Digital Cultural Heritage: Roadmap for Preservation

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Overview

- Two Environments
- The Project
- Setting the Scene

The Roadmap – An Impression:

- 'Map' – Landscape of Digital Preservation
- 'Road' – Action Plan

Two Environments

Cultural Heritage Environment

- Sector is creating a **large volume of digital content** that needs to be:
  - Safely **stored**
  - Permanently **accessed**
  - Easily **re-used** over time by different end-user groups
- Current solutions require:
  - **Adaptation** to the specific mandate of the individual cultural heritage institution,
  - **Use** of existing technological infrastructure and the competences of its staff
- Challenge of the **complexity of the information**. Therefore costs reduced, and interoperability enhanced, by shared:
  - **Common procedures**
  - **Workflows**
- Improving digital preservation practice is a **complex task**

Academic Research Environment

e-Infrastructures, improve academic research (especially 'hard science') by offering:

- High-speed **connections**
- Shared **computing**
- **Storage** resources
- Sophisticated **authentication**
- **Authorisation** mechanisms

Assumptions

- e-Infrastructures can **deliver services** that can be used by the digital cultural heritage (DCH) sector for **digital preservation**.
- For DCH access to services, possible to establish common:
  - **Policies**
  - **Processes**
  - **Protocols**

  despite national governing entities (NRENs & NGIs) have **different** policies and procedures for access and usage

The Project

Basics

- **DCH-RP** = **D**igital **C**ultural **H**eritage – **R**oadmap for **P**reservation
- Part of **FP7** (7th Framework Programme for Research and Technological Development)
- Budget: **€967.396** (€809.800 from EC)
- Length: **24 months** (Starting in August 2013)

Collections Trust

Partners

- ICCU [Co-ordinator] (Italy)
- Riksarkivet (Sweden)
- Service Public Federal de Programmation Politique Scientifique (Belgium)
- Eesti Vabariigi Kultuuriministeerium (Estonia)
- Collections Trust (United Kingdom)
- Promoter (Italy)
- European Grid Initiative (Netherlands)
- Istituto Nazionale di Fisica Nucleare (Italy)
- Instytut Chemii Bioorganicznej Pan (Poland)
- Nemzeti Informacios Infrastruktura Fejlesztesi Iroda (Hungary)
- EDItEUR (United Kingdom)
- Trans-European Research and Education Networking Association (Netherlands)
- Michael Culture (Belgium)

Objectives

