

Data 4 AI: For European Economic Competitiveness and Societal Progress

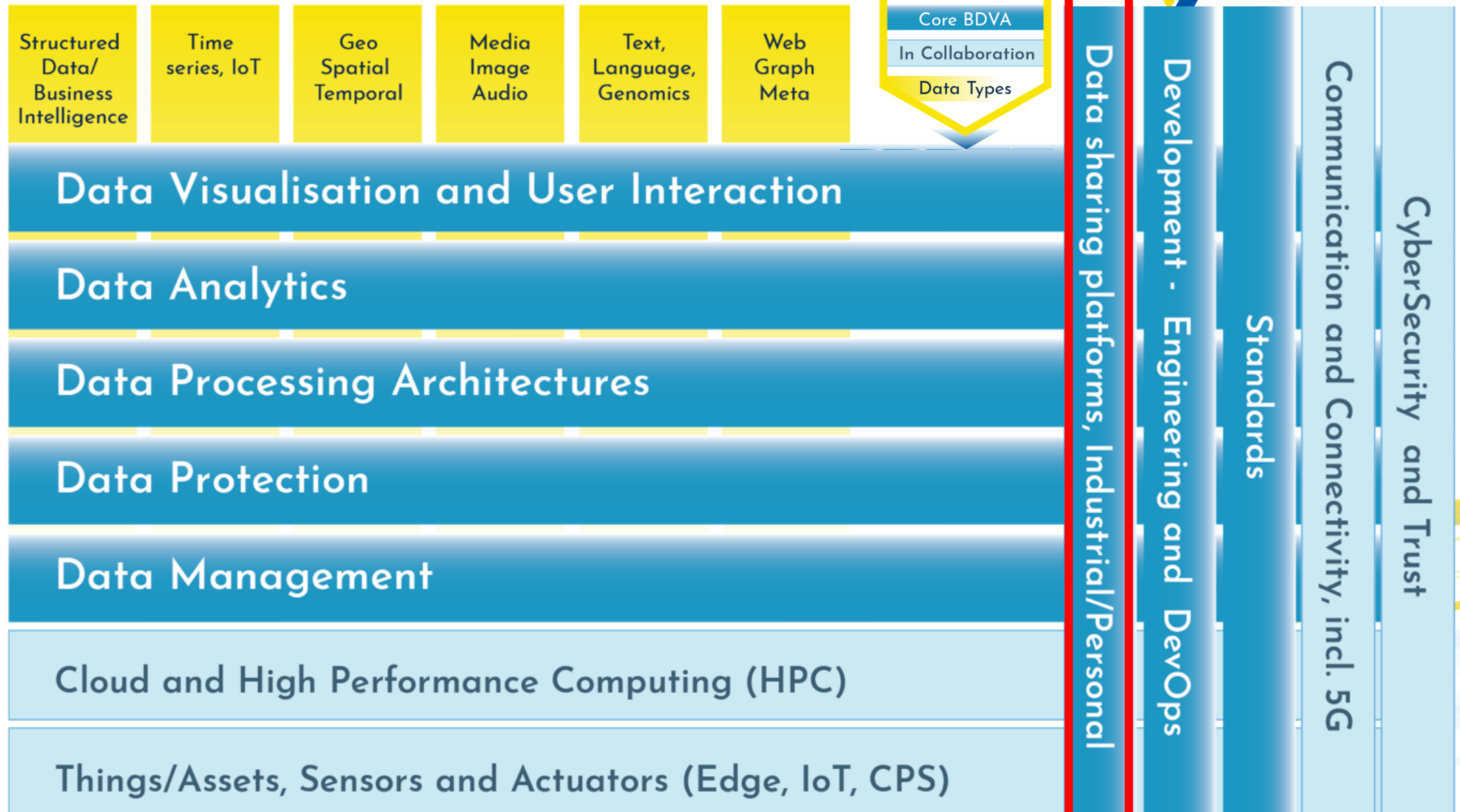
A Tale of Three Papers....

Edward Curry
BDVA Vice-president
Insight Centre for Data Analytics, Ireland

European Industry Partnerships Collaborative Event
Amsterdam, 17/4/19



Big Data Value Reference Model



**The
Economist**

Crunch time in France

Ten years on: banking after the crisis

South Korea's unfinished revolution

Biology, but without the cells

MAY 6TH-12TH 2017

The world's most valuable resource



**Data and the new rules
of competition**

Data is Key to AI

“The world’s most valuable resource is no longer oil, but data. The data economy demands a new approach to antitrust rules”

The Economist

How important is Data to AI?

