



Digital Recovery – The data highway

Data Value Chain in Europe

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OUTLINE

1. Why the "data" matters?
2. Data value chain thinking
3. Future challenges and trends
4. Conclusion

Data has become a resource

- **Types:**

Publicly funded data (like statistics, environmental and geographical data, meteorological data, business information, legal information), institutional and private data

- **Data offers new opportunities:** Combination of different types of data (e.g. geo, traffic and tourism; business and open)
- Data activities generate **externalities**, positive (reuse) and negative (privacy): capture the good and avoid the bad
- **competitive advantage is** to offer the right data to the right people at the right time

What are the challenges at EU level?

- Fostering a data-friendly **legal and policy environment**
- Developing an **efficient European data ecosystem** supporting the Digital Single Market
- Supporting **competence** (skills) and **infrastructure** in the area of multilingual data
- Enhancing **interoperability**
- **Multilingualism....**

"Data highway" in the EU policy context



➤ **A strategy for smart, sustainable and inclusive growth**

➤ A vision to achieve **high levels of employment, a low carbon economy, productivity and social cohesion**, to be implemented through concrete actions at EU and national levels.

➤ One of the seven flagship initiatives of Europe 2020, set out to **define the key enabling role that the use of ICTs will have to play if Europe wants to succeed in its ambitions for 2020.**

➤ **The overall aim [...] is to deliver sustainable economic and social benefits from a digital single market [...]**

➤ **Action 3: Open up public data resources for re-use**

"The Commission is invited to **make rapid progress in key areas of the digital economy to ensure the creation of the Digital Single Market by 2015, including [...] the availability of public sector Information.**"

Conclusions of the European Council (4 February 2011)



Conclusions of the European Council of 24/25 October 2013 in relation to Big Data

- *Enhancing the potential of 'Big Data' and "data-driven innovation"*
- *Technologies building on 'Big Data' are "important enablers for **productivity and better services**"*
- *Need to complete the **Digital Single Market** by 2015*
- ***Improve public services** through e-government, e-procurement, e-health and e-invoicing services*
- *Importance of an integrated approach to R&I& market deployment through **better coordination of grants, venture capital and pre-commercial procurement***

Action items the European Council called for:

- **Broadband:** *More investments needed*
- **Cloud computing:** *"European Cloud Partnership" to put Europe at the forefront of cloud adoption*
- Create a European **network of "national digital coordinators"** for Cloud computing, Big Data and Open Data
- Use EU structural funds and other mechanisms to **support education** in the field of ICT so as to address the need for a more IT-savvy labour force
- Work on **interoperability of platforms & data** in order to facilitate data portability

Legislative action highlighted in the EU Council conclusions:

- *Electronic identification/ e-invoicing & e-payments: **Legislative work** to be accelerated*
- ***Copyright:** Commission called to complete copyright review in spring 2014*
- ***Data protection reform** should be adopted so as to allow completion of the Digital Single Market in 2015*

"DATA Value Chain" Vision

aims at **extracting the maximum value** from data by building on the intelligent use of multilingual **data sources** across Europe.

