



Towards a data-driven economy in Europe

Trusting Big Data

Trust in the Digital World Conference

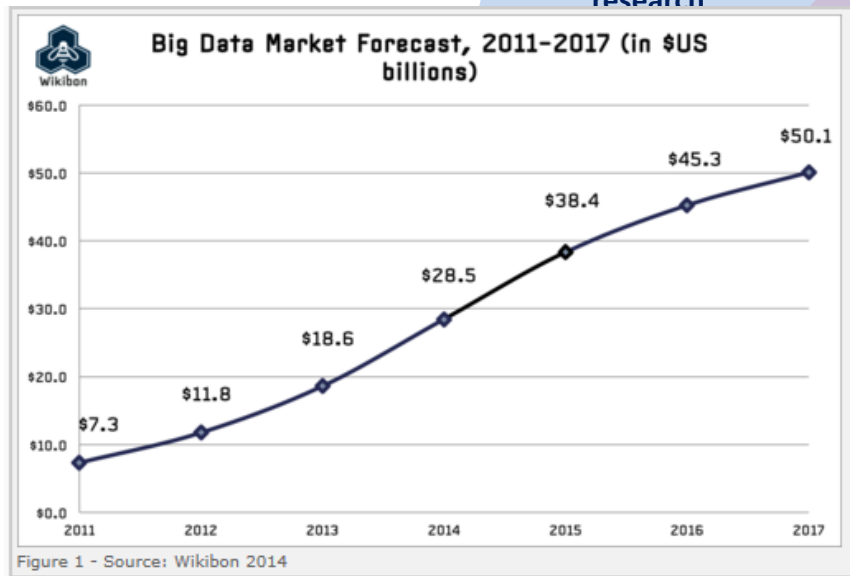
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Why is data-driven economy important for Europe?

Estimated size of the Big Data market



have a higher share for the EU in the global data market growing by 40% per year

increase by 5-6% the productivity of companies through data-driven business intelligence

Europe needs a "Data" strategy to benefit the whole economy and

better address societal challenges (health, energy, etc)

Data-driven applications ...



lifecycle management



home automation



health



telecom



market research



information
marketplaces



traffic
management



water management



energy management

... will revolutionise decision making!

... have great economic potential!





