



# OECD work on Trustworthy AI and on the Value of Data

1 March 2021

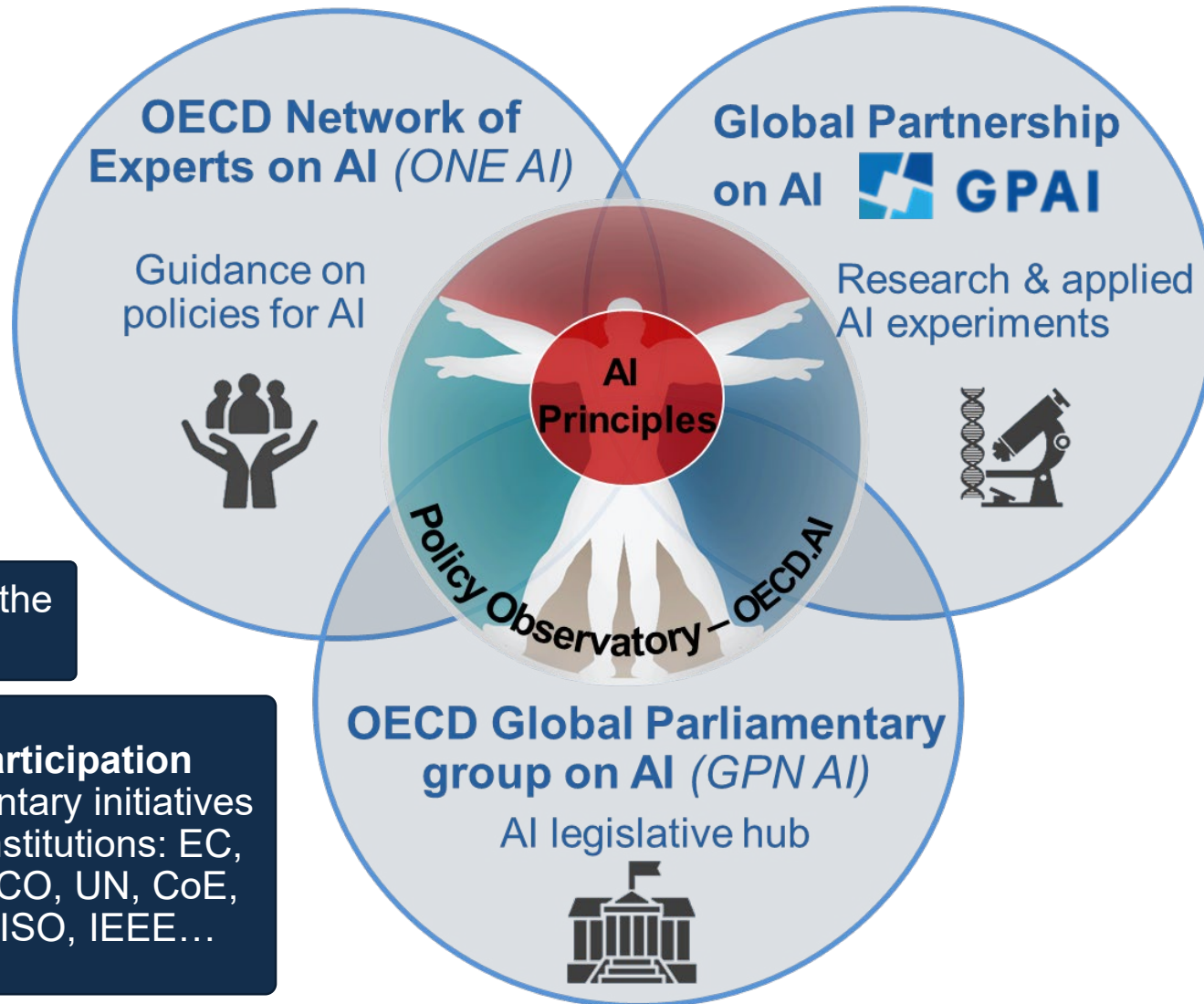
Global Forum on AI Network Society

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** >



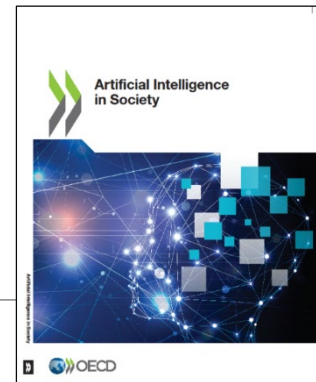
**Building human capacity and preparing for labour market transformation** >



