grey literature and data e-infrastructures

14th International Conference on Grey Literature
Rome, 29 November 2012

Carlos Morais Pires
European Commission
DG CONNECT, unit C1
carlos.morais-pires[@]ec.europa.eu

Author's views do not commit the European Commission

presentation outline

1. grey literature… a bit of history
2. e-infrastructures
3. EC recent developments and future steps

~14 billion years ago

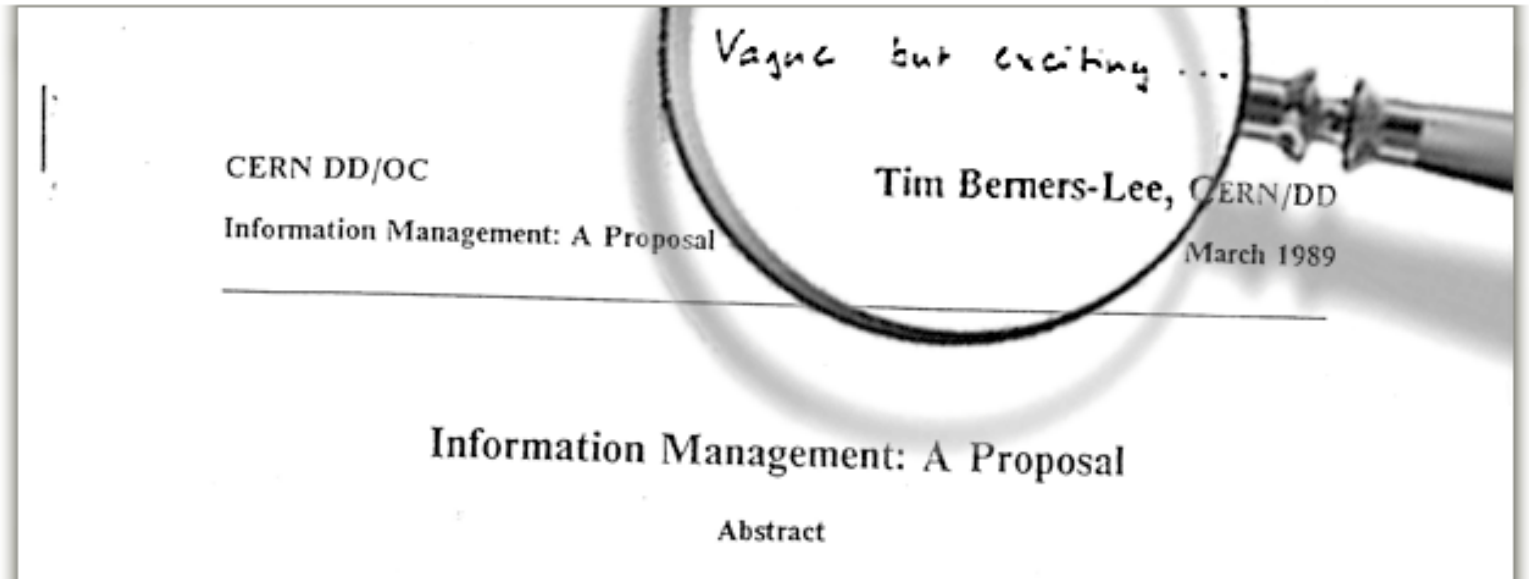
3-6 million years ago

1950… or 1990?

on-line research born... 20 years ago

In March 1989, Tim Berners-Lee submitted a proposal for an information management system to his boss, Mike Sendall. *'Vague, but exciting'*, were the words that Sendall wrote on the proposal, allowing Berners-Lee to continue.

Full text of the proposal in html.



