



**BDV** BIG DATA  
VALUE

**Nuria de Lama**

Deputy-Secretary General BDVA

Representative of Atos Research & Innovation to the European Commission, Atos

**EL FUTURO A TRAVÉS DE LOS DATOS**

**II Asamblea General PLANETIC**

**Madrid; March 16, 2015**

# EUROPE: BIG DATA CHALLENGES & OPPORTUNITIES

## OBJECTIVES

- Atos: Industrial motivation
- What is Big Data and Big Data Value (BDV)?
- What is the BDV cPPP and BDVA



# ATOS. INDUSTRIAL MOTIVATION



# the world's largest sports IT contract



**Atos**  
Worldwide IT Partner



# Delivering results, 2020 scenario

# 2020

A vision of social networks now and then

London 2012 was the most liked and highest-trending sporting event in history. But this is just the start. By the time of the 2020 Games, social networks will be integral to every aspect of our lives and an enormous generator of sporting data

2012  
4 billion

estimated global audience for London 2012

57%

of the world's population

2020  
5 billion

expected to rise to at least 5bn by 2020, as two thirds of the world's population gain access to mobile broadband

66%

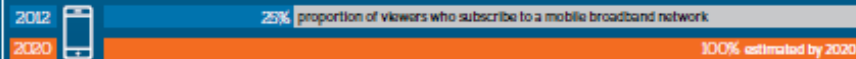
of the world's population

2012  
1 billion

people shared London 2012 content via social networks

2020  
3000%

forecast increase in data traffic by 2020



hub.olympic.org

2012  
1,000

athletes joining the Olympic Athletes Hub at hub.olympic.org

2020  
10,500

all athletes will be on the hub by 2020

2012  
1.7 million likes

of London 2012 on Facebook

2020  
6.8 million likes

estimated for the 2020 Games

2012  
80,000 tweets/second

peak during London 2012 (for the Men's 100m Final)

2020  
660,000 messages/second

via single social interface

2012  
1.3 billion

total active users of Facebook, YouTube and Twitter

2020  
4.3 billion

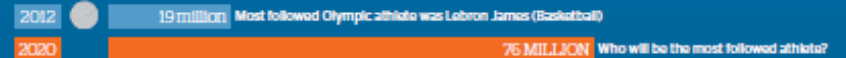
estimated total subscribers to a social interface by 2020

2012  
1.9 million followers

of London 2012 on Twitter

2020  
7.6 million followers

estimate for the 2020 Games



2012  
Official London 2012 pages existed on  
Facebook  
Twitter  
YouTube  
& Flickr

2020  
There will be  
**One Games channel**  
that you will access through your social network



# Schengen for data

## Non technical barriers

- › **A new agreement for EU companies' data**
- › **Access to Data:**
  - › PSI directive, Open Data initiatives, motivations for industrial players to share data
- › **Availability of suitable infrastructure**
- › **Legal and IPR framework**
- › **Data experts: skills and training**
  - More than four million IT jobs worldwide will be needed to address Big Data (source: Gartner); gap between supply and demand
- › **Security, privacy, reputation, cyber security**
  - EU legal framework on the protection of personal data; updates of European digital privacy regulation for example with respect to cloud

High street shops are studying shopper behaviour by tracking their smartphones or movement

Brick-and-mortar retailers are increasingly implementing in-store analytics to better understand customer behaviour.



Can you spot a tracking 'counter' in this image? Image: The Guardian

Why big data has made your privacy a thing of the past

Despite the efforts of European regulators to protect citizens' personal data, predictive analytics has made it too easy to piece together information about individuals regardless of the law



US retailer Target used data analysis to predict the due dates of pregnant shoppers. Photograph: Alamy

# BIG DATA WHAT'S IT ALL ABOUT



## ‘Academic’ View (technical challenge)

# big data

*noun* COMPUTING

extremely large data sets that may be analysed computationally to reveal patterns, trends, and associations, especially relating to human behaviour and interactions.  
"much IT investment is going towards managing and maintaining big data"

[www.powerdata.es/](http://www.powerdata.es/)

**Big data** is an all-encompassing term for any collection of [data sets](#) so large and complex that it becomes difficult to process them using traditional data processing applications.