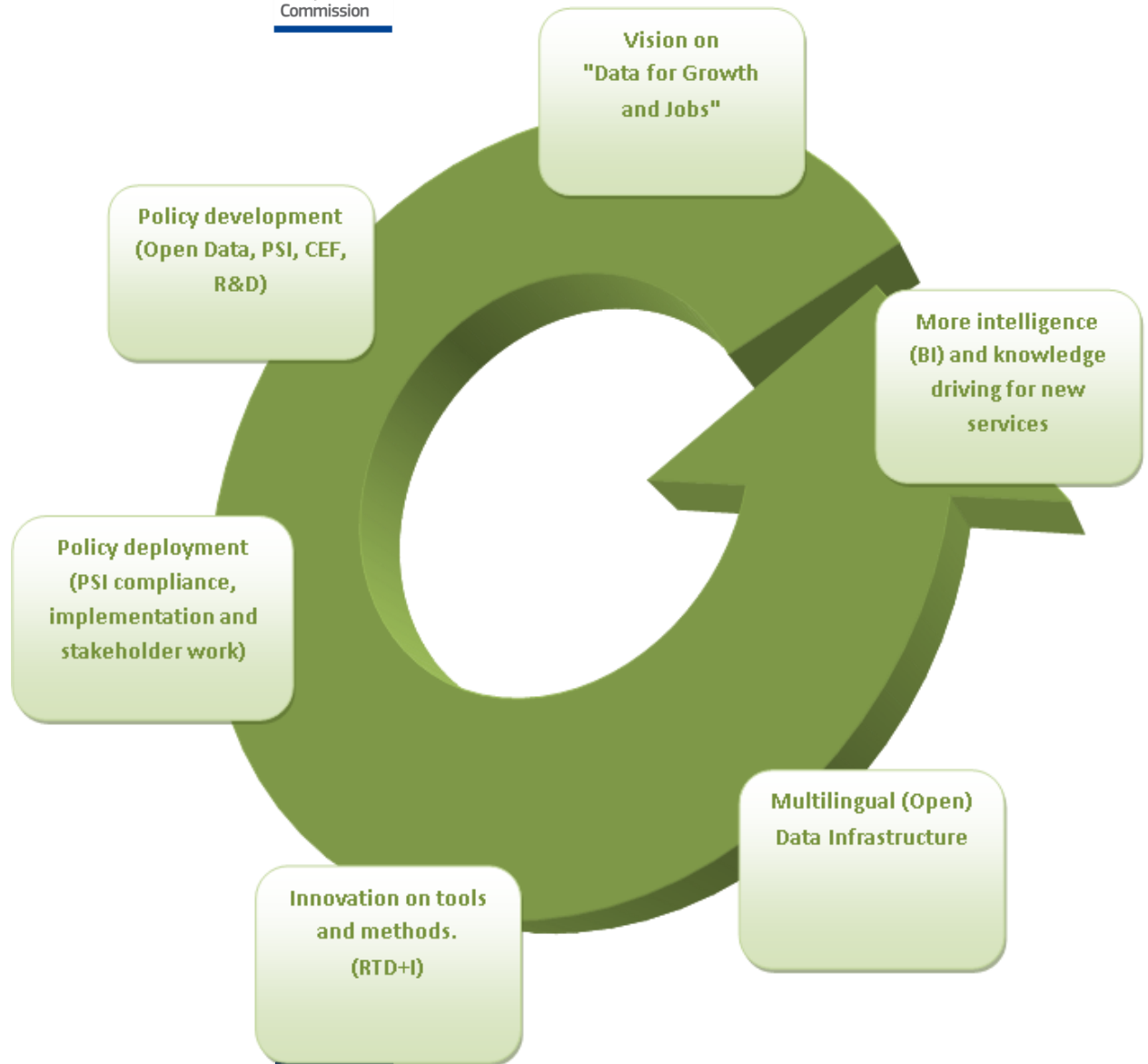
This will lead to

- **increased business intelligence and efficiency** of private and public sectors
- **world class applications and services**
- **new business opportunities** involving SMEs
- **new ways of tackling societal challenges**



European
Commission

Virtuous cycle of (open) data



Creation of "data value chain friendly" policy environment (1)

- Fostering of (Open) **Data policy**
- Adoption of the **revised Directive on the re-use of Public Sector Information (PSI)** and the **Commission decision on re-use of its own information**
- **Implementation of PSI** policy across Europe by ensuring compliance and the development of **soft law instruments** (e.g. guidelines on licensing and charging)
- **Stakeholder** involvement and engagement



Open (public) data: Why does it matter for Europe?

- 1. Untapped business and economic opportunities:** data is the new gold; possible direct and indirect gains of €140bln across the EU27; Dutch geo-sector in 2008: 15.000 jobs
- 2. Better governance and citizen empowerment:** open data increases transparency, citizen participation and administrative efficiency and accountability
- 3. Addressing societal challenges:** data can enhance sustainability of health care systems; essential for tackling environmental challenges
- 4. Accelerating scientific progress:** e-science essential for meeting the challenges of the 21st century in scientific discovery and learning.

Multilingual (Open) Data infrastructure (2)



- Development of **European Digital Service Infrastructure** and fostering new services in relation to
 - Open Data portals at local, regional and national and European level
 - "Multilingual use of online services"
- Leading by **best practice examples** ...

