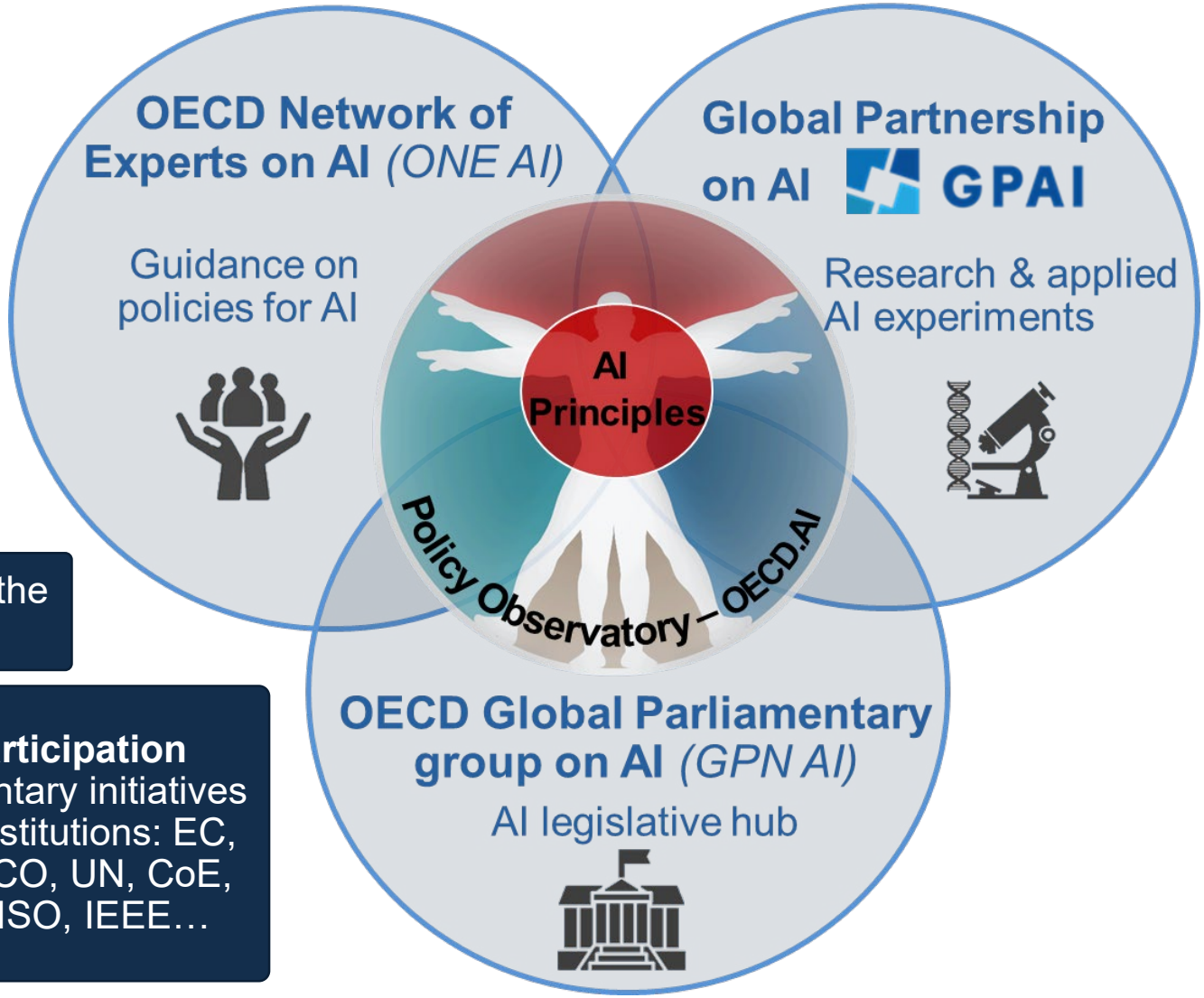
OECD work on Trustworthy AI and on the Value of Data

1 March 2021
Global Forum on AI Network Society

Andrew Wyckoff, Director
Science, Technology and Innovation

Towards human-centric trustworthy AI

Overview of OECD initiatives



Informed by the **AI-WIPS**

OECD participation in complementary initiatives by partner institutions: EC, G20, UNESCO, UN, CoE, IDB, CAF, ISO, IEEE…

OECD AI Principles

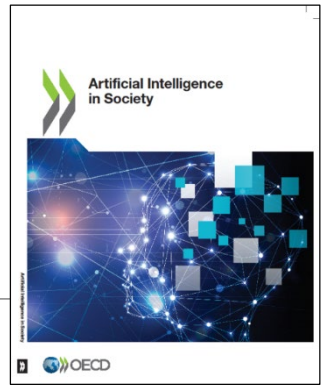
Values-based principles

- Inclusive growth, sustainable development and well-being
- Human-centred values and fairness
- Transparency and explainability
- Robustness, security and safety
- Accountability

Recommendations for policy makers

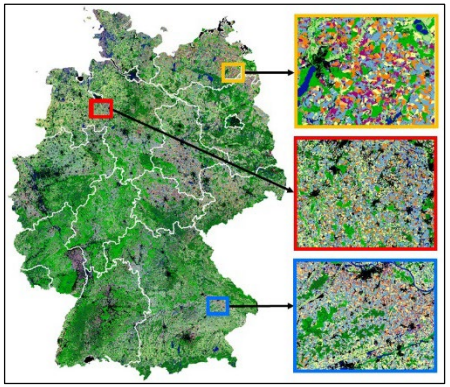
- Investing in AI research and development
- Fostering a digital ecosystem for AI
- Shaping an enabling policy environment for AI
- Building human capacity and preparing for labour market transformation
- International co-operation for trustworthy AI