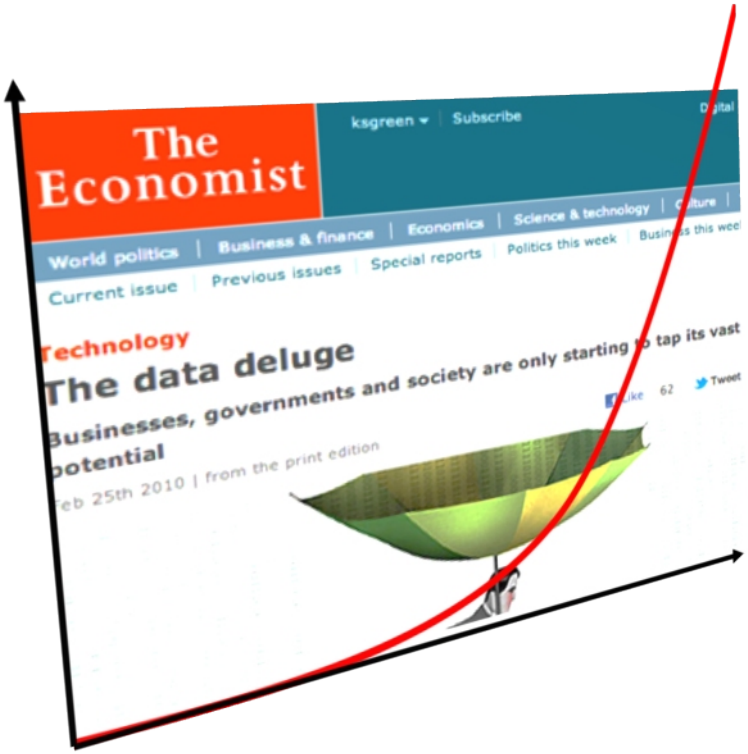
António Gedeão, 1950

A minha aldeia

Minha aldeia é todo o mundo.
Todo o mundo me pertence.
Aqui me encontro e confundo
com gente de todo o mundo
que a todo o mundo pertence.

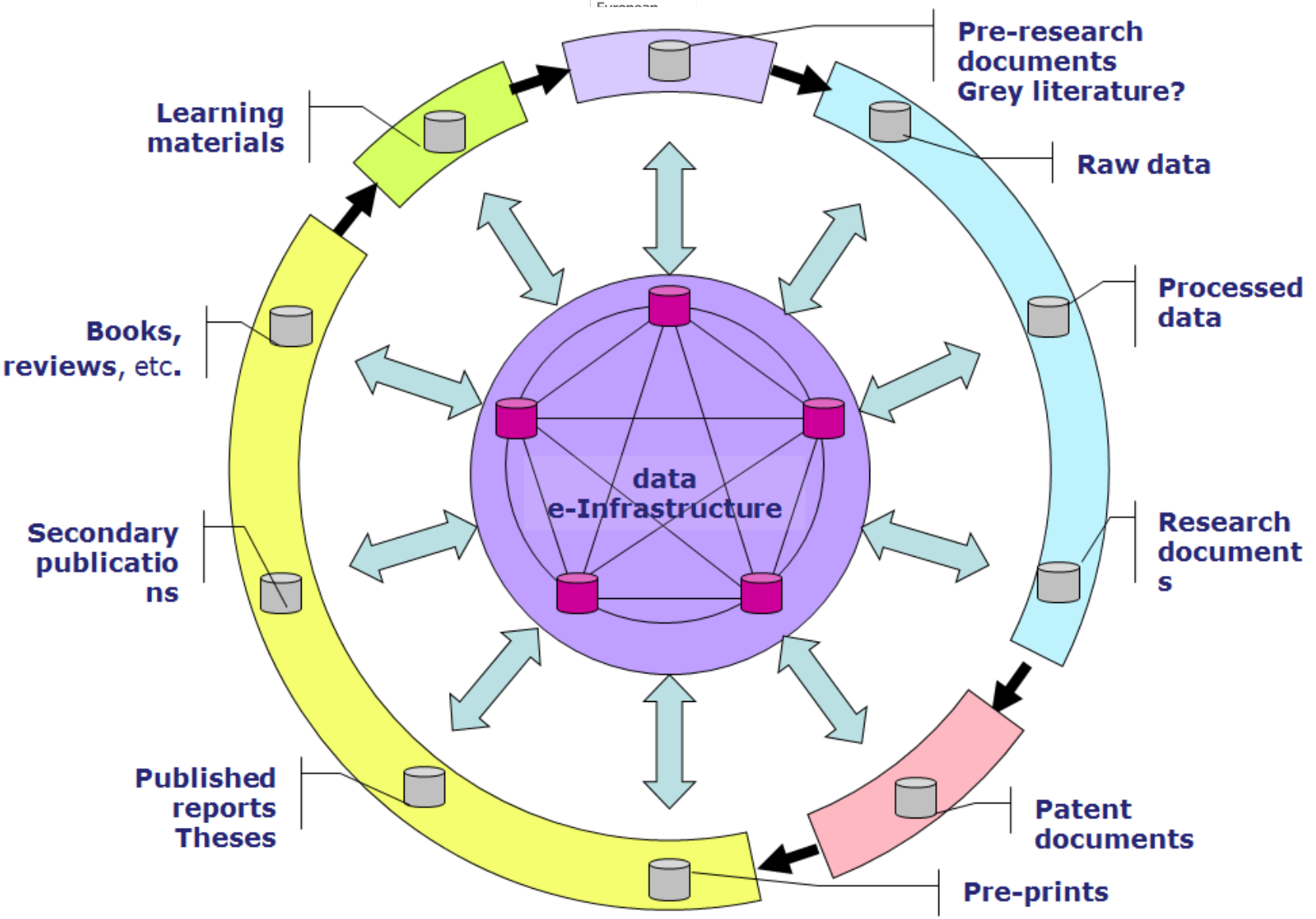
Bate o sol na minha aldeia
com várias inclinações.
Angulo novo, nova ideia;
outros graus, outras razões.
Que os homens da minha aldeia
são centenas de milhões.

