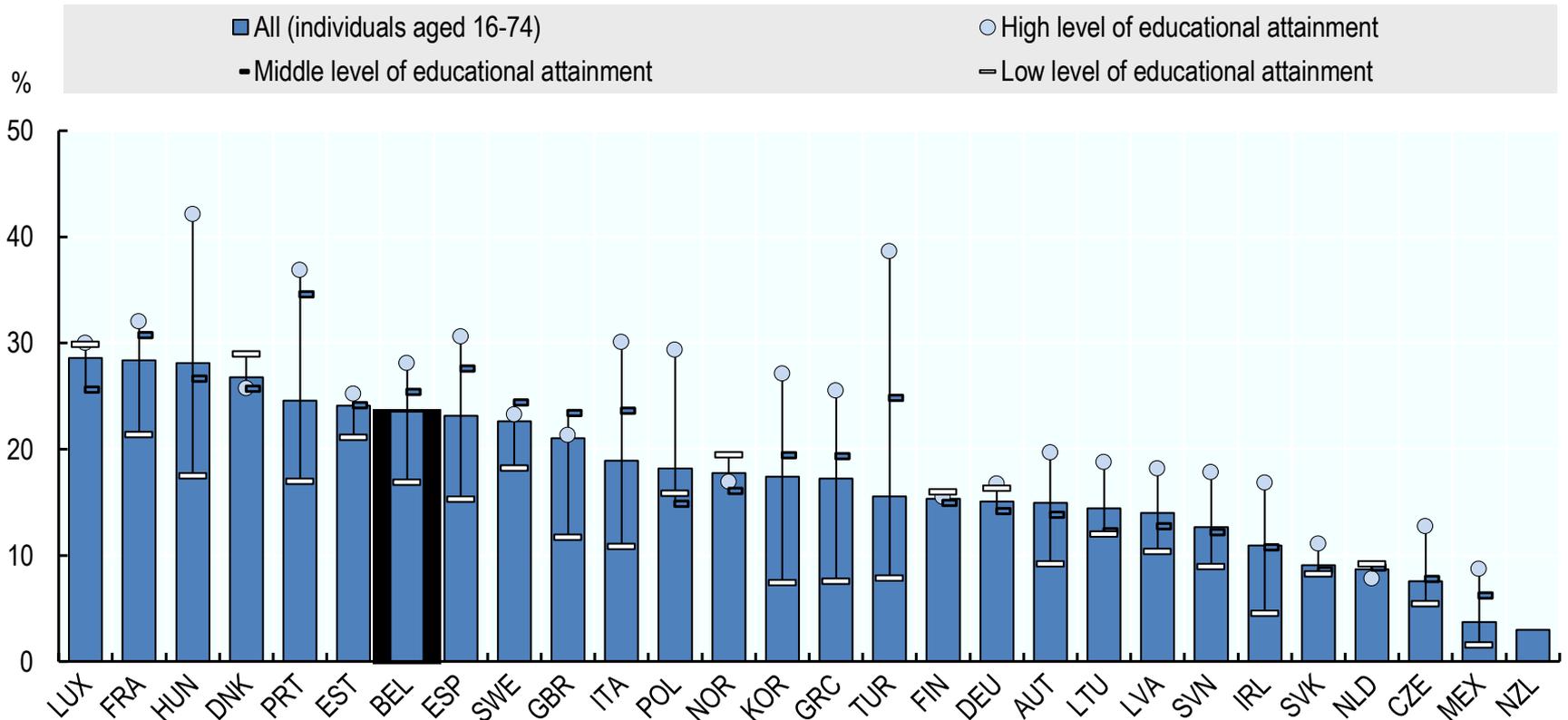
Digital privacy



DIGITAL SECURITY INCIDENTS ...