Analytical Report: “AI in Society”

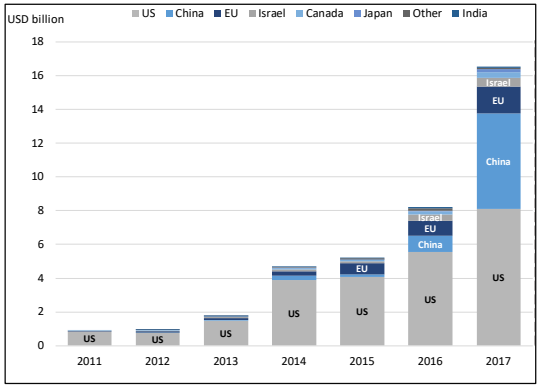


- Launched in June 2019:
  - builds a shared understanding of AI in the present and near term
  - maps the economic and social impacts of AI and its applications and
  - helps co-ordination and consistency in other international fora
- Report structure:
  Technical landscape / Economic landscape
  AI applications and benefits / Public policy considerations
  AI policies and initiatives

Driverless vehicle



Satellite data for agriculture



Investments in AI start-ups

Launch of OECD.AI

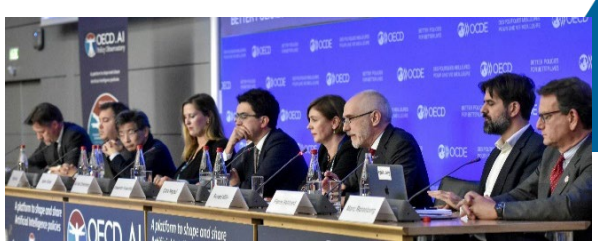
- Launched on 27 Feb 2020. 200+ participants & 27 speakers
- Key priorities and future contribution were articulated by governments, partner organisations, IGOs, parliamentarians and stakeholder groups

"As we collectively work to foster this public trust and confidence in AI technology and protect our civil liberties, privacy and our shared values in the application, we can all work together to realise the potential of AI technologies for the world"

*– **Lynne Parker**, Deputy United States Chief Technology Officer, The White House*

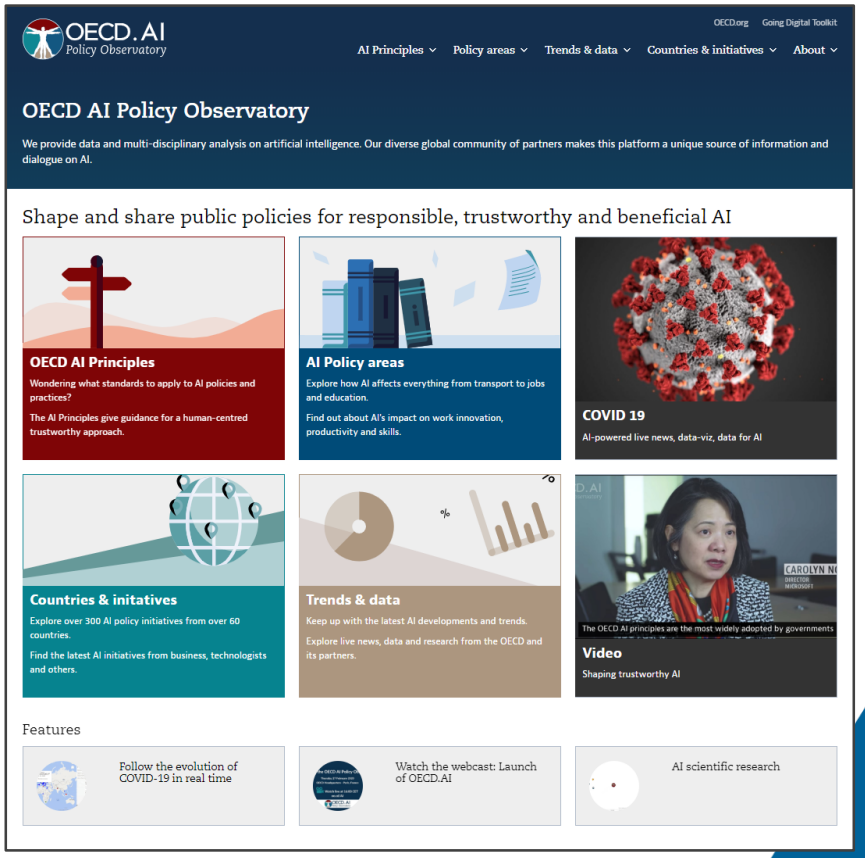
"When discussing policies in government it is essential to be able to cite comparative materials from other countries. OECD.AI can solve this problem: the ability to learn about each countries' AI policies, online, exactly matches the needs of policymakers"

*– **Makiko Yamada**, Vice-Minister, Ministry of Internal Affairs and Communications, Japan*

