Accelerating data-driven innovation in Europe

@BDVA_PPP

BDV BIG DATA VALUE ASSOCIATION

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Secretary General BDVA
http://www.bdva.eu/

RDA Data Innovation Forum
January 30th, 2018

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

194 Members
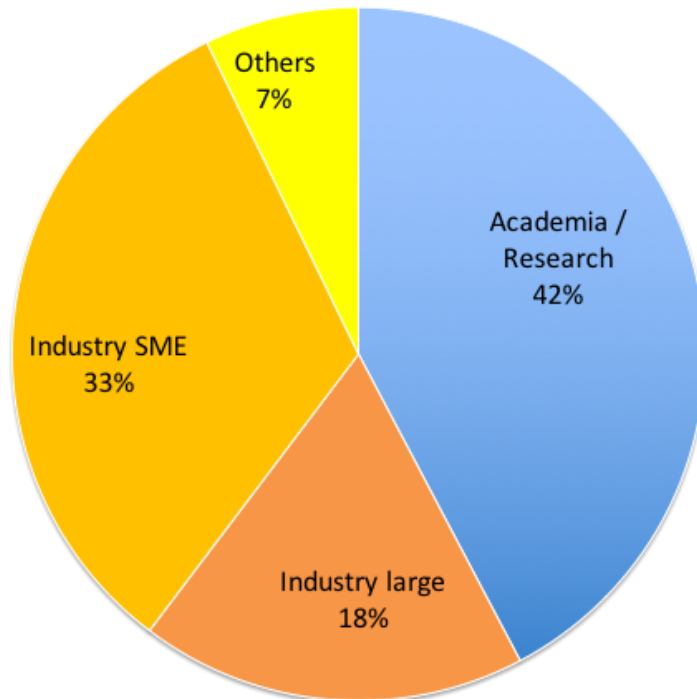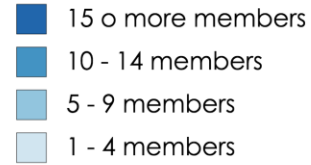 35 Large companies
  63 SMEs
  82 Research institutions
  14 Others

88 Full members
106 Associate members

Present in 28 countries

BDVA members per country (May 2017)

- 15 o more members
- 10 - 14 members
- 5 - 9 members
- 1 - 4 members

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Others
7%

Academia / Research
42%

Industry SME
33%

Industry large
18%

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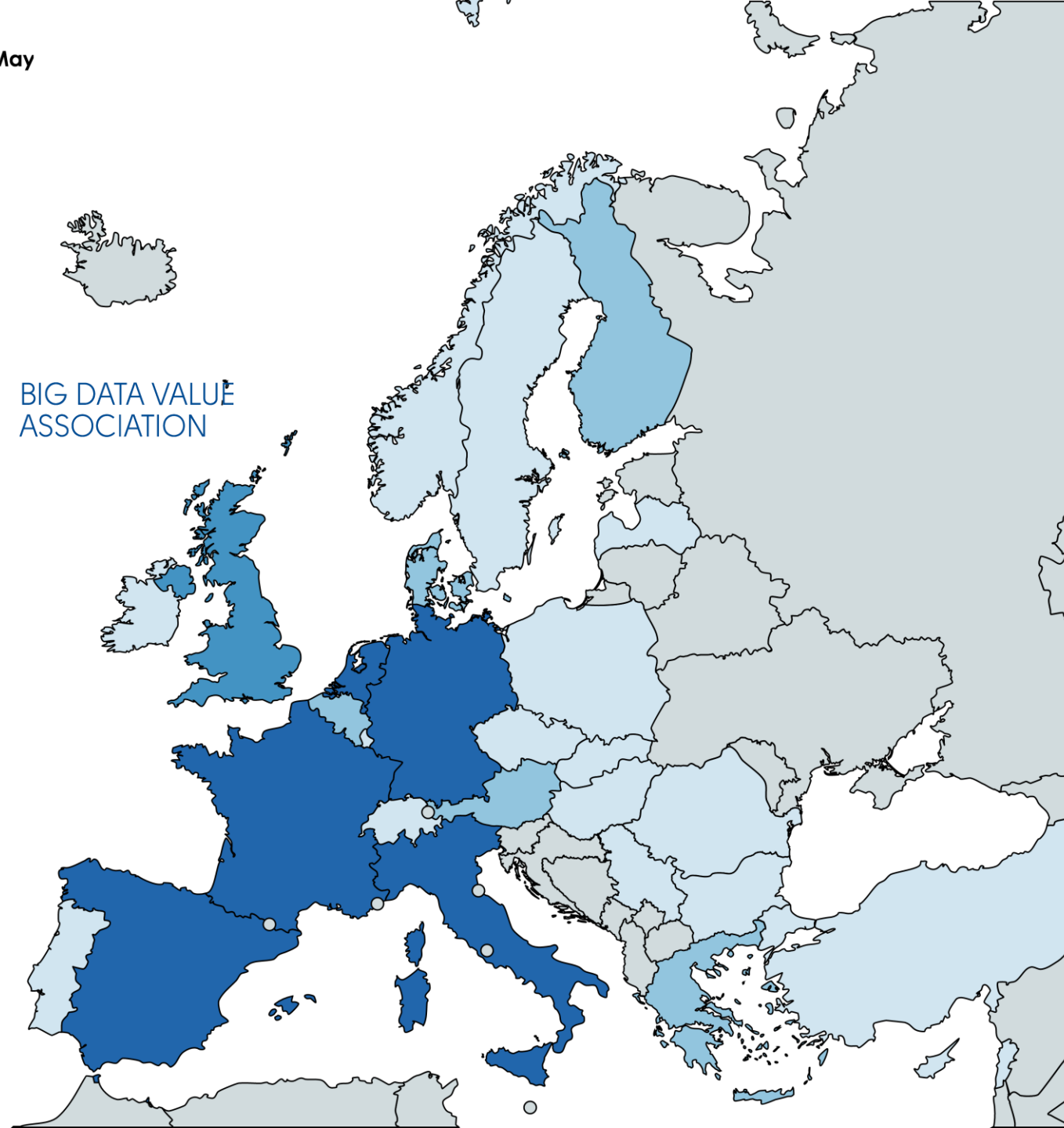
The EU and Industry launched the Contractural Public Private Partnership (cPPP) on Big Data Value in 2014-10

