

# The European Approach

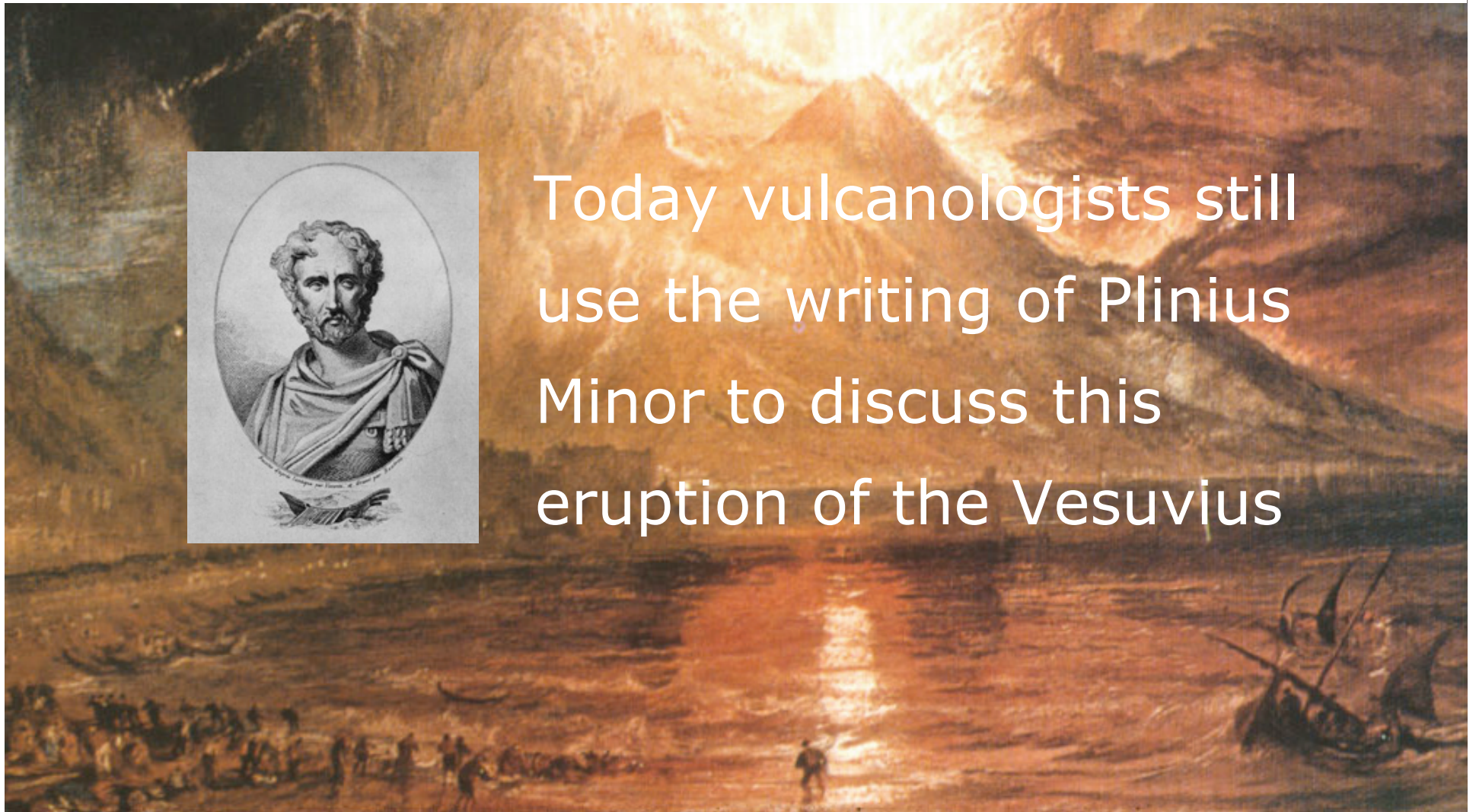
Wouter Spek

München, 25 June 2009

## Plinius Major – Plinius Minor

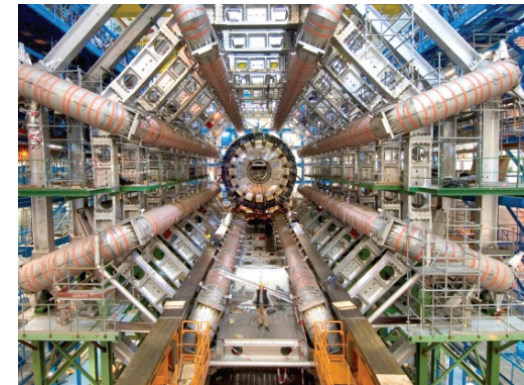


Today vulcanologists still use the writing of Plinius Minor to discuss this eruption of the Vesuvius