... the *European data portals*

- ***European Commission data portal (2012)***
- ***Pan-European open data portal (2013)***
 - Multilingual access point to data from across the EU, to be funded through CEF (Connecting Facility for Europe)
- ***Benefits***
 - Scale
 - Interoperability of datasets
 - Easy to find across languages
 - Similar basic use conditions

2012-2020: EU wide Open Data Infrastructures



2013: prototype
of a pan-European
Open Data Portal

2014-2020:
progressive
implementation
of the CEF
Open Data
Infrastructure

Supporting Research and innovation (3)



which fosters the intelligent use, management and reuse of **complex and large amount of data** for

- better decision making
- efficiency
- knowledge management
- extraction of embedded intelligence and data insights.

including

- R&D in Multilingual data and content analytics
- Innovation in Data driven intelligence and knowledge management in data intensive sectors

R+D in a nut shell:

Business sector

- Marketing
- Logistics
- Product dev.
- Financial dev.
- ...

Personal and social sphere

- Entertainment
- Personal applications
- Social networks
- ...

Public services

- Health
- Education
- Culture
- Emergency management
- ...

Societal challenges

- Science
- Transport
- Environment
- Smart cities
- GIS
- ...

Application domains:

Technology challenges:

- Big data analytics, scalability
- Semantics and reasoning; Collaboration tools
- Language Technologies (Speech recognition and dialogue systems, Machine translation, Analytics)
- Multimedia and multimodal content

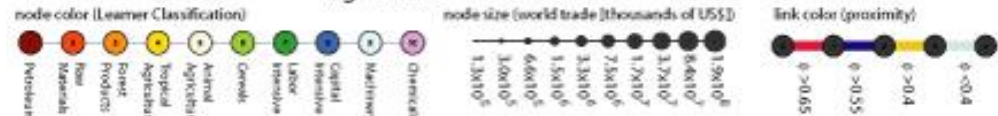
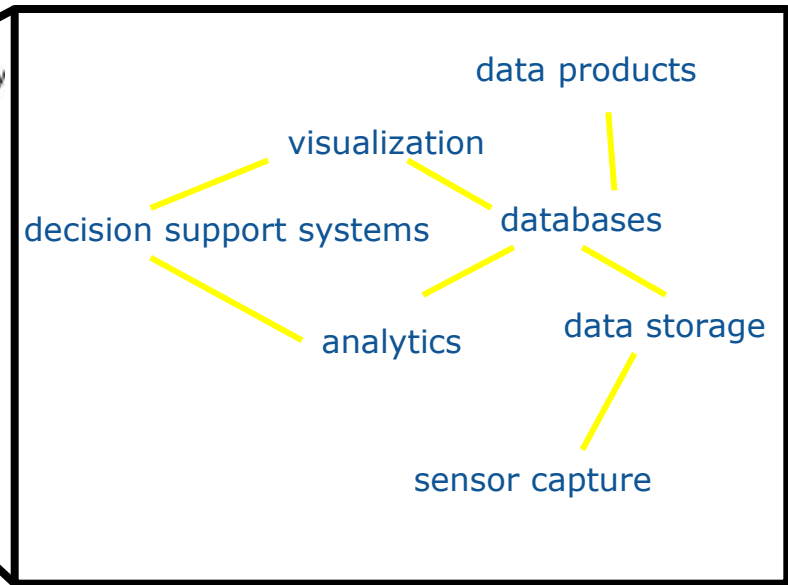
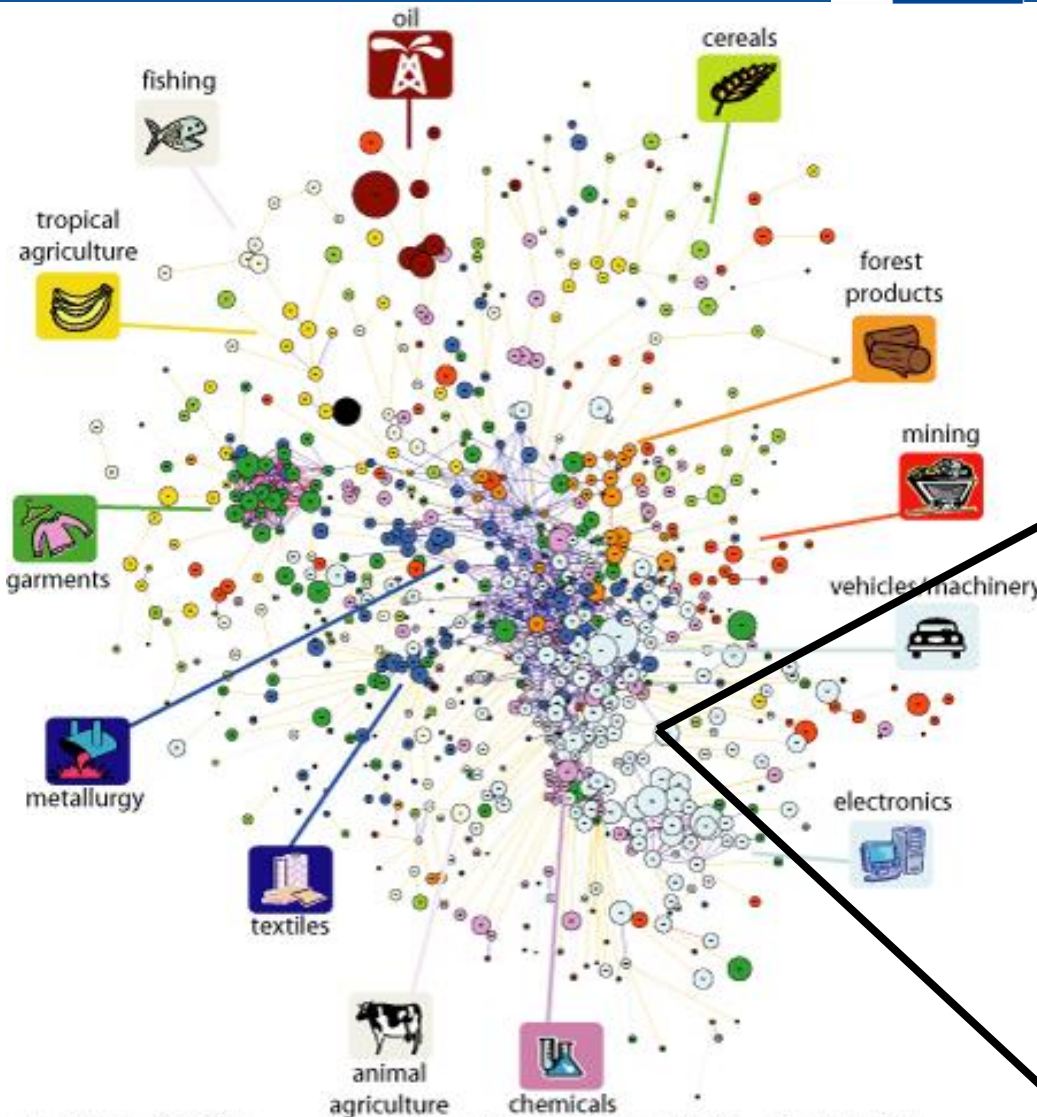
Main challenges for data business?