...startups and established firms that are just beginning to use AI **need access to data** in order to train their AI systems. Difficulty in accessing the necessary data can create a **barrier to entry**, potentially **reducing competition and innovation**. - Forbes

Forbes



Data Platforms will Fuel AI-Driven Decision-Making



**Data Generation
and Analysis
(including IoT)**



**Data Platforms
(Access and Portability)**



AI and Decision Platforms

Data-Driven AI in Big Data PPP



Example Impacts from AI

Data Bio:

- **Pilots:** 26 pilots enhancing raw material production in agriculture, forestry and fisher
- **Impacts:** Annual increases in productivity from 0.4 % in forestry to 3.7 % in agriculture and fishery. Projected productivity gain of 20 % over five years in agriculture and fishery
- **Data:** Earth Observation data from satellites and drones as well as IoT sources from in-situ sensors in fields and vehicles

Transforming Transport

- **Pilots:** 13 different pilots for the mobility and logistics sector
- **Impact:** Initial evidence shows that data-driven solutions using AI may deliver 13% improvement of operational efficiency
- **Data:** Access to industrial datasets from over 160 data sources, totalling over 164 TB

The “gold mining” metaphor applied to data processing



Maturity stages of data assets and related “sieves”

Available data assets
(datasets + ID Card)



----- metadata sieve

10



Data Sharing Spaces



What is a Data Sharing Space

Emerging **Data Ecosystems** rely on three complementary technologies:

- **Data Spaces:** Data storage, lifecycle management platforms and protocols
 - networked industrial and/or personal data spaces
- **Data Platforms:** Next generation data acquisition and processing platforms
- **Data Marketplaces:** Data sharing and exchange platforms where data is commercialized using Open Data, Monetized Data and Trusted Data sharing mechanisms.

Wide Angle Perspective.....

.....Different scales and orientations



- Data platform for Aviation
- Across full Value Chain
- Large-scale
- Multi-sector

- Dataspace for Water and Energy Management
- Localized
- Medium-scale

Water Economics



Opportunity

Business

- Open data marketplaces that level the playing field for **industrial data sharing**.
- Increased **availability** of vast and heterogeneous **data ecosystems** for AI.
- Innovative data-driven **business models** enabled by new value ecosystems.
- Opportunities to tap into **'safe' personal data**.

Citizens

- Full **control** over personal data.
- Wellbeing and Quality of Life benefits for **personal data sharing** in key sectors.
- Access to **personalised** and intersectoral B2C services.
- Increased opportunities of personal data **monetisation**.
- New **professional** opportunities.

Opportunity

Science

- Increasing **socio-economic impact of research** data across domains and borders
- Advancing science and open innovation through **data availability**
- **Monetisation opportunities** brought about by emerging data-driven business models

Government and Public Bodies

- **Data commons** for better government services
- **AI-enhanced digital services**
- Real-time European **statistics**
- Lean business environment enabled by access to government services
- Evidence-based **policy making**
- Data as evidence of **Policy compliance**

Research & Innovation Priorities

Technical Challenges

- **Data life-cycle management** that is not designed around **sharing**
- Managing and **respecting data ownership**
- **Decentralised** data sharing and processing architectures
- **Verification and provenance** support
- **Secure** data access and restrictions
- Maturity of **privacy-preserving** technologies for big data

Business and Organisational

- **Establishing EU IDPs** in the global market.
- Competing in the global market through **Product-Service** platforms.
- Implementing data spaces in **dynamic business and data ecosystems**.
- Effects of disruptive technology challenges on the **job market**.
- Organisational impact of the 6Ps **digital transformation** model.
- Lack of data sharing **trust** and motivation
- Lack of **data valuation** standards in marketplaces