Big Data Value PPP: Investment

- "The European Commission and Europe's data industry have committed to invest €2.5 billion in a public-private partnership (PPP) that aims to strengthen the data sector and put Europe at the forefront of the global data race."
- "The EU has earmarked over €500 million of investment over 5 years (2016-2020) from Horizon 2020"
- Private partners are expected to leverage this through sector investments of four times the cPPP budget (ie €2 billion)

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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.

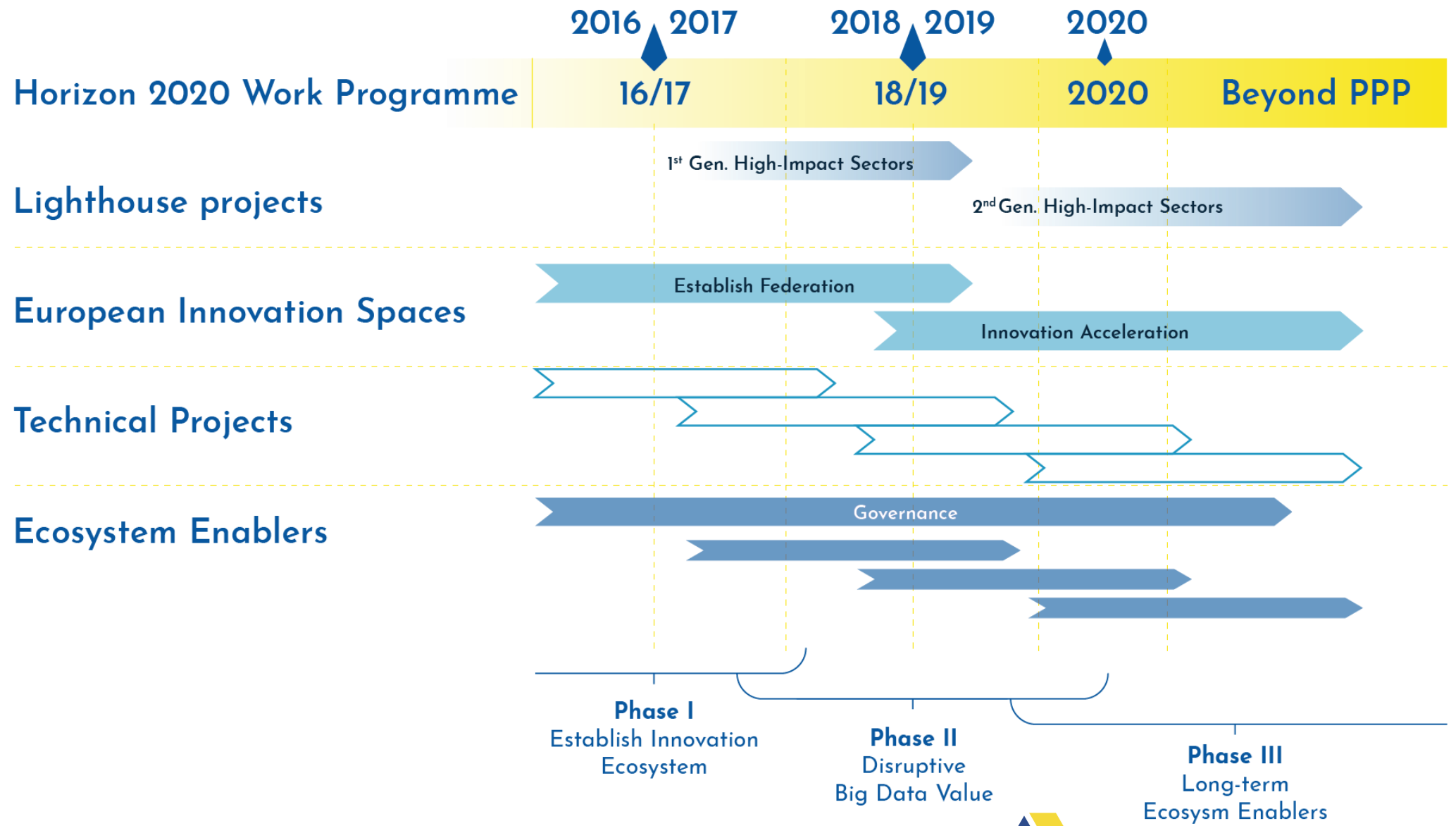## BDV SRIA

European Big Data Value Strategic Research and Innovation Agenda

Version 4.0 October 2017

Accelerating Data-Driven Innovation in Europe
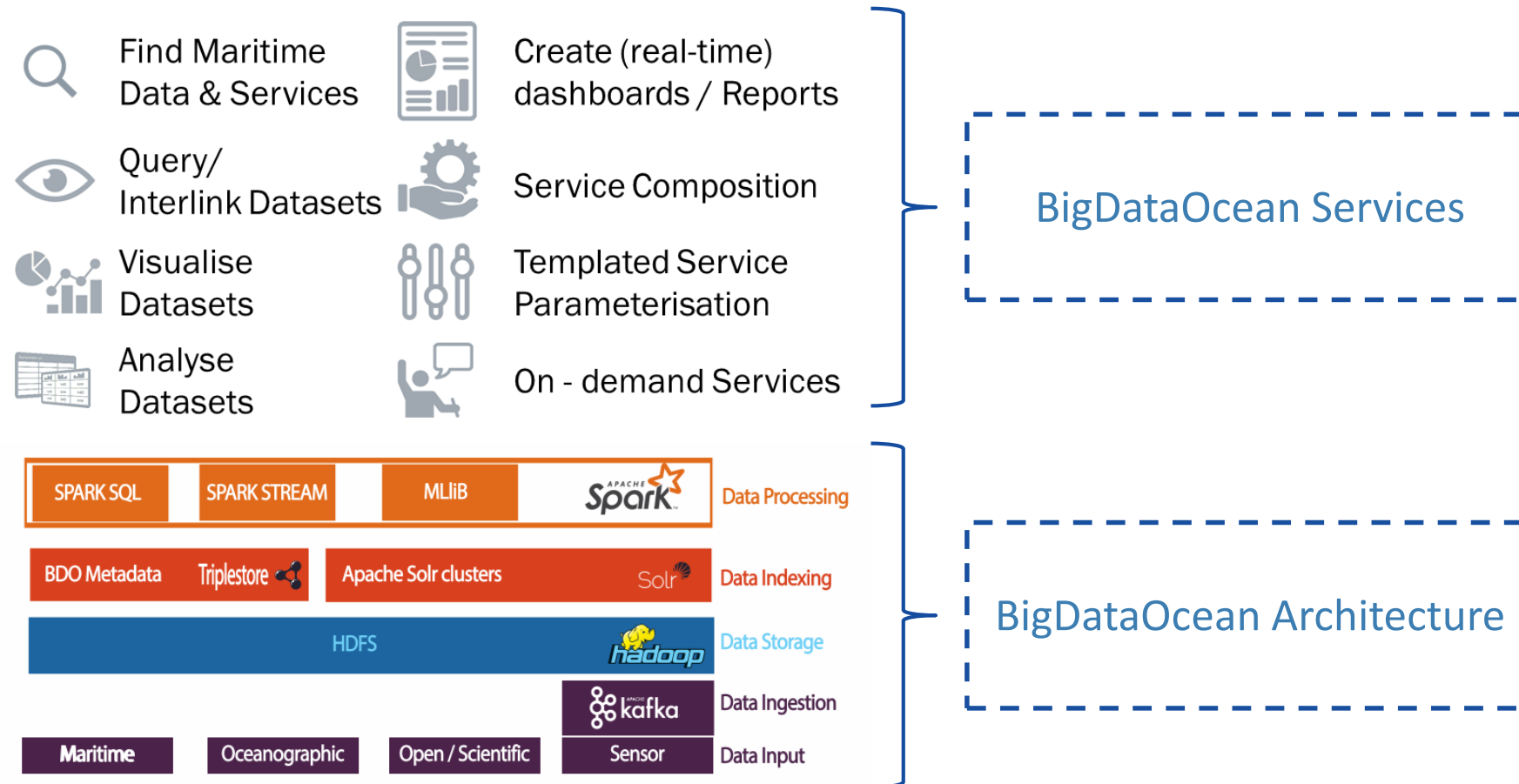
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BDV PPP Roadmap