preservation, volumes, costs, etc



The cost of data in $/€/£ per byte from (*)	
"Reliable" code / Curated data	10
"Production" code	
Book	1
[Movie]	10^{-1}
Big physics (e.g. LHC) data	10^{-3}
	10^{-7}

(*) Peter Buneman, Univ . Edinburgh, Linz April 2006,



Source: eSciDR study

European Commission

Digital Agenda for Europe 2010-2020

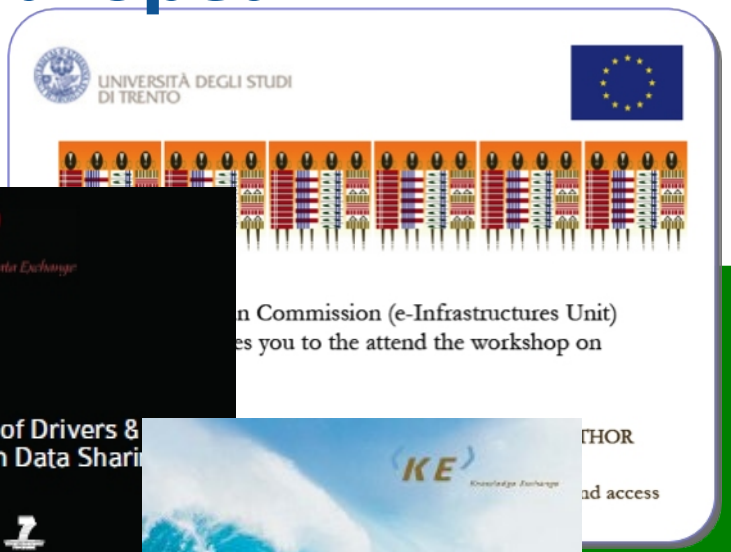
Neelie Kroes

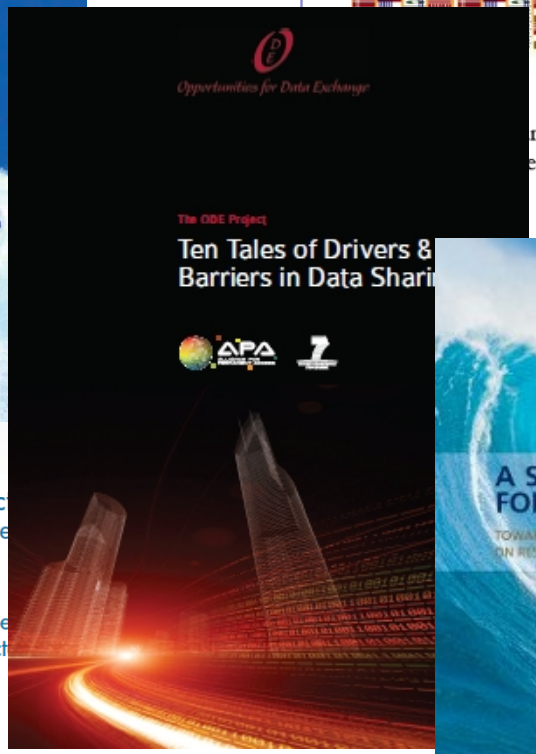
Digital Agenda

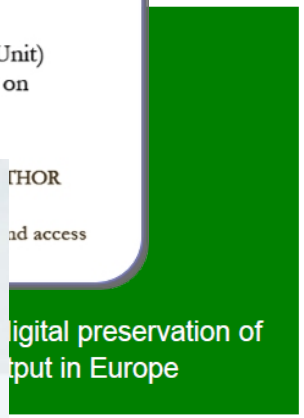
Digital (information) single market

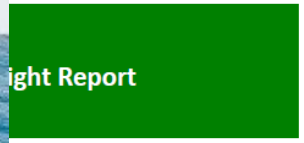
Open Science *means optimal sharing of research results and tools such as publications, research data, software, educational resources and infrastructures across institutional, disciplinary and national boundaries.*