- Growth of organisational information, large and growing data quantity; quality?
- Multimodal information
- Unstructured data
- Heterogeneity of data and data sources
- Complexity
- Interoperability
- Enriching business data with open data
- External shocks, e.g. financial crisis



Data Supply Chain and Product Spaces

Need a high value added data cluster



Stakeholder meeting point

European Data Forum 2013

<http://2013.data-forum.eu/>

INFO

European Data Forum 2014

19.-20.03.2014 in Athens

<http://2014.data-forum.eu/>

**Call for
contributions**



european
data forum

Conclusion

- Big data creates fantastic **opportunities** for new business but also some **threats** (Information overabundance, privacy)
- The business champions of the future will be the most successful companies in **coping with data flood and DVC**
- Yet **technology solutions lags far behind** the complexity of information problems
- **Legal issues** (privacy, licensing, reuse) needs European actions
- Towards a **better use of publicly funded data** in Europe
- The **EC is committed to support** to improve European data driven competitiveness

Further info

- ***ICT under FP7***

<http://cordis.europa.eu/fp7/ict/>

- ***Experts data base:***

<https://cordis.europa.eu/emmfp7/>

- ***Unit – Data Value Chain (DG CONNECT G3)***

URL: <http://cordis.europa.eu/info-management/>

<http://cordis.europa.eu/fp7/ict/language-technologies/>

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Thank you!