BDV PPP Implementation projects (H2020-ICT-2016)

	eCommerce	Retail	Marketing	Transport	Environment	Fashion	Health	Bioeconomy	
BDVe (Big Data Value eCosystem)	K-Plex								Responsible ICT-related R&I
							MH-HD		Privacy-preserve Big Data technologies
	Special								
	E-Sides								
	SODA								
				TT				DataBio	Lighthouse projects
	Data EW-Shopp			QROWD		Fashion Brain			Cross-sectorial, cross-lingual data integration and experimentation
				Big Data Ocean					
	SLIPO								
	euBusinessGraph								
	AEGIS								
	Data Pitch								

BigDataOcean at a glance

Objective: Develop a Maritime Big Data Solution that delivers out-of-the-box, value-added analytic services for maritime applications by exploiting cross-sector data streams.

- Find Maritime Data & Services
- Query/Interlink Datasets
- Visualise Datasets
- Analyse Datasets
- Create (real-time) dashboards / Reports
- Service Composition
- Templated Service Parameterisation
- On - demand Services

BigDataOcean Services

SPARK SQL	SPARK STREAM	MLliB	Spark	Data Processing
BDO Metadata	Triplestore	Apache Solr clusters	Solr	Data Indexing
HDFS			hadoop	Data Storage
			kafka	Data Ingestion
Maritime	Oceanographic	Open / Scientific	Sensor	Data Input

BigDataOcean Architecture

BDV PPP Implementation projects (H2020-ICT-2016-2017) (33 projects)

BDV PPP implementation website: www.big-data-value.eu

Data Incubators /
Data Platforms
(IA)

Topic:
ICT-14-WP2016-2017

N=15

Lighthouse Projects /
Large scale pilots / test-beds
(IA)

Topic:
ICT-15-2016-2017

N=4

Technical Projects
(RIA)

Topic:
ICT-18-2016
ICT-16-2017

N=12

Collab. & Support Actions (CSA)
Topic: **ICT-17-2016-2017**

N=2

Statement 1: Experimentation and testing.
"The BDV PPP as an experimentation ground for new data policies"

- *Experimentation and testing is an essential activity to explore the implications of technological innovations in real-world settings in order to unearth unexpected consequences, unobserved aspects, and creative shortcuts.*

- *This counts for data value chains within one domain, but is especially important for cross-domain data value chains.*

- *BDVA strongly believes that projects under the PPP are instrumental to test whether markets may be developing favourably and/or regulatory interventions are necessary.*

