Digital Grecovery – 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
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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)

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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 <u>intelligent use</u> of multilingual **data sources** across Europe.
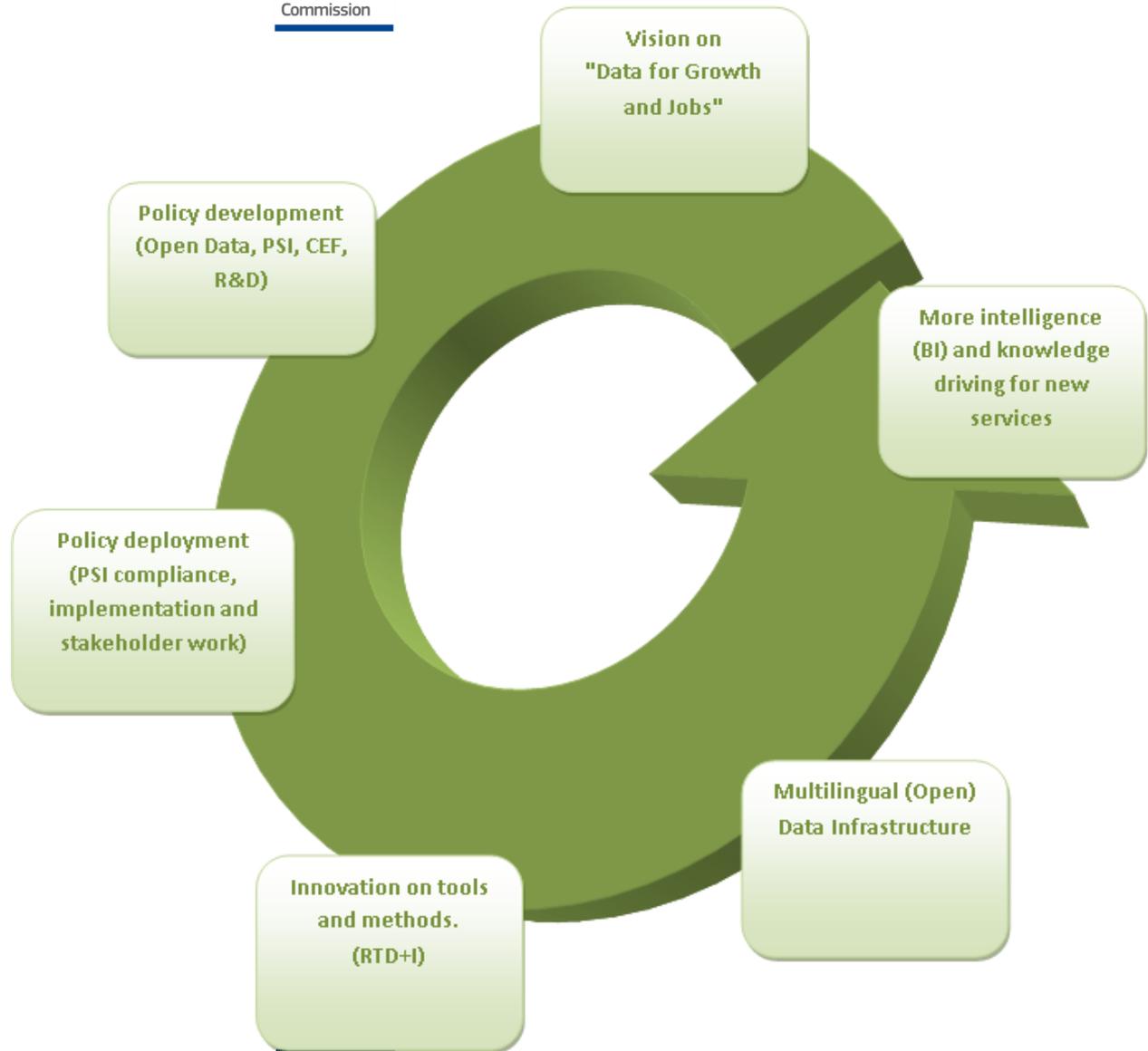
This will lead to

- **increased business intelligence** and **efficiency** of <u>private and public sectors</u>

- **world class applications and services**

- **new business opportunities** involving SMEs

 - new ways of tackling **societal challenges**

Virtuous cycle of (open) **data**

Vision on "Data for Growth and Jobs"

Policy development (Open Data, PSI, CEF, R&D)

More intelligence (BI) and knowledge driving for new services

Policy deployment (PSI compliance, implementation and stakeholder work)

Multilingual (Open) Data Infrastructure

Innovation on tools and methods. (RTD+I)

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:

Application domains:

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
- ...