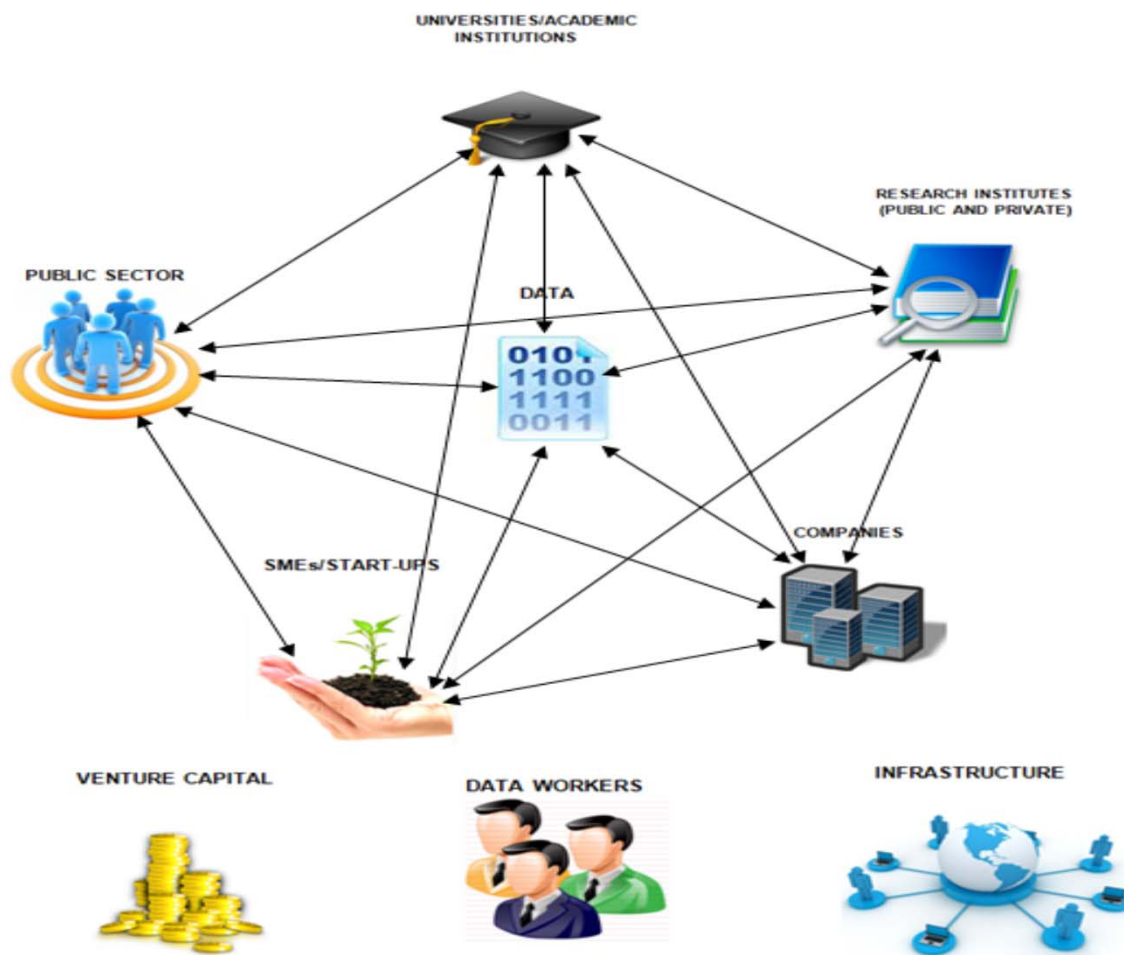
Opportunities in individual sectors

Sectors/Domains	Big Data Value	Source
Public administration	EUR 150 billion to EUR 300 billion in new value (Considering EU 23 larger governments)	OECD, 2013
Healthcare & Social Care	EUR 90 billion considering only the reduction of national healthcare expenditure in the EU	McKinsey Global Institute, 2011
Utilities	Reduce CO2 emissions by more than 2 gigatonnes, equivalent to EUR 79 billion (Global figure)	OECD, 2013
Transport and logistics	USD 500 billion in value worldwide in the form of time and fuel savings, or 380 megatonnes of CO2 emissions saved	OECD, 2013
Retail & Trade	60% potential increase in retailers' operating margins possible with Big Data	McKinsey Global Institute ² , 2011
Geospatial	USD 800 billion in revenue to service providers and value to consumer and business end users	McKinsey Global Institute ² , 2011
Research	Text and data mining (TDM) increases researcher productivity by 2% and adds billions to the economy	DG RTD Report on TDM, 2014



European
Commission

Europe needs an efficient data ecosystem





Data is a top political priority: European Council of October 2013



- Need to enhance the **potential of 'Big Data' and 'data-driven innovation'**: 'technologies building on 'Big Data' are **important enablers for productivity** and better services'