Digital security incidents experienced by individuals, 2015

As a percentage of all individuals and by level of educational attainment



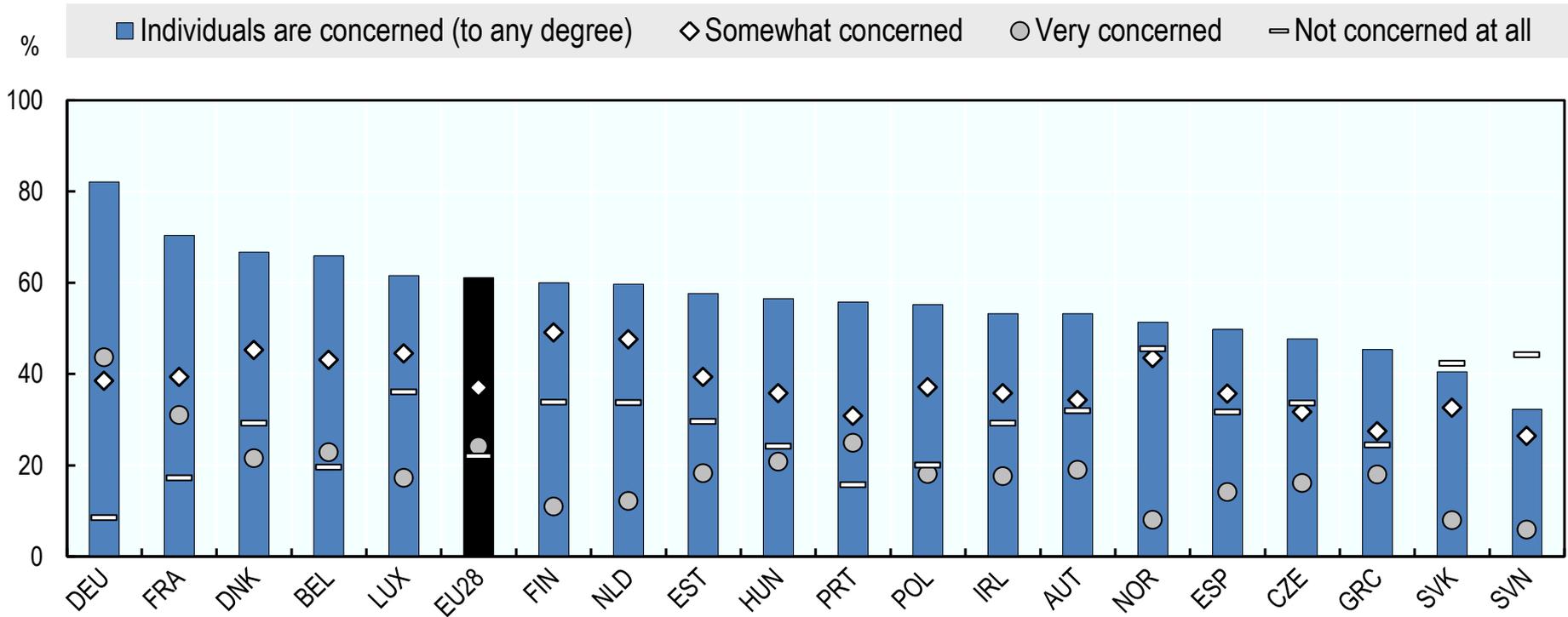
Individuals' use of digital technologies and applications, and their likelihood to experience security incidents increase with their educational attainment. – OECD Digital Economy Outlook 2017



... AND DIGITAL PRIVACY CONCERNS ...

Concerns about online activities being recorded to provide tailored advertising, 2016

As a percentage of individuals



More than 60% of Europeans are concerned about online activities being recorded to provide tailored advertising – OECD Digital Economy Outlook 2017