**International co-operation for trustworthy AI** >



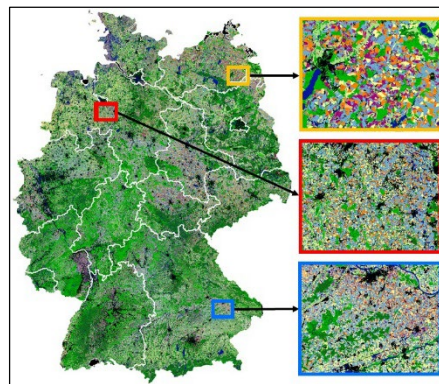
# Analytical Report: “AI in Society”



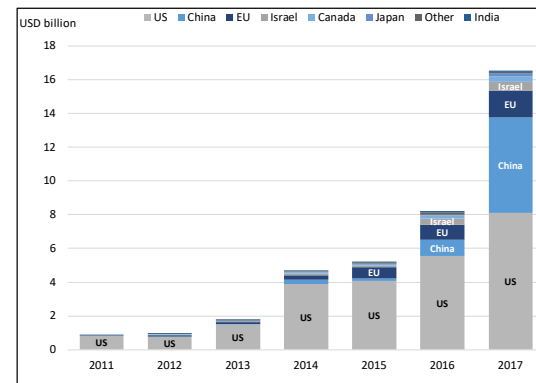
- Launched in June 2019:
  - builds a shared understanding of AI in the present and near term
  - maps the economic and social impacts of AI and its applications and
  - helps co-ordination and consistency in other international fora
- Report structure:
  - Technical landscape / Economic landscape
 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





- 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

The screenshot shows the homepage of the OECD.AI Policy Observatory. The header includes the OECD.AI logo and navigation links for AI Principles, Policy areas, Trends & data, Countries & initiatives, and About. The main content area is titled "OECD AI Policy Observatory" and features a sub-header: "Shape and share public policies for responsible, trustworthy and beneficial AI". Below this, there are six main content blocks arranged in a 2x3 grid:

- OECD AI Principles:** "Wondering what standards to apply to AI policies and practices? The AI Principles give guidance for a human-centred trustworthy approach." (Icon: a red cross on a landscape).
- AI Policy areas:** "Explore how AI affects everything from transport to jobs and education. Find out about AI's impact on work, innovation, productivity and skills." (Icon: books and a document).
- COVID 19:** "AI-powered live news, data-viz, data for AI" (Icon: a red and white virus particle).
- Countries & initiatives:** "Explore over 300 AI policy initiatives from over 60 countries. Find the latest AI initiatives from business, technologists and others." (Icon: a globe with location pins).
- Trends & data:** "Keep up with the latest AI developments and trends. Explore live news, data and research from the OECD and its partners." (Icon: a pie chart and a bar chart).
- Video:** "Shaping trustworthy AI" (Icon: a woman speaking, with text "CAROLYN NE...").

At the bottom, there is a "Features" section with three items:

- Follow the evolution of COVID-19 in real time (Icon: a globe).
- Watch the webcast: Launch of OECD.AI (Icon: a globe).
- AI scientific research (Icon: a globe).



# AI live news in Japan



Japan Speed: slow normal fast Paused NewsType: articles Reading mode English only

【東大発AIベンチャー】フォークリフトの衝突防止システムを開発 | 朝日新聞デジタル & M (アンド・エム)  
Publisher: 朝日新聞(asahi shimbun)

positive Neutral Negative

© Mapbox © OpenStreetMap Improve this map

朝日新聞(asahi shimbun)  
【東大発AIベンチャー】フォークリフトの衝突防止システムを開発 | 朝日新聞...  
Sun Jan 31 2021, 09:01

産経ニュース  
【東大発AIベンチャー】フォークリフトの衝突防止システムを開発  
Sun Jan 31 2021, 09:25

The Japan Times  
China gene firm providing worldwide COVID-19 tests worked with Chines...  
Sun Jan 31 2021, 10:05

日本経済新聞 (日経新聞)  
オリックス、AI開発企業に出資 中小の効率化支援  
Sun Jan 31 2021, 10:41

Techable  
radiotalk Hakuho media p  
リスナーと音声のやりとりができる「インタラクティブ音声広告」配信...  
Fri Jan 29 2021, 06:37