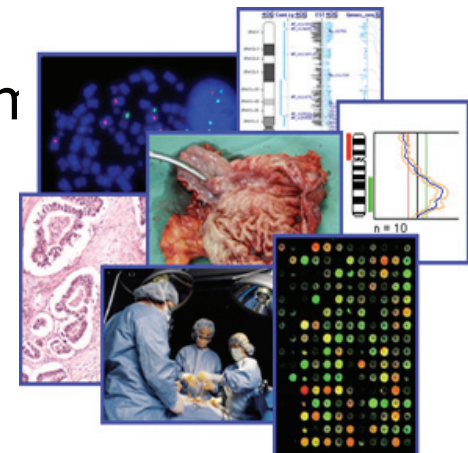


# Science

- CERN – Large Hadron Collider (LHC)
  - $\sim 10$  PB/ year at start
  - $\sim 1.000$  PB in 10 years



- International Cancer Genomics Consortium
  - $\sim 1000$  Genomes
  - $\sim 1$  PB/year at start





# Storing and Accessing the digital records of science



ESA: > 30% of requests for earth observation data for old data, number is increasing; also ESA offers its capabilities to the tens of repositories with earth observation data to get common solutions



# Objectives

- To support the development of a sustainable European digital information infrastructure
- To partner with national governments and European Commission
- To collaborate with European Science Consortia
- To initiate and facilitate strategic alliances between key stakeholders
- To strengthen the role of European parties in worldwide collaboration

# Justification

- Science has changed in part because informatics has changed.
- Research is generating rapidly increasing volumes of data...
- ... a diverse range of formats like images, data, publication...
- New knowledge and know-how depend more and more on the ability to re-use and share data

So ...



# We need to take action!

## USB-stick gegevens 12 miljoen Britten verloren

Gepubliceerd door Jochem de Goede op maandag 3 november 2008 07:10  
4 reacties - views 1139

Op een parkeerplaats in het Verenigd Koninkrijk is een USB-stick gevonden die aanmeldgegevens bleek te bevatten van 12 miljoen Britten voor een belangrijke overheidssite. De stick behoorde tot Atos Origin, een IT-dienstverlener.

De aanmeldge-  
Government G  
krijgen tot hon  
belastingterug  
Naast de aanm  
op de USB-stic

**security.nl**

Uw advertentie  
Klik voor meer info

Home | Nieuws | Forum | Columns | Achtergrond | Poll | Dossiers | Nieuwsbrief

**Nieuws**

**USB-stick met NAVC**  
04-01-2008, 14:34 door Redact  
Reacts: 11

Een USB-stick met zeer  
defensieminister van Liban  
zeer specifieke informatie o  
over de situatie in Afghanist  
elite-soldaten.

Wanneer de vertrouwelijke i  
voor Zweedse ISAF-soldaten

In 2006 liet een kapitein  
informatiedrager bevatte tal  
defensie-minister Kamp.

## TIMESONLINE

NEWS COMMENT BUSINESS MONEY SPORT LIFE & ST  
UK NEWS WORLD NEWS POLITICS ENVIRONMENT WEATHER

Where am I? > Home > News > Politics

From The Sunday Times  
January 25, 2009

## Loss of British Council staff data David Miliband

David Leppard

THE foreign secretary, David Miliband, faced embarrassment last night after it emerged that a computer disk containing confidential bank details of up to 2,000 public servants working for the British Council has been lost.

The council — the Foreign Office's cultural arm — admitted that the disk, which held the names, National Insurance numbers, salary and bank account details of staff on its UK payroll, went missing while in transit last month.

The incident is the latest in a string of losses which has led to criticism of the government's handling of sensitive data.

In November a memory stick holding data said to give access to tax and benefit records was lost in a pub car park, forcing officials to suspend the government's gateway website.

## HSBC loses customers' data disc

The HSBC banking group has admitted losing a computer disc with the details of 370,000 customers.

The disc was lost four weeks ago after being sent by courier from the bank's life insurance offices in Southampton.

The customers' details included their names, dates of birth, and their levels of insurance cover.

However, there were no addresses said the customers' exposure to p

"We are looking into it and basically an HSBC spokesman.

"The reinsurer we sent it to is doing We will do anything we can to find

"There are no financial details there are no address details or anything

As well as name, date of birth and revealed only the customer's policy customer was a smoker.



## The Local

SWEDEN'S NEWS IN ENGLISH

News Travel Lifestyle Galleries Dating Museums Blogs Disc  
National Money Politics Sci & Tech Society Education Sport Opinion Pi

## Secret Swedish military files left in library

Published: 4 Jan 08 11:08 CET

Dictionary tool Double click on a word to get a translation

A USB-memory stick loaded with secret documents from the Swedish Armed Forces was found in a Stockholm library, reports Aftonbladet.

- Swedish major facing sack over boozy African sex romp (1 Jun 09)
- Thailand to delay Gripen purchase: report (22 May 09)
- Spy ship rescues Russian fishermen (18 May 09)

The secret documents included material related to Nato's ISAF peace keeping force in Afghanistan, as well as an intelligence report from a private American security company analyzing the murder of the Sri Lankan foreign minister and the attempted assassination of Lebanon's defence minister.

"We take this kind of carelessness very seriously. Its primarily a matter of security for our soldiers," said Colonel Bengt Sandström, from the Military Intelligence and Security Service (MUST).