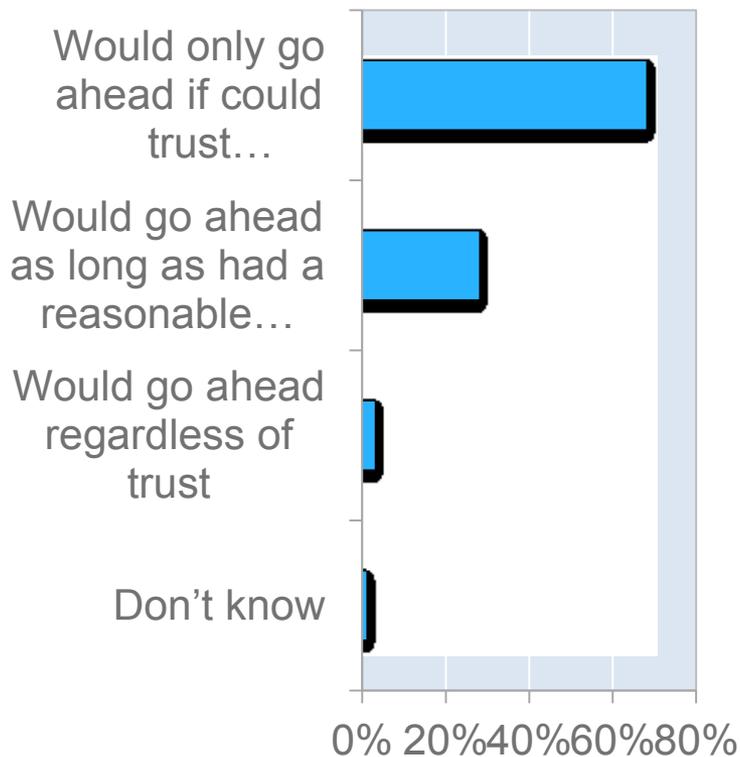


... IMPACT TRUST IN THE DIGITAL ECONOMY

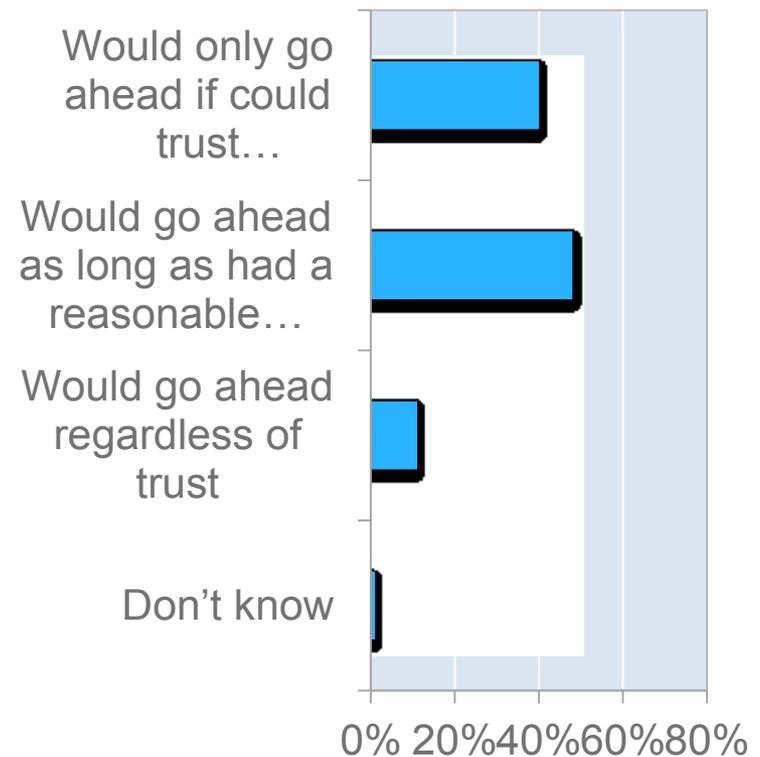
Purchasing behaviour in peer-to-peer platforms

As a percentage of peer-to-peer consumers who have paid for a transaction

An expensive item



A cheap item



Only less than 10% of individuals that active on peer-to-peer markets would buy an item regardless of trust
– OECD 2017, Trust in Peer Platform Markets: Consumer Survey Findings



Task-force to improve the **evidence base for security and privacy** which aims to:

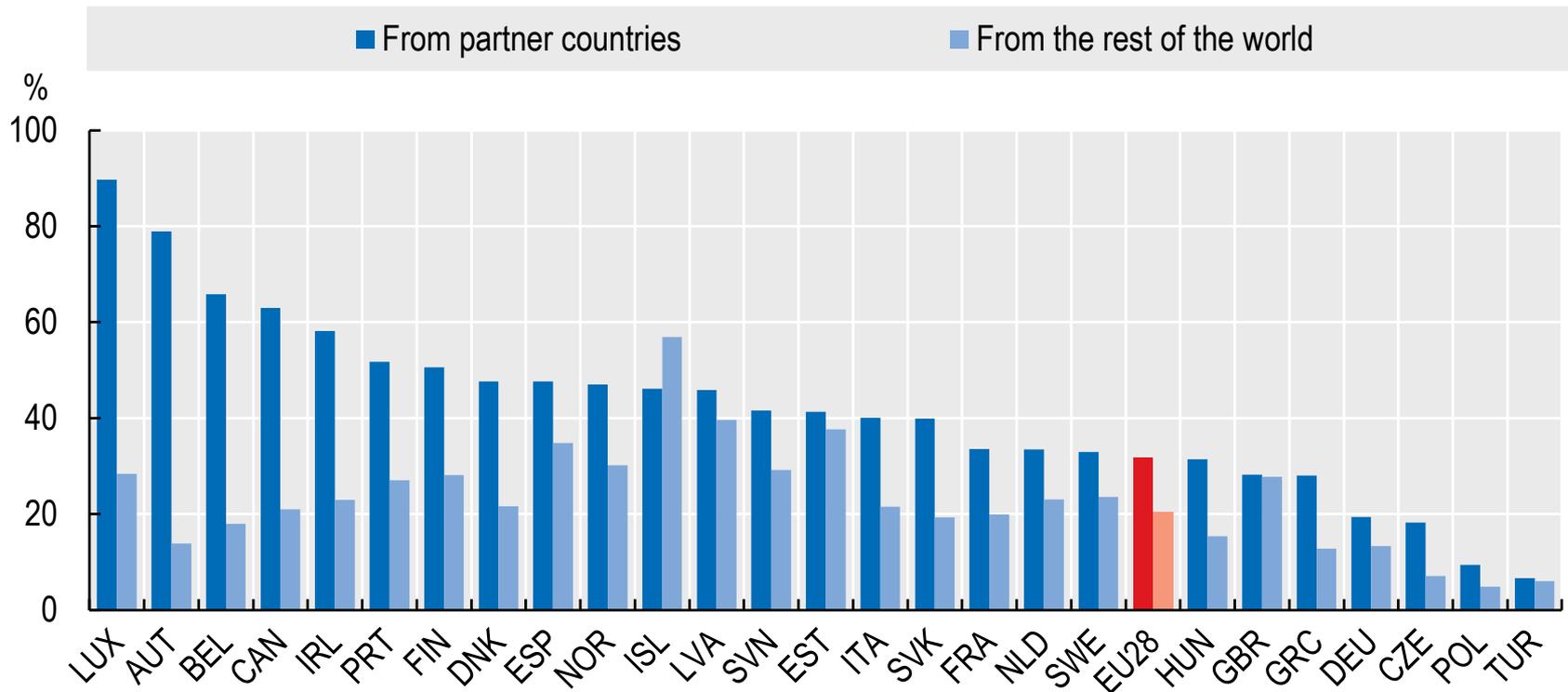
- Promote comparability in personal data breach notification reporting
- Review of surveys on digital security incidents and risk management practices in businesses



2.3 CROSS-BORDER E-COMMERCE FROM OFFICIAL STATISTICS ...

Individuals purchasing online from foreign markets, 2016

As a percentage of individuals who ordered goods or services over the Internet in the last 12 months