# Industry View (business opportunities)



Sectors/Domains	Big Data Value
Public administration	EUR 150 billion to EUR 300 billion in new value (Considering EU 23 larger governments)
Healthcare & Social Care	EUR 90 billion considering only the reduction of national healthcare expenditure in the EU
Transport and Logistics	USD 500 billion in value worldwide in the form of time and fuel savings, or 380 megatonnes of CO2 emissions saved
Retail & Trade	60% potential increase in retailers' operating margins possible with Big Data
Geospatial	USD 800 billion in revenue to service providers and value to consumer and business end users
Applications & Services	USD 51 billion worldwide directly associated to Big Data market (Services and applications)

# What's going on?



## › **CaixaBank and Oracle set up a Big Data Centre of Excellence in Barcelona**

- › *“...deployment of infrastructure for a centralized data repository (Data Pool). This unified, fast, flexible, powerful and secure Data Pool is capable of providing simple and rapid responses to any business query, based on the selection of the most appropriate data sets and extracting key business information”*
- › *“focused on establishing a clearer understanding of customer requirements and identifying potential service improvements”*

## › **Big Data projects for Sainsbury's farmers and growers**

- › *From hen welfare to apple packaging, the 'Big Data' projects are set to provide insights and information that will help to develop successful products, services and innovative farming practices*

## › **BBVA (Big Data Challenges)**

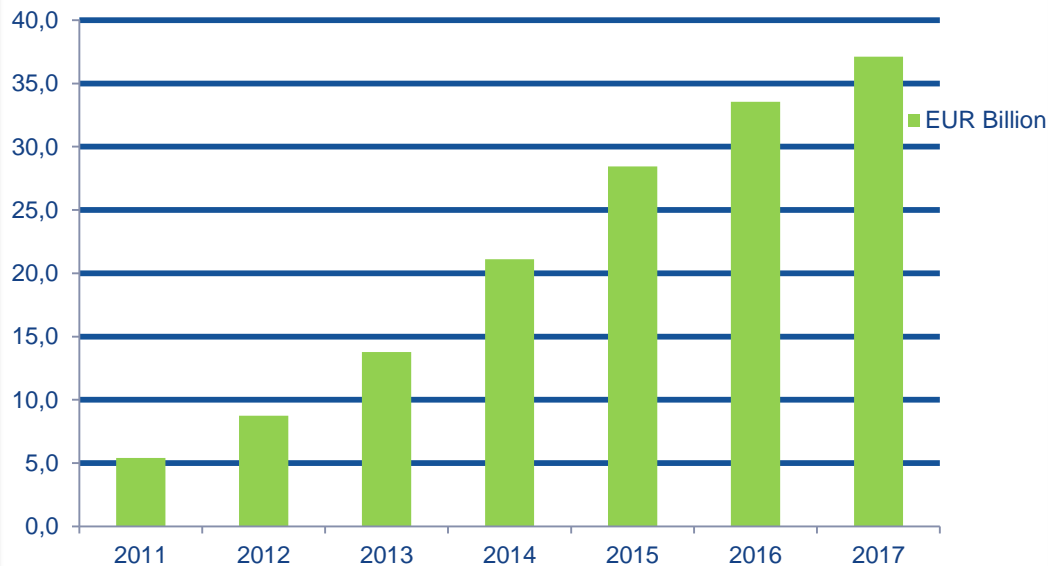
- › *For the first time a banking institution has opened an API with data from real commercial activity.*
- › *There is a new source of value in data for companies, entrepreneurs, the public sector and the general public*

## › **NOKIA wants to be the key enabler of the high capacity telecom networks** and software that the world's handsets connect to the Internet. It also wants to enable cars to connect to the Internet, and human operators to control robots working at maintenance sites – in almost real time, or with as little latency as possible.

- › *Predictive” marketing solutions will help network operators create more targeted advertising. The program logs and learns a customer's contextual data – shopping behavior and device usage for example – to predict what products and services customers might be interested in*

# Forecasts

## World Wide Big Data Market Forecast



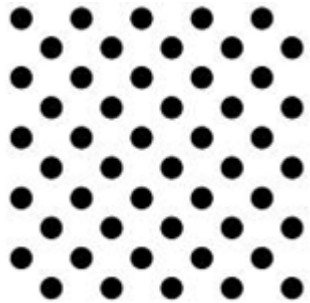
**Big Data is becoming a key economic asset:**

**“Big Data is the new oil”**

**(EU – N. Kroes)**

# When is Data 'Big'?

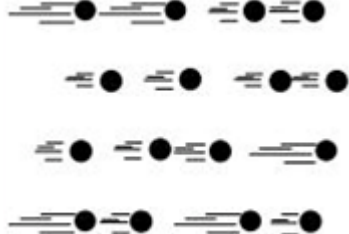
## Volume



### Data at Rest

Terabytes to exabytes of existing data to process

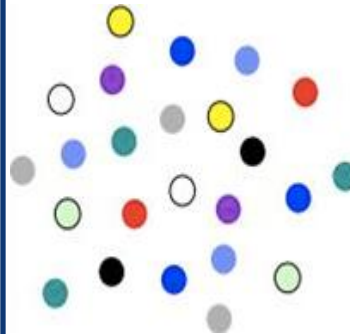
## Velocity



### Data in Motion

Streaming data, requiring mseconds to respond

## Variety



### Data in Many Forms

Structured, unstructured, text, multimedia,...