# Threats | Opportunities

## Case Study: The 1986 Domesday project



Copyright The National Archives,  
Catalogue reference: E 31/2/2 f.238a

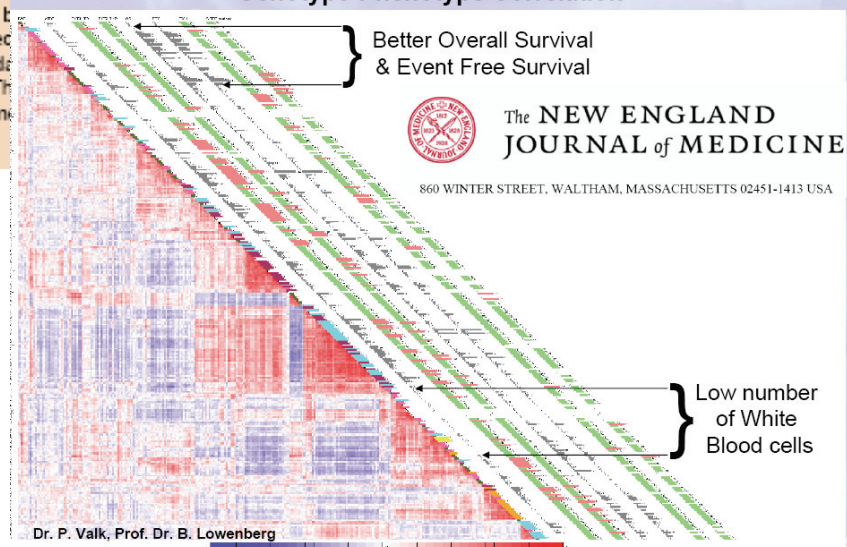
The original Domesday book, which was produced on vellum in 1086 for William the Conqueror, is still readable today at The National Archives, over 900 years later.

To mark the 900<sup>th</sup> anniversary of the original Domesday book, the BBC launched the 1986 Domesday project. This consisted of thousands of photographs and maps combined with statistical, written and visual information to produce a picture of Britain in 1086.

The project was recorded onto 30cm laserdiscs and could be viewed with software running on BBC Microcomputers. Less than 20 years later, not only are the 30cm laserdiscs obsolete, but the necessary hardware. Separate projects were launched by The National Archives and by Leeds University to rescue the data and the software that made up the 1986 Domesday project. This was only achieved thanks to a surviving laserdisc player and more than a year's effort by specialist teams.<sup>3</sup>

Mind the Gap – Digital Preservation Coalition, 2006

## Leukemia Patient Classification - Genotype-Phenotype Correlation -



Courtesy Professor Peter van der Spek – Erasmus Medical Centre



# Alliance members



# Activities

- Promote strategic agenda for European e-science infrastructure
- Creating a stakeholders forum for interaction
- Facilitate linkage between different scientific communities
- Annual conference: for governments, EU, funding agencies, research organisations, FP7 and ESFRI projects, publishers, national libraries, archives etc.
- PARSE.insight



# PARSE.insight



## Facts and Figures:

- ▶ Duration: March 2008 – February 2010
- ▶ 9 partners ranging from libraries to universities and large research organisations
- ▶ EC funding: M€1,8, through the FP7 ICT Work Programme
- ▶ Website: [www.parse-insight.eu](http://www.parse-insight.eu)

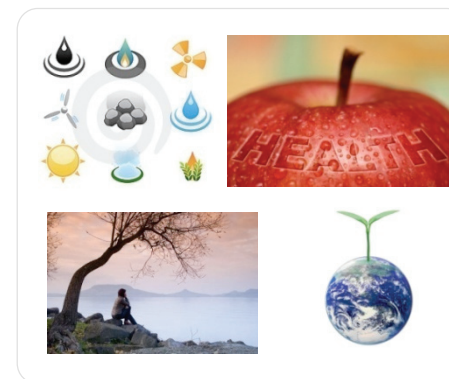
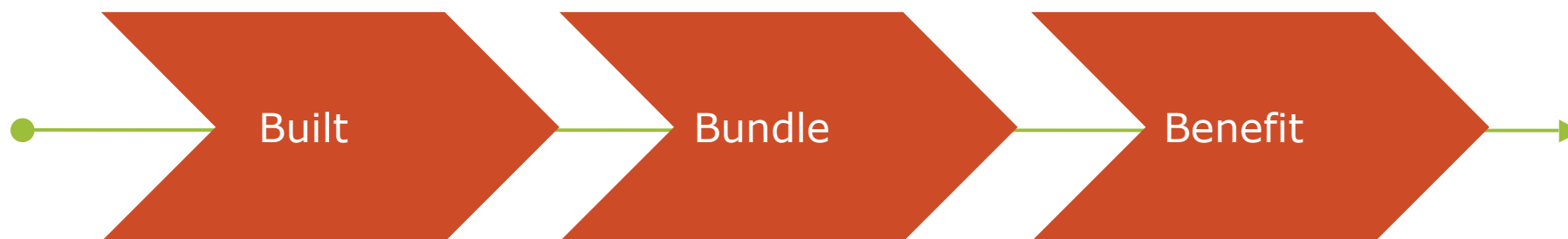
# PARSE.insight