reports and studies: european

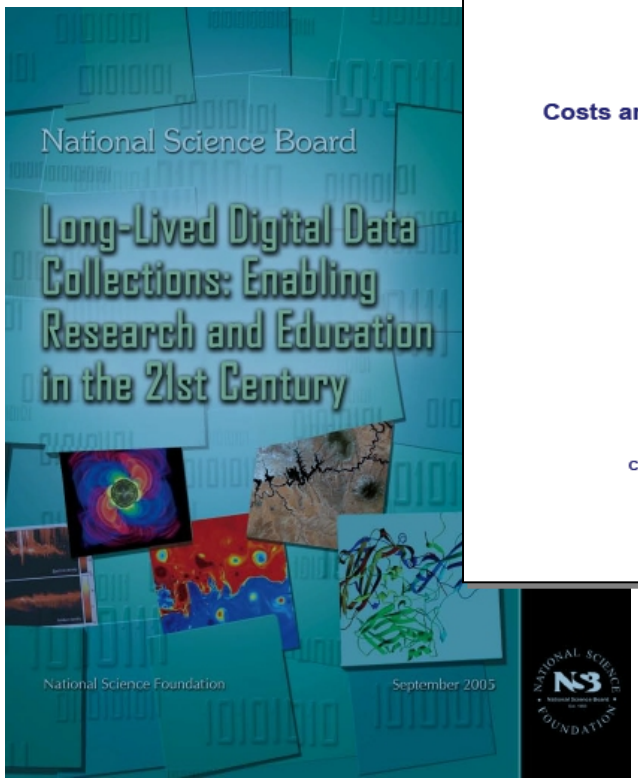


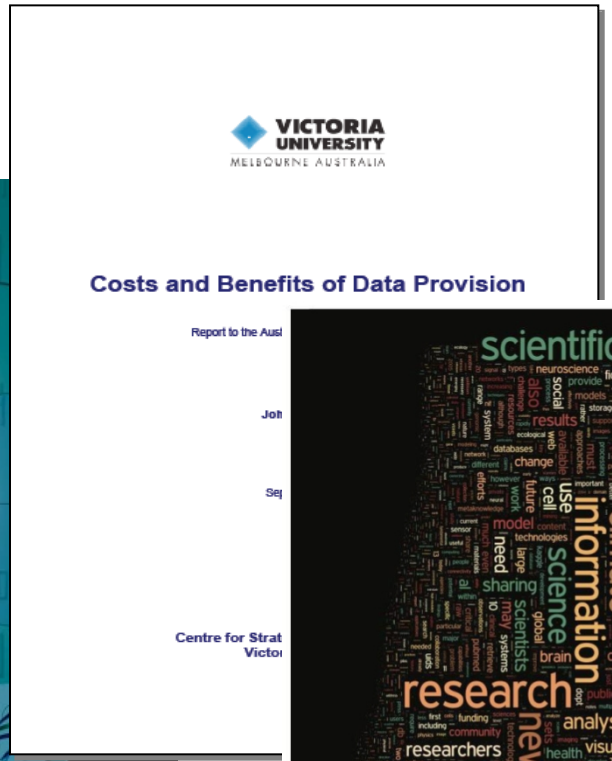


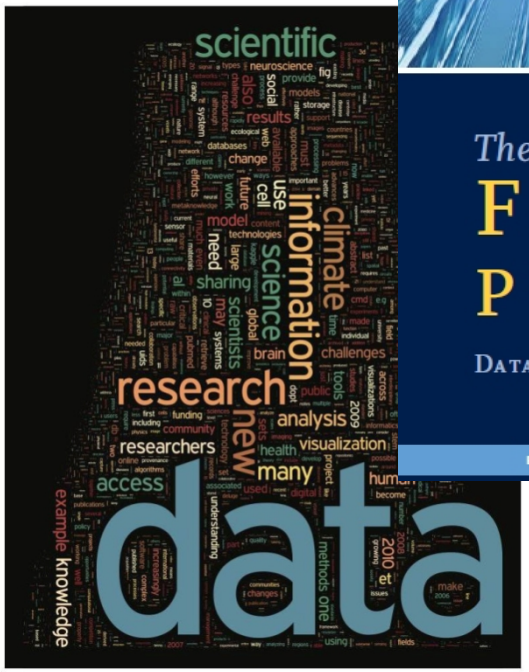


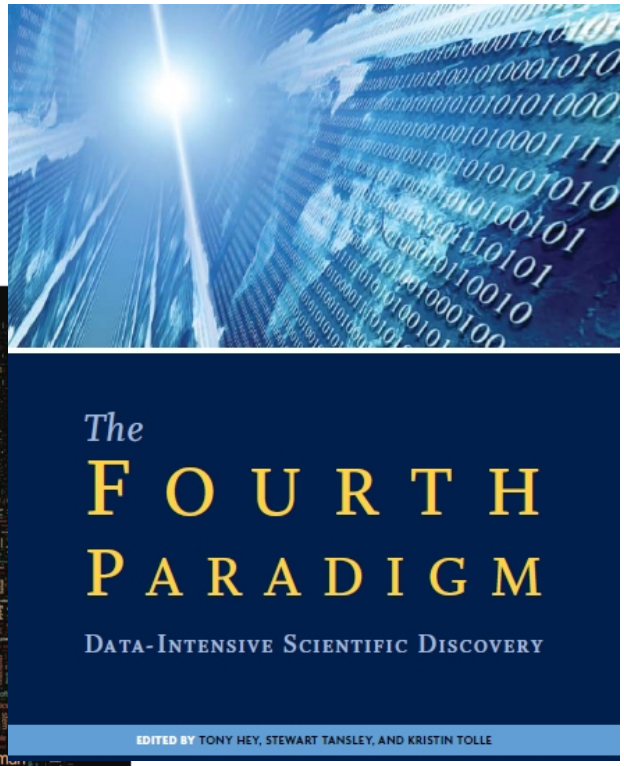


reports and studies: global









Open Infrastructures for Open Science

Open Scientific Content

data, computational resources and software resulting from public funded research

Open Culture

career systems should support and reward those who participate in the culture of sharing

Open Infrastructures

reliable, high-performance and economically efficient infrastructures

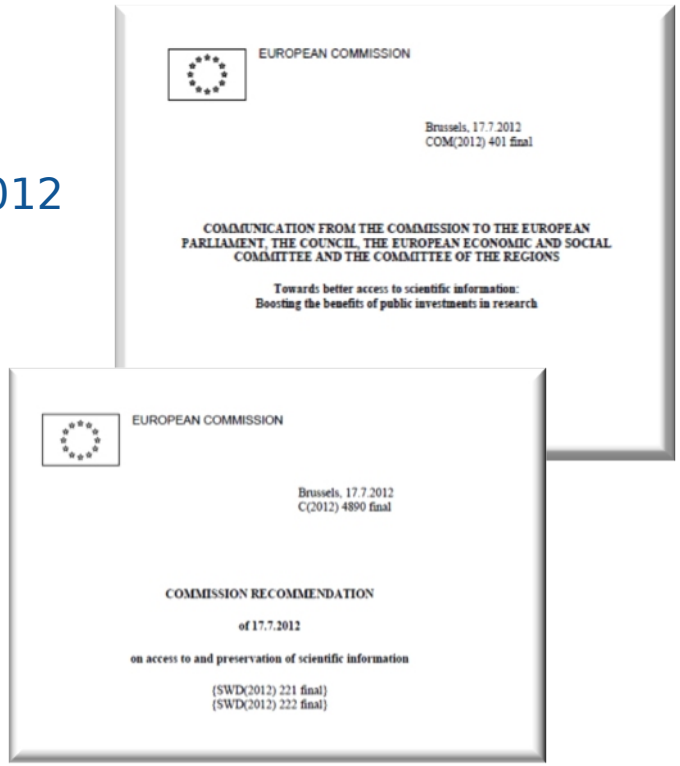
"To make progress in science, we need to be open and share. [...] With the right infrastructure and the right approach, we can bring on a new age of scientific practice and discovery"

Neelie Kroes on "Open infrastructures for Open Science", Rome 11 April 2012

Open Infrastructures for Open Science

COM and REC on Scientific Information, July 2012

- Open Access,
- Long term preservation,
- Capacity building with data infrastructures



recommendation:

[…] hereby recommends that member states

COMMISSION RECOMMENDATION

on access to and preservation of scientific information

THE EUROPEAN COMMISSION,

Having regard to the Treaty on the Functioning of the European Union, and in particular Article 292 thereof,

Whereas:

(1) The Communication from the Commission Europe 2020[1] puts forward the development of an economy based on knowledge and innovation as a priority.