Nikkei Asian Review



# AI research collaboration by countries



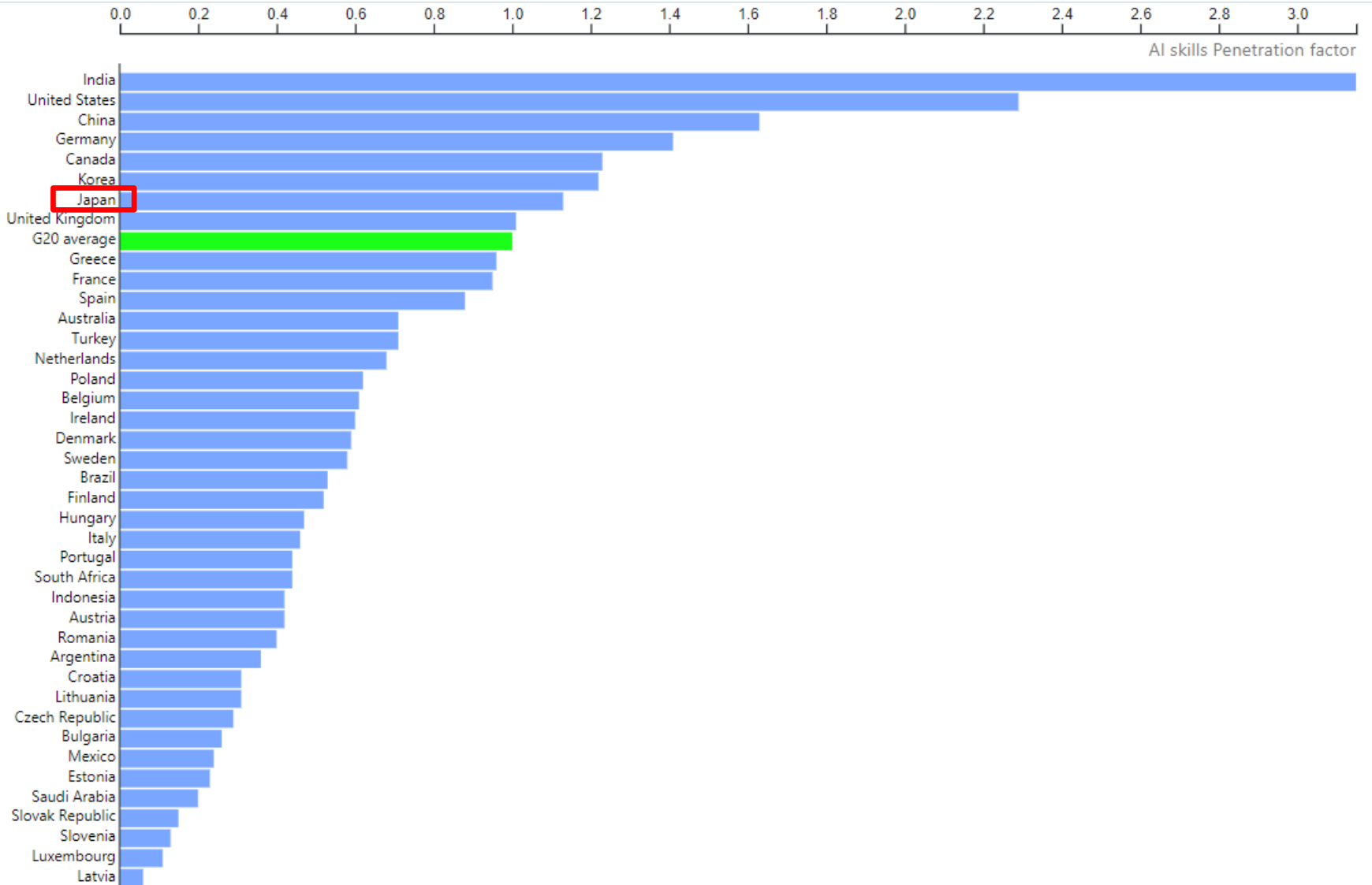
## Domestic and international AI research collaboration: Japan → all regions, 2020