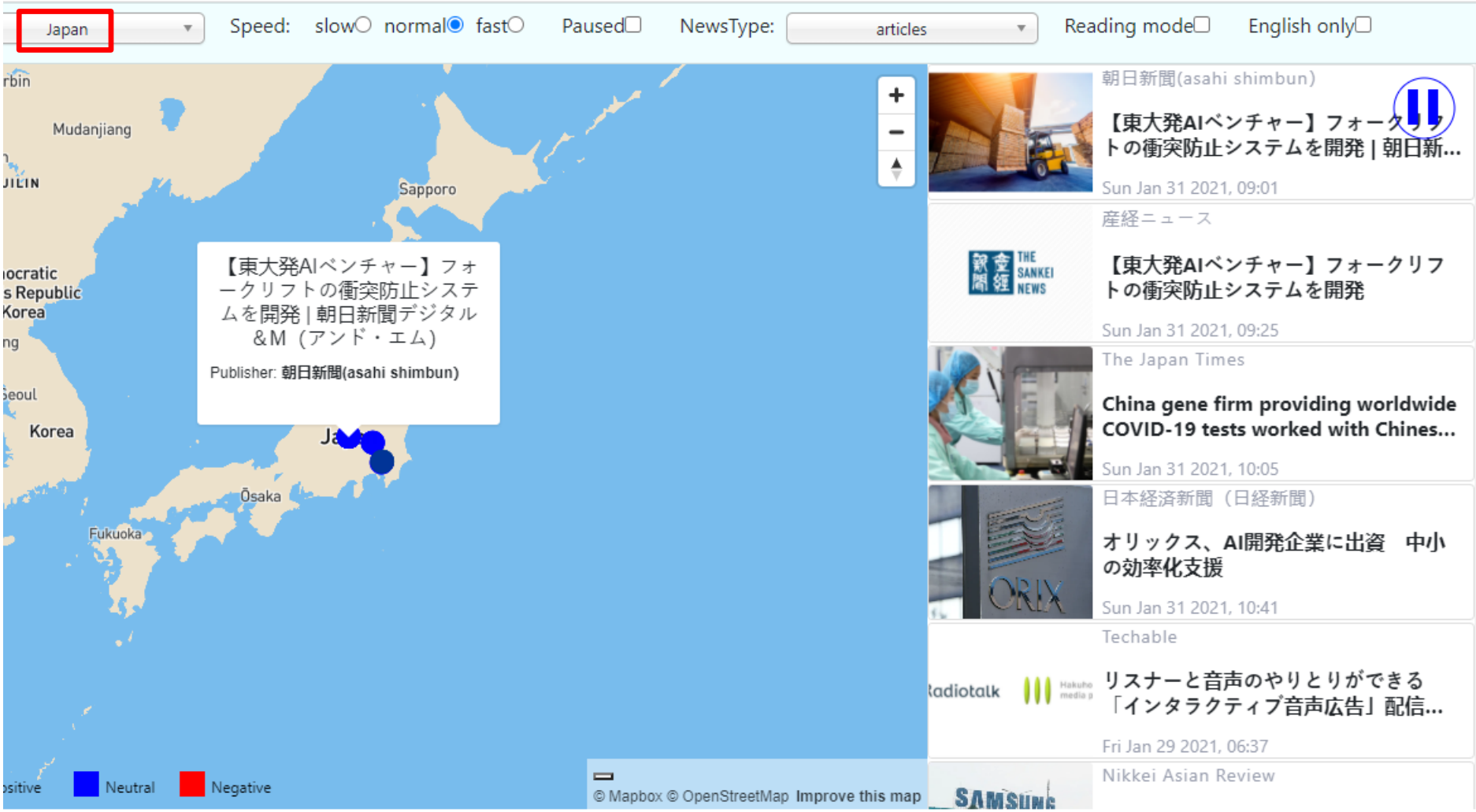


OECD.AI Policy Observatory

- Objective: *Share and shape public policies for responsible, trustworthy and beneficial AI*
- 3 characteristics:
  - multi-stakeholder
  - multi-disciplinary
  - evidence-based
- 4 pillars:
  - OECD AI Principles
  - AI policy areas
  - Trends & data
  - Countries & initiatives