(2) The targets set by the Europe 2020 strategy are given in more detail in particular in the Flagship Initiatives 'Digital Agenda for Europe'[2] and 'Innovation Union'[3]. Among the actions to be taken under the 'Digital Agenda', publicly funded research should be widely disseminated through open access publication of scientific data and papers. The 'Innovation Union' initiative calls for a European Research Area (ERA) framework to be set up to help remove obstacles to mobility and cross-border cooperation. It states that open access to publications and data from publicly funded research should be promoted and access to publications made the general principle for projects funded by the EU research Framework Programmes.

(3) On 14 February 2007, the Commission adopted a Communication on scientific information in the digital age: access, dissemination and preservation[4], accompanied by a staff working paper. This provided an overview of the state of play in Europe regarding scientific publishing and the preservation of research results, examining relevant organisational, legal, technical and financial issues.

(4) The Communication was followed in November 2007 by Council Conclusions on scientific information in the digital age: access, dissemination and preservation. The Conclusions invited the Commission to experiment with open access to scientific publications resulting from projects funded by EU research framework programmes and included a set of actions to be undertaken by the Member States. There have been advances in some of the areas dealt with in the Conclusions, but not all targets have been met and progress has been uneven among Member States. EU action is needed to make the most of Europe's research potential.

(5) 'Open access policies' aim to provide readers with access to peer-reviewed scientific publications and research data free of charge as early as possible in