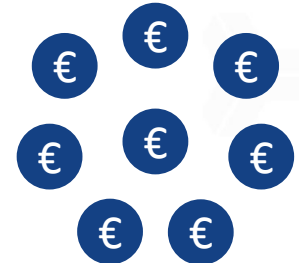
## Veracity



### Data in Doubt

Uncertainty due to data inconsistency & incompleteness, ambiguities, latency, deception

## Value



### Data into Money

Business models can be associated to the data

Adapted by a post of Michael Walker on 28 November 2012

# “Value”

- › Creating transparency
- › Discovering needs, expose variability, improve performance
- › Segmenting customers
- › Replacing/supporting human decision making with automated algorithms
- › Innovating new business models, products services

*McKinsey Global Institute*

- › + Combining data together – Corporate data, Social Data, Sensor Data
- › + Privacy, Consumer Protection, Skills
- › + Engaging with others to develop together

*BDVA*

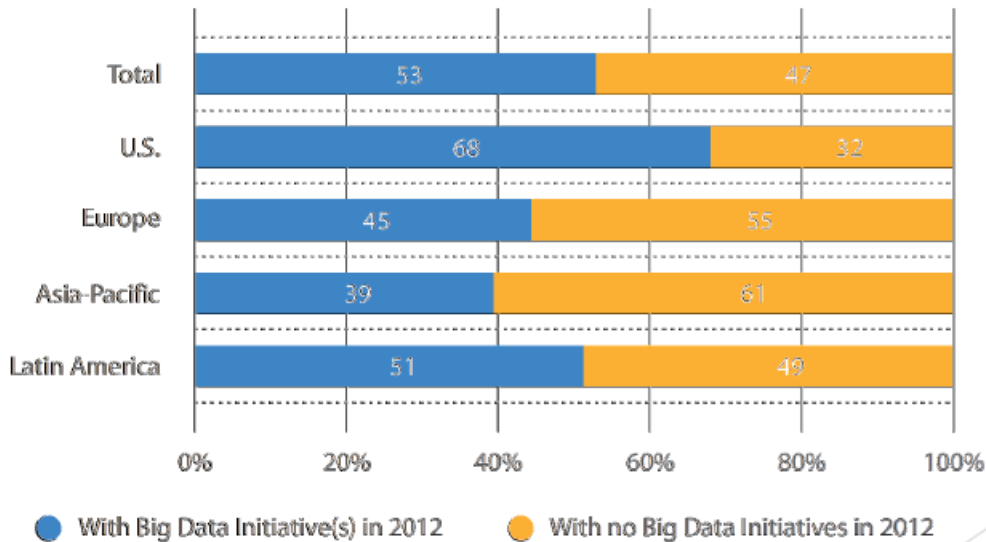


# BIG DATA VALUE CPPP & BDVA



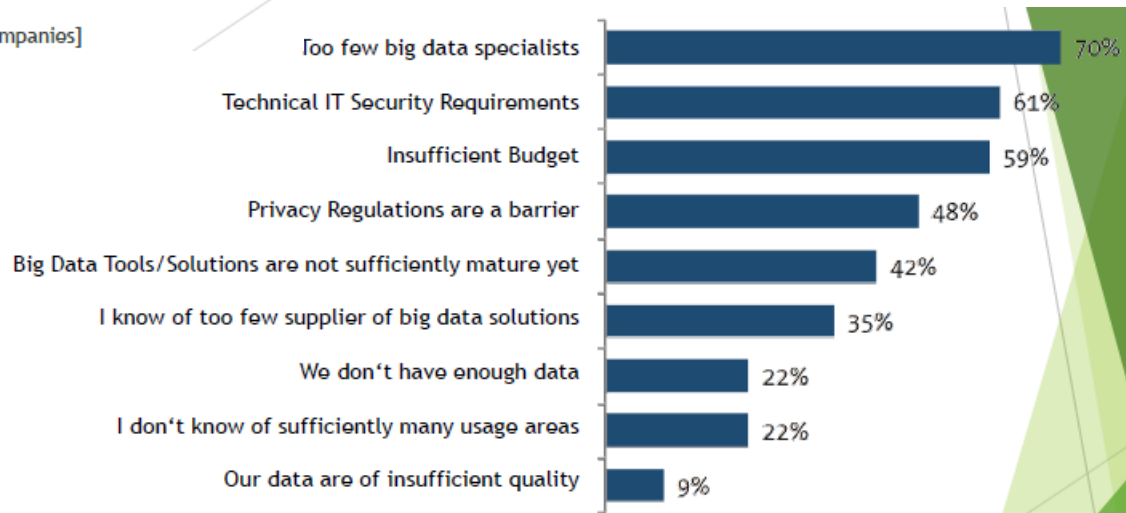
# Big Data uptake (Europe vs. US)