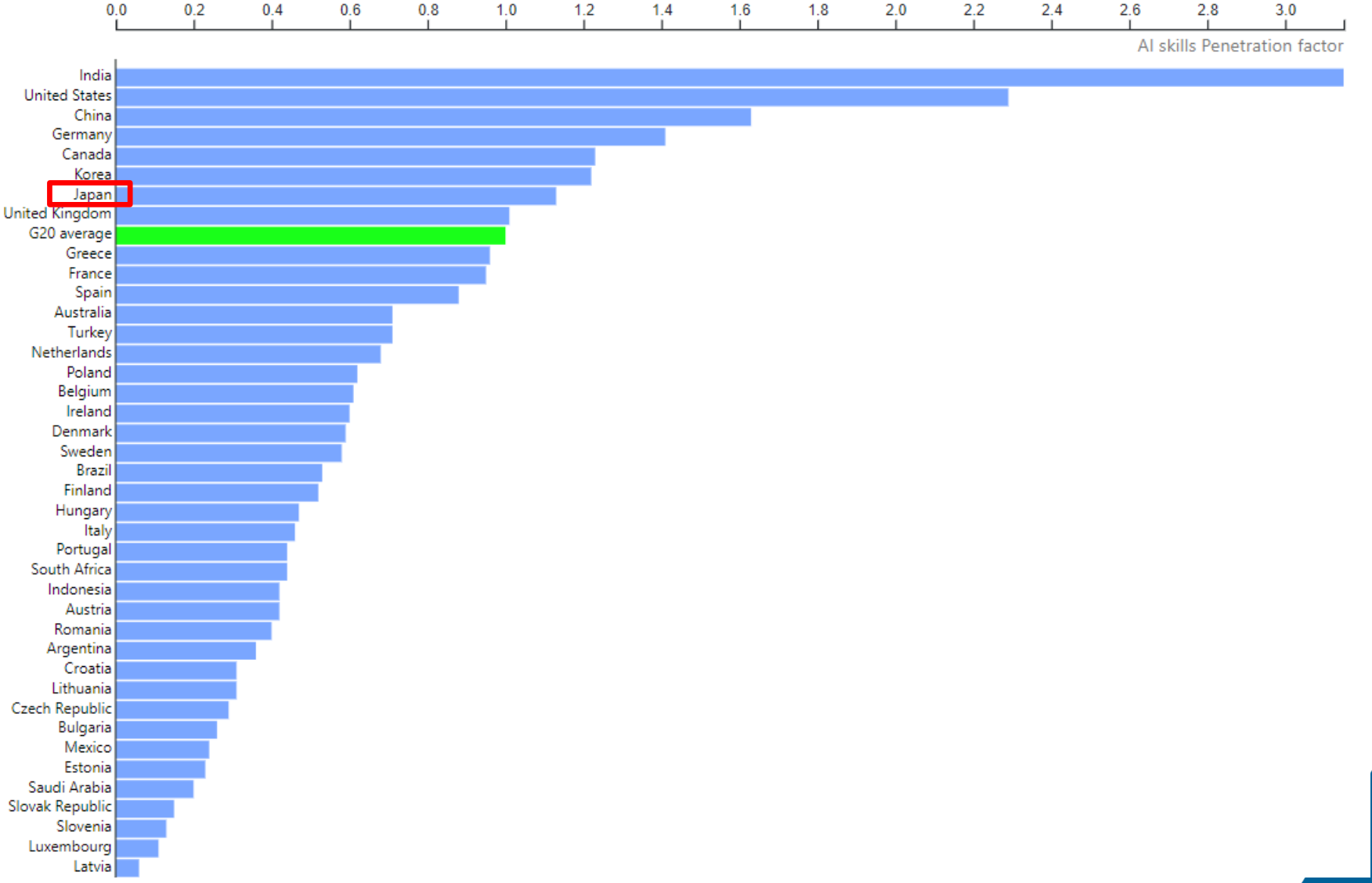
AI live news in Japan



AI research collaboration by countries

Domestic and international AI research collaboration: Japan → all regions, 2020

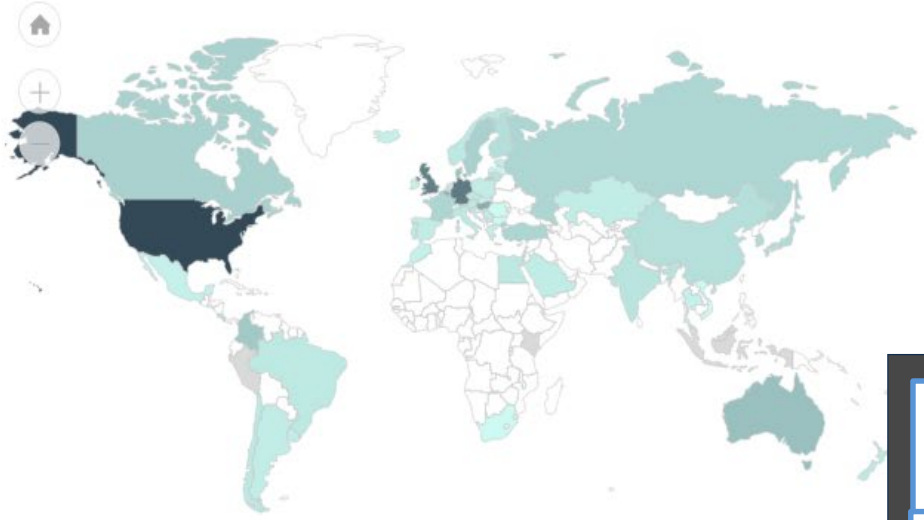
Cross-Country AI Skills Penetration



Countries and initiatives

Countries & territories | Policy instruments | Target Groups

Choose visualization: By initiative count



European Union (28)

60

Countries, territories and the EU

600

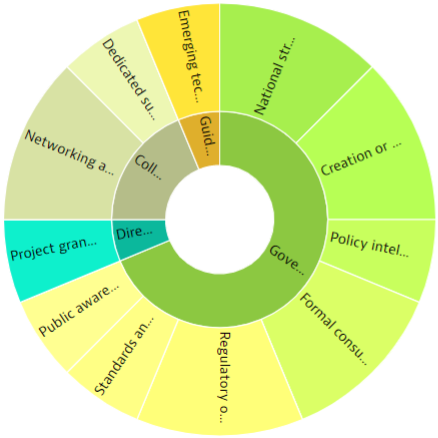
national AI policies, initiatives, instruments in

new Q1 2021 version

New focus on emerging AI regulations across these 60 countries: both soft and hard laws