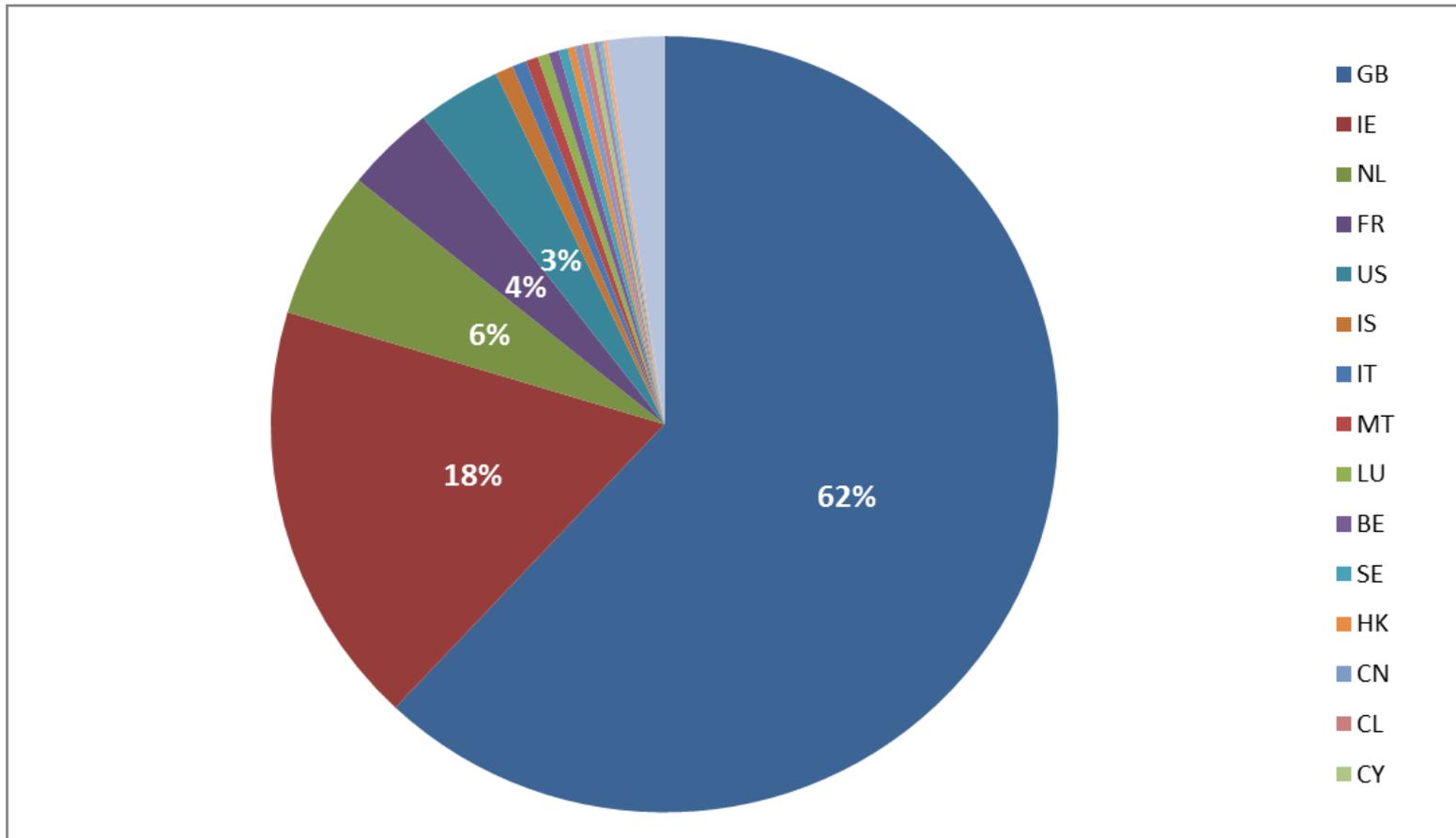




... CAN BE COMPLETED WITH PRIVATE DATA SOURCES

Online payments by merchant country, 2016

Millions euro