Percentage of Companies (by Region) With Big Data Initiatives in 2012

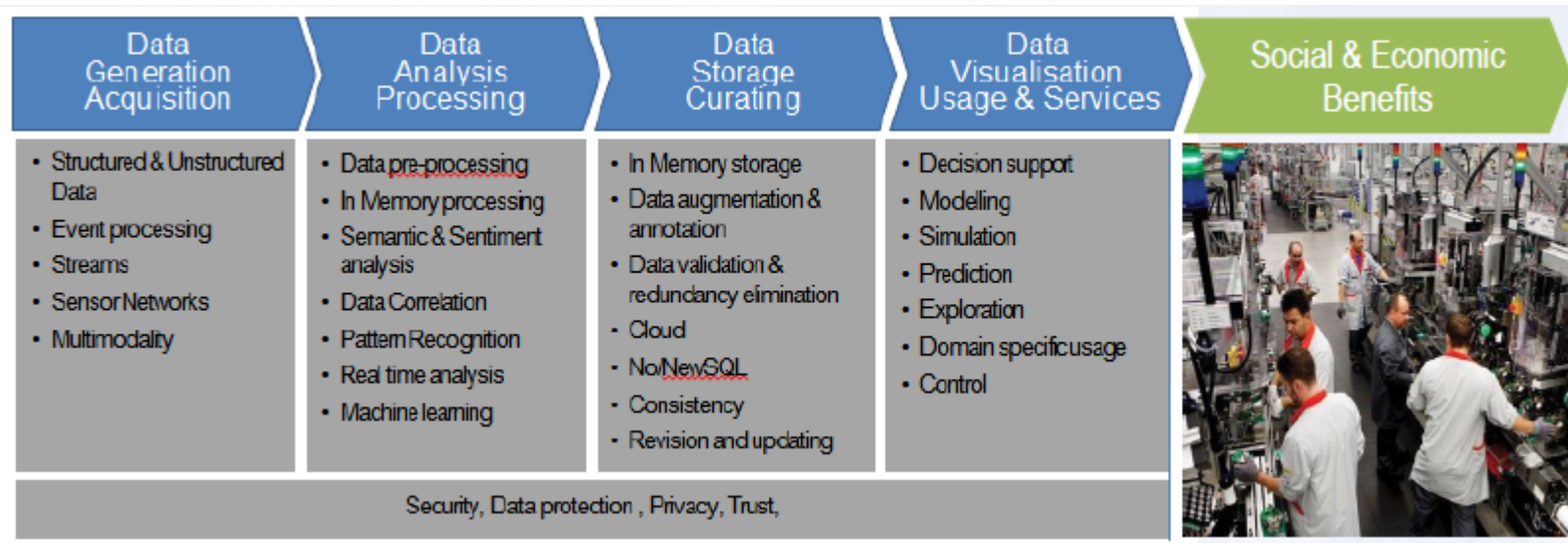


[TCS 2013 Trend Study Big Data, 643 companies]

## Barriers for Big Data uptake



# Data Value Chains: the need for ecosystems



- › Several European companies and in particular **research institutions and startups have created interesting technologies and services** along the data value chain.
- › However, both in business & science, **data use is handled in a fragmented way.**
- › In particular **SMEs lack skills to capitalize on data assets** in order to improve their competitiveness.
- › Actors along the data value chain should cooperate and form the basis of a strong and vibrant **data-driven ecosystem** to maximise big data value creation.



# The EU and Industry launched the Contractual Public Private Partnership (cPPP) on Big Data Value in October

## The Big Data Value Association represents 'Private' side

“In the Commission's view, strategic cooperation through a contractual Public-Private Partnership (cPPP) can play an important role in developing a data community and encouraging exchange of best practices. In line with the principles set out in H2020, the Commission considers that a sufficiently well-defined cPPP would be the most effective way to implement H2020 in this field,…”

*Commission Communication "Towards a thriving data-driven economy" - 2 July 2014*

“... EU action should provide the right framework conditions for a single market for Big Data ...”

*European Council  
Conclusion – 24/25  
October 2013*

“Big Data is possibly one of the few last chances for Europe's software industry to take a true leadership”