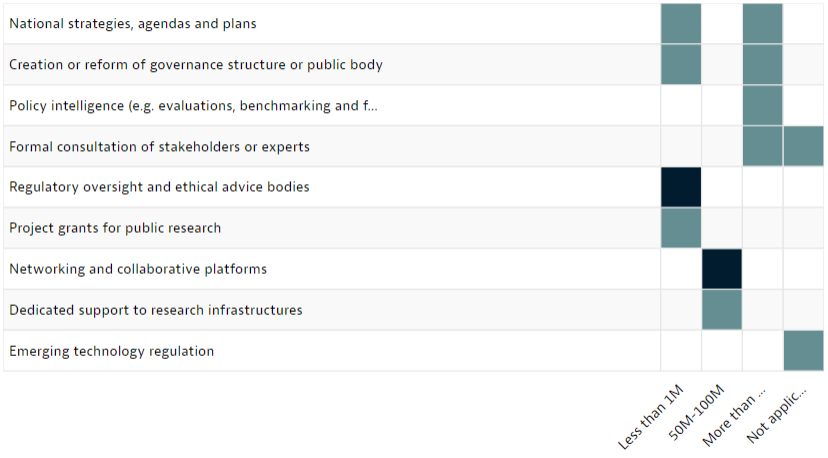
AI in Japan – country dashboard

Policy instruments by category

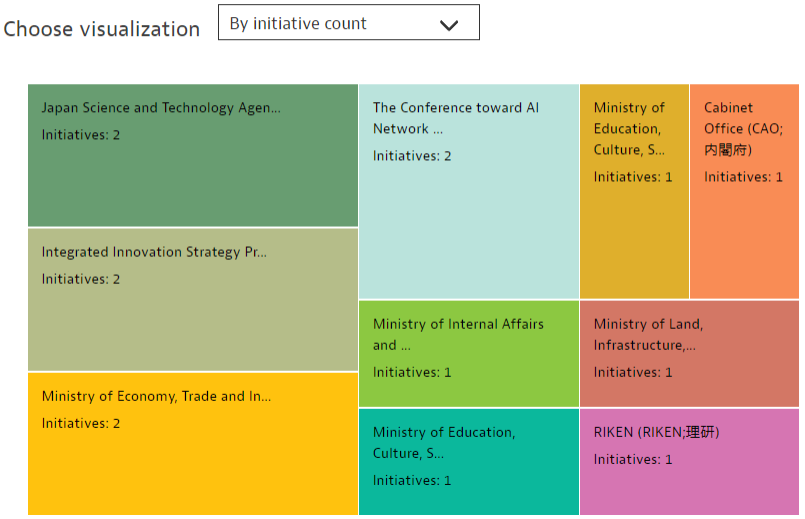


Related online news from EventRegistry

Policy instruments by number & budget



Responsible organisations



Experts blog: AI Wonk

The AI Wonk

Not all intelligence is artificial. Keep yours real with the AI Wonk blog.

Government

How the OECD's AI system classification work added to a year of progress in AI governance

Despite the COVID pandemic, we can look back on 2020 as a year of positive achievement in progress towards understanding what is needed in the governance and regulation of AI.

January 6, 2021 — 7 min read

Intergovernmental

A first look at the OECD's Framework for the Classification of AI Systems, designed to give policymakers clarity

November 24, 2020 — 5 min read

Technical community

COVID-19 and beyond: Elements of certainty can make AI ecosystems trustworthy

November 16, 2020 — 8 min read

Technical community

Collective and Augmented Intelligence Against COVID-19 – a decision support tool for policymakers

December 14, 2020 — 8 min read

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ONE AI (OECD Network of Experts on AI)

- Informal network of 200+ AI experts providing policy, technical & business input to inform OECD analysis and recommendations.
- Facilitates information exchange & collaboration within the OECD & between the OECD and other international initiatives focusing on AI (incl. CoE, EC, IDB, IEEE, ISO, UN, UNESCO, WB).
- Currently operates primarily online:
  - Created 3 working groups and 1 task force (forthcoming)
  - Each group meets virtually monthly

ONE AI working groups / task force

What types of AI systems raise what types of policy issues?

Classifying AI systems

10 Principles for Trustworthy AI

Values-based principles
Socio-economic impacts & planet
Human-centred values & fairness
Transparency & explainability
Robustness, security & safety
Accountability

What tools help implement trustworthy AI

Tools for Trustworthy AI

National Policies
Investing in research
AI Compute, data, algorithms
Enabling policy environment
Jobs, skills, transitions
International cooperation

National AI policies

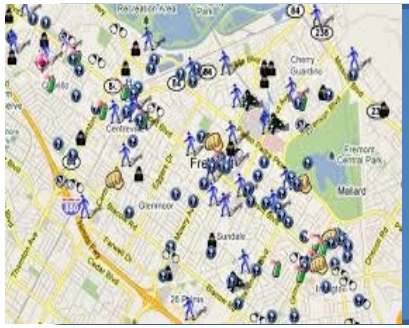
What have we learned so far about (national) AI policies?

How to measure national AI compute?

A key enabler for AI – big data

Finance and insurance

- Detection of fraud and assessment of risks including credit scores
- Algorithmic trading systems account for more than half of all US trades



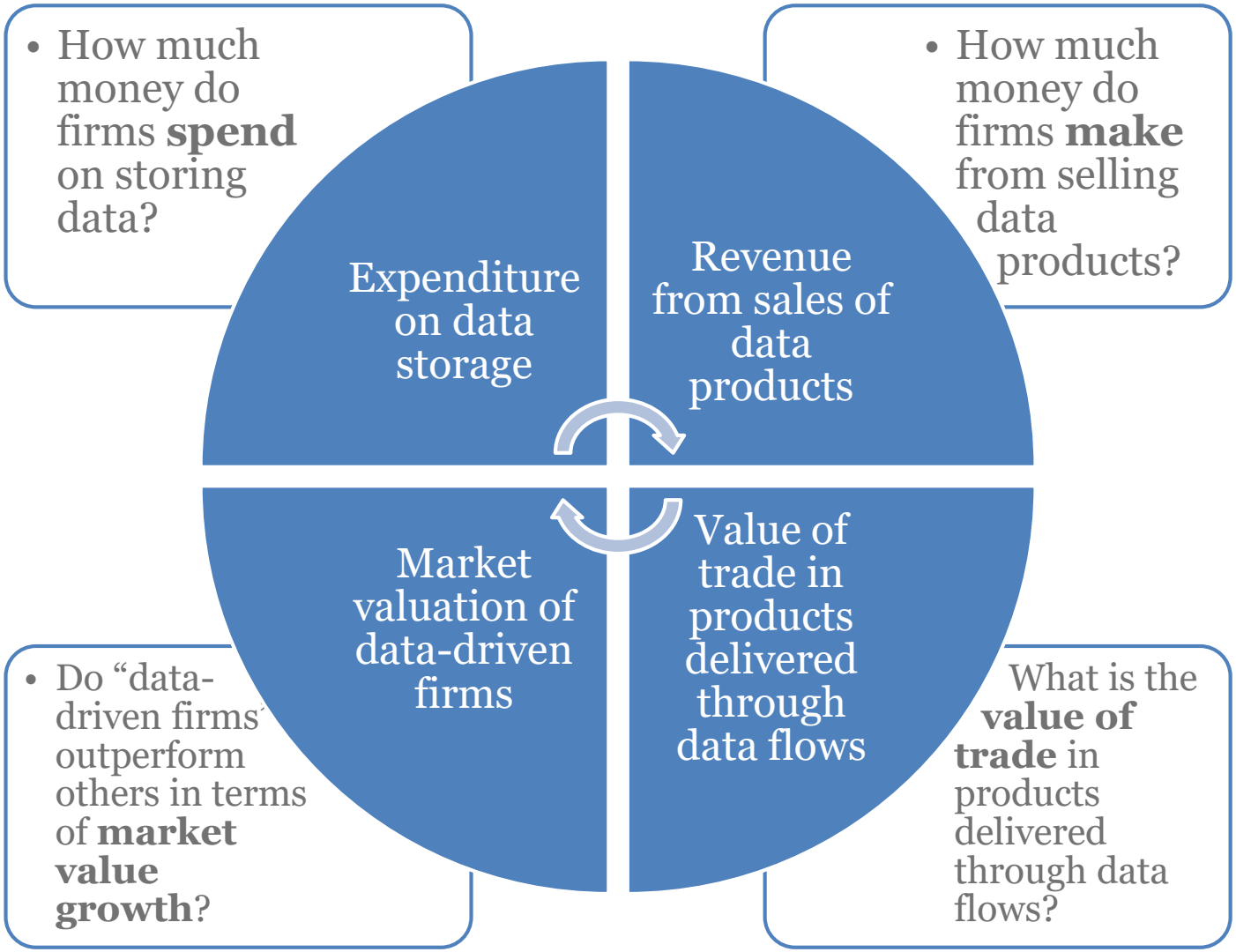
Criminal justice systems and (digital) security