- *BDVA encourages the provision of guidance to the community and will continue to work on assembling and documenting best practices in data sharing among the members; one step that we will take is a members' survey in which we take stock of existing approaches.*
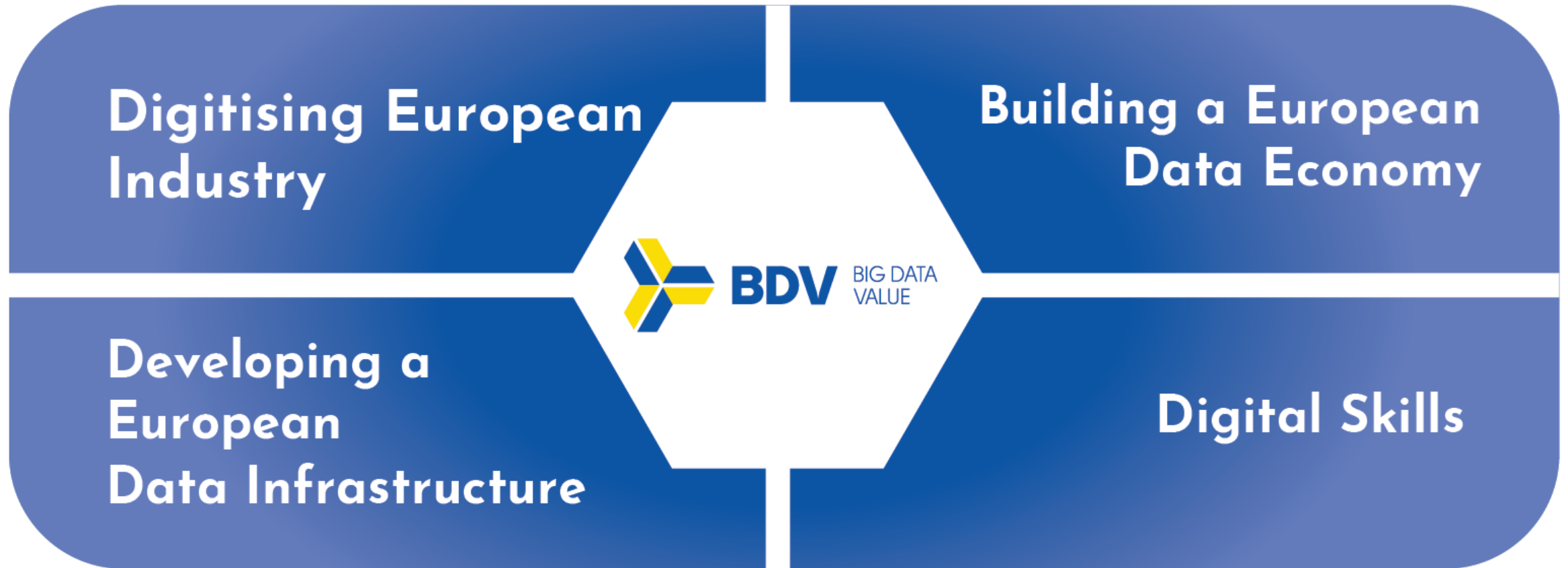
* Test from BDVA Position to "Building European Data Economy Consultation"

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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.

Develop Ecosystem

Developing and Strengthening the European Big Data Value Ecosystem

Data Innovation Recommendations

Providing guidelines and recommendations on data innovation to the industry, market and policy markers

Guiding Standards

Driving Big Data standardisation and interoperability priorities/ Influencing Standardisation

Know-How and Skills

Improve the adoption of Big data trough the exchange ofknowledge, skills and best practices

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Contributing to the Digital Single Market Strategy Implementation

BDVA is taking care…of many different aspects of the big data

TF5: Policy & Societal

Policy & Societal

TF6: Technical

- TF6-SG1: Data Management
- TF6-SG2: Data Processing Architectures
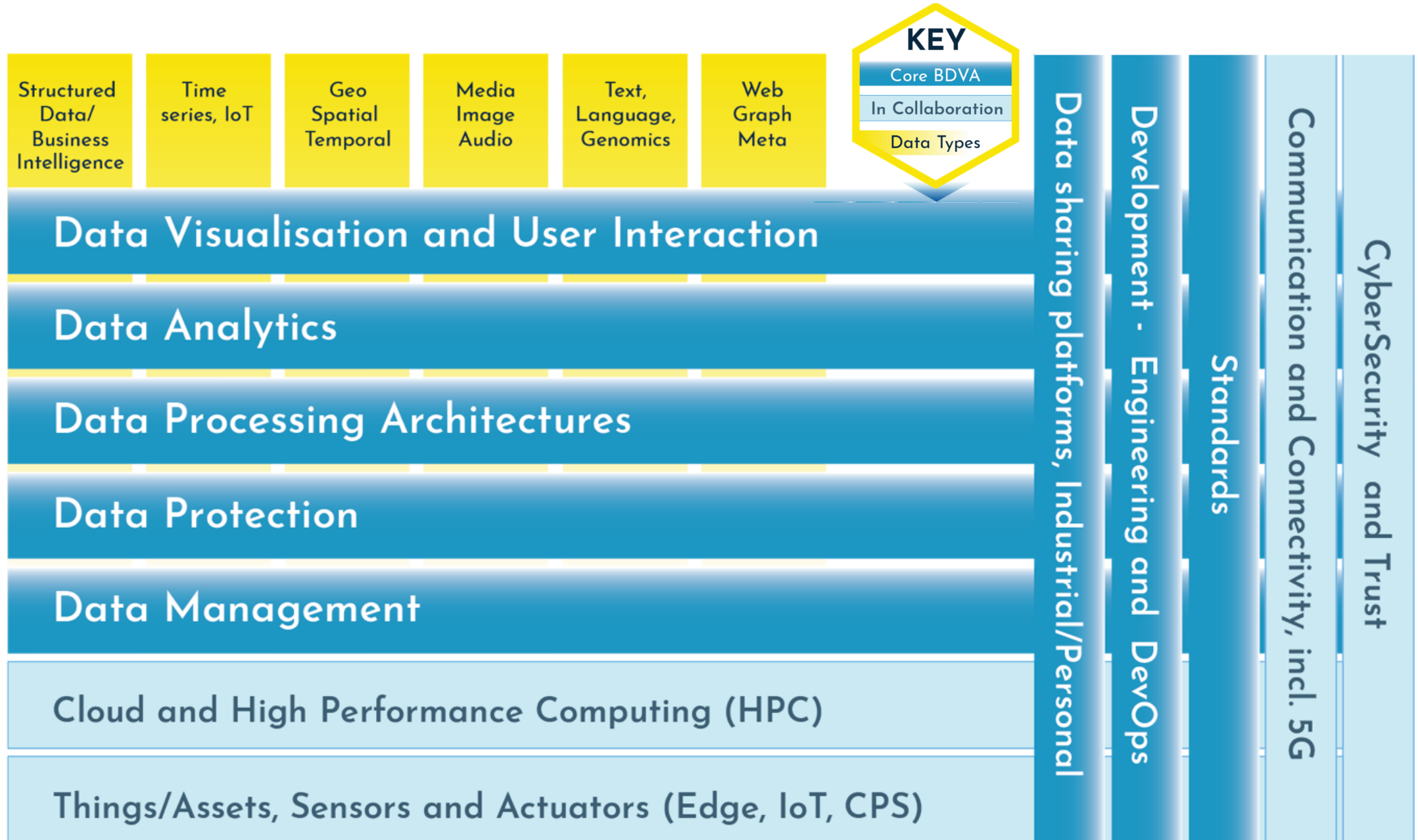- TF6-SG3: Data Analytics
- TF6-SG4: Data Protection and Pseudonymisation Mechanisms
- TF6-SG5: Advanced Visualisation and User Experience
- TF6-SG6: Standardisation