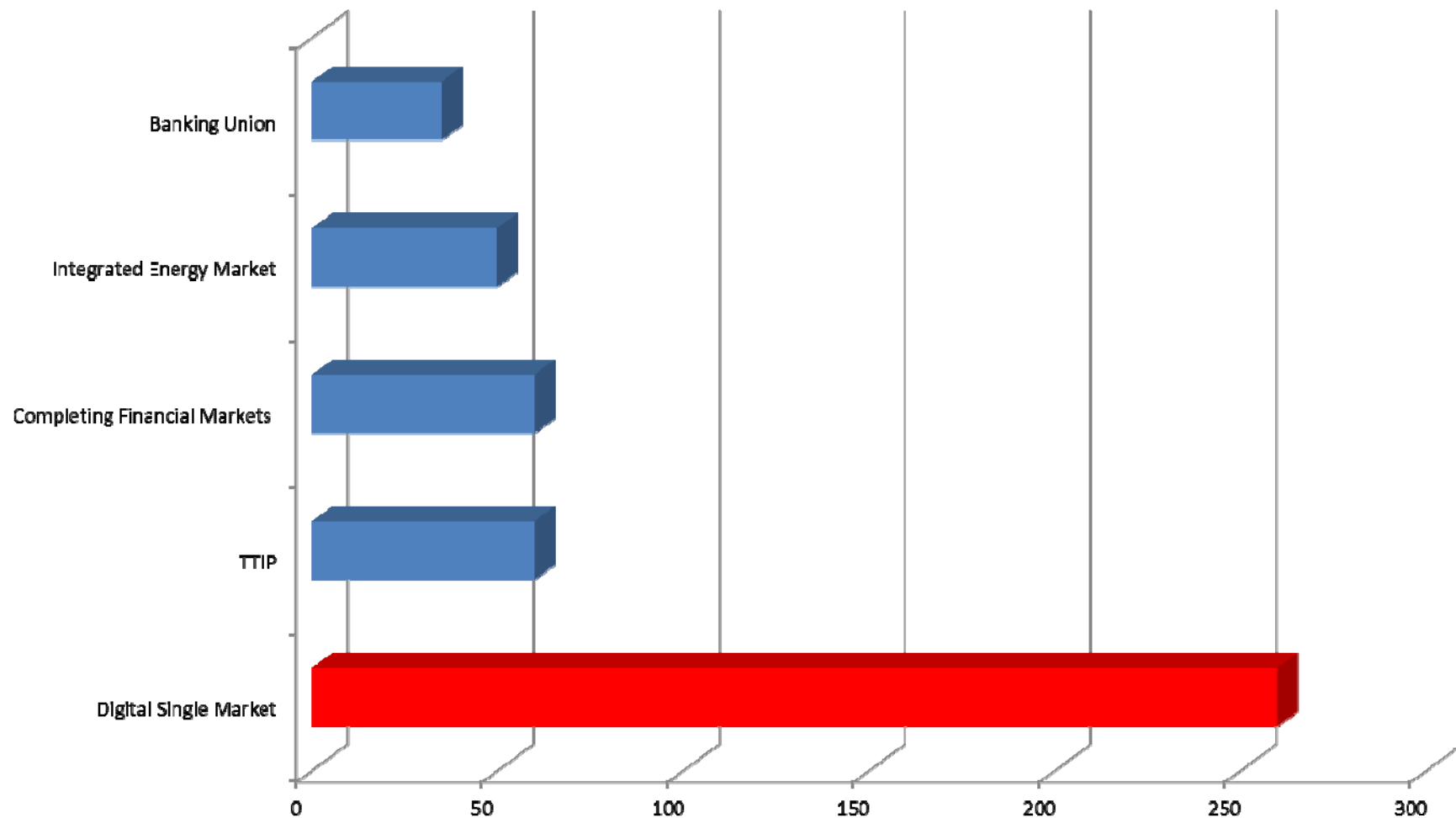


The Digital Single Market has the largest potential to create growth



European
Commission

Potential benefits in bn €



Source: Mapping The cost of non-Europe, European

Parliamentary Research Service, March 2014





Ambitions of the new Commission

President Juncker's Political Guidelines

=> Connected DSM – with growth and jobs - highest on political agenda:

"break down national silos in telecoms regulation, in copyright and data protection legislation, in the management of radio waves and in the application of competition law"

=> Letters to VP Ansip and Commissioner Oettinger with clear mandates and timelines