# Cross-Country AI Skills Penetration





# Countries and initiatives



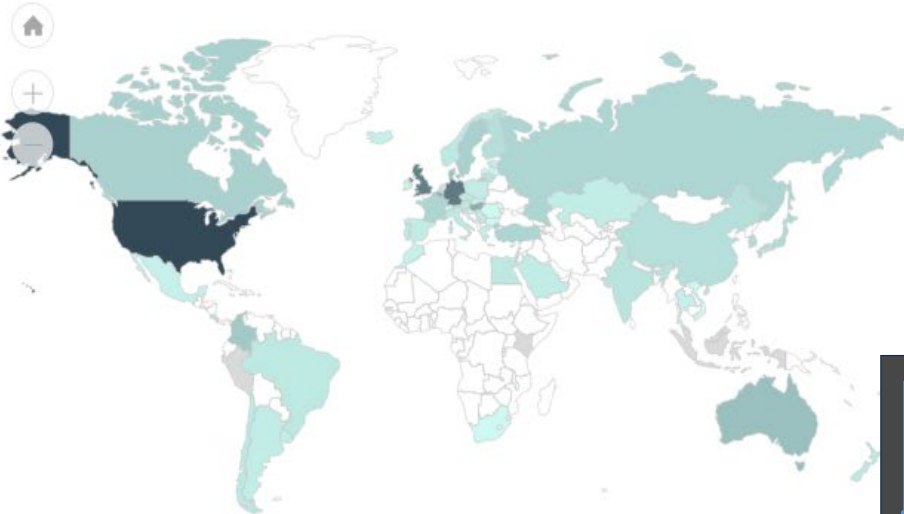
Countries & territories

Policy instruments

Target Groups

Choose visualization

By initiative count



**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

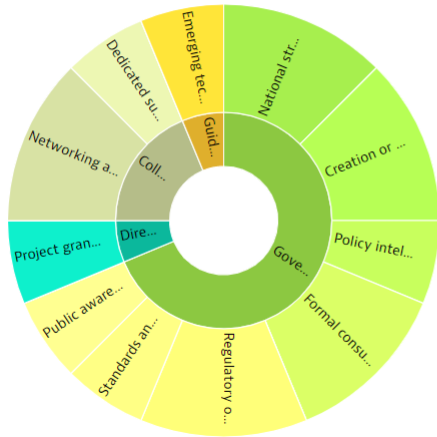
[European Union \(28\)](#)



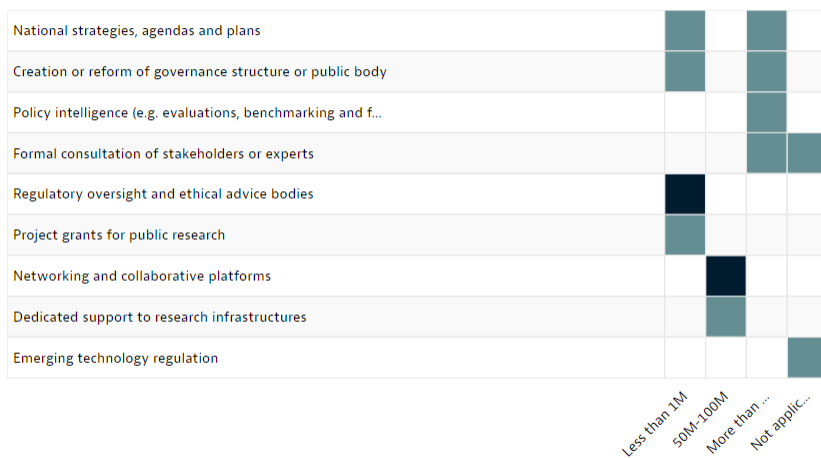
# AI in Japan – country dashboard



## Policy instruments by category



## Policy instruments by number & budget



## Related online news from EventRegistry



Reading mode  English only

窓の杜

**LINE、新型コロナワクチンの接種予約を「LINE」で行うシステムを自治体に提供 / すでに、神奈川県寒川町や和歌山...**  
Fri Jan 29 2021, 14:28

SankeiBiz サンケイビズ

**DX・省力化で顧客と従業員の更なる満足度向上へ「くら寿司テクノロジー開発部」の新たな挑戦**  
Fri Jan 29 2021, 15:39

日本経済新聞 (日経新聞)

**孫氏「自動運転車、大量生産2年以内」 ダボス準備会合**  
Fri Jan 29 2021, 16:35

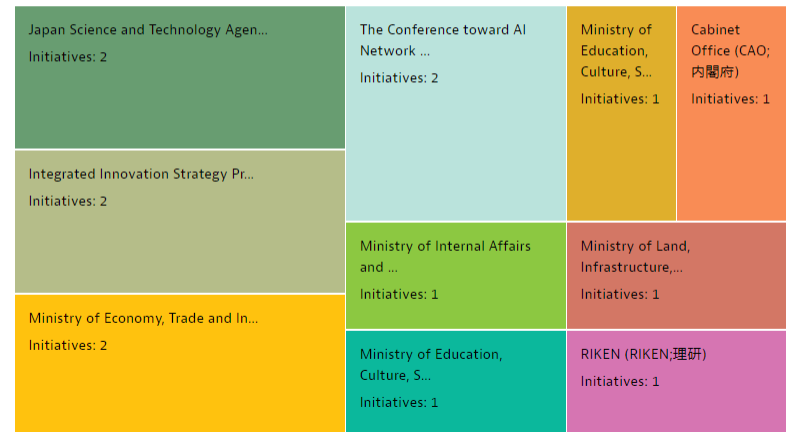
ロイター.co.jp

## Responsible organisations



Choose visualization

By initiative count





## 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



Sign up for email alerts from the AI Wonk:

Sign up



# 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



## 10 Principles for Trustworthy AI

### Values-based principles

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

### National Policies

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

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

**Classifying AI systems**

*How to measure national AI compute?*

*What tools help implement trustworthy AI*

**Tools for Trustworthy AI**

**National AI policies**

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



# 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

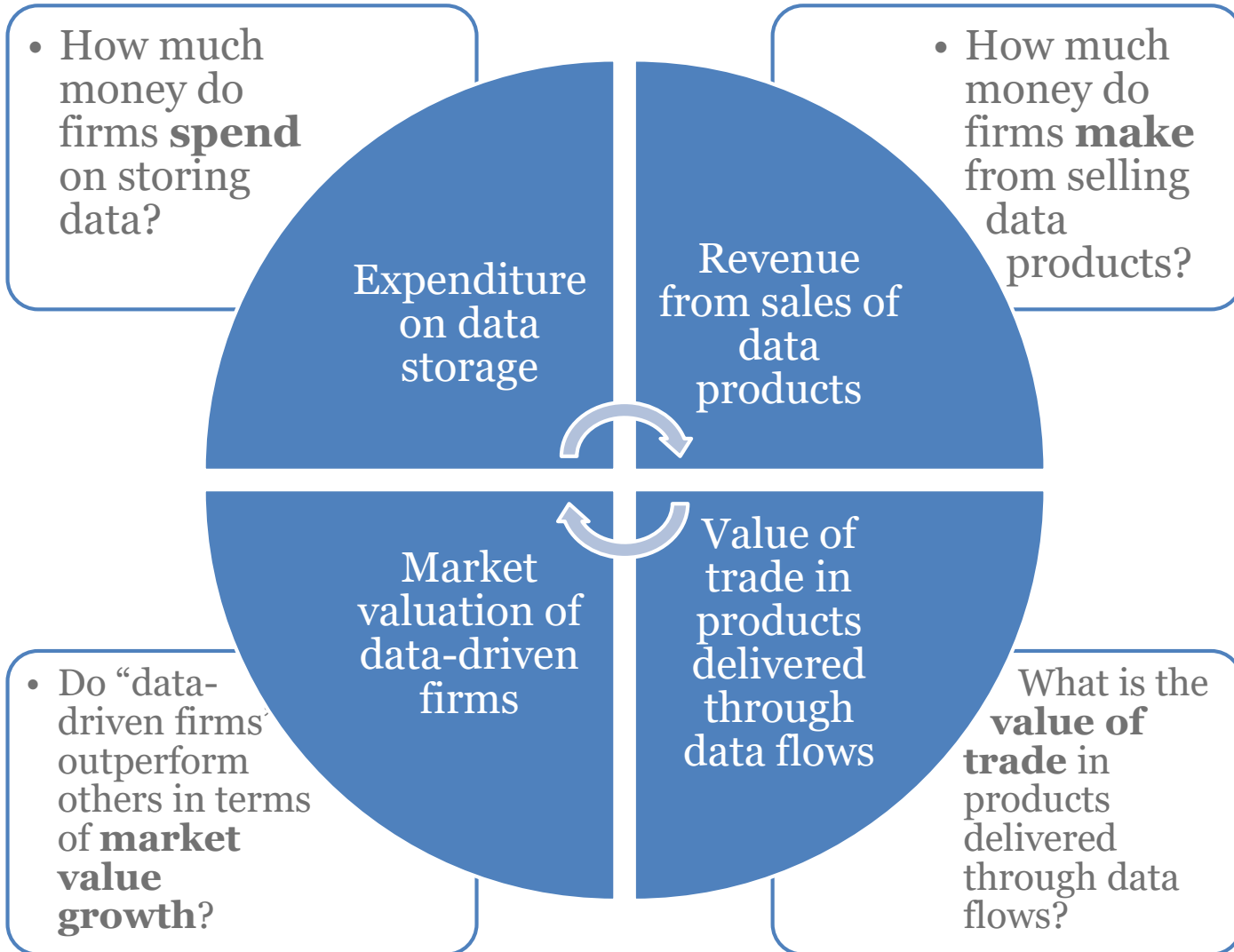


## Autonomous vehicles and smart logistics

- 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



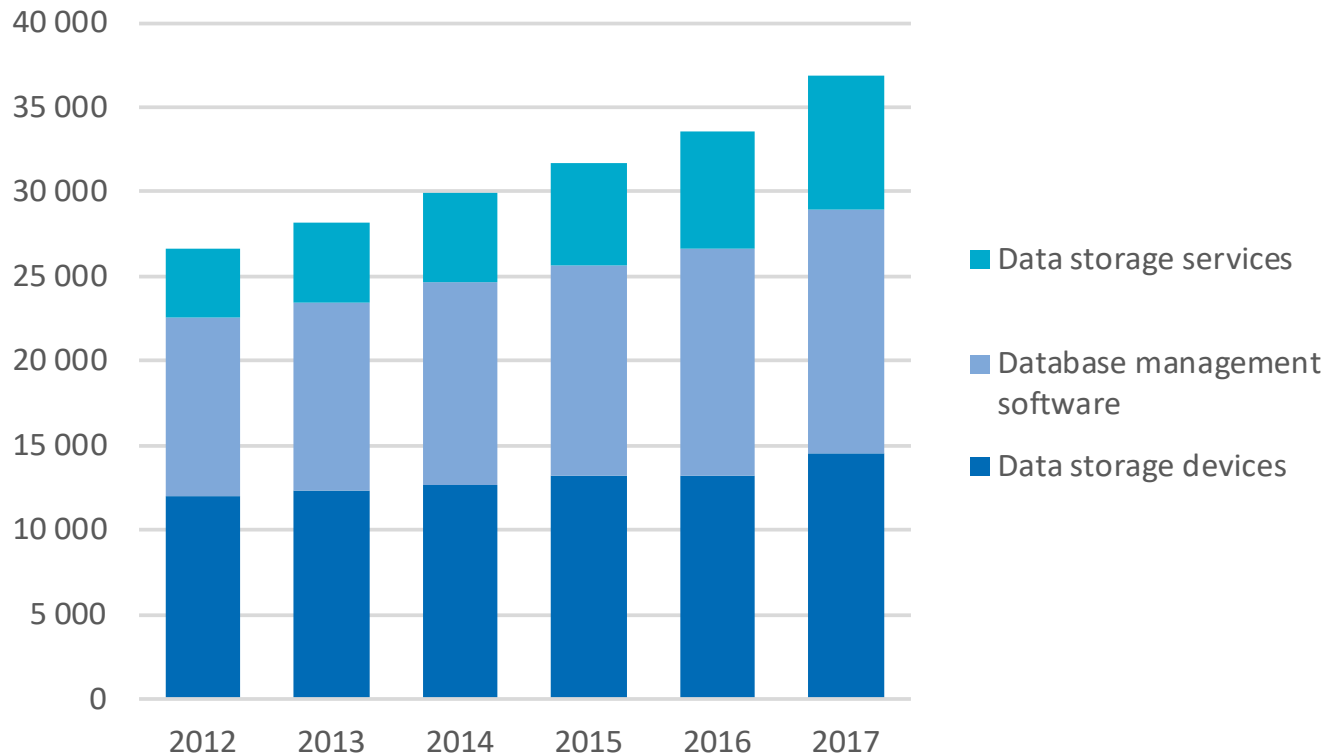




# How much money do firms spend on storing data?

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

USD millions, current prices



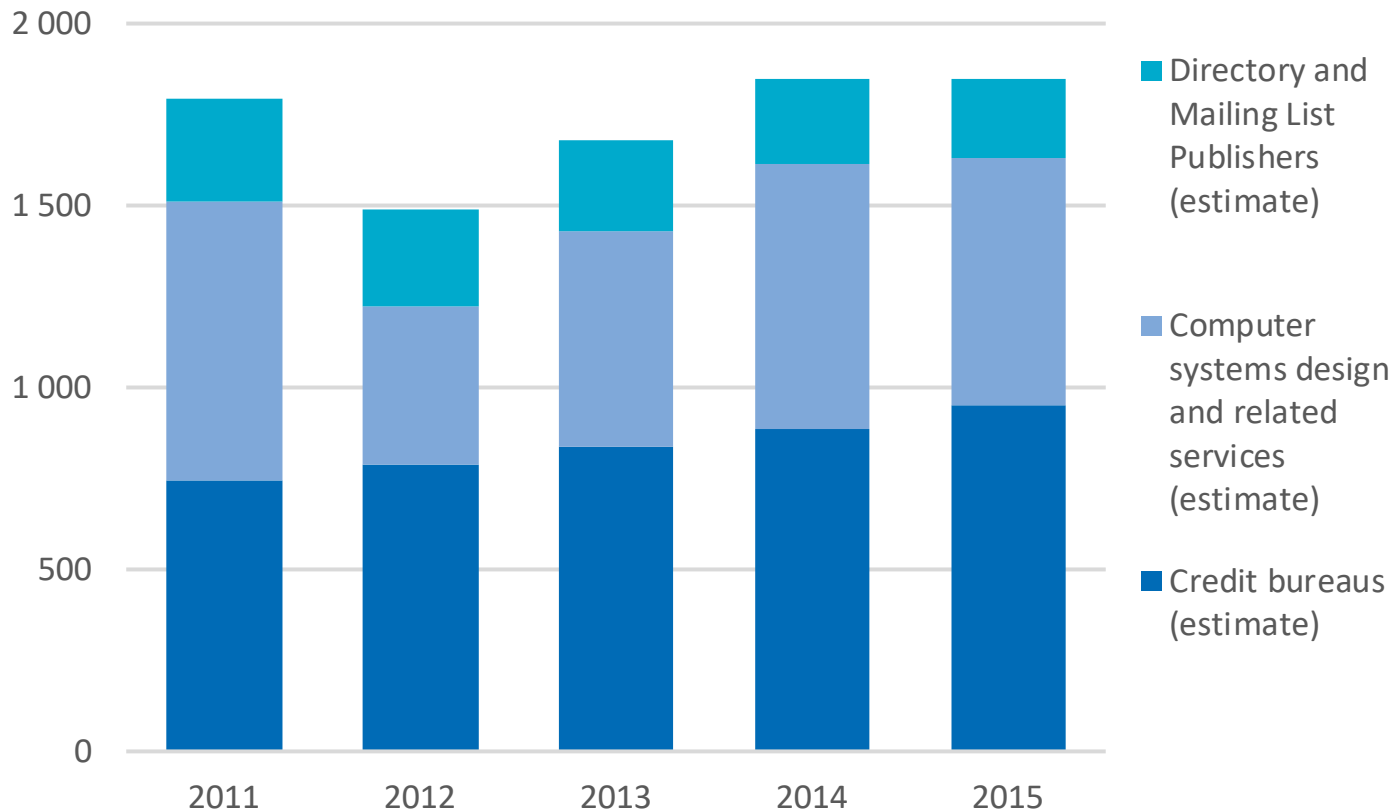
Source: OECD based on (US Bureau of Economic Analysis, n.d.<sub>[11]</sub>), (US Census Bureau, 2018<sub>[12]</sub>), (US Census Bureau, 2012<sub>[13]</sub>)