TF7: Application

- TF7-SG1: Emerging Application Areas
- TF7-SG2: Telecom
- TF7-SG3: Healthcare
- TF7-SG4: Media
- TF7-SG5: Earth observation & geospatial
- TF7-SG6: Smart Manufacturing Industry
- TF7-SG7: Mobility and Logistics
- TF7-SG8: Smart Cities

TF8: Business

- TF8-SG1: Data entrepreneurs (SMEs and startups)
- TF8-SG2: Transforming traditional business (Large Enterprise)
- TF8-SG3: Observatory on Data Business Models

TF9: Skills and Education

- TF9.SG1: Skill requirements from European industries
- TF9SG2: Analysis of current curricula related to data science
- TF9.SG3: Liaison with existing educational projects

TF1: Programme

TF2: Impact

TF3: Community

HPC – Big Data

IoT– Big Data

Cyber Security – Big Data

TF4: Communication

Big Data Reference Model

KEY
- Core BDVA
- In Collaboration
- Data Types

Data Types (top row):
- Structured Data/ Business Intelligence
- Time series, IoT
- Geo Spatial Temporal
- Media Image Audio
- Text, Language, Genomics
- Web Graph Meta

Core BDVA layers:
- Data Visualisation and User Interaction
- Data Analytics
- Data Processing Architectures
- Data Protection
- Data Management