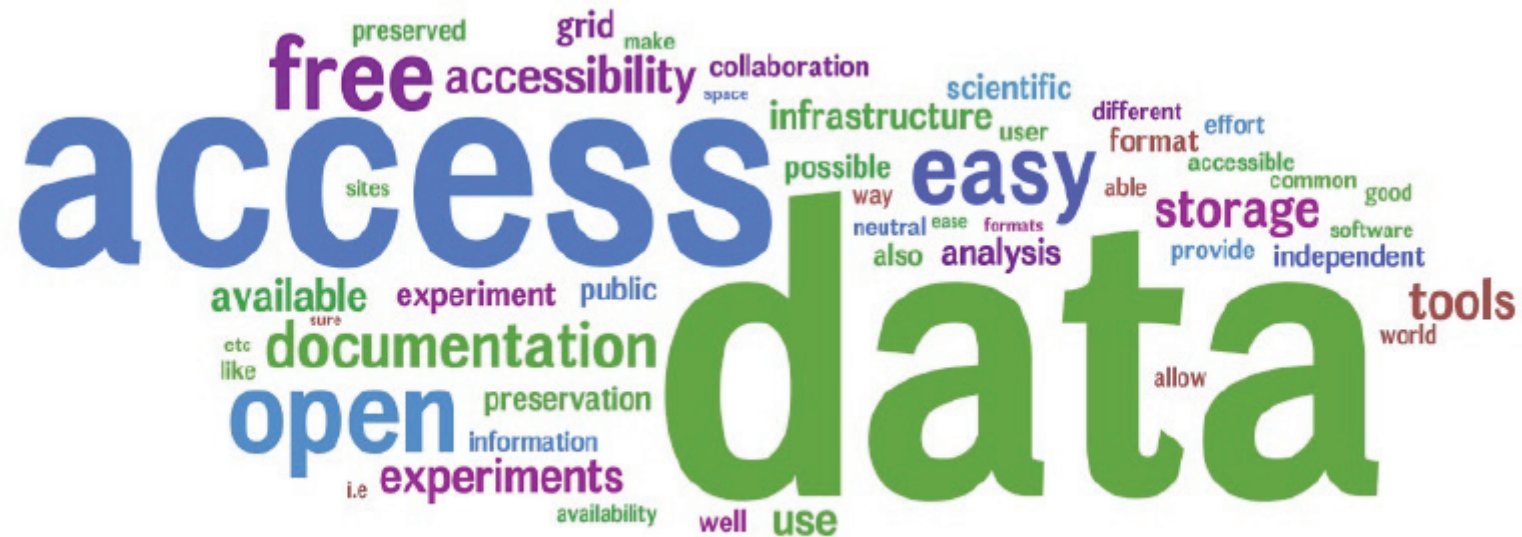
- Insight into issues of Permanent Access to the Records of Science in Europe
- Objectives:
  - ▶ Develop a roadmap and recommendations for building the e-Science infrastructure in order to maintain long-term access and use of scientific digital information in Europe