Challenges

Legal Compliance

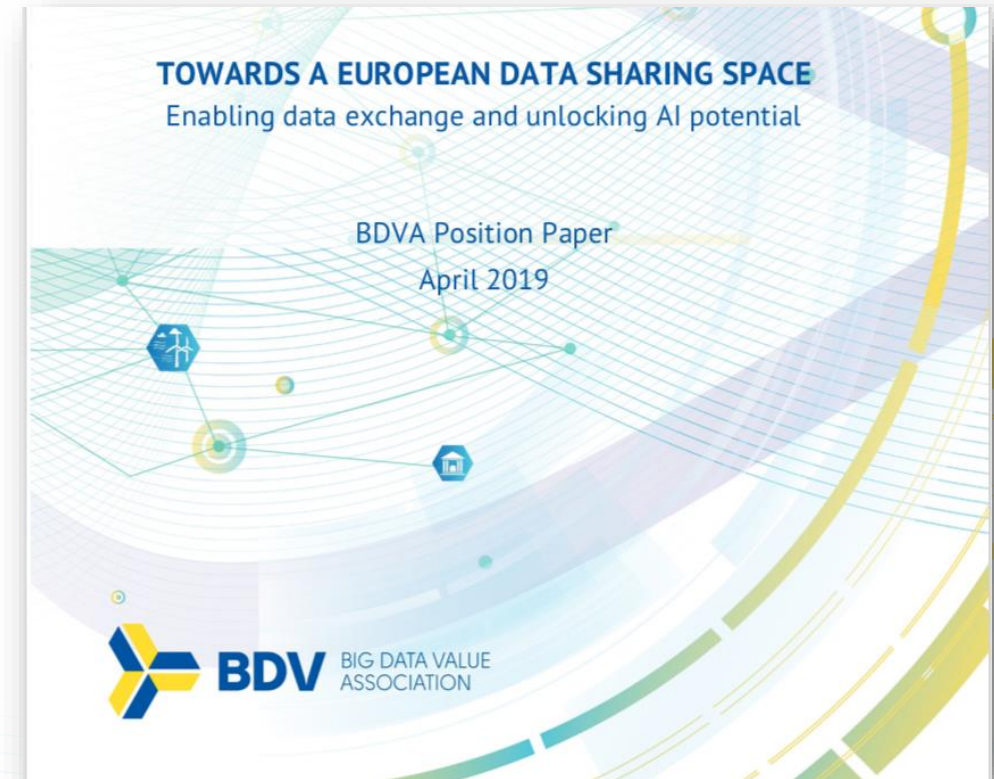
- Tackling inverse privacy and understanding **personal data rights**
- Lack of **trust** in data sharing
- Legal blockers to **free-flowing data**
- **Privacy preservation** in an open data landscape
- **Uncertainty** around data policies

National and Regional Challenges

- Public organizations lack **digital skills** and resources
- Insufficient support for **business digital transformation** by public authorities
- Evaluating public organization efficiency and **economic impact** in data era
- Lack of **EU-wide innovation policies**.
- Translating European-wide policies into **tangible measurements**

BDVA Recommendations

- Create the conditions for the development of **a trusted European data sharing framework**
- Incorporate **data sharing at the core of the data lifecycle** to enable greater access to data.
- Provide **supportive measures for European** businesses to safely embrace new technologies, practices and policies.
- Assemble a European-wide **digital skills strategy** to equip the workforce for the new data economy.



Call for Participation

Agree? Disagree?

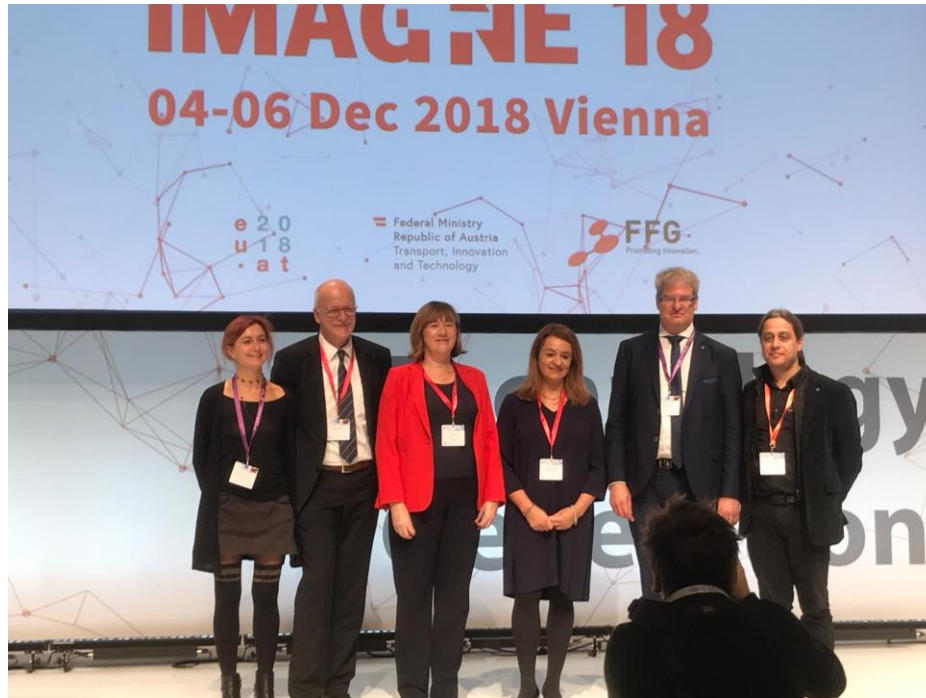
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The need for an AI Partnership



BDV BIG DATA VALUE
ASSOCIATION

BDVA – euRobotics MoU (ICT 2018 event)