[1] COM (2010) 2020 final of 3.3.2010, available at: http://eur-

towards horizon2020

Preparation Draft Roadmap

Roadmap Discussion

Actions in H2020 documents

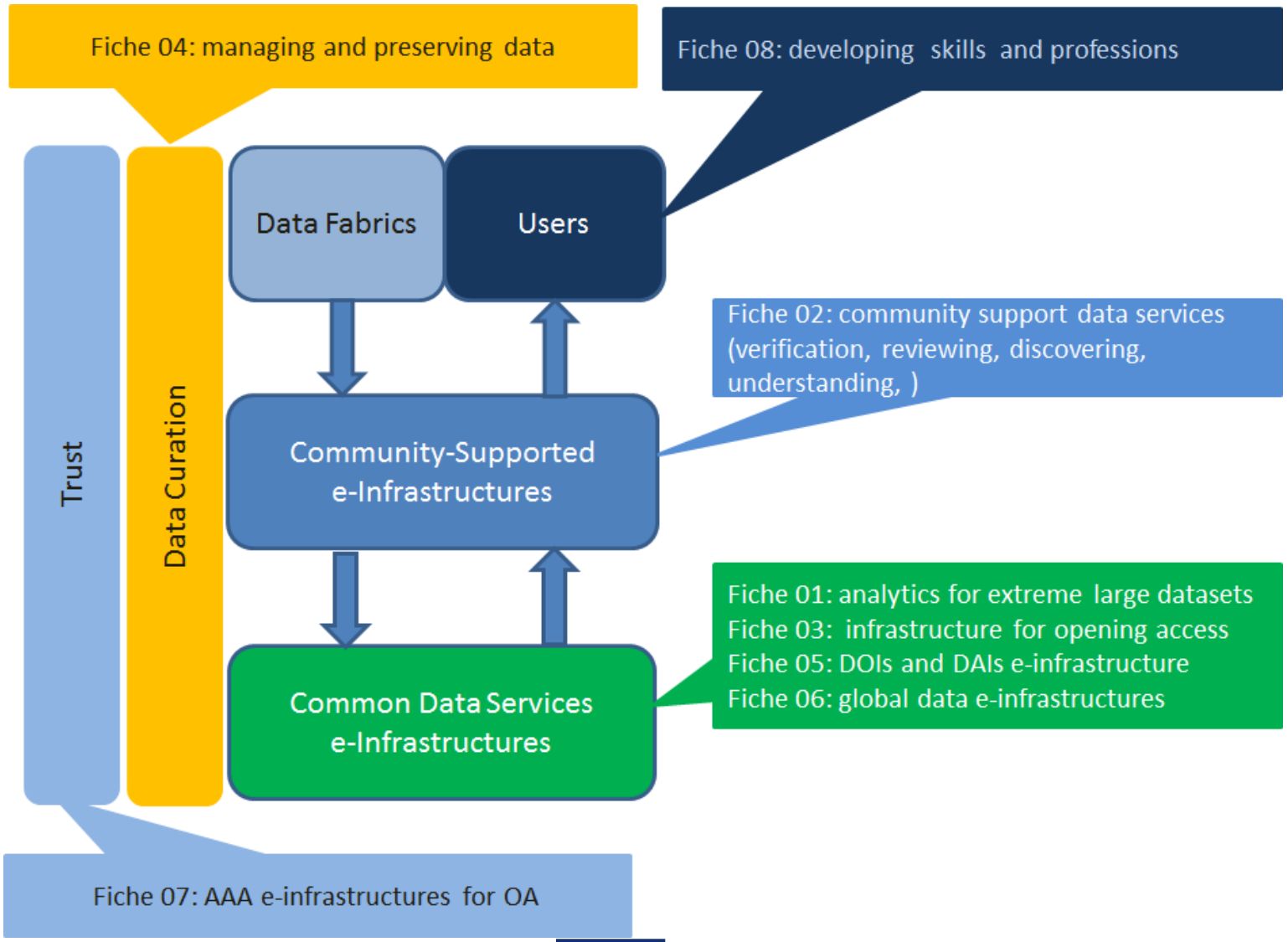
April 2012
H2020
Consultation

December 2012
Dissemination

February/March 2013

Framework for Action

1. analytics for very large research datasets
2. community support data services
3. infrastructure for Open Access
4. management, preservation, curation & persistence
5. discovery, provenance and persistence of data
6. towards global data e-infrastructures
7. Authentication and Authorisation e-infrastructures
8. developing skills and new professions


Fiche 04: managing and preserving data
Fiche 08: developing skills and professions
Data Fabrics
Users
Trust
Data Curation
Fiche 02: community support data services (verification, reviewing, discovering, understanding,)
Community-Supported e-Infrastructures
Fiche 01: analytics for extreme large datasets
Fiche 03: infrastructure for opening access
Fiche 05: DOIs and DAIs e-infrastructure
Fiche 06: global data e-infrastructures
Common Data Services e-Infrastructures
Fiche 07: AAA e-infrastructures for OA

Funders Perspective on Research Data Alliance

initial group of funders

Alan Blatecky (NSF), Carlos Morais Pires (EC)

EUDAT conference
Barcelona, October 24, 2012

IGoF and the RDA

Why/ Funders Motivation

How/ How do we see the process

What/ What do we expect

Four Threats to Establishing a Global Data Research Infrastructure

Not understanding the critical importance and the need to share data for next century science and education

Not understanding the urgency to address and create a global data infrastructure now

Relying on additional workshops, conferences, committees and so forth to study and provide more recommendations

Waiting for standards to be approved that will enable data sharing, interoperability, and support the entire data life cycle

IGoF Motivation

G8+O5 and Data infrastructures

South Africa (Nov 2011) and Hamburg (April 2012)

Technical/Cultural

Creation of data

Curation & Preservation of data

Access to data

Computing infrastructures

International governance

vision that research data will

Unmanaged	→	Managed
Disconnected	→	Connected
Invisible	→	Findable
Single-use	→	Reusable

Transform research and usher in a new era of discovery and innovation

Non Government Structures (NGS) Funded to support RDA

US:

- Fran Berman – RPI
- Bill Michener – DataOne
- Beth Plale – Indiana
- Sayeed Choudhury – Johns Hopkins

Australia:

- Ross Wilkinson – ANDS
- Andrew Treolar - ANDS

Europe:

- Leif Laaksonen (iCORDI/CSC)
- Peter Wittenburg (iCORDI/Max Planck Institute)
- Juan Bicarregui (iCORDI/STFC)

Initial Council

US:

Fran Berman – RPI

Australia:

Ross Wilkinson – ANDS

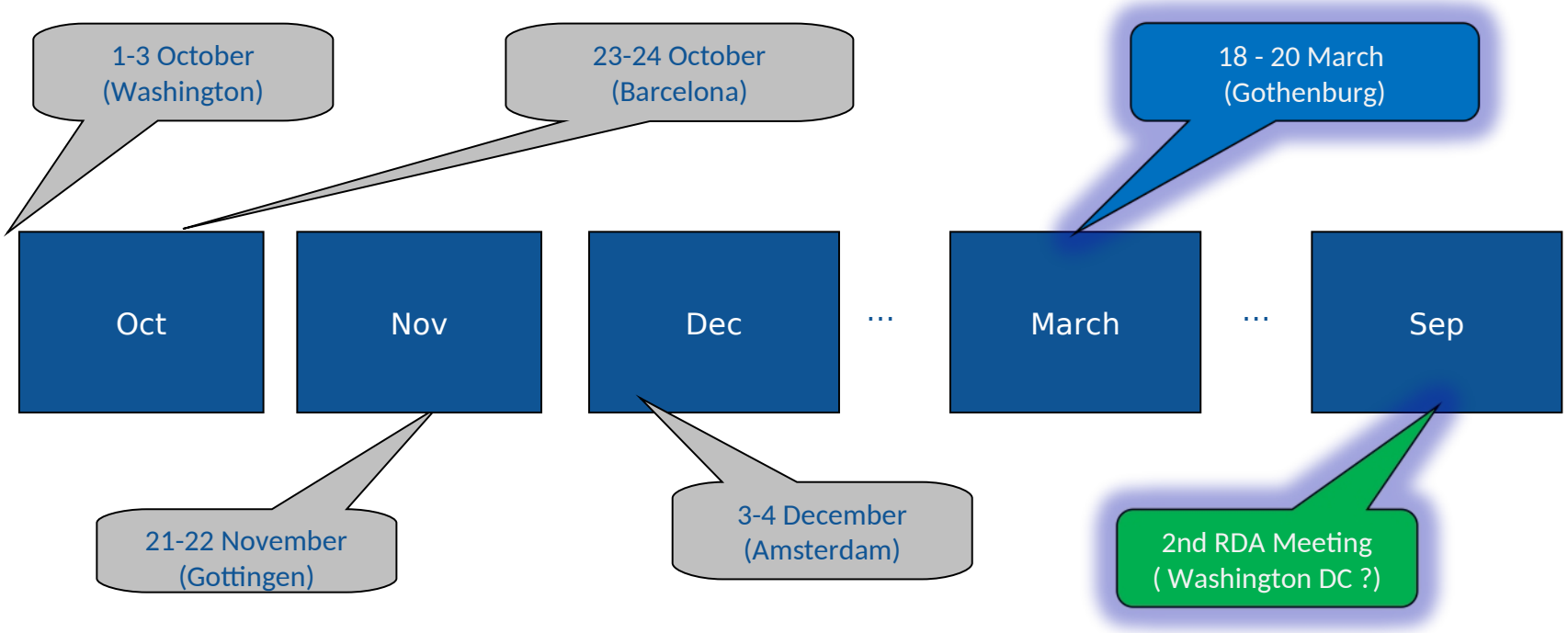
Europe:

John Wood, (iCORDI/ Commonwealth Universities)

4 more At-Large members to be appointed by March meeting and will represent other sector stakeholders

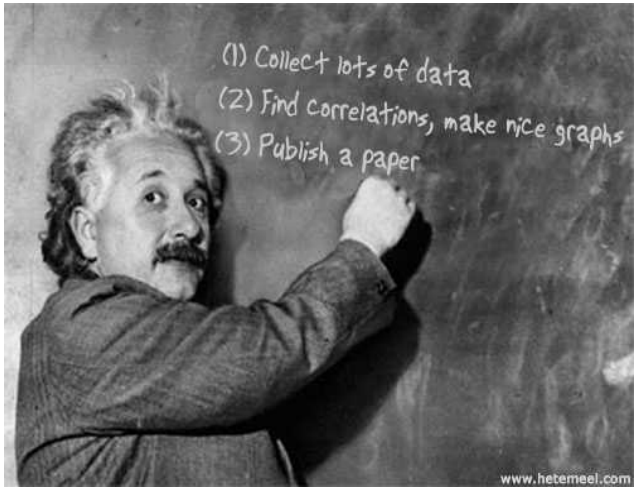
Opening up RDA

Involve other science agencies ion global research data infrastructures;
Leverage the G8+05 working group on data infrastructures;
First international meeting of RDA will be held in March 2013



accessing scientific information

We don't know how scholar communication will adapt to new paradigms bringing closer human and machine readable information...



Opportunities for innovation in publishing

publication + data + software

scientific information “continuums”

experimental data and publications (new paradigm)

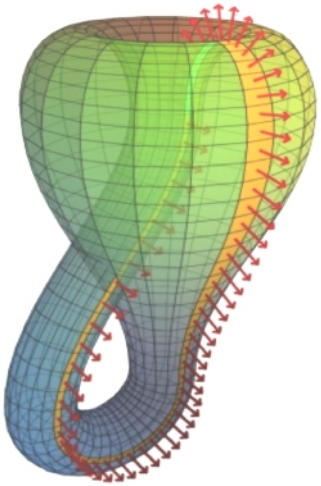
humans and computers (e-infrastructure)

different scientific disciplines (access, multidisciplin

past, present and future (preservation)

research and education (public mission)

different institutions (organisation)



Klein Bottle
http://plus.maths.org/issue26/index.html

Thank You!

Carlos Morais Pires
carlos.morais-pires(at)ec.europa.eu