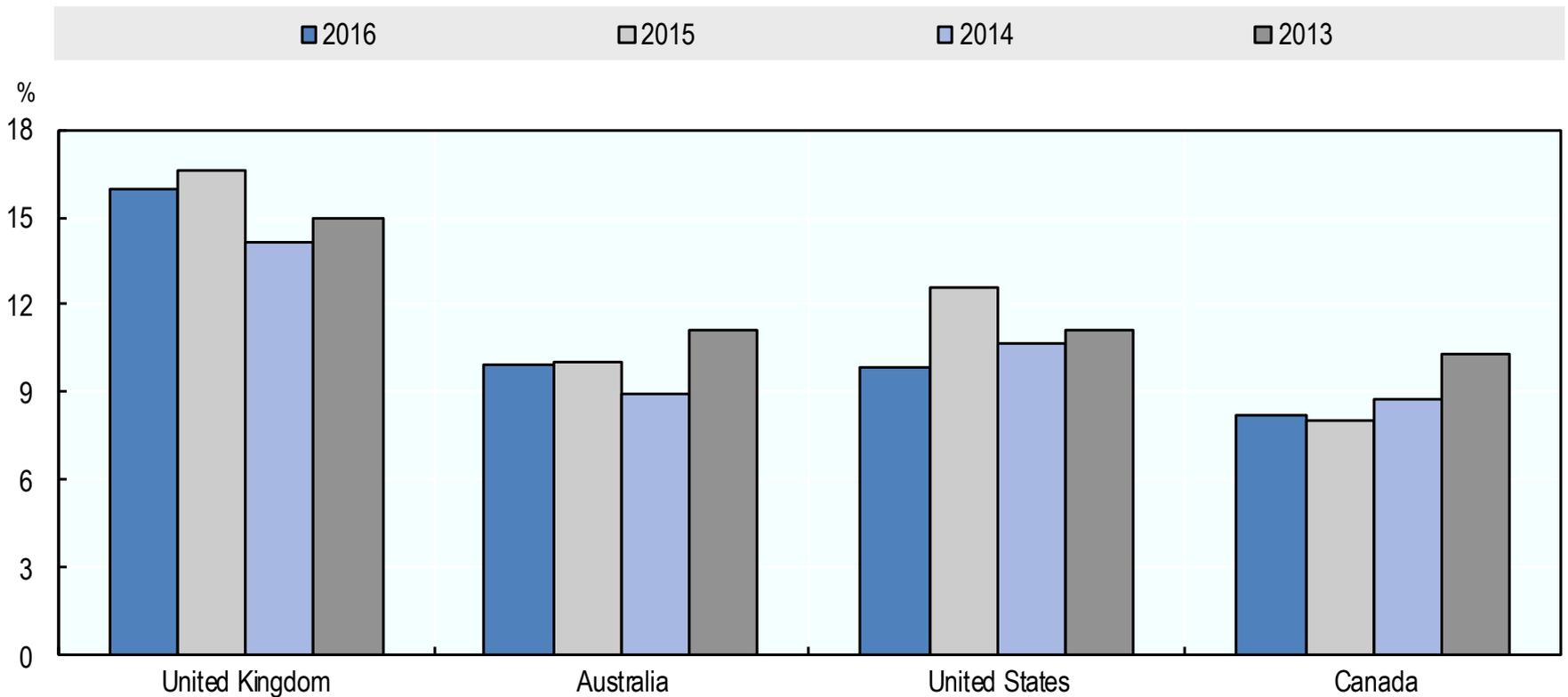
Source: Alonso and Ganga (2017), Overview of E-Commerce in Spain Using BBVA Big Data , DSTI/CDEP/MADE(2017)1



