Accelerating data-driven innovation in Europe

Laure Le Bars, SAP
BDVA President

www.bdva.eu
The mission of the BDVA is to develop the Innovation Ecosystem that will enable the data-driven digital transformation in Europe delivering maximum economic and societal benefit, and, achieving and sustaining Europe’s leadership on Big Data Value creation and Artificial Intelligence.
194 Members
- 35 Large companies
- 63 SMEs
- 82 Research institutions
- 14 Others

Present in 28 countries

Industry-driven and fully self-financed international non-for-profit organisation under Belgian law

BDVA members per country (May 2017)
- 15 or more members
- 10 - 14 members
- 5 - 9 members
- 1 - 4 members
**Big Data Value Vision for 2020**

**Data:**
40 zettabytes of useful public & private data openly available.

**Technology:**
Real-time, integrated and interoperable datasets across sectors, borders and languages.

**Societal:**
People is aware of the benefits of Big Data in their real life and the positive impact in health, environment, and education among others.

**Skills:**
European Workforce has Data as an asset, integrated into technical and business degrees, and providing 100,000 jobs across Europe.

**Legal:**
A trusted data ecosystem in which Privacy & Security are guaranteed along the Value Chain.

**Business:**
A true EU single Data Market supporting EU companies to become world leaders.

**Application:**
Thousands of specific applications will use, exploit, monetize and benefit from Big Data.
Current TF-SG structure (TF1 – TF4)
Scope Big Data Value

European Data-Driven Economy

BDVA / BDV PPP
(Industrial implementations – Cross-cutting enabling)

Industrial Data
Personal Data
Open Data
Others
(Machine generated Data and emerging topics)
Research Data

BDVA / BDV PPP (enabling technologies) – Cross-cutting enabling – RESEARCH needed

EOSC
HPC
IoT
5G
CyberS
Big Data Value Reference Model

- Structured Data/ Business Intelligence
- Time series, IoT
- Geo Spatial Temporal
- Media Image Audio
- Text, Language, Genomics
- Web Graph Meta

**Data Visualisation and User Interaction**

**Data Analytics**

**Data Processing Architectures**

**Data Protection**

**Data Management**

- Cloud and High Performance Computing (HPC)
- Things/Assets, Sensors and Actuators (Edge, IoT, CPS)

**Development - Engineering and DevOps**

**Data sharing platforms, Industrial/Personal**

**Communication and Connectivity, incl. 5G**

**Cyber Security and Trust**
BDV PPP Implementation projects (H2020-ICT-2016-2017): 33 projects

15 data experimentation / data incubators: Cross sectorial, cross-lingual data integration and experimentation

4 Large scale pilots (Light house projects) in 4 major application domains (vertical data platforms):
- Bio Economy
- Transport, mobility and logistics
- Healthcare
- Smart Manufacturing

12 Technical projects covering different data technical challenges including 3 focused on privacy preserving technologies

2 CSAs (skills, entrepreneurship, privacy, ethical issues, comms, ecosystem, coordination, etc)
BDV i-Spaces (1)

- i-Spaces are Trusted Data Incubators targeted to accelerate take up of data driven innovation in commercial sectors as well as in nonprofit sectors.
- These platforms host Closed as well as Open Data from Business and Public sources.
- The basis of i-Spaces are an existing infrastructure & expertise.
- They are pre-competitive and nonprofit, though proposing a sustainable business model.
- Act as a nucleus in the concept of DIH
### BDV i-Spaces (2)

<table>
<thead>
<tr>
<th>Country</th>
<th>Initiative Name</th>
<th>BDVA label</th>
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<tbody>
<tr>
<td>ES</td>
<td>Big Data Centre of Excellence Barcelona</td>
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<tr>
<td>IT</td>
<td>Cineca</td>
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<tr>
<td>AUT</td>
<td>Know-Center</td>
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<td>SE</td>
<td>RISE SICS North ICE</td>
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<tr>
<td>DE</td>
<td>Smart Data Innovation Lab</td>
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<td>FR</td>
<td>Teralab</td>
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<td>NL</td>
<td>EGI Foundation</td>
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<tr>
<td>ES</td>
<td>ITI Big Data Space</td>
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1. The Industry Vision
European Industrial leadership in Data and AI platforms and technologies

Digital platforms dominate value creation across all sectors and they are at the heart of the digital economy. Business dynamics are changing, **Usage of data will define global competitiveness.**

An **strong data economy is emerging in Europe** with large companies and SMEs clearly seeing the fundamental potential of Big Data Value and AI for causing disruptive change in markets and business models.