*CEO Software AG,  
Karl-Heinz Streibich*

# Launch of the BDV cPPP

Jan Sundelin

1<sup>st</sup> President of BDVA

TIE Kinetix CEO

Nellie Kroes

EU Commissioner



Before Big Data! ☹️



After Big Data! 😊

## The Magic of Big Data

# 1<sup>st</sup> BDVA General Assembly



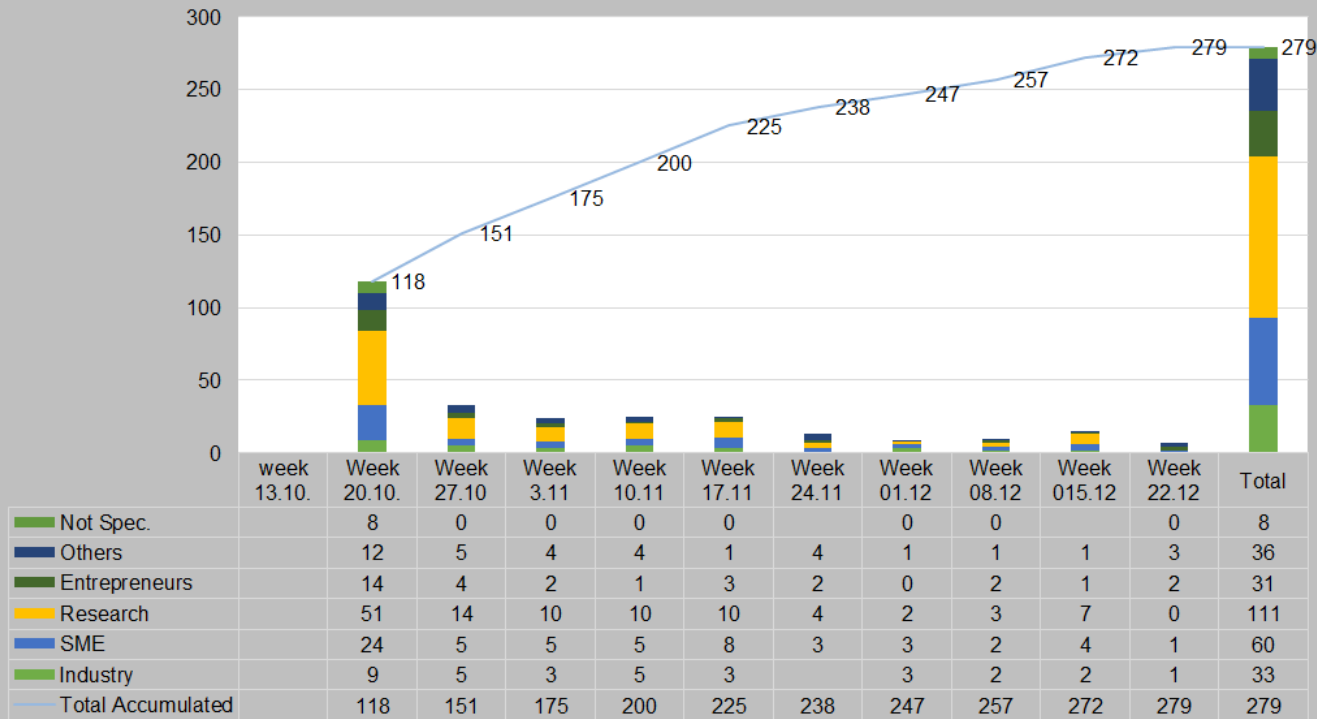
President : Juergen Mueller, SAP  
VP: Jan Sundelin, TIE Kinetix  
VP Jose-Maria Cavanillas, ATOS

Secretary General: Stuart Campbell, TIE Kinetix  
DSG: Nuria De Lama, ATOS  
DSG: Andreas Metzger, Paluno