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

Vertical columns (right):
- Data sharing platforms, Industrial/Personal
- Development - Engineering and DevOps
- Standards
- Communication and Connectivity, incl. 5G
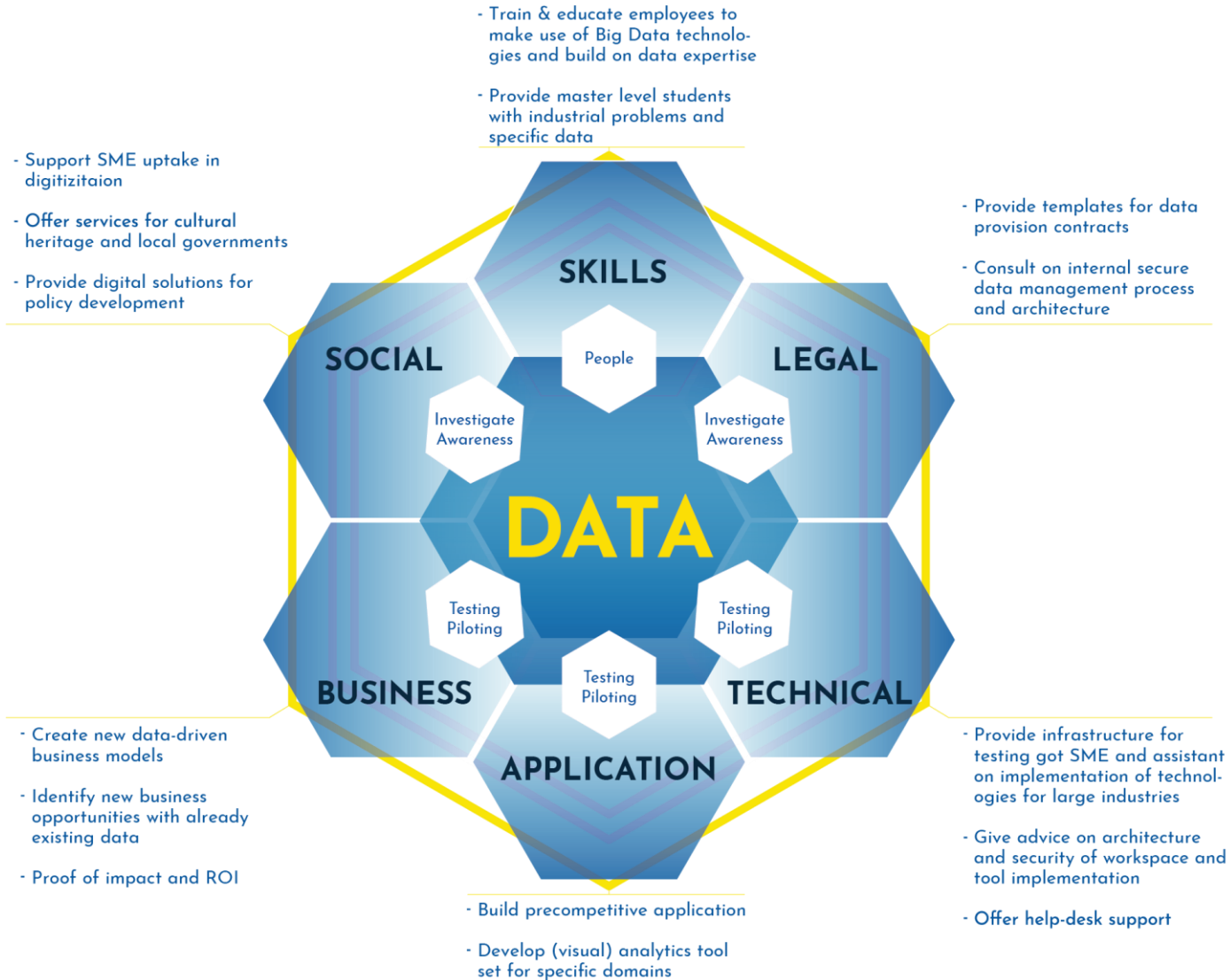- CyberSecurity and Trust

Statement 2: interoperable data-driven ecosystem
"Creation of European Workforce in Data Standardisation and interoperability"

› *Development of an interoperable data-driven ecosystem as a source for new businesses and innovations using (Big) Data is the basis of data value creation in Europe. This applies both to the technology and to the data.*

› *Standards are key elements of the technical knowledge landscape for enterprise. Data standards and interoperability are pivotal to boosting export activity, job creation and in galvanising innovation to contribute to economic growth, facilitating improved business performance, promoting innovation and driving competitiveness and exports into new markets.*

› *BDVA recommended in its position to the Communication "Building a European Data Economy":*

   › *Minimising barriers between industries and sectors by prioritising a reference architecture or reference model.*

   › *Supporting investing and progressing in the interoperability and standardisation agenda* **Harmonisation of standardisation research and development pursuing coordination between different National initiatives to create a European workforce in data standardisation and interoperability.**

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BDVA Innovation Spaces (i-Spaces)

- Train & educate employees to make use of Big Data technologies and build on data expertise
- Provide master level students with industrial problems and specific data

- Support SME uptake in digitizitaion
- Offer services for cultural heritage and local governments
- Provide digital solutions for policy development

- Provide templates for data provision contracts
- Consult on internal secure data management process and architecture

SKILLS

SOCIAL

LEGAL

People

Investigate Awareness

Investigate Awareness

DATA

Testing Piloting

Testing Piloting

BUSINESS

Testing Piloting

TECHNICAL

APPLICATION

- Create new data-driven business models
- Identify new business opportunities with already existing data
- Proof of impact and ROI

- Provide infrastructure for testing got SME and assistant on implementation of technologies for large industries
- Give advice on architecture and security of workspace and tool implementation
- Offer help-desk support

- Build precompetitive application
- Develop (visual) analytics tool set for specific domains

BDVA labelled i-Spaces

Country	Initiative Name	BDVA label
ES	Big Data Centre of Excellence Barcelona	SILVER
IT	Cineca	SILVER
AUT	Know-Center	SILVER
SE	RISE SICS North ICE	SILVER
DE	Smart Data Innovation Lab	SILVER
FR	Teralab	SILVER
NL	EGI Foundation	BRONZE
ES	ITI Big Data Space	BRONZE

