European Industry Partnerships for The New Digital Age

Data Spaces panel

European Large-Scale Pilots Programme

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@BDVA_PPP
@RoblesAG

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2014

2019

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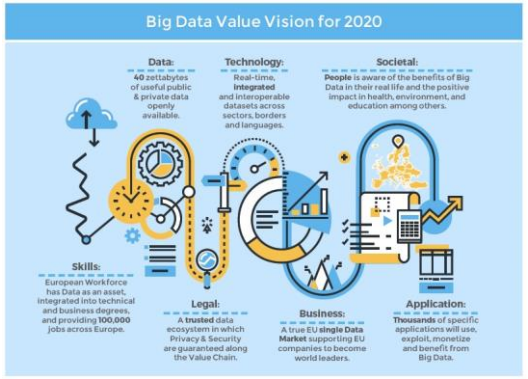
Launch of the Big Data Value PPP

PPP projects start **2017**



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Towards a European AI Partnership

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eu ROBOTICS

42 running projects (2019) (+more starting soon)

In 2018:

- Over 1,6B€ Private investments mobilized
- 132 innovations of exploitable value by 2018. Over 15 sectors covered
- 334 experiments/use cases in 2018
- 80 large scale experiments involving closed data and many different data ty
- 106,73 Petabytes .

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Big Data Value PPP

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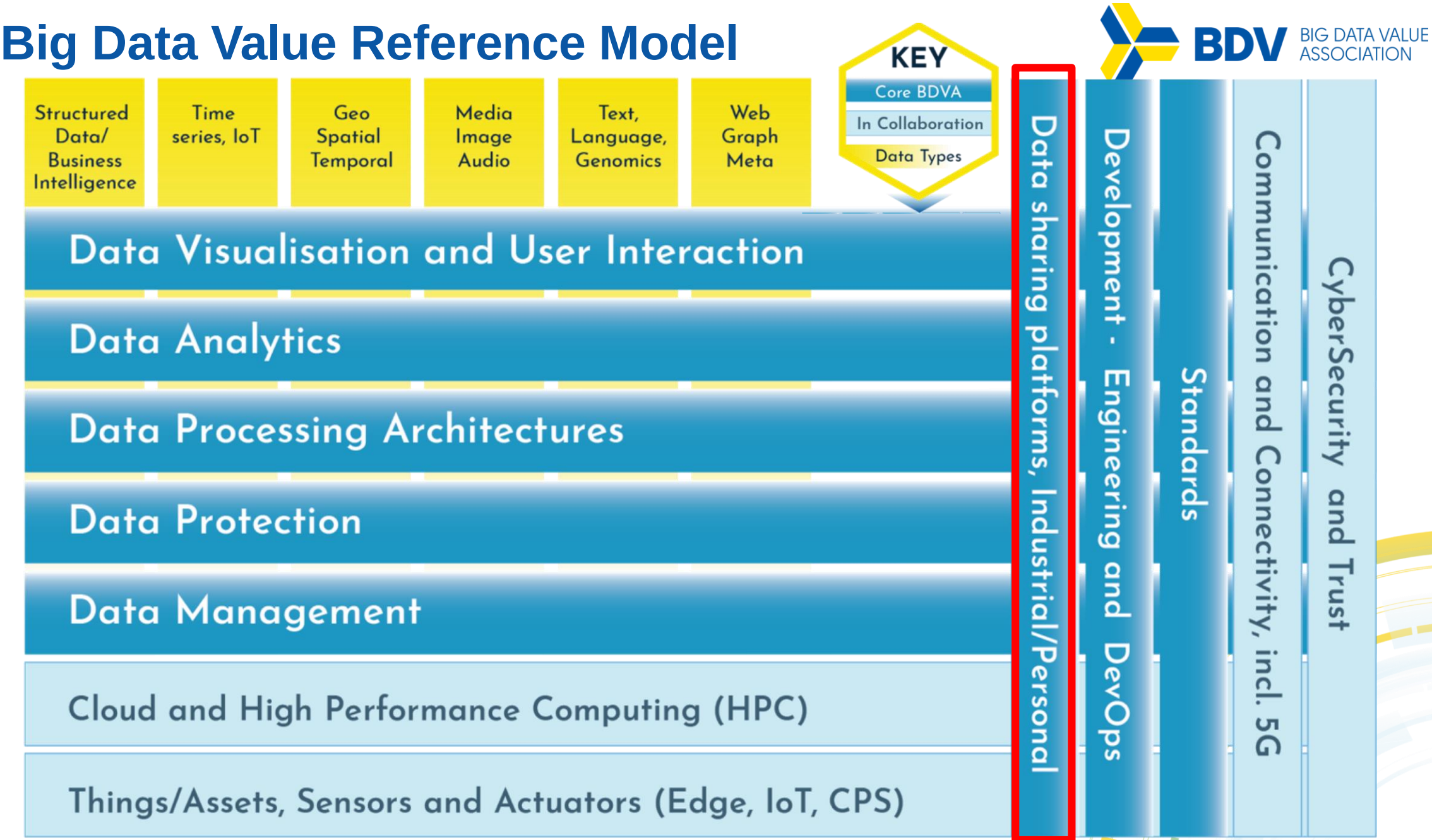
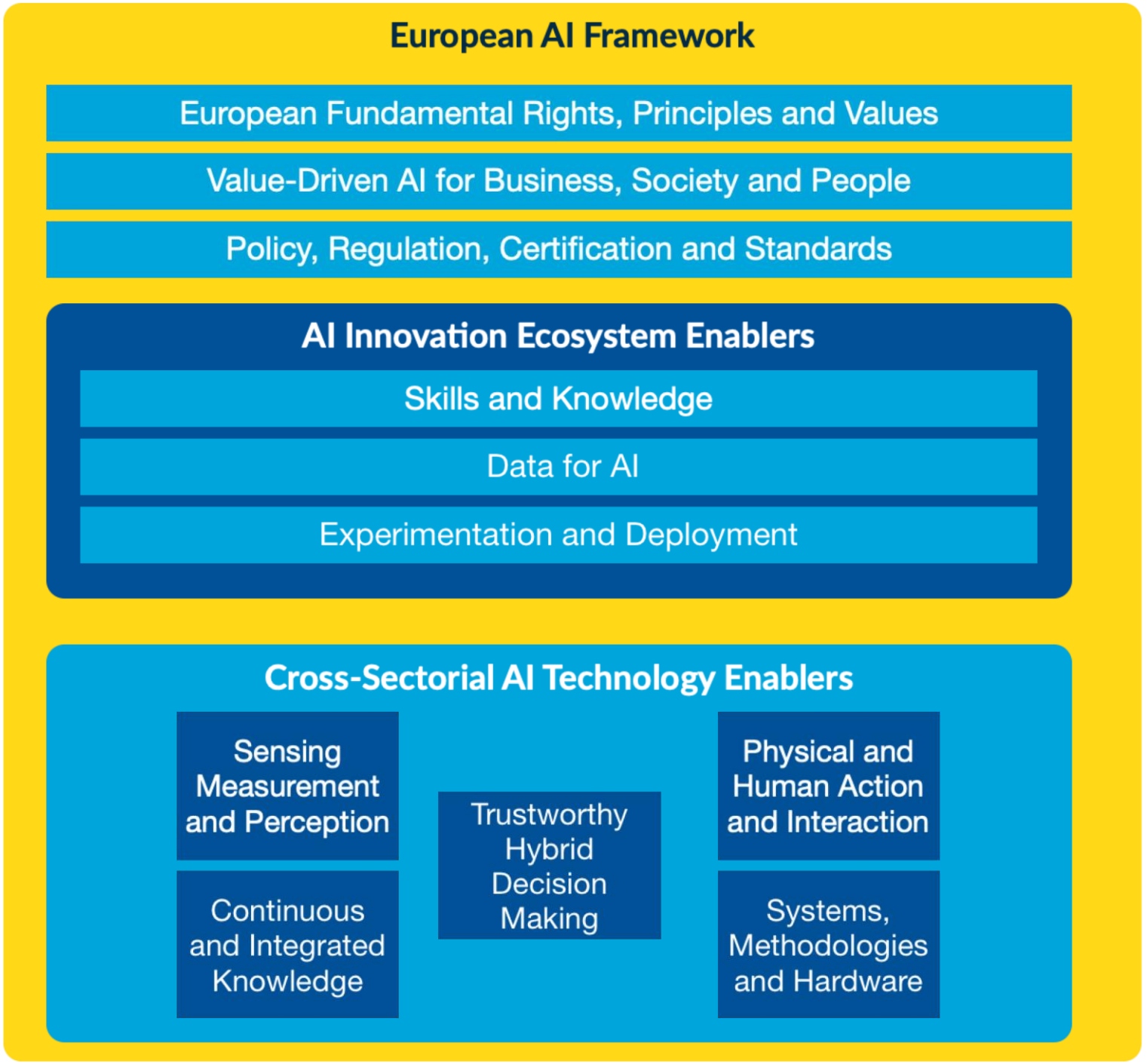
EuroHPC Joint Undertaking (PPP)

Shaping Industrial applications

EuroHPC Joint Undertaking

Big Data Value Reference Model





Strategic Research, Innovation and Deployment Agenda for an AI PPP

A focal point for collaboration on Artificial Intelligence, Data and Robotics

Consultation Release
June 2019

A joint initiative by

BDV BIG DATA VALUE ASSOCIATION

eu ROBOTICS

Q1: What is your strategy towards a common EU Data Sharing Space? Which are the opportunities and the challenges? Which technology-business assets are necessary? What are you doing in terms of standard Data Models and Semantic Interoperability?