# BDVA Founding members/ & new ones

## Expression of Interest by Organisation

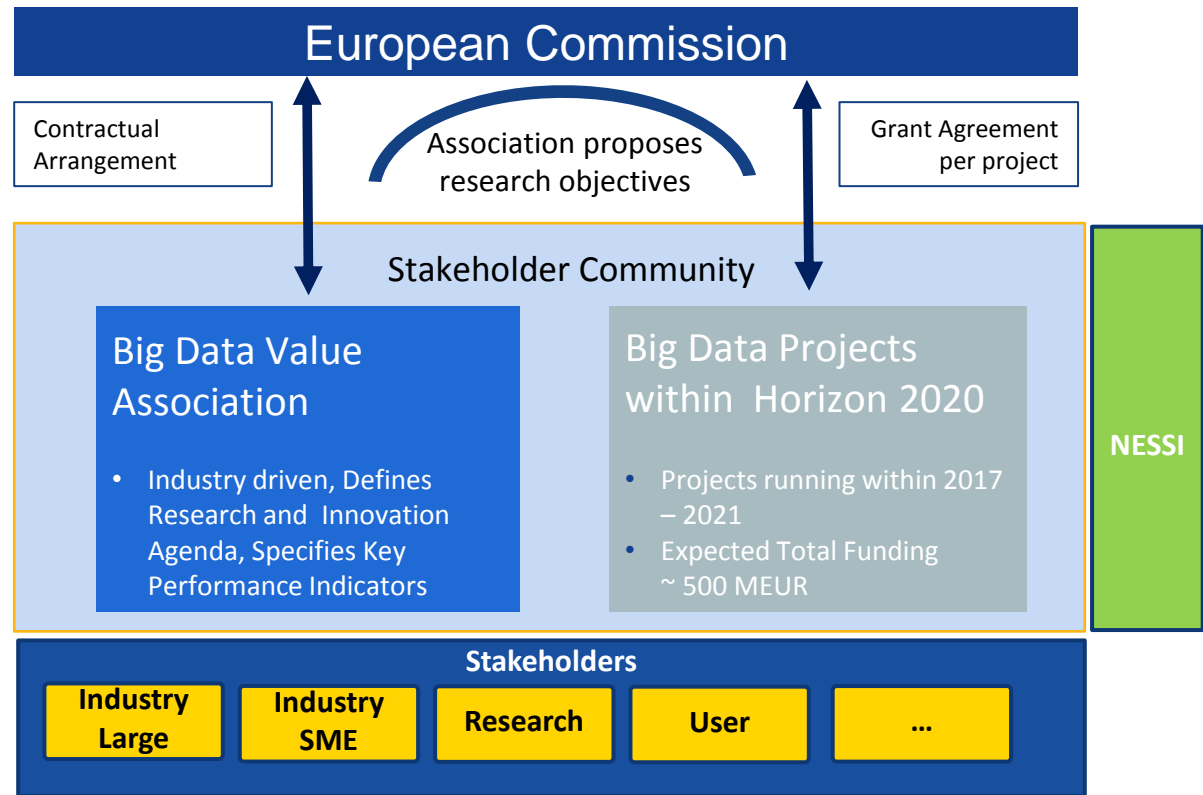


### Principles

- Openness
- Transparency
- Cooperation
- Inclusion
- Efficiency
- Neutrality
- Fair access
- Cross domain
- Cross stakeholder:
  - Industry – Large
  - Industry – SME
  - Research
  - User
  - Other

# BDV cPPP Structure

EU and Industry agree on a cPPP to conduct strategic Big Data Value research and to run innovation projects  
 Requires setting up of a Big Data Value association  
 Involvement of a broad stakeholders community



# What is the BDV cPPP about

## The Objective of the PPP is:

- › The cPPP shall create results that have **IMPACT** on **members, participants, industry, economy** and **society**...

## The Strategy needs to be:

- › The main focus is the **transfer of technology and application** (new from the PPP and state of the art) via the “instruments” designed for the PPP (i-Spaces/Lighthouse projects)

## The Operationalization :

- › Establish a coherent set of **projects** that complement each other without being dependent.
- › Define a **Framework** for projects that ensure that “results” (or even state of the art technology) is fit for the purpose of the next step in the innovation cycle and complies with the end user demand

# BDVA - Commitments

- › **Leverage the cPPP** investments through sector investments of 4 times
- › **Open, transparent and inclusive** definition
- › **Update** Strategic Research & Innovation Agenda (SRIA);
- › **Ensure 20% SME** participating organisations;
- › **Support to the ex-post assessment** of the implemented projects;
- › **Leverage the achieved results in the market**
- › Develop **skills and competences** in Big Data Value
- › Actively **involve all relevant sector players**,
- › **Work with others** for alignment of goals and ensure synergies;
- › **Governance model, which supports openness and efficiency**
- › **Monitoring Impact**

# Multidisciplinary approach





# Implementation

## R&I Projects

Large Targeted research and innovation projects, delivering foundational Big Data technology

## Innovation Spaces

Hubs for bringing data, technology and application developments together; catering for development of skills, competence, and best practices.