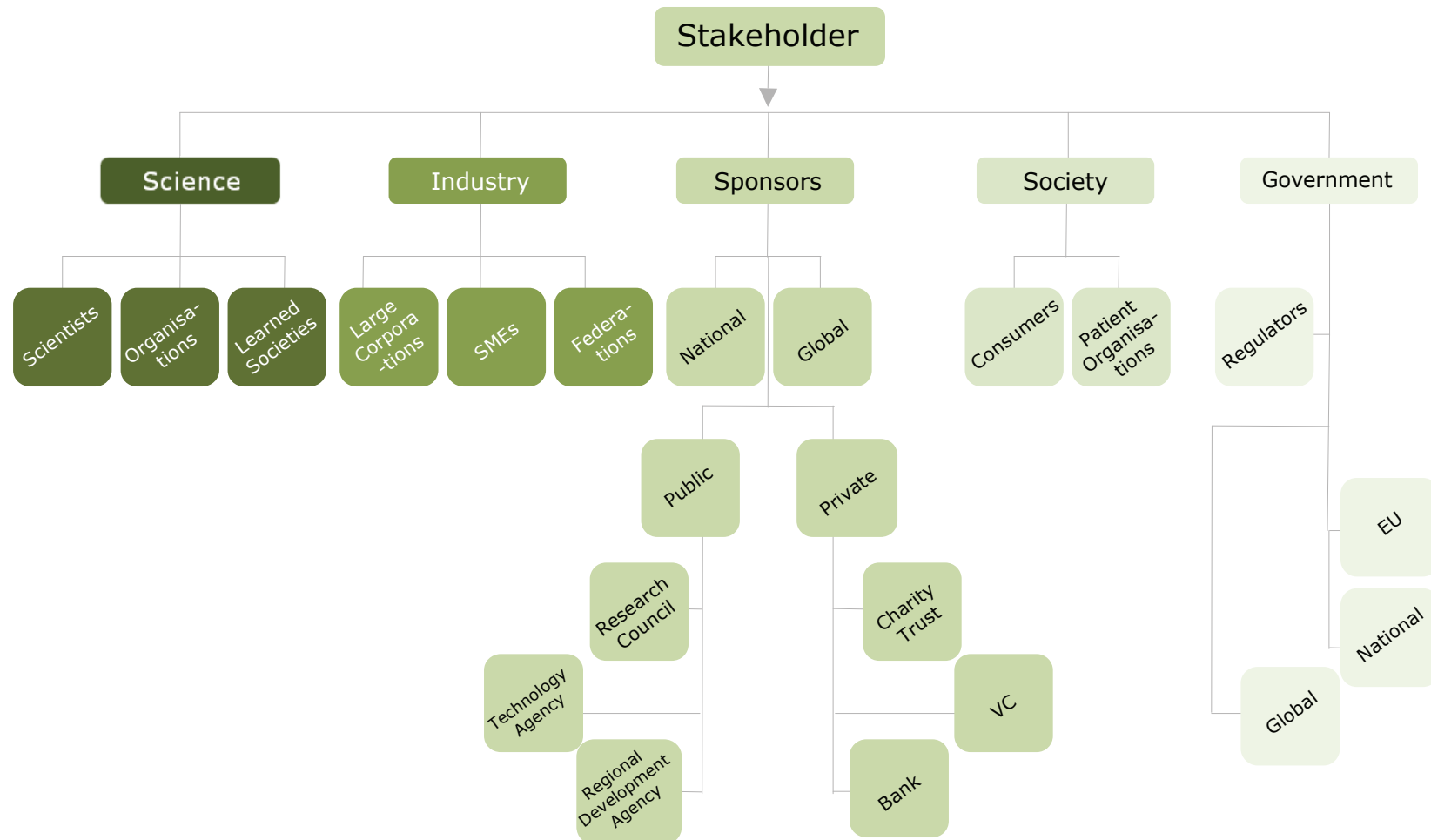
# Grand challenges



# Clear message needed



# Whose problem is it anyway, who is picking up the check?

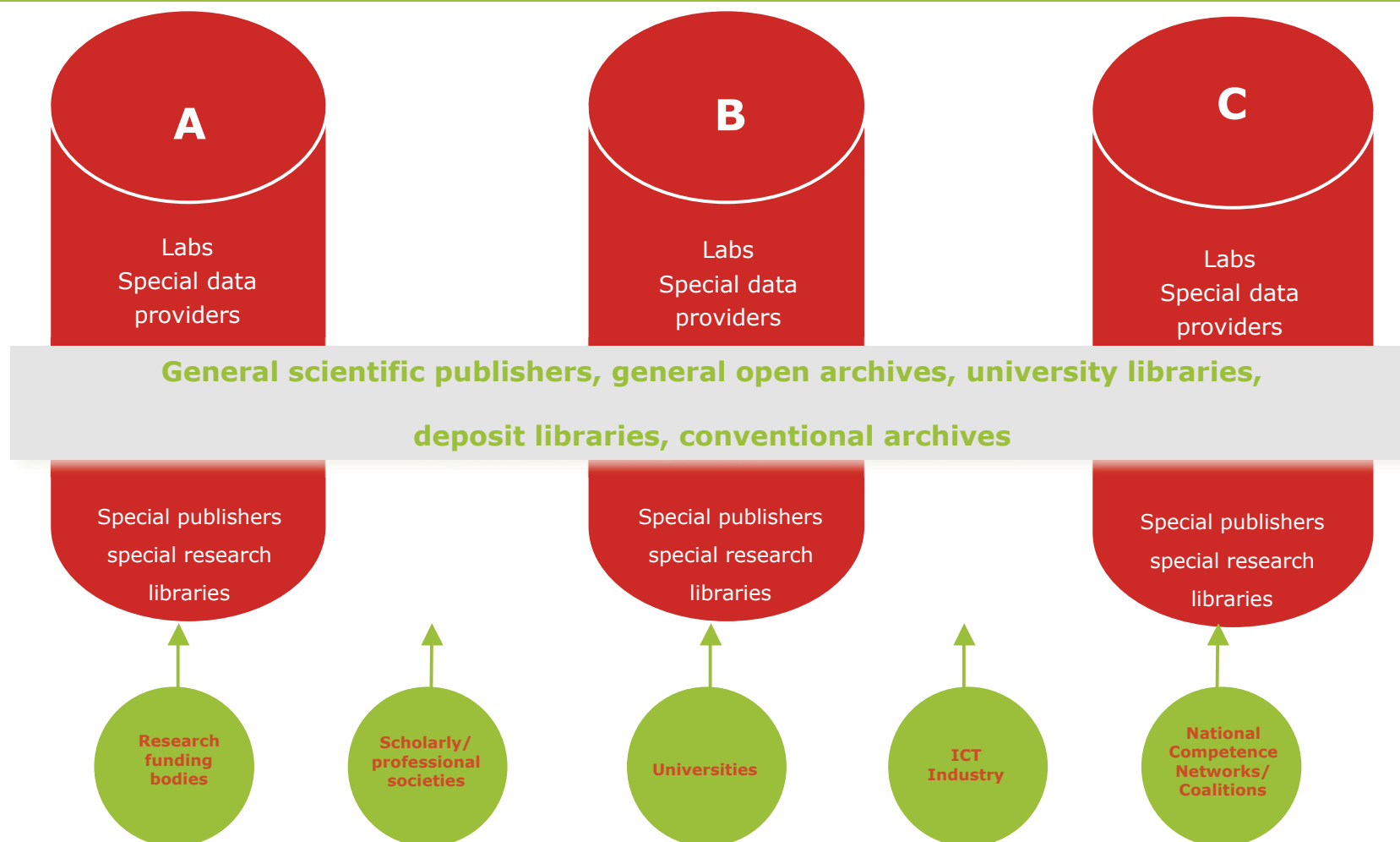




# Towards permanent access

- Management & Organisation
- Policy & strategy
- Standardisation
- Technical issues
- Legal Framework
- Finance

