The EU project Digital Cultural Heritage Roadmap for Preservation (DCH-RP)

Antonella Fresa

Technical Coordinator of DCH-RP

Promoter Srl

Stockholm, 3 June 2014, DCH-RP/EUDAT workshop on digital preservation

Introduction

❑ In the last decades, **cultural institutions** started to move their cultural content on the **digital world**. This has implied to know new instruments, new rules of access, new standards to exhibit digital heritage, new ways of communication.

❑ The **amount** of digital cultural content is now so valuable that the issue of **preserving** the digital cultural heritage is becoming as much urgent as the preservation of tangible heritage.

❑ The **national policies** about cultural preservation (digital and tangible) needs to re-use best practices, to share solutions, to avoid duplication of efforts.

❑ The use of the **e-infrastructures** is a pillar in this direction and the cultural heritage sector should progress towards its full integration in the new concept of open science.

❑ Implementation of the **preservation** services of such infrastructure is among the first priorities for the DCH sector

Background and context:
CH and the e-infrastructures

CH needs and requirements	Benefit of the e-infrastructures
High investment in the production of DCH data due to the need of **human intervention** of experts.	To allow for **cost reduction** in digitisation, cataloguing and metadata generation by substituting expensive human workforce with cheaper machine processes
High **costs of digital preservation**, due also to the use of separate solutions, mostly implemented each time by each memory institution.	To support the **permanent identification** of digital cultural objects and providers
Several different kind of information, **different formats**: 2D images and 3D models, metadata, publications, digital exhibitions, virtual reconstructions, etc.	To facilitate **storage** and **preservation**, ranging from short- medium- and long-term
	To improve **search facilities** to manage **semantic search** and **linked open data**
Contextual data are complex and very important for cultural research.	To enhance **processing** and **visualisation** of **complex** cultural data (e.g. 3D modelling and VR representations) through the computing resources offered by research e-infrastructures (grid, cloud)
Even if growing very rapidly, the actual **size** of this content is still rather **small** (if compared for example to the amount of data produced by other scientific domains).	To enable dynamic distributed virtual organisations, facilitating **collaboration** with **information** and **resource sharing** (e.g. virtual conferences, document sharing, blog and cooperation platforms, etc.)
The digitisation process is unique **cannot be replicated** unless the whole work is done from scratch.	To contribute to **standardisation** in the data world, e.g. by developing a common reference model for the DCH sector

Expeditures

- ❑ The estimated total cost of **digitising** the collections of Europe's museums, archives and libraries, including the audiovisual material they hold is approximately €100bn, or €10bn per annum for the next 10 years
- ❑ The cost of **preserving** and providing **access** to this material over a 10-year period after digitisation would be in the order of €10bn to €25 bn, provided that centralised repository infrastructure is made available for the purpose
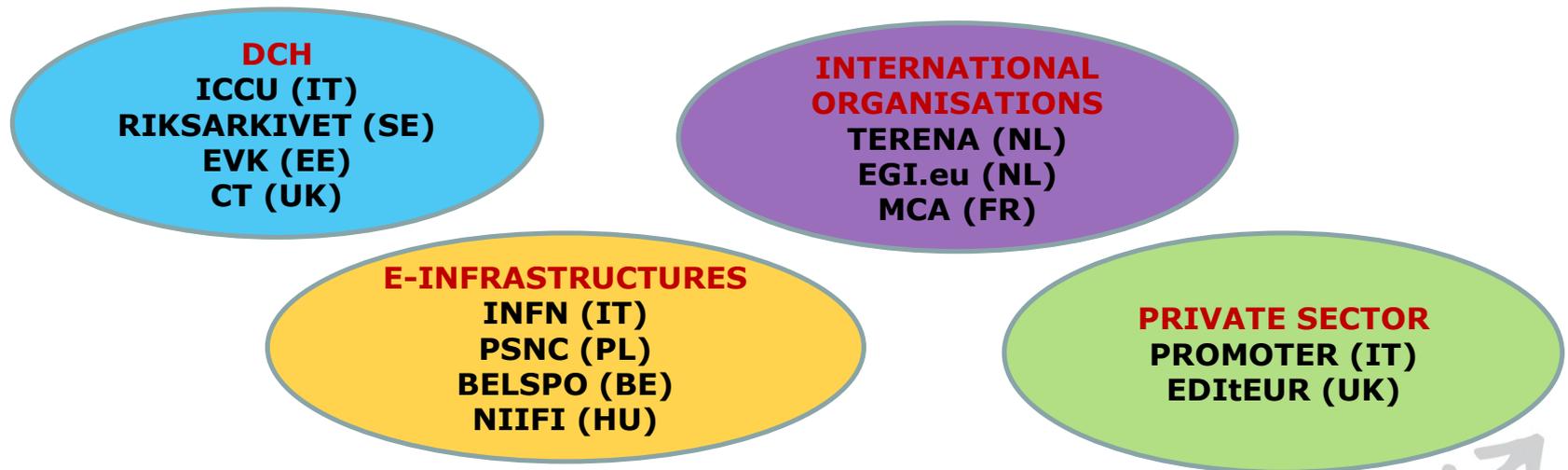
- ❑ Sources
  - – NUMERIC Study Report: http://cordis.europa.eu/fp7/ict/telearn-digicult/numeric-study_en.pdf
  - – ENUMERATE Survey Report on Digitisation in European CH Institutions 2012: http://www.enumerate.eu/fileadmin/ENUMERATE/documents/ENUMERATE-Digitisation-Survey-2012.pdf
  - – EC Comité des Sages Report on Cost of Digitising Europe's CH: http://ec.europa.eu/information_society/activities/digital_libraries/doc/refgroup/annexes/digiti_report.pdf

Stockholm, 3 June 2014, DCH-RP/EUDAT workshop on digital preservation

E-infrastructures for Digital Preservation: DCH-RP case

- Project background: built upon the knowledge generated by **DC-NET** and **INDICATE**

- Consortium: **multidisciplinary**, composed of 13 partners from 7 European Countries

- Aim: to develop a validated **Roadmap** for the implementation of a preservation infrastructure for DCH

DCH
ICCU (IT)
RIKSARKIVET (SE)
EVK (EE)
CT (UK)

INTERNATIONAL ORGANISATIONS
TERENA (NL)
EGI.eu (NL)
MCA (FR)

E-INFRASTRUCTURES
INFN (IT)
PSNC (PL)
BELSPO (BE)
NIIFI (HU)

PRIVATE SECTOR
PROMOTER (IT)
EDItEUR (UK)

Stockholm, 3 June 2014, DCH-RP/EUDAT workshop on digital preservation

Project's scope

The project aims to explore:

1. How to harmonise data storage and preservation **policies** in the DCH sector at European and international level

2. How to progress with the **dialogue** among DCH institutions, e-Infrastructures, research and private organisations

3. How to establish the conditions for these sectors to **integrate** their efforts into a common work

4. Which are the most suitable **models for the governance, maintenance and sustainability** of such an integrated infrastructure

The vision

❑ The vision for the next two decades: "*to implement a federated infrastructure dedicated to support the application of **open science in the arts and the humanities**"*

❑ This implies:

– Establishing conceptual and operational **coordination** among DCH and e-infrastructure organizations

– Defining a **Roadmap** and a set of **Practical Tools** which would help **monitoring** the progress of the implementation

– Make use of the shared implementation of **common e-Infrastructure layers** (identity federations, federated cloud, data infrastructure services, etc.)

Stockholm, 3 June 2014, DCH-RP/EUDAT workshop on digital preservation

The Target Users

- **Cultural institutions** that own digital cultural repositories (e.g. museums, libraries, archives)
- **Individuals** (e.g. researchers, scholars, teachers, students)
- **Teaching and learning** bodies (e.g. schools, training centres, university courses)
- **Cultural and creative industry** interested to use and re-use DCH content
- **Private archives**, providing commercial access to content

Stockholm, 3 June 2014, DCH-RP/EUDAT workshop on digital preservation
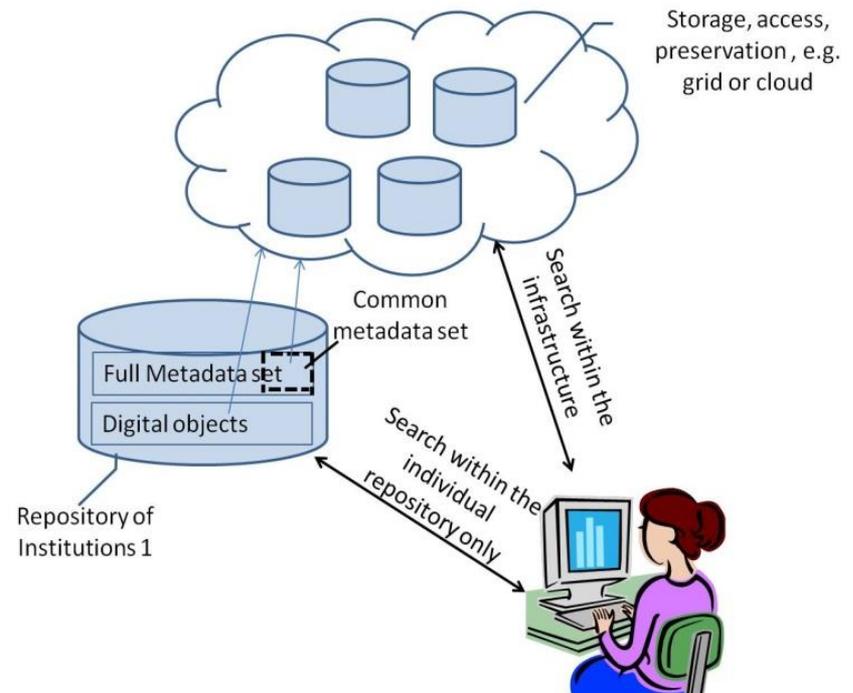
Characteristics of DCH_RP

❑ Focus on the **storage** phase, which means long, medium and short term actions

❑ Take a practical approach, based on **proofs of concept**
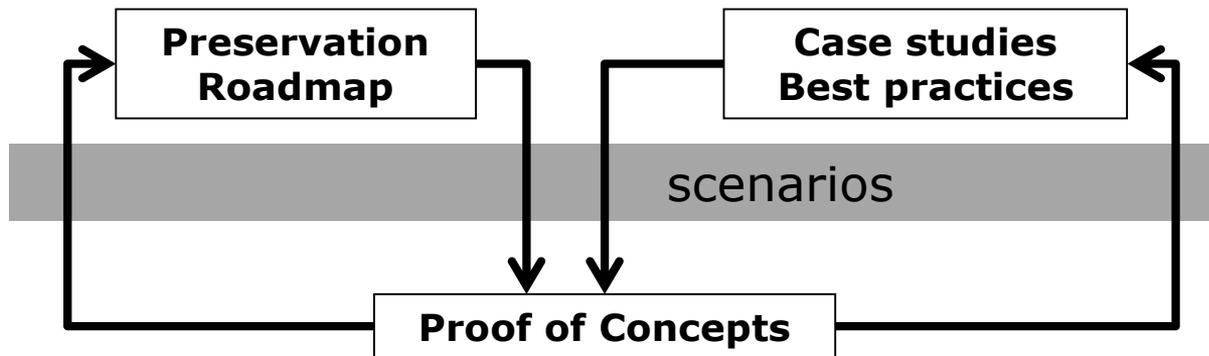
❑ Coordinate with **other initiatives**, such as SCIDIP-ES, APARSEN, EUDAT, SCAPE, OPEN AIRE, CHAIN REDS, DARIAH, etc.

Main achievements (1): a Roadmap for long-term preservation of DCH

❏ **Aim**:
   – To help policy makers and programme owners to plan ahead
   – To assist managerial teams of cultural institutions in taking decisions related to digital preservation
   – To support cultural heritage institutions in defining practical action plan with a realistic time frame for its implementation

❏ The **final version** will be published as a handbook by the end of September 2014, taking into account all the feedback received

Step 1: Where are we now and where do we want to get to?

Before starting planning for the use of distributed digital preservation solutions, there are some basic considerations:

→ Agree on a vision - what will distributed digital preservation look like? (see section 4.3.1)

→ Decide about challenges to target (see section 5.1.1)

→ Have a clear understanding of advantages to explore (see section 5.1.2)

Step 2: Take actions in identified major areas of the roadmap

Harmonise data storage and preservation (see section 5.2.1)
– Define critical system requirements (general and specific) – understand and articulate your requirements
– Choose a suitable AA control system
– Look into IaaS

Improve interoperability (see section 5.2.2)
– Review best practice and how-to guides (avoid inventing the wheel again)
– Consider aspects of internal interoperability to avoid building digital silos within the organisation – set up a mandate

Establish conditions for cross- sector integration (see section 5.2.3)
– Decide about standards to use and look into available tools for guidance
– Use the DCH-RP registry of preservation tools to find what suits your organisation best

Establish a governance model for infrastructure integration (see section 5.2.4)
Decide about a
– General governance model
– Trust model
– Business model

Step 3: Choose services to address

Decide about addressing services according to:

– Functional areas (see section 5.3.1)
– Services types and objects (see section 5.3.2)
– Type of architecture (see section 5.3.3)
– Level of maturity (see section 5.3.4)
– License conditions (see section 5.3.5)

Main achievements (2): a registry of services & tools for digital preservation

- **Aim**: to help DCH communities, institutions and projects to plan the implementation of their digital preservation processes
- **Content**: description of common user scenarios and information about the tools that may be used to implement them; assessments and reviews of most relevant tools; support of standards
- **New developments**: wiki-based version together with APARSEN; integration with COPTR registry

DCH-RP registry

APARSEN registry

COPTR registry

Experimenting with real data: first phase

- ❑ A number of **Proofs of Concept** have been set up in DCH-RP where cultural institutions experimented the actual use of distributed computing and storage infrastructures to store and manage cultural digital resources

- ❑ Results of the **first Proof of Concept** are:
  - Functionalities and services offered by e-infrastructures should not **impact** on the outgoing traffic of the institution
  - Access to the e-infrastructure services should be **simple** without requiring IT specialist knowledge
  - Cultural data are curated by many different persons: data **management** and **administration** + **user access control** are very important.
  - **Security** of the data is very important for cultural institutions: **trust building** is a key factor when it is not determined where data are stored

Experimenting with real data: second phase

- ❑ For the **second Proof of Concept** DCH-RP is experimenting with services and tools developed by other projects (e.g. EUDAT, SCAPE, APARSEN)
- ❑ The experiments are currently ongoing and the results are expected to be published by September 2014

Stockholm, 3 June 2014, DCH-RP/EUDAT workshop on digital preservation
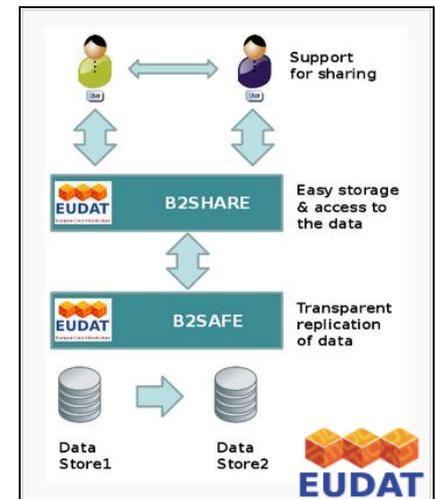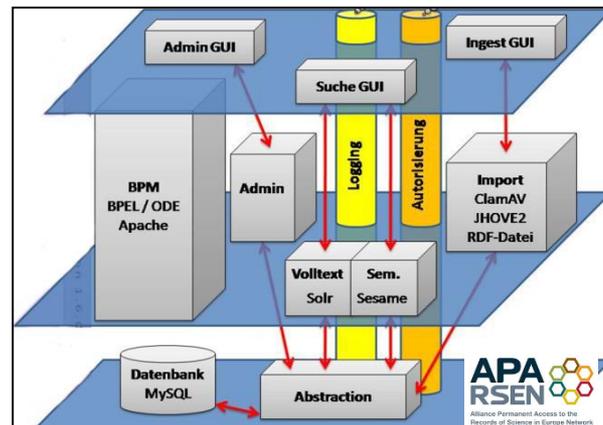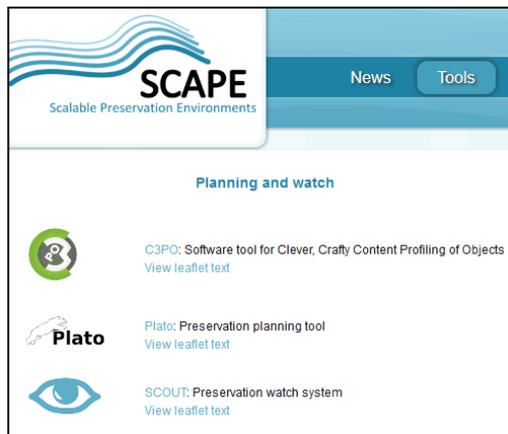
Networking and cooperation with other projects

Workshop organised by DCH-RP in the frame of the EGI Community Forum in Helsinki

E-infrastructures and services for data preservation and curation @ EGI CF 2014, Helsinki

Aim of this workshop is to present the first concrete results of the cooperation between different projects aimed to the development of a joint registry of services and tools for the long-term preservation of digital data and to demonstrate how these services can be tested and used by memory institutions. Continue reading →

Dresden, 10 September 2014

DCH-RP @ CIDOC 2014 Conference

The CIDOC Conference 2(committee has accepted t to present a paper on the Roadmap at the CIDOC 20 Conference in Dresden. T presentation will be given session Session G/1, Digital Long Term Preservation on Tuesday September 2014 and the paper will be published in the conferenc proceedings. Continue reading →

Dresden, 06.09.-11.09.2014

Tallinn, 23-24 April 2014

DCH-RP e-Infrastructure Concertation Workshop

The meeting represented a very good opportunity to discuss in more detail the strategy and recommendations presented in the DCH-RP roadmap for preservation and how to prepare for future cooperation. Expected outcome is a concrete and endorsed plan for the exploitation of the results from the DCH-RP Proof of Concepts. Continue reading →

Gothenburg, 25-26 March 2014

Chalmers Initiative Seminar on Big Data

Everywhere we look, the quantity of data is exponentially growing, fueled by the pervasive diffusion of digitalization in modern life. The fields of science, engineering, technology and even social sciences and humanities are undergoing a profound transformation to a data ... Continue reading →

Stockholm, 3-4 June 2014

Joint DCH-RP/EUDAT workshops on digital preservation

On the 3rd and 4th of June 2014, the National Archives of Sweden will host in Stockholm two workshops organised by DCH-RP in cooperation with EUDAT on the theme of digital preservation of cultural data. The first one will focus on the roadmap for the long-term preservation of DCH, while the second one will discuss the trust issues to be addressed. Continue reading →

Cancún, Mexico, 26-28 May 2014

TICAL2014 Conference

The TICAL Conference is the place where the community come together, which is feed primarily with the experiences, knowledge and initiatives presented by universities, providing significant and unprecedented solutions around ICT topics for higher education institutions in all the areas of the university labor. Continue reading →

Dublin, 19 - 22 May 2014

TERENA Networking Conference 2014: Networking with the World

The TERENA Networking Conference (TNC) is the largest and most prestigious European research networking conference, with more than 650 participants attending this annual event. TNC brings together decision makers, managers, networking and collaboration specialists, and identity and access management experts ... Continue reading →

Workshop organised on September 8th, 2014 in London in the frame of the JCDL/TPDL Conference

Digital preservation sustainability on the EU policy level

The main objective of the workshop is to provide an overview of solutions to challenges within Digital Preservation Sustainability developed by current and past Digital Preservation research projects. The event brings together various EU projects/initiatives to present their solutions and approaches, and to find synergies between them. Continue reading →

Stockholm, 3 June 2014, DCH-RP/EUDAT workshop on digital preservation

Conclusions

- ❑ **DCH-RP** is one step, belonging to a longer and wider process.
- ❑ The longer term plan is to implement a dedicated CH infrastructure able to provide **distributed safe storage**, **seamless powerful access**, effective **preservation services** to a "continuum" of data coming from the largest number of small and big cultural institutions
- ❑ This infrastructure should be able to **aggregate and interoperate** existing features as well as services that are under development, often (unfortunately) following separate ways

Stockholm, 3 June 2014, DCH-RP/EUDAT workshop on digital preservation

Next appointments

- ❑ September 8th, 2014 – London
  - – Workshop "Digital preservation sustainability on the EU policy level"
  - – http://www.digitalmeetsculture.net/article/digital-preservation-sustainability-on-the-eu-policy-level/

- ❑ September 22nd, 2014 – Rome
  - – DCH-RP Final Conference

Follow us!

http://www.digitalmeetsculture.net/
heritage-showcases/dch-rp/

❑ A constantly living showcase
on **Digital Meets Culture**
providing:

➢ easy access to the
ongoing activities and to
the last achievements

➢ a bridge combining
information coming from
inside the project with
the discussion on the
themes of the digital
preservation carried out
outside the project

Stockholm, 3 June 2014, DCH-RP/EUDAT workshop on
digital preservation

Thank you!

Antonella Fresa
Promoter Srl
fresa@promoter.it
www.digitalmeetsculture.net

Stockholm, 3 June 2014, DCH-RP/EUDAT workshop on digital preservation