## Lighthouse Projects

Large scale demonstrations focusing on certain sectors and domains

**Data Management**

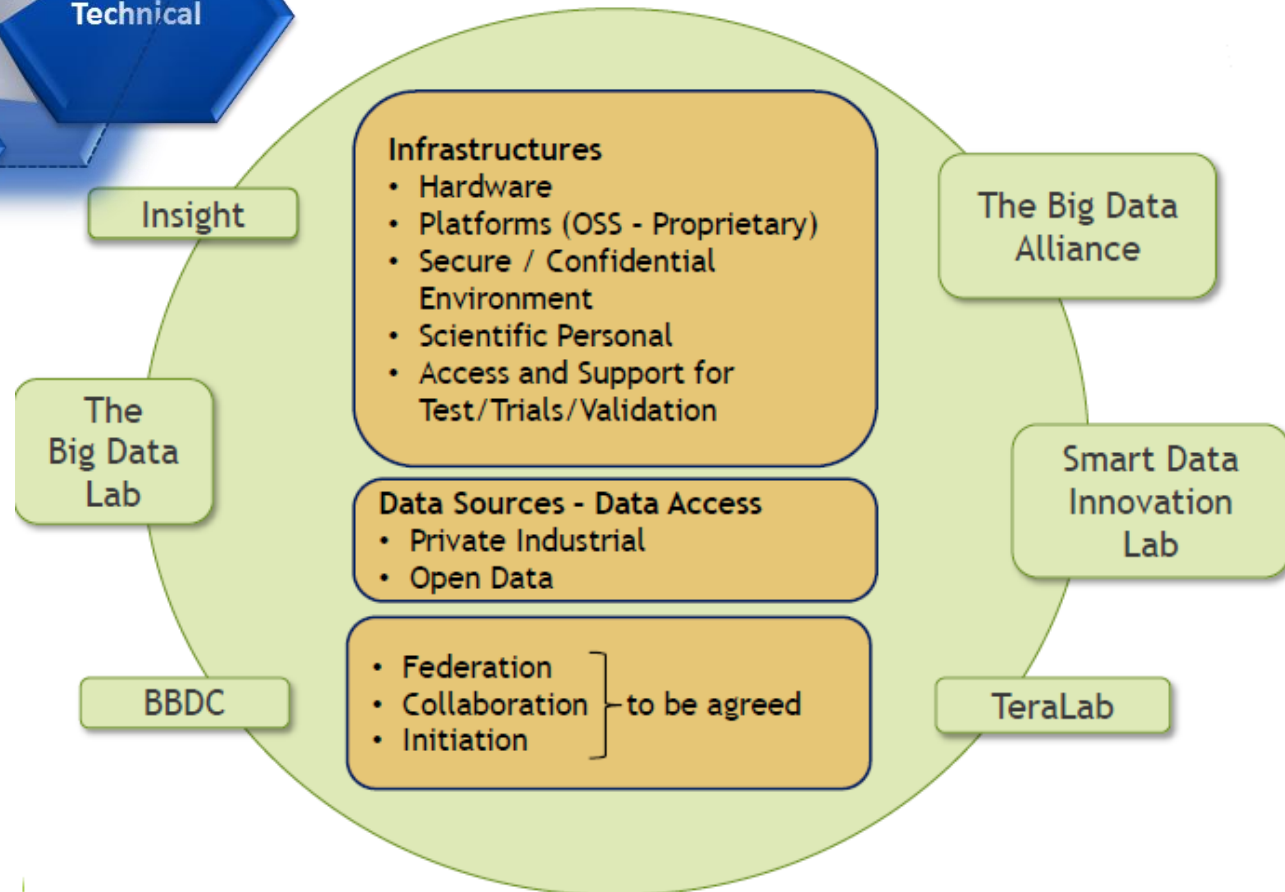
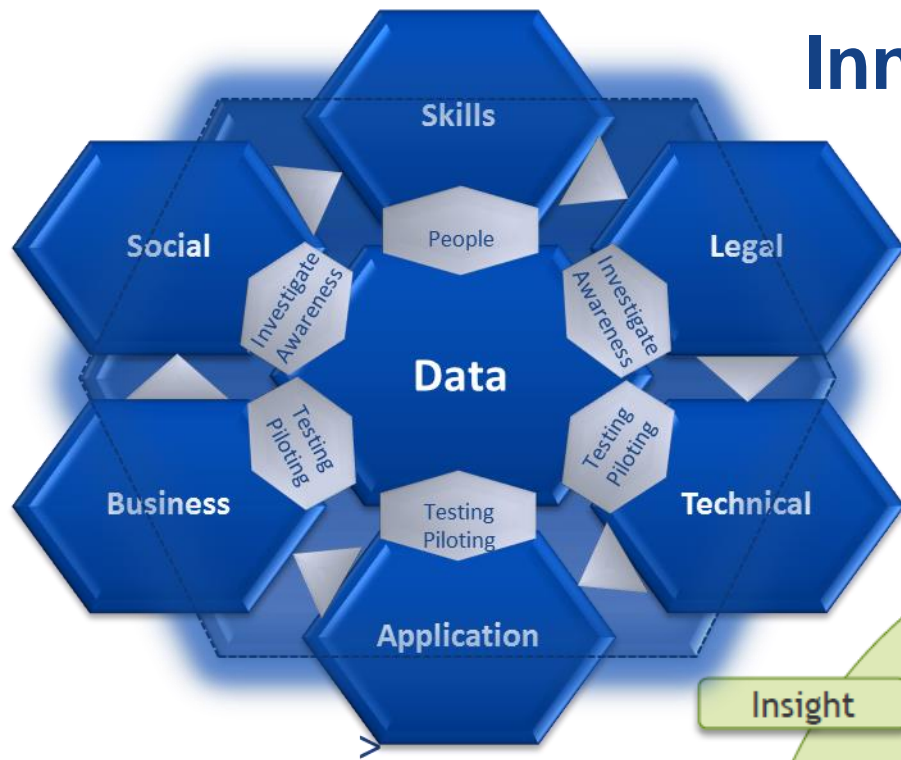
**Data Processing Architectures**