To **secure industrial prosperity in the future Europe must be able to develop and operate its own Data / AI platforms and to promote them globally.**

To **stay competitive Europe needs industrial leadership in some of the fields of technology** that are key for the development and operations of Data / AI platforms

**Public interventions are needed** in the form of **horizontal cross-sectorial actions in data value and AI technologies** to ensure European leadership in the Digital Transformation of society that **address economic challenges for sectors and key societal challenges (Migration, Water, energy, climate, food, etc.) preserving European fundamental values.**

Funding **focus** should be directed to those **technological fields of strategic importance** and where Europe already has competences and capacities.
## 2. Future Challenges of the European Data Economy and Society

<table>
<thead>
<tr>
<th>Secure industrial prosperity</th>
<th>Next Generation Data and AI Platforms</th>
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<tbody>
<tr>
<td>Industrial leadership in Big Data and AI platforms and technologies</td>
<td>Trust in Data-Driven Critical Decision Making</td>
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<tr>
<td>Secure autonomy in AI technology</td>
<td>Extract Value from Next Generation Digital Infrastructure (5G, HPC, Cloud, IoT, BD, AI,..)</td>
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<td>Seamless interconnected Data ecosystems (open, private, research, personal, ..)</td>
<td>Scaling Industrial Cooperation Models in the Data Economy</td>
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<td>Trusted co-evolution between humans and AI-based systems</td>
<td>Digital/Data Skills and Know-how</td>
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<td>Legal issues with data decisions</td>
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<tr>
<td>Trust in algorithms and data</td>
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<td>Scalable value chains involving key enabling technologies</td>
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<td>Extracting value from the fusion of technologies</td>
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<td>New data-driven business models across value chains</td>
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<td>Lack of data interoperability. Data sharing and exchange</td>
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<td>Data-driven industrial cooperation across value chains</td>
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<td>Specialisation required (sophistication of the leading-edge tools and algorithms)</td>
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<td>Data will become a significant part of most jobs (Managers, workers and decision makers)</td>
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<td>Retaining talent: driving new forms of academic and industrial research and educational partnerships</td>
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Vision paper BDVA: Main pillars

Citizen-Centric Data Society
Key societal challenges

- Trust in Critical Decision Making
- AI Platforms
- Data platforms

- Personal data
- Public data
- Private data

- Digital skills and Know How
- Industrial collaborations models
- Business and legal frameworks

Next Generation Digital Infrastructure
BD/AIOTI/HPC/5G/CyberSecurity

Core BDV cPPP
Core BDV cPPP in collaboration
4. From Challenges to R&I visions for the future (activities)

VISION Papers → WORKSHOPS

- **Data-Driven AI** (technical and non-technical challenges):
  - March 2018 (BDVA, euRobotics, AIOTI)
  - June 2018 (IoT week, challenges from verticals)
  - July 2018 (ijcai-18, BDVA, euRobotics)
  - June, September, October 2018 (BDVA workshops)
  - November 2018 (EBDVF 2018: Data-driven AI for the Future)

- **Data for AI**: workshop 19th September 2018 + EBDVF 2018 (Nov. 2018) (Towards a European Data Space)

- **Scaling data platforms for re-use of industrial, personal and open data** (workshop planned for Sep 12th 2018, EBDVF 2018)

- **Future Scenario workshops driven by verticals** (e.g. AI in Healthcare planned for Q3 2018)

- **DIH in Big Data and AI** (workshop planned for October 2018)

- **Technical challenges and data applications for global challenges** (Data management, Data processing architectures, interoperability, privacy-preserving technologies, Extreme-performance data analytics) → Driven by Verticals and technology integration

- …..
4. From Challenges to R&I visions for the future (2) (activities)

VISION Papers, Workshops, Collaborations

• **Future Scenario workshops driven by verticals** (e.g. AI in Healthcare planned for Q3 2018) **in collaboration with other PPPs**

• **HPC (ETP4HPC) - Big Data (BDVA) common workshops:**
  - Ongoing activity (driven by industry-driven scenarios)
  - Common paper (draft in July 2018)

• **Collaborations**

• **EBDVF 2018**
EUROPEAN BIG DATA VALUE FORUM
2018 NOV 12-14. Vienna, Austria
Further Information:

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@BDVA_PPP #Bigdatavalue #Bigdata