3. PRIVATE/INTERNET-BASED DATA PROVIDE TIMELY METRICS ...

ICT online job postings, 2013-16

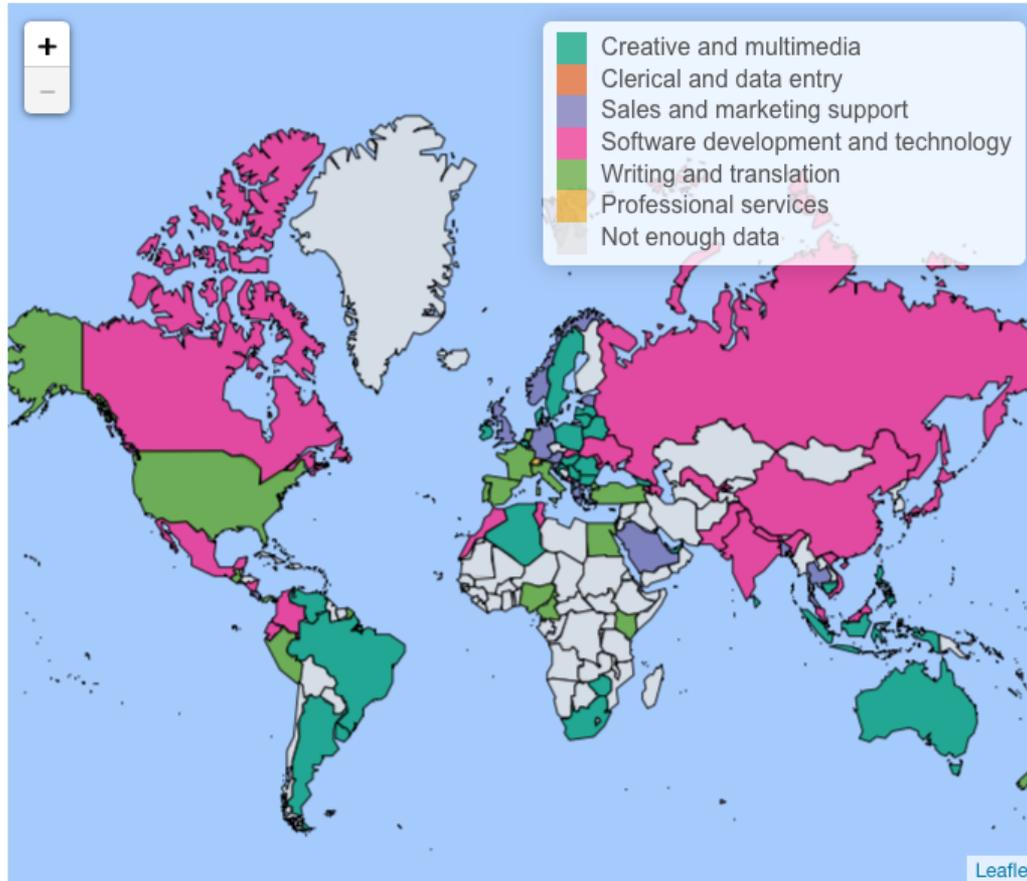
As a percentage of all online postings





... FOR A LARGE NUMBER OF COUNTRIES

Show top occupation in each country Select occupation



Source: Online Labour Index

Source: Online Labour Index, 2017.



4. WORK AHEAD: “GOING DIGITAL” PROJECT

- **Pillar 1 - Horizontal activities**

Integrated policy framework

Core aspects (“vectors”) of digital transformation

Collaborative projects: 1) Strategic Foresight; 2) Policy Design; 3) Digital Security