# 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



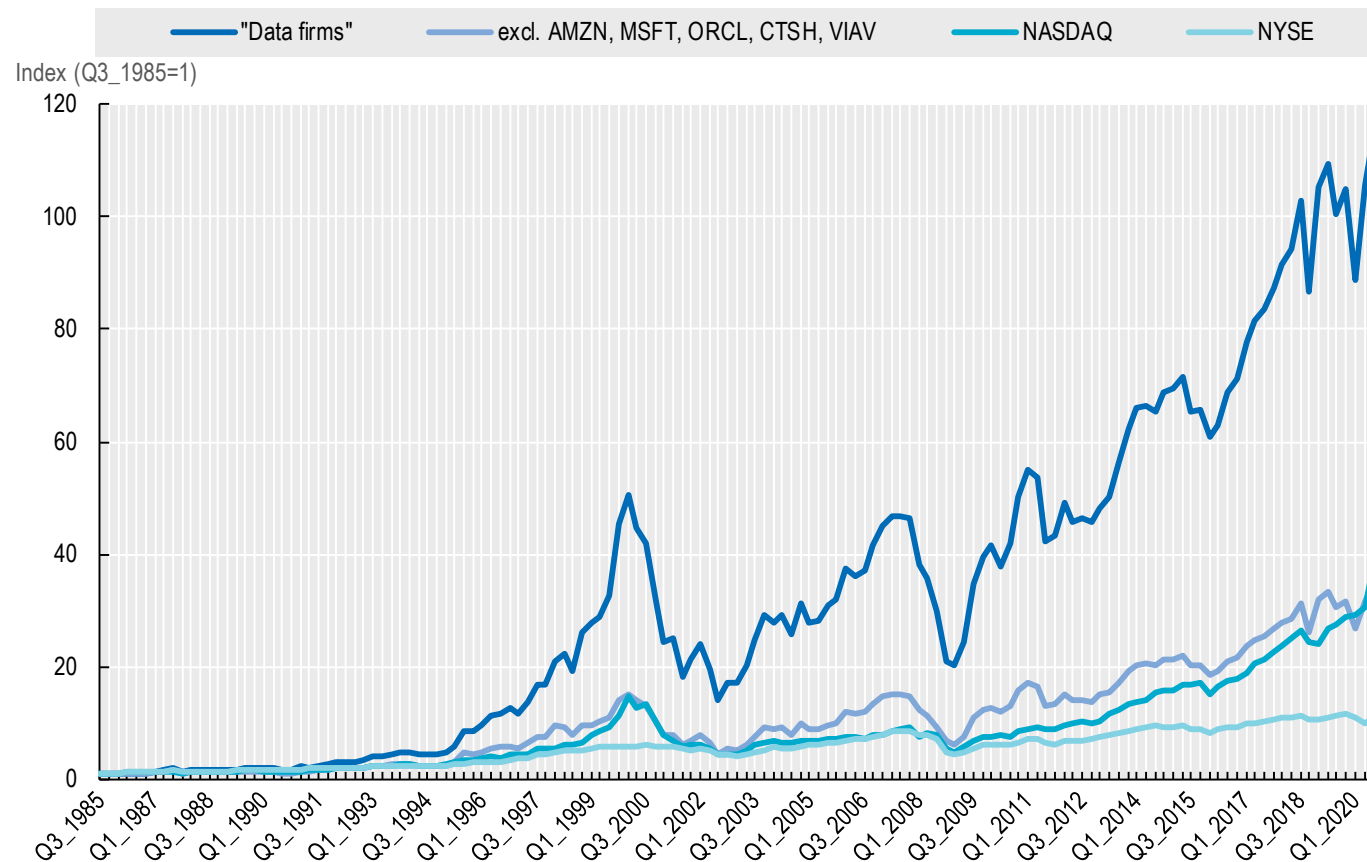
Source: OECD based on (Statistics Canada, 2019[24]), (Statistics Canada, 2019[23]), (US Census Bureau, 2017[20]), (US Census Bureau, 2012[13]).