- Predictive policing, and predicting court procedure outcomes
- Detection of threats in digital security and surveillance and defence

Autonomous vehicles and smart logistics

- Firms target 2021 to deliver mostly autonomous (‘level 4’) vehicles
- Cost reduction thanks to optimised routes and warehouse management

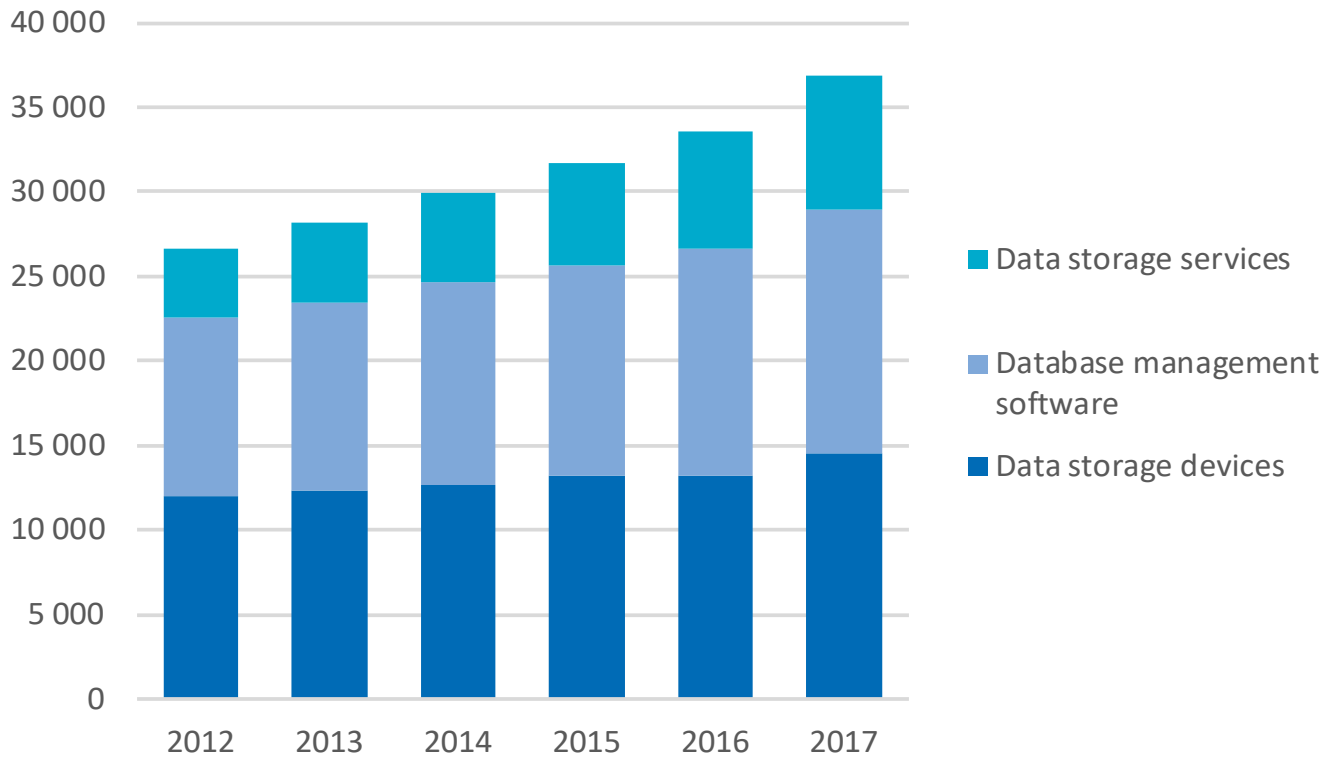
OECD work on measuring the value of data: four perspectives



How much money do firms spend on storing data?