# Management & Organisation



# Community example | ELIXIR


**ELIXIR**

EUROPEAN LIFE SCIENCE INFRASTRUCTURE FOR BIOLOGICAL INFORMATION  
[www.elixir-europe.org](http://www.elixir-europe.org)

**ELIXIR: DATA FOR LIFE**

Imagine going to your computer to look up the sequence of a gene that you're working on, but the sequence database has disappeared. Suddenly you realise that the entire EST library that you characterised a few years ago has vanished without trace and you don't have any other record of it.

We need your support to secure the future of Europe's biological data and make sure that this scenario stays in the realms of science fiction.

Sequencing the human genome alone cost 3,000 M€. Compared with the costs of generating sequencing data, the cost of storing all known DNA sequence information in openly accessible databases that researchers everywhere can use is very small – probably less than 1%. If we don't ensure the future of our databases, it's as if we didn't collect the data in the first place.

ELIXIR's objective is to secure funding commitments from government agencies, charities, industry and intergovernmental organisations throughout Europe, to strengthen and sustain a world-class infrastructure for the management and integration of information in the life sciences.








Acquisition 500.000.000€

Maintenance 5.000.000 €/year

<1%

# Policy & Strategy

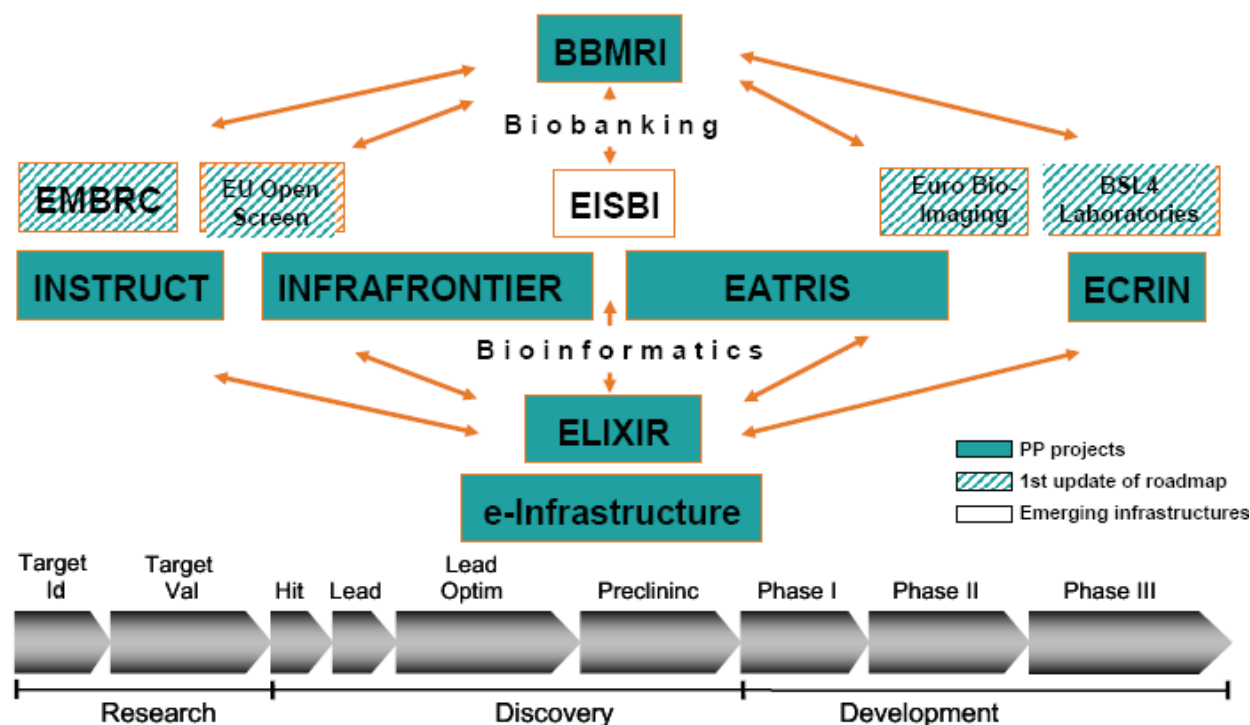
- EU | ICT infrastructure for e-science
- ESFRI | roadmap | preparatory phase
- Nations | national roadmaps