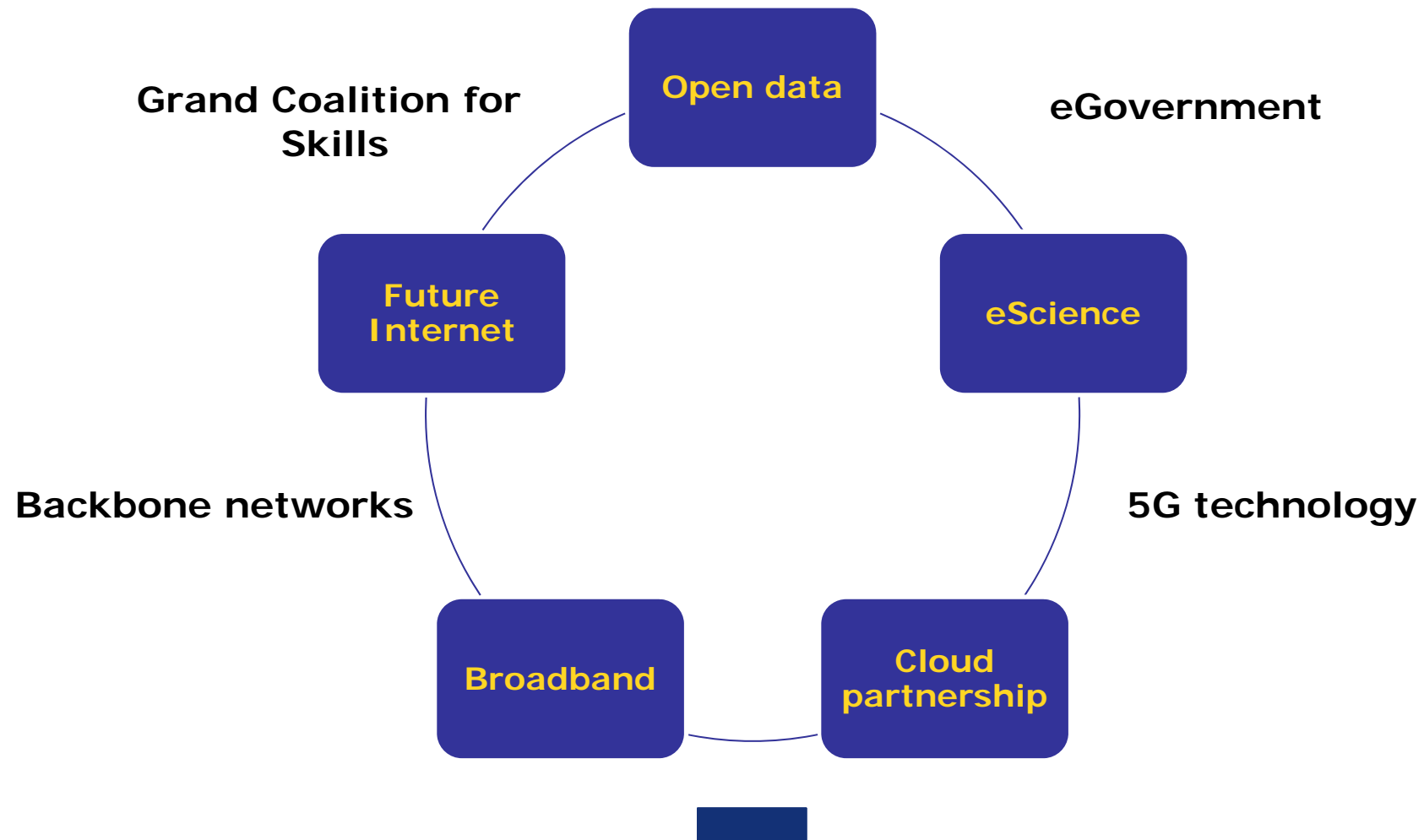


EU Challenge:

- Seize the **opportunities** provided by (big) data: **higher growth**, more and better **jobs**, better-**quality** and more **personalised** products and services;
- Boost Europe's **capabilities** and **trust** in digital services to embrace the potential of (big) data;
- **Preserve European values** (e.g. personal information, multi-lingualism...)