Estimated use of data storage hardware, software, and services, United States, 2012-2017

USD millions, current prices

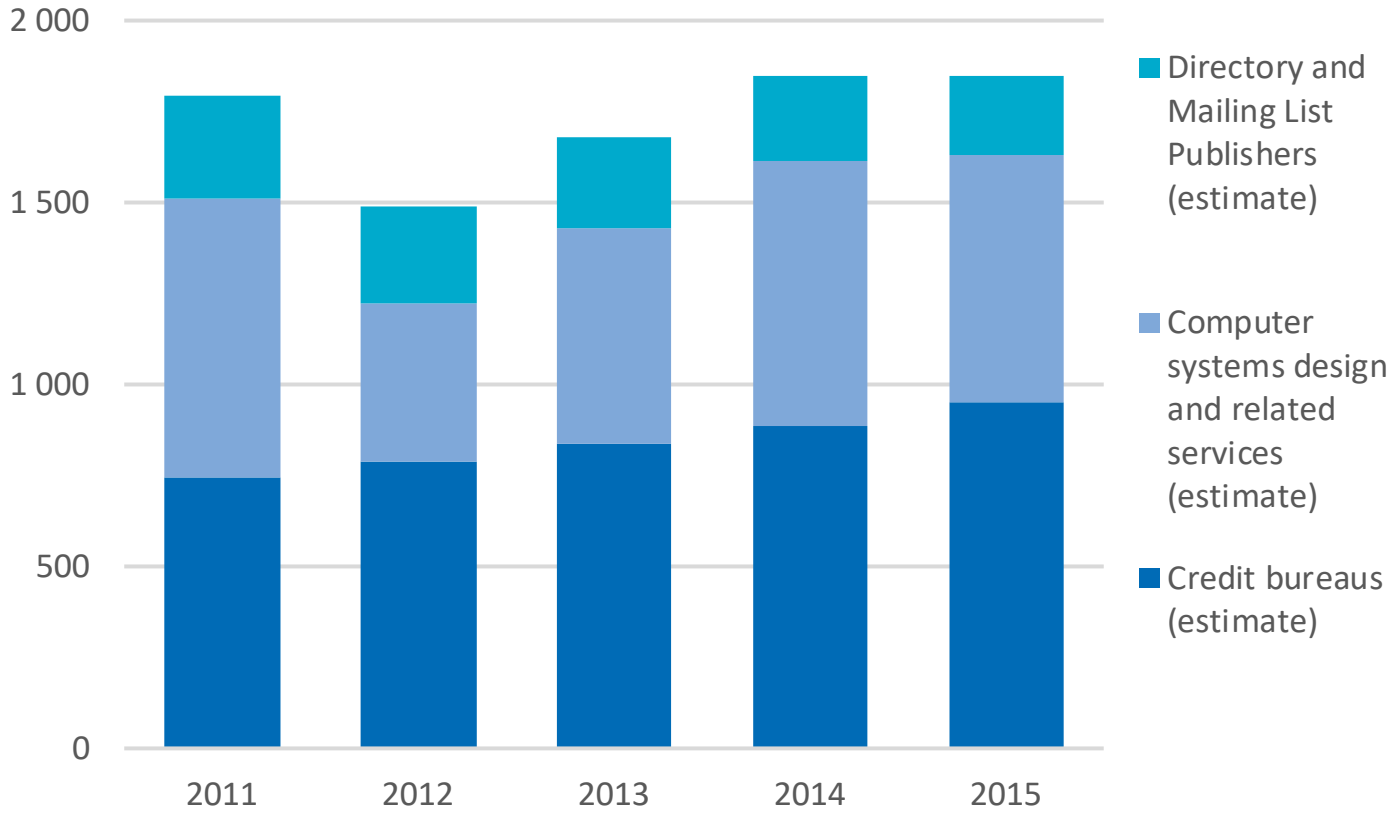


Source: OECD based on (US Bureau of Economic Analysis, n.d.[11]), (US Census Bureau, 2018[12]), (US Census Bureau, 2012[13])

How much money do firms make from selling data products?

Estimated supply of products relating to compiling and selling databases, by industry, Canada, 2011-2015