# 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

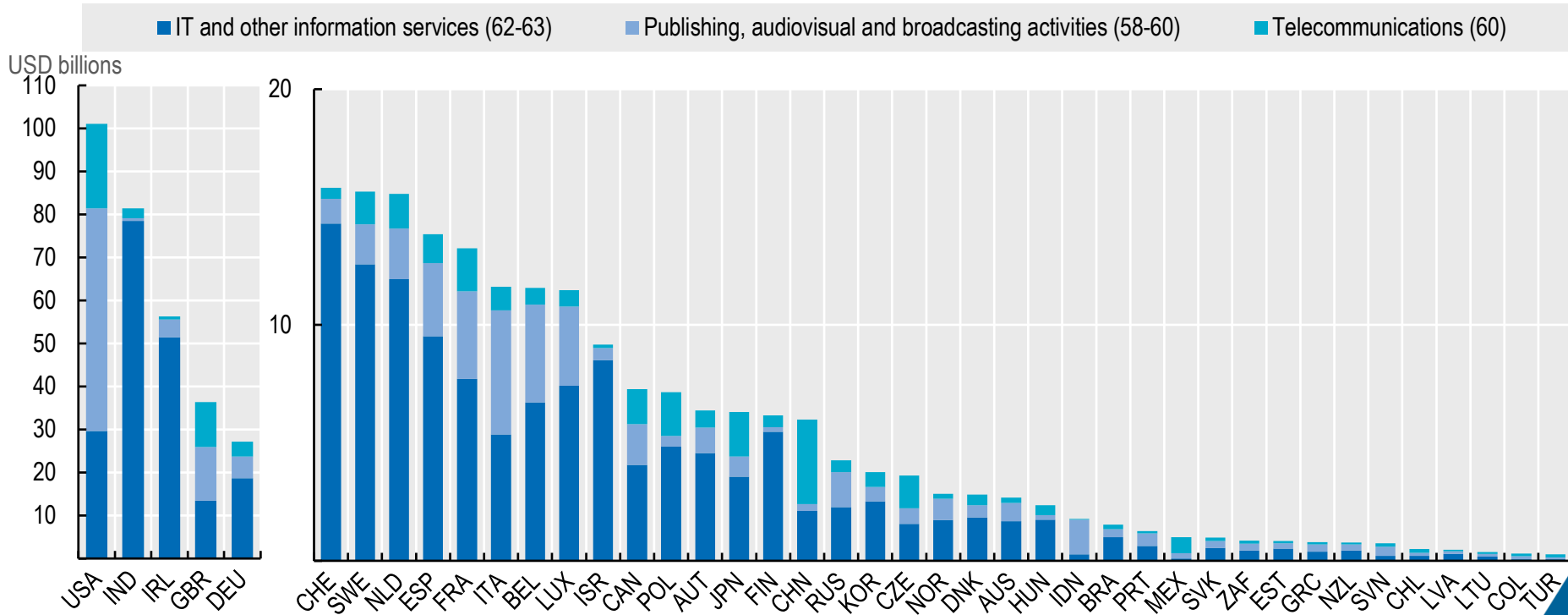


Source: OECD, based on data from Yahoo! Finance, October 2020.



# 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 BRICs countries, 2015



Source: OECD based on OECD Input-Output tables ([https://stats.oecd.org/Index.aspx?DataSetCode=IOTS14\\_2018](https://stats.oecd.org/Index.aspx?DataSetCode=IOTS14_2018)), September 2020.

# Thank you!

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#OECDAI

[OECD Digital Economy Papers](#)