**Deep Analytics**

**Data Protection**

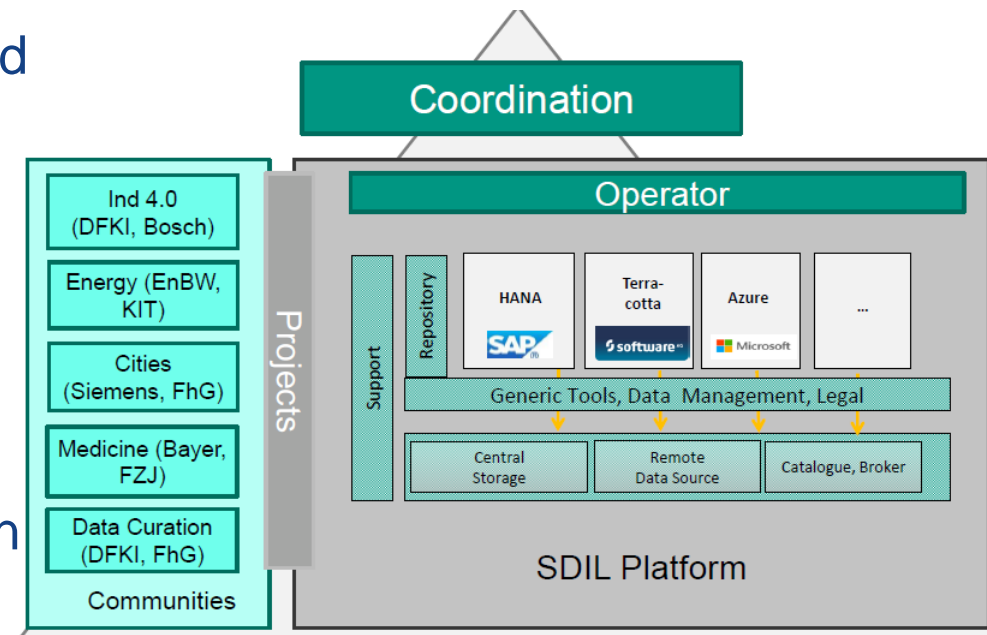
**Advanced Visualization**

# Innovation Spaces/Hubs



# Example: SDIL (Smart Data Innovation Lab)

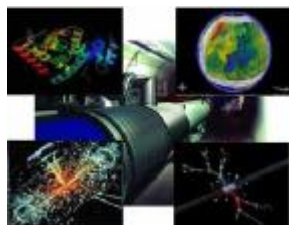
- › SDIL introduces legal models to accelerate data driven research
  - › Data Access Models: Standard for data access
  - › P2P Models: Standard Contracts how to
    - › Share data
    - › What results get published
    - › Data Life Cycle Funding
    - › Contract Model
- › SDIL develops standardized interfaces to data and computation
  - › Technical Libraries to harmonize access to HANA, Terracotta, Hadoop, Watson etc.
  - › Specialized libraries for application areas and user groups



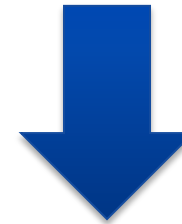
# Lighthouse projects – a mechanism for large-scale demos and awareness

## Lighthouse Projects

- The major mechanism for Europe to demonstrate Big Data Value ecosystems and sustainable data marketplaces
- Running data-driven large scale demonstrations
- Propose replicable solutions by using existing technologies or very near to market technologies that could be integrated in an innovative way and show evidence of data value
- Create high level impact and broadcast visibility and awareness driving towards faster uptake of Big Data Value applications and solutions



# www.bdva.eu



[Home](#) [Blog](#) [News](#) [Events](#) [Downloads](#) [Big Data Value Association](#) [Expression of Interest](#) [F.A.Q](#)

"New developments such as the cloud, the Internet of Things and big data can thrive in Europe and that citizens, innovative web entrepreneurs and other businesses can take full advantage of their potential."

Jean-Claude Juncker, President of the European Commission



© European Union, 2014

The intelligent use of data will revolutionize decision making in businesses, sciences, and society in the future. Value creation from Big Data could become the major driver of the European digital economy. To put Europe at the forefront of this development, there is need for a strong and vibrant data-driven innovation ecosystem in Europe. The aim of this website is to provide a platform for stakeholders from the Big Data Value community in Europe to easily access information, exchange ideas and respond to activities concerning a Big Data Value initiative that is currently taking form at EU level.

# Block your agenda



**BDVA Summit  
June 2015**

17-3-2015

**ICT Event  
20-22 October 2015**

[www.bdva.eu](http://www.bdva.eu)

**EDF  
16-17 November 2015**



# THANK YOU

Further Information:

Nuria de Lama: [nuria.delama@atos.net](mailto:nuria.delama@atos.net)  
(Deputy-Secretary General BDVA)

BDVA: <http://www.bdva.eu/>  
[info@bigdatavalue.eu](mailto:info@bigdatavalue.eu)

Atos Research & Innovation  
[www.atosresearch.eu](http://www.atosresearch.eu)