CAD millions, current prices, basic prices

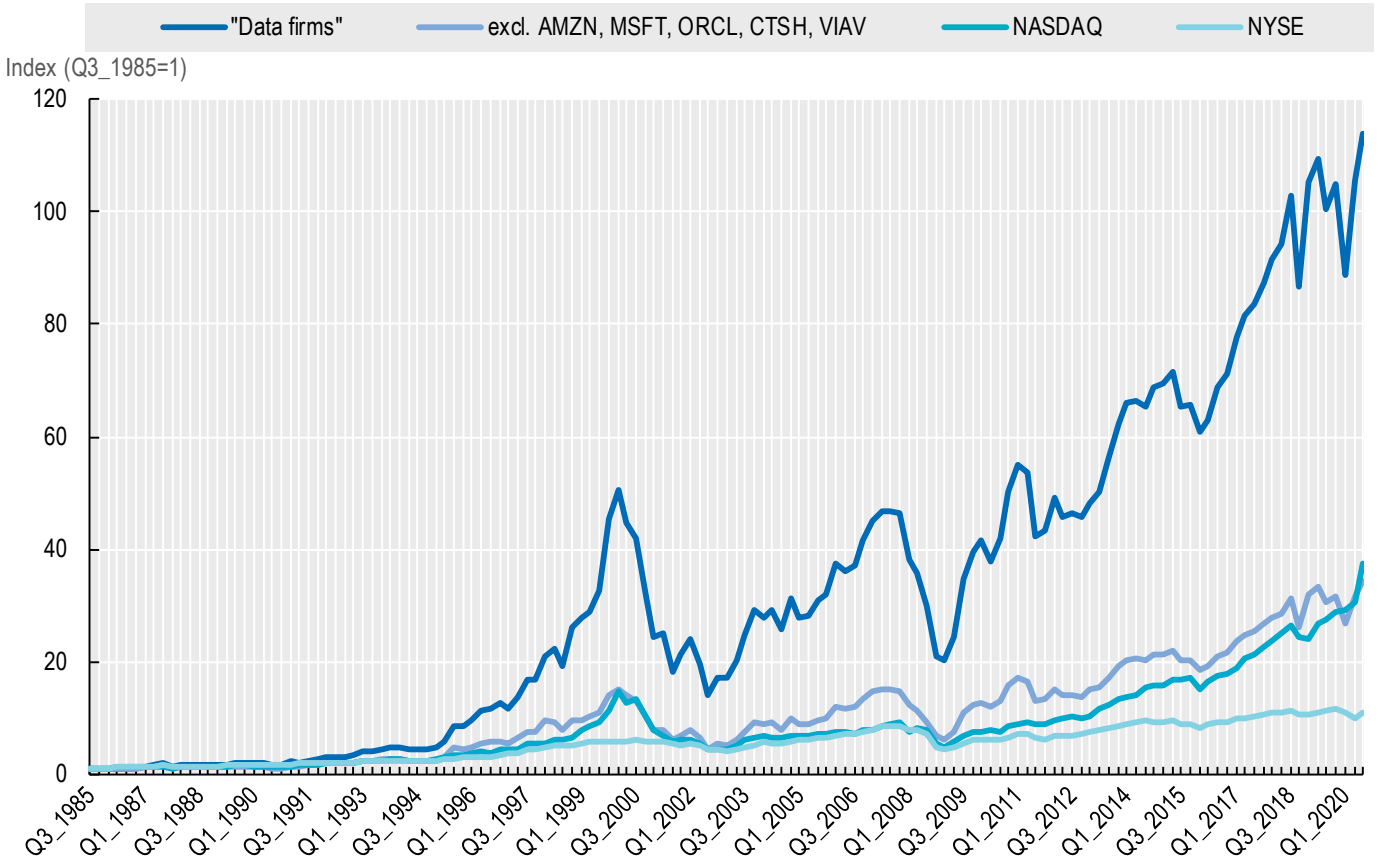


Source: OECD based on (Statistics Canada, 2019[24]), (Statistics Canada, 2019[23]), (US Census Bureau, 2017[20]), (US Census Bureau, 2012[13]).

Do “data-driven firms” outperform others in terms of market value growth?

Index of average growth of market capitalisation of “data-driven firms”, 1985-2020

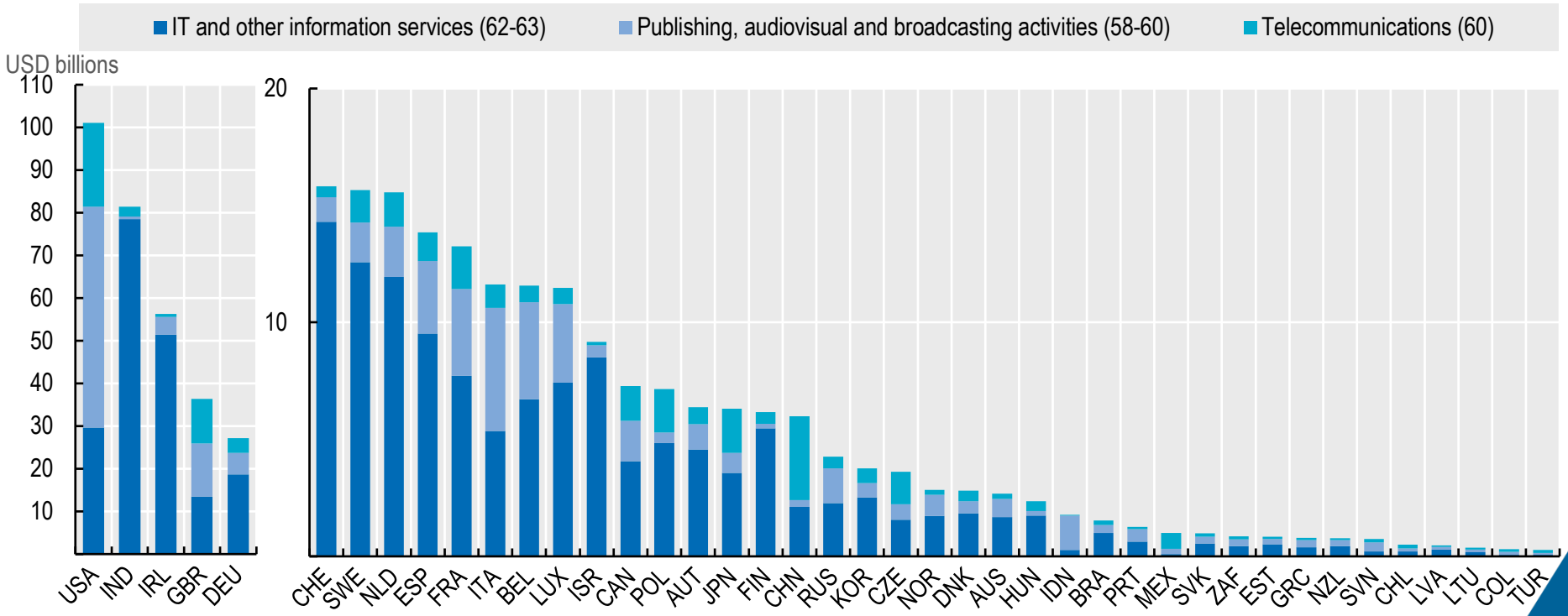
Index, Q1 1985=1



Source: OECD, based on data from Yahoo! Finance, October 2020.

What is the value of trade in products delivered through data flows?

Exports by firms in ISIC section J – Information and communication, USD billions
OECD and BRIICs countries, 2015



Source: OECD based on OECD Input-Output tables (https://stats.oecd.org/Index.aspx?DataSetCode=IOTSI4_2018), September 2020.

Thank you!

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