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

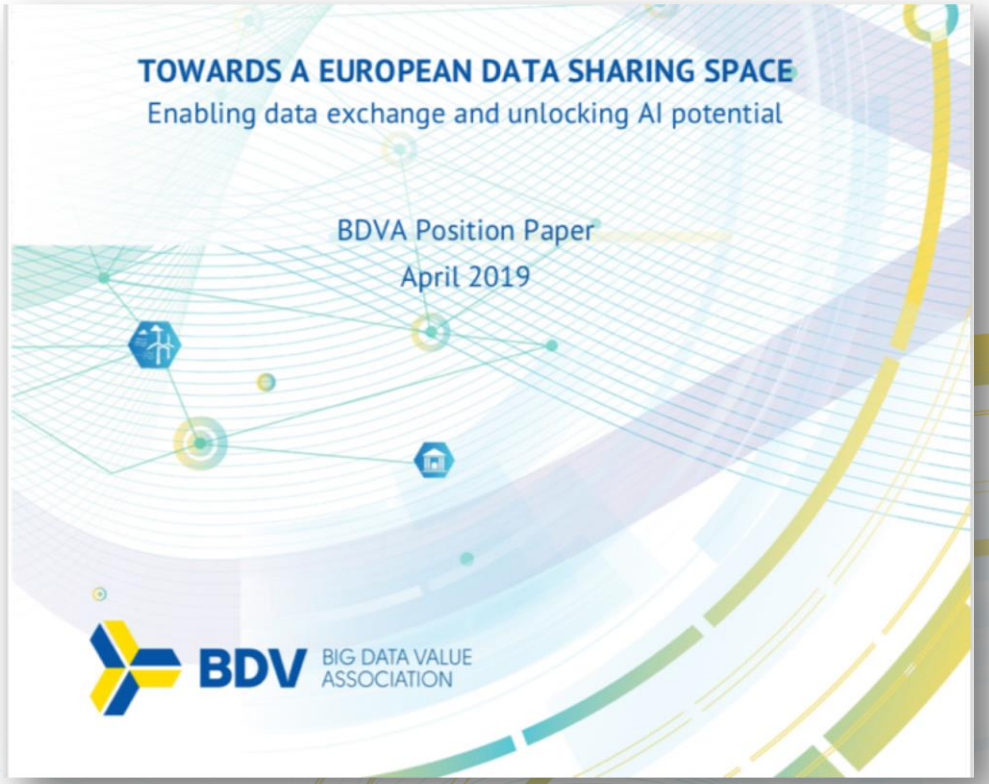
- **Data platform for Aviation**
- **Across full Value Chain**
- **Large-scale**
- **Multi-sector**