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
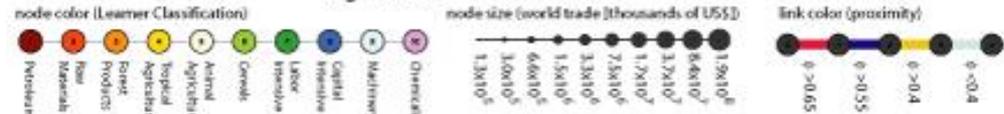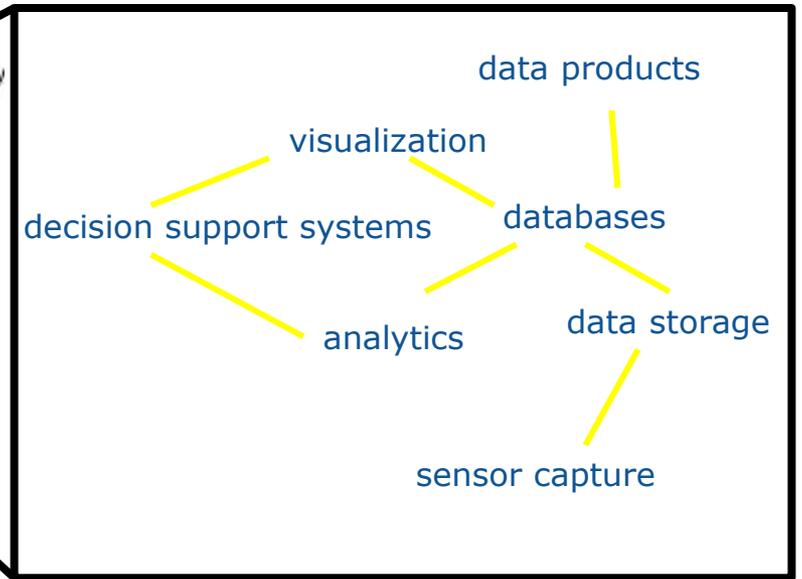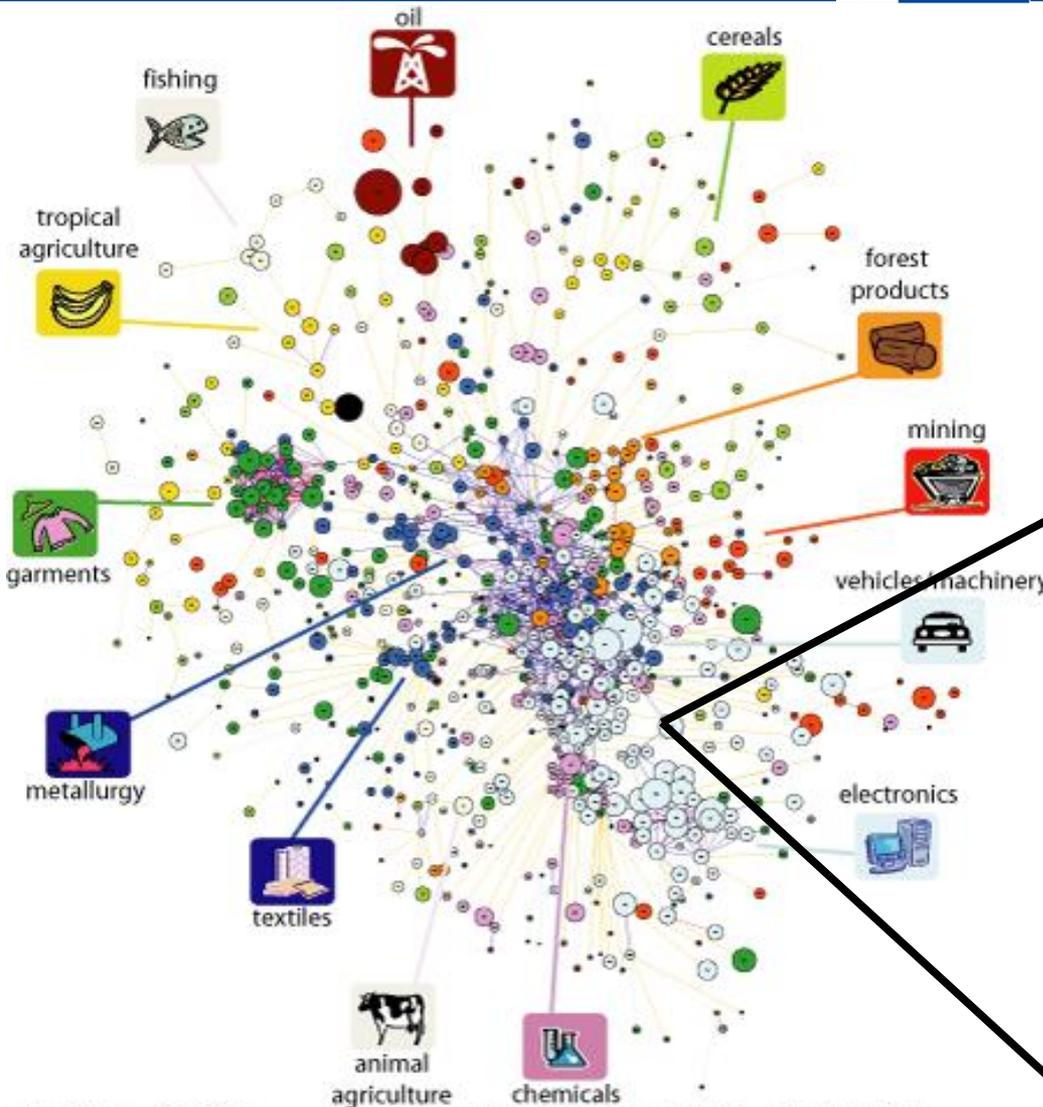
Stakeholder meeting point

European Data Forum 2013

INFO

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

European Data Forum 2014

19.-20.03.2014 in Athens

Call for
contributions

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

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/

  eMail to**: cnect-g3@ec.europa.eu**

Thank you!