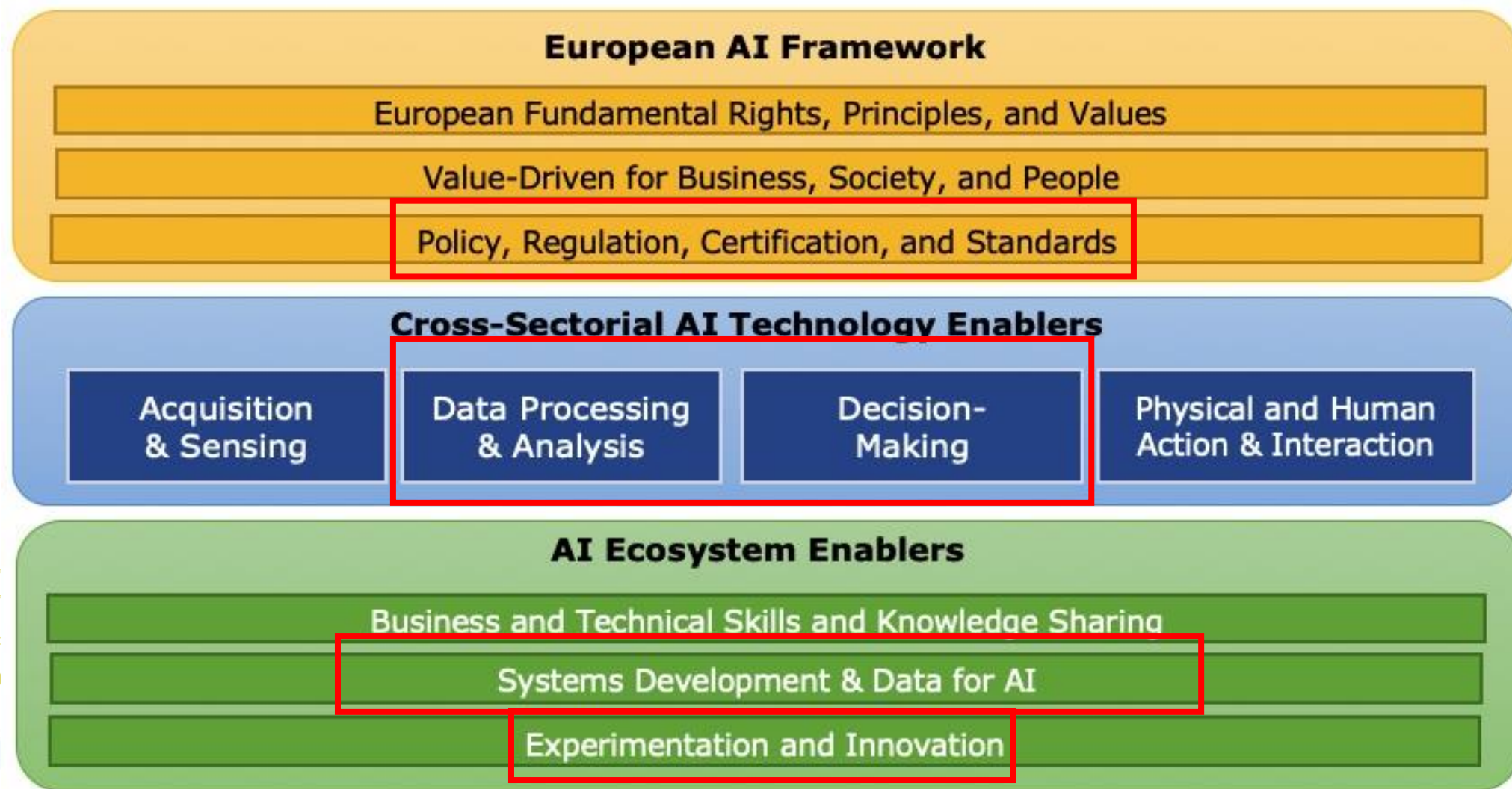
<https://ec.europa.eu/digital-single-market/en/news/artificial-intelligence-public-private-partnerships-join-forces-boost-ai-progress-europe>

BDVA – euRobotics common Vision Paper March 2019



Joint Vision Paper for an Artificial Intelligence Public Private Partnership (AI PPP) BDVA - euRobotics

The Vision of the AI Public Private Partnership is to boost European industrial competitiveness and lead the world in developing and deploying value-driven trustworthy AI based on European fundamental rights, principles and values.



**DATA-DRIVEN ARTIFICIAL INTELLIGENCE
FOR
EUROPEAN ECONOMIC COMPETITIVENESS
AND SOCIETAL PROGRESS**

BDVA Position Statement
November 2018



TOWARDS A EUROPEAN DATA SHARING SPACE
Enabling data exchange and unlocking AI potential

BDVA Position Paper
April 2019



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for an Artificial Intelligence Public Private Partnership (AI PPP)
BDVA - euRobotics**

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