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

WatErnomics

BDVA Strategy

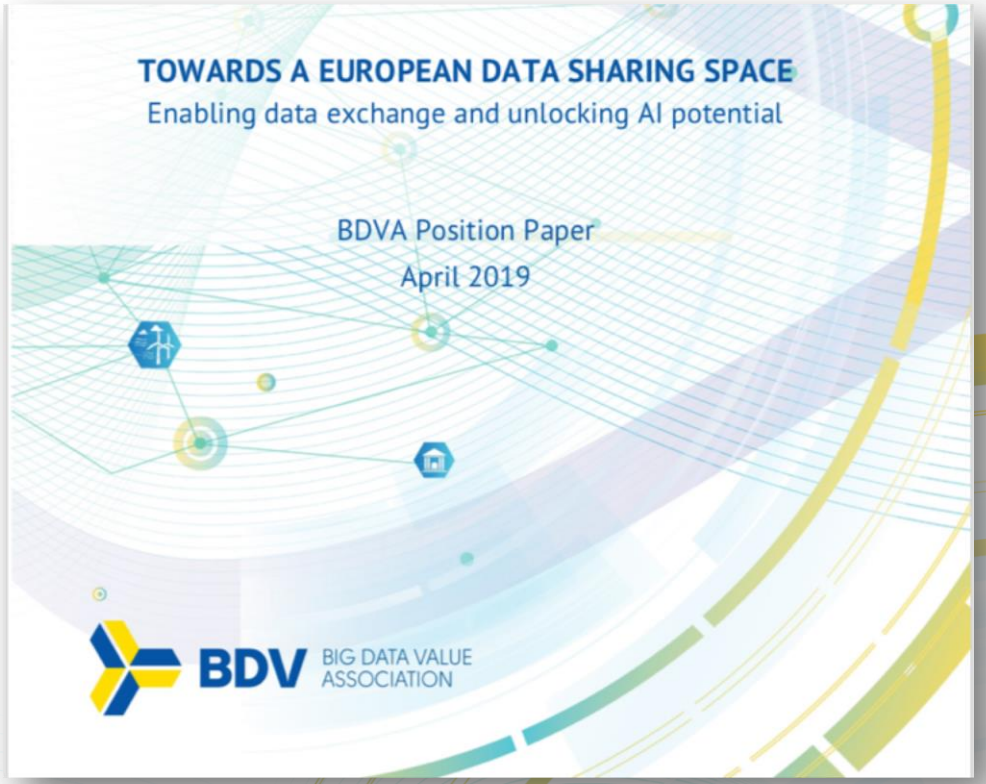
- Support the convergence of different initiatives across industry, research, and governments and across sectors
- Provide guidelines to create conditions for development of a trusted European data sharing framework
- Support EU businesses to safely embrace new technologies, practices and policies



New version expected end of 2019
EBDVF2019
AI-PPP SRIDA

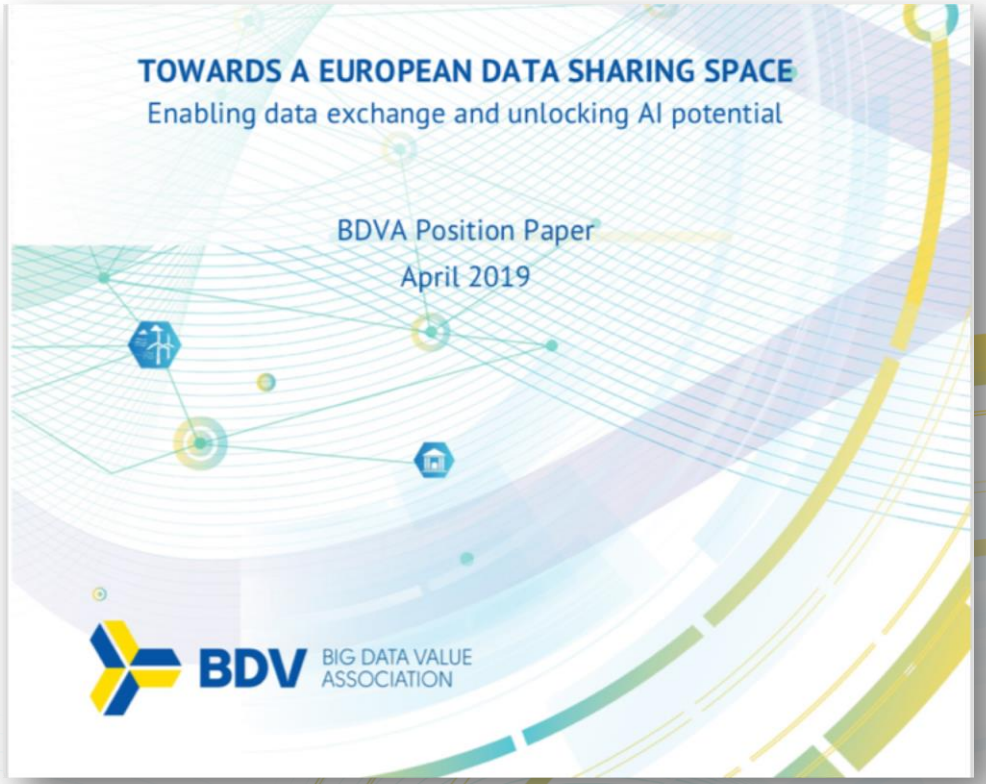
Main opportunities

- **General**: Increased availability of vast and heterogeneous data ecosystems for AI
- **Business**: Open data marketplaces that level the playing field for industrial data sharing
- **Science**: Monetisation opportunities brought about by emerging data-driven business models
- **Government**: Better government services through realtime European statistics and evidence-based policy making
- **Citizens**: Access to personalised and cross-sectoral B2C services and increased opportunities of personal data monetisation