# Statement 3: European Data Innovation Spaces (i-Spaces) / Data Innovation Hubs "Stimulation of trusted, secure, neutral and sovereign pre-competitive Big Data-Experimenting-Hubs (i-Spaces) should remain a policy priority"

- *BDVA wants to stress the **importance of awareness, trust, data skills and access to data-experimentation and data-innovation**. Awareness raising, the development of data skills and the creation of trusted areas that allow for experimentation are three environmental factors that provide a powerful stimulus to the community to venture themselves in the digital economy.*

- *BDVA will continue the work on the **development of i-Spaces** and awareness raising in the community on the topics of data access and data transfer*

- *The creation of **data innovation hubs** (that detain the necessary expertise to accelerate data-driven innovation in trusted environments) and of awareness (to engage more actors and overcome their initial reluctance to data sharing) needs additional and continuous support.*

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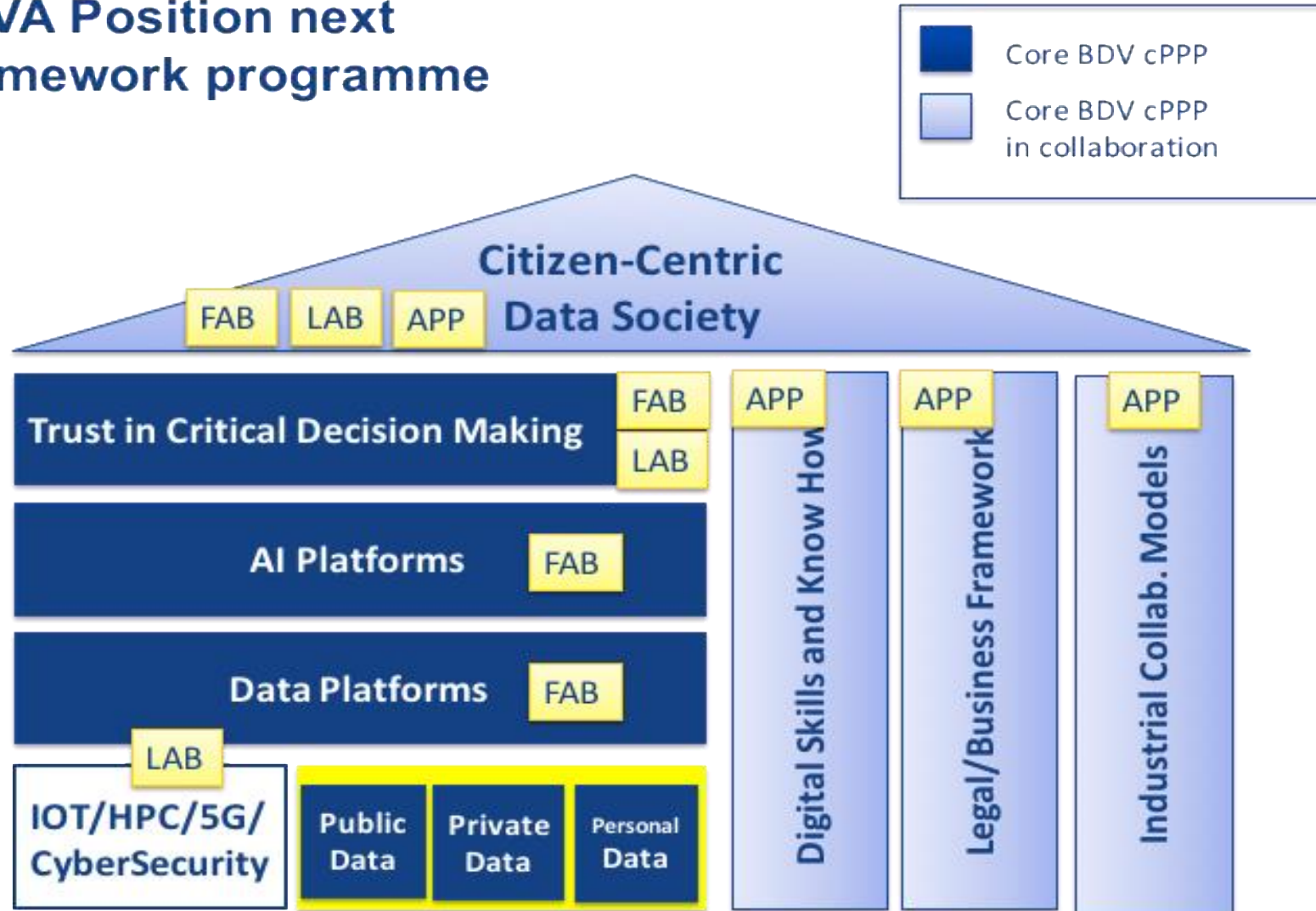
Further Information:

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