- **Pillar 2 - Policy-specific work**

- **Pillar 3 - Cross-cutting modules**

Jobs & Skills

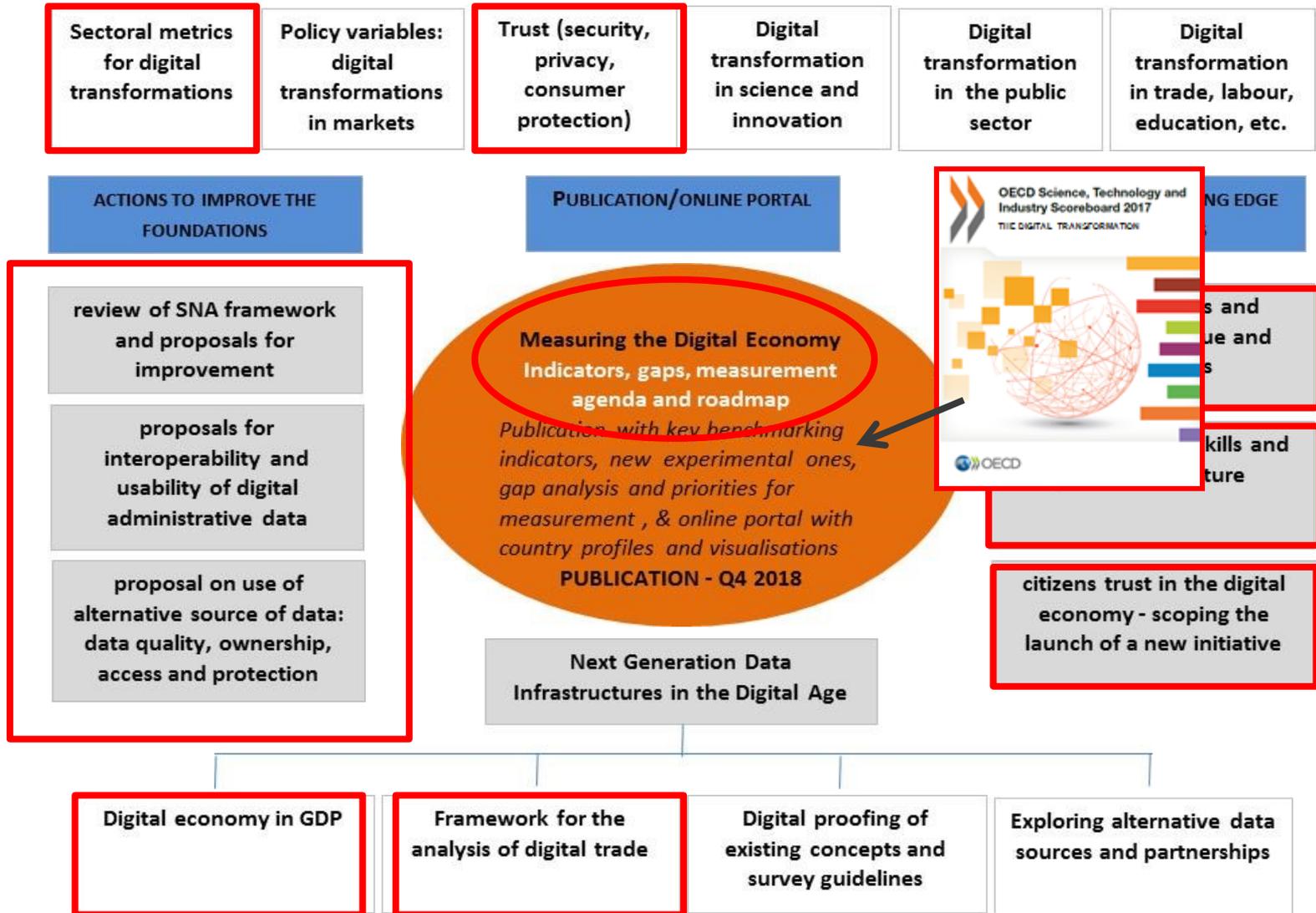
Productivity,
competition &
market openness

Inclusive digital
transformation

Measurement



POSSIBLE MEASUREMENT DELIVERABLES





THANK YOU

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OECD Science, Technology and Innovation

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OECD ICT access and usage databases

<http://oe.cd/hhind> and <http://oe.cd/bus>

OECD Broadband Portal

www.oecd.org/sti/broadband/oecdbroadbandportal.htm

OECD Going Digital project

<http://oe.cd/goingdigital>