Main Challenges

- Data life-cycle management not designed around sharing
- Lack of data sharing trust, motivation & data valuation standards
- Legal compliance impact on free-flowing data
- Maturity of privacy preserving technology
- Global Competition
- Necessary technology-business investments (rather than assets..):
  - By Member States/EU Policy Makers: Invest in common data sharing/data market infrastructures, promote EU-wide innovation policies, sustain Interoperability & Standards initiatives
  - By Data Producers/Industry: Major investment in data preparation (cleaning/anonimisation/..) for those data assets whose sharing/monetisation is profitable (after data valuation study)



Data Standards and interoperability

- **Maturity of projects**: Coordination activities popping-up from BDV PPP projects …..
- **Diversity**: No use to make a top-down-one-size-fits-all solution for IoT or Big Data and ethical or business constraints. Enable industry to interoperate in diversity
- Need to integrate semantics and metadata into the data ecosystem. Metadata interoperability
- Easy, flexible contracts and data-sharing
- Data Governance
- Global standards: e.g ISO/IEC JTC 1 SC 42 to establish a framework for exchanges

Q2: Which EU values should be considered in terms of Personal and non-Personal Data Sharing Spaces in the B2B and B2C context? How to balance protection and sharing?

Balance protection and sharing

- **EU Values**: respect for human dignity, freedom, democracy, equality, the rule of law and respect for human rights, including the rights of persons belonging to minorities.
  - Human Dignity: *"The **fundamental rights to privacy and to the protection of personal data** have become **more important for the protection of human dignity than ever** before"* [European Data Protection Supervisor Opinion 4/2015 (Data, Dignity and Technology)]à data protection principles (necessity, proportionality, fairness, data minimisation, purpose limitation, consent and transparency) need to apply to data processing in its entirety, to collection as well as to use
  - Freedom – sharing of data may have impact on individual's freedom if it's used for surveillance
  - Democracy – data sharing may have tremendous impact on democracy.
  - Equality: direct breach of personal data / sharing of bad quality data sets
  - Human rights: right to freedom of expression, the right to fair labour practices (especially for the growing number of people involved in the so called digital labour and gig economy)

Balance protection and sharing (2)

- Privacy and Data Protection
- Balancing is certainly a complicated question.
- Data sharing can’t be left unregulated but at the same time it can’t be allowed the regulation to be so strict as to hinder innovation associated with the free flow of data.
- Adaptive regulation
- Self-regulation
- Regulatory sandboxes, pilots, testing, and innovation hubs

Q3: Which industries and sectors are most mature to adopt new business models based on Data Monetisation in B2B/B2C marketplaces? Could you mention some business cases from your experience?

Some examples (TT and DataBio)

- **Transport & Logistics**: **adapting business models** based more than **creating new business models**
  - **Airports:** non-aeronautical revenues / data-driven business models retailing
  - **Railway:** Predicting maintenance
- **Bio-Economy**:
  - Companies like Spacebel (www.spacebel.be) offer added-value commercial services like search/cataloguing over Copernicus data, i.e. over data publicly available.
  - Companies like Wuudis (www.wuudis.com) operate a commercial platform that collects data (in forestry) and offers them along with added-value services.
  - VITO offers Copernicus data to the users along with a number of add-on services. As a research organization VITO attracts this way funding for its activities

Q4: Is the availability of a common EU Data Sharing Space also favouring open participative innovation models, based on user experience assessment and Living Labs?

Balance protection and sharing (2)

- Favouring co-creation, collaboration and participation (fair value-sharing approach)
- Requires a type of digital infrastructure (a neutral place to meet and the offer of supporting services) that will be open and inclusive and provide governance and technical means to collaborate
- i-Spaces, regulatory sand-boxes, living-labs.

BDVA i-Spaces

Cross-organizational and cross-sectorial environments, where research on BDV technologies and novel BDV applications can be quickly tested, piloted and exploited

Technical and non-technical activities, bringing data, technology, application developments together, and fostering skills, competences and best practices

Rely on existing national and European initiatives, federate, complement and leverage activities of similar national incubators / environments and existing PPPs

Needs of large and small companies, to ensure access to economic opportunities offered by BDV, testing the viability of actual business deployments

Incubators and accelerators of data driven innovation


EUROPEAN
BIG DATA
VALUE FORUM
Artificial Intelligence and Big Data
Transforming Business and Society
14 - 16 OCT, 2019
SAVE THE DATE
Helsinki - Finland

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www.bdva.eu

Back-ground slides

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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

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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**