EU Response: Current initiatives





'Big data' Communication – July 2014

- **First** ever **EU-wide initiative** addressing data in a holistic manner
- The Communication sketches the necessary features of the **data-driven economy** (vision)
- It sets out a number of operational conclusions to support and accelerate the transition towards it (**actions**), including in the area of cloud computing
- It seeks to **initiate a debate** with the Parliament, Council and other stakeholders in order to prepare a more detailed action plan



Community building

- *Public-private partnership on data*
- *Open data incubator for SMEs*
- *Network of centres of excellence*

Framework conditions

- *Open data (incl. open research data)*
- *(Big) Data tools*
- *Standards and interoperability*
- *Infrastructures (cloud)*
- *Legal framework (**privacy**/data mining)*



EU actions will aim at:

- Ensuring a data-friendly **policy and regulatory environment** (e.g. privacy, IPRs, security, ownership)
- Developing a well-functioning **European data ecosystem** for a Digital Single Market
- Supporting **competence** (skills)
- Building of secure and reliable **infrastructure**
- Enhancing data **availability** and **interoperability**
- Promoting **multilingual** solutions
- Building EU-wide **data-community**



Big Data and trust:

- **Trust** in the digital environment and **legal certainty** are key for the wide take-up of Big Data technologies
- Commission's reform package: a single, modern, strong, consistent and **comprehensive data protection framework** for the EU
- Commission will issue **guidance**, notably on issues such as data anonymisation and pseudonymisation, data minimisation, personal data risk analysis, and tools and initiatives enhancing consumer awareness
- A set of measures, including guidelines, on **good practices for secure data storage** will also be proposed



Big Data and trust:

- The Big Data Value Public Private Partnership (PPP) includes **mechanisms for managing privacy and anonymisation** as one of technical priority areas of the SRIA for 2014-2020
- **Adequate data skills and awareness** are essential to build trust and confidence in the digital, data-based environment (European Data Science Academy already launched)
- Commission will actively support R&I to develop technical solutions that are **privacy-enhancing 'by design'**
- We will consult with stakeholders the concept of **personal data spaces** or clouds, as one way of giving users back control over their data



Big Data and trust:

- Last but not least – **Big Data does not have to be personal:**
 - 1,7 million billion bytes are generated by the Internet, sensors and machines every minute
 - number of connected devices (IoT) will range from 20 billion to 100 billion by 2020
 - One Copernicus sentinel satellite generates 3 terabytes of raw data on a daily basis



EDSA - European Data Science Academy

- **Objective:** contribute to capacity-building by designing and coordinating a network of European skills centres for big data analytics (**centres of excellence**)
- **Project consortium:** partners from academia, research institutes and industry (UK, SI, DE, SE, FR, NL)
- **Tasks:**
 - analyse the required sector specific data skillsets
 - develop modular and adaptable data science curricula
 - deliver training supported by multiplatform and multilingual learning resources





PPP: funding leveraged by industry

- **Industry drivers:** e.g. ATOS (ES), Nokia Networks and Solutions (FI), Orange (FR), SIEMENS (DE), Thales (FR)
- **Research drivers:** e.g. Fraunhofer (DE), VTT Technical Research Centre Finland, Insight Centre – National University of Ireland
- Have worked on a **Strategic Research & Innovation Agenda** (SRIA) for period 2016 – 2020 (regular updates during the running of the cPPP)
- **Lighthouse Projects**, e.g. on health, logistics, energy
- **Innovation Spaces** will offer secure environments for experimenting with private and open data. Will also act as business incubators.





PPP: what happens in 2015?

- Promotion of the PPP by all members towards industry, research, public sector, capital
- Enlarge constituency with all relevant players
- Identify synergies with other PPPs and initiatives and look for ways of cooperation
- Contribute to WP 16-17 drafting





Action Plan towards a data economy

- **Consultation process:** Dialogue with the European Institutions, Member States and all relevant industry players from various sectors
 - **January 2015: Member States Workshop on data strategies**
 - **February 2015: Finance and banking sector workshop**
 - **March-Nov: Workshops on health, telecoms, manufacturing...**
- **Adoption of a detailed Action Plan:** By the end of 2015, possibly during the European Data Forum (EDF) held in Luxembourg in November 2015





Conclusions

- Data has become an **economic and societal asset** creating fantastic **opportunities** for new business but also some **threats** (information overabundance, privacy)
- An **enabling framework** and a dynamic **data community** are **pre-conditions** for a data-driven economy
- Current challenges and obstacles to a thriving data economy require an **EU-wide set of actions**
- Actions building **trust and confidence** to focus on regulatory (privacy/security) and non-regulatory issues (R&I, skills)





Thank you for your attention

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