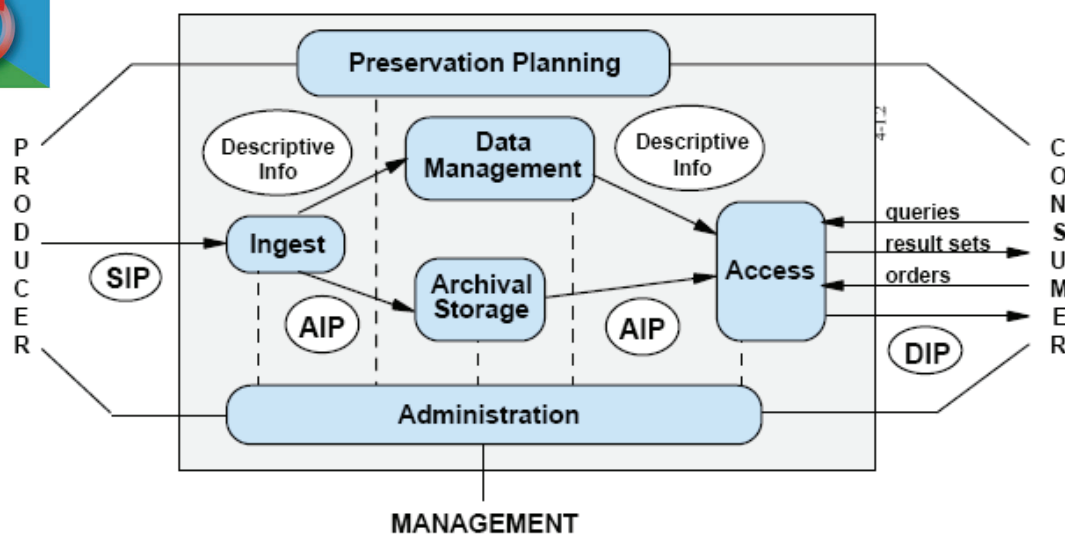
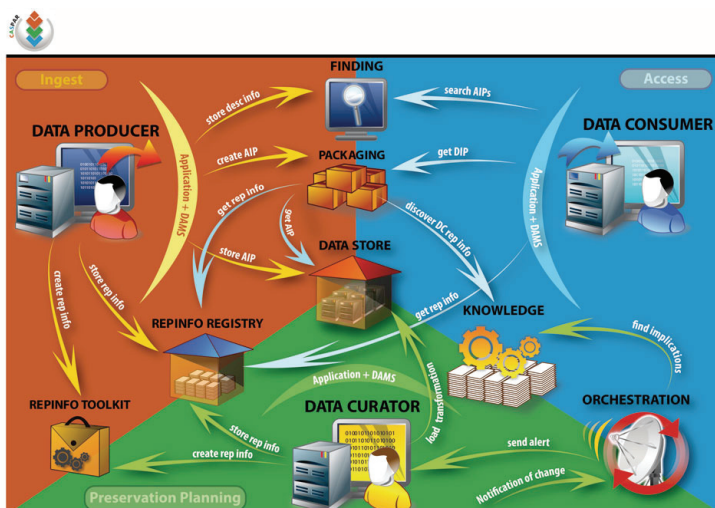


# Policy & Strategy | ESFRI

## Synergies of BMS Research Infrastructures



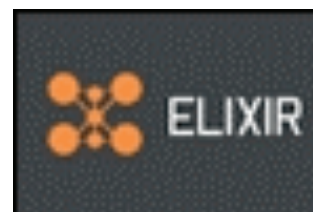
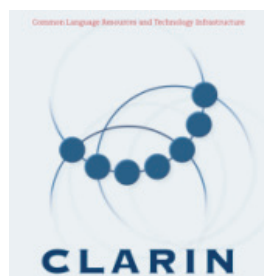
# Standardisation & Technical Issues



# A European Digital Information Infrastructure to take care of these issues

1. Identify *core physical digital archives/repositories* in several initial communities and among cross-community organisations. Do this for documents and for data
2. These must *OAIS-compliant* to ensure proper archiving, interoperability and long-term preservation
3. Framework for *metadata*, Framework for *persistent identifiers*, and number of *registries*, possibly *other standards*
4. Cost-effective *preservation methods and services* must be available
5. Common framework of *principles and guidelines for management of access and rights* (underlying the technical tools to implement this framework)
6. Create *Financial mechanism* for developing and testing implementation tools, techniques and services, and for strengthening collaboration and training
7.
  - a. *Certification service* providers, accredited according to
  - b. Common *European accreditation mechanism*.

# Changing European landscape





# Finance | The paradox & problem

- ▶ Lack of funding possibilities
  - ▶ There is no lack of funding possibilities, but there are a lot of good projects in vain seeking funding



# Finance | The paradox & problem

- ▶ Unmet needs
  - ▶ Few projects are tailored to meet funding requirements, and funders are really looking for high impact opportunities



# Finance | The paradox & problem

- ▶ Sources of funding
  - ▶ Differences between public and private funders, but also differences between various public funders



# Finance | The paradox & problem

- ▶ Stakeholders value
  - ▶ Projects are becoming more and more complex, the days of single community approach have passed, stakeholders might have different views on the same project





# Finance

Innovative Medicine Initiative

Canon Foundation Research Fellowships

**7th Framework Programme** FEBS Scholarship

**European Investment Bank** EuroCores Life+

**European** Article 169 Gate2Growth **COST** European Cohesion Funds

**Structural** EMBO Young Investigator Program **DEG** **BBSC** **Eureka** **ESA Research Grant** Marie Curie Fellowships

**Fund** ESFRI SPINOZA Award **Global Health Program**

European Investment Fund EraNet **NATO Science Program**

Competitive Innovation Program **EuroBioFund**

**The Wellcome Trust** **VW-Stiftung** **Risk Sharing Finance Facility**

European Regional Development Fund

# Keeping the records of science accessible

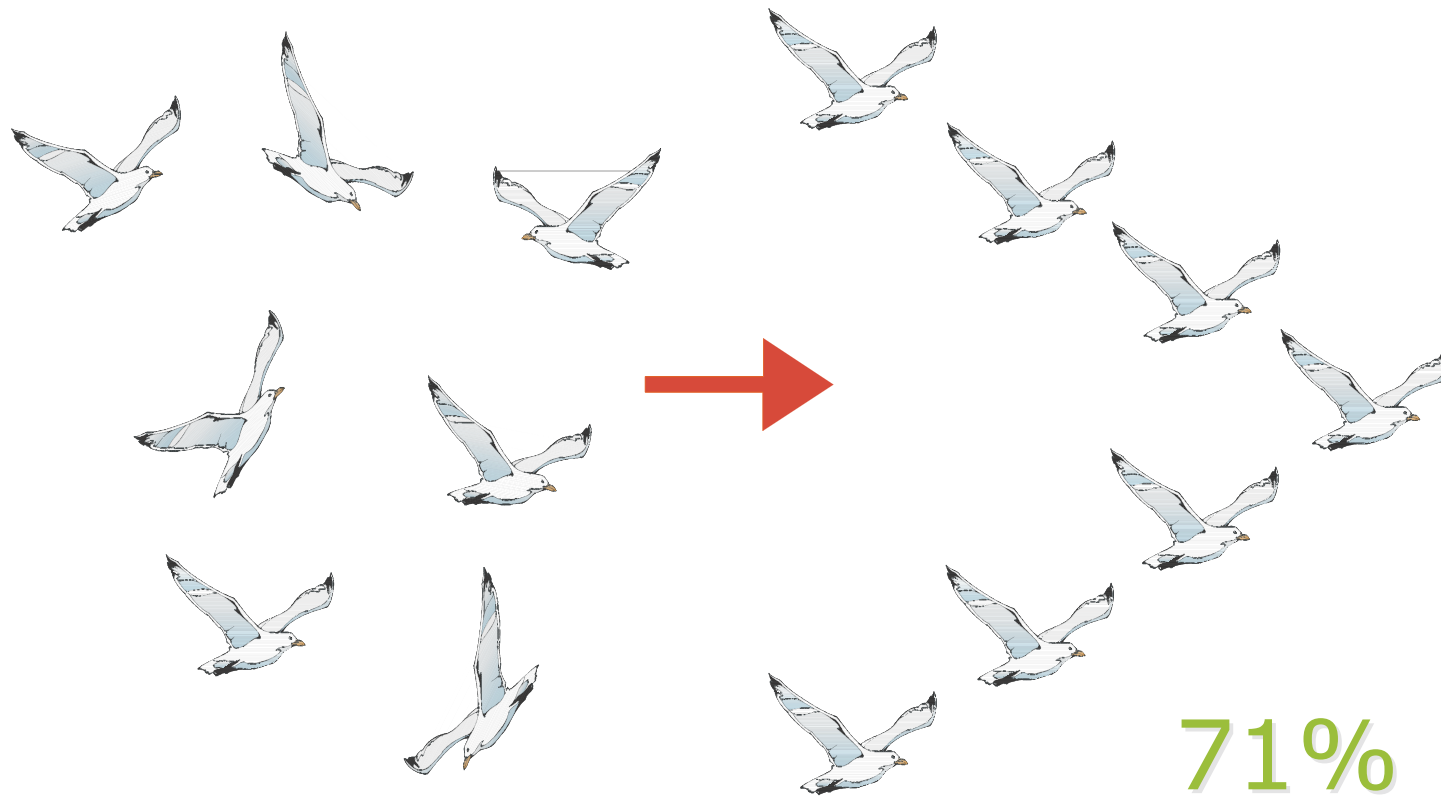
- Leadership
- Science breakthrough /Market opportunity
- Involvement of all relevant stakeholders
- Sense of urgency / Unmet need
- Support from the top



## Alliance aims to:

- Establish wide consensus at strategic level among major stakeholders
- Promote creation of main building blocks of the infrastructure
- Work with European partners to ensure that technology, skills, and standards are in place
- Work with public and private funders
- Be key enabling mechanism for national governments and the EU
- Offers platform for effective coordination and sharing information
- Strengthen role of European parties in world-wide efforts

# The European Approach



# Annual Conference 24 November 2009



- Keeping the records of Science Accessible: towards a sustainable scientific data e-infrastructure!
- Den Haag, The Netherlands



# Thank you

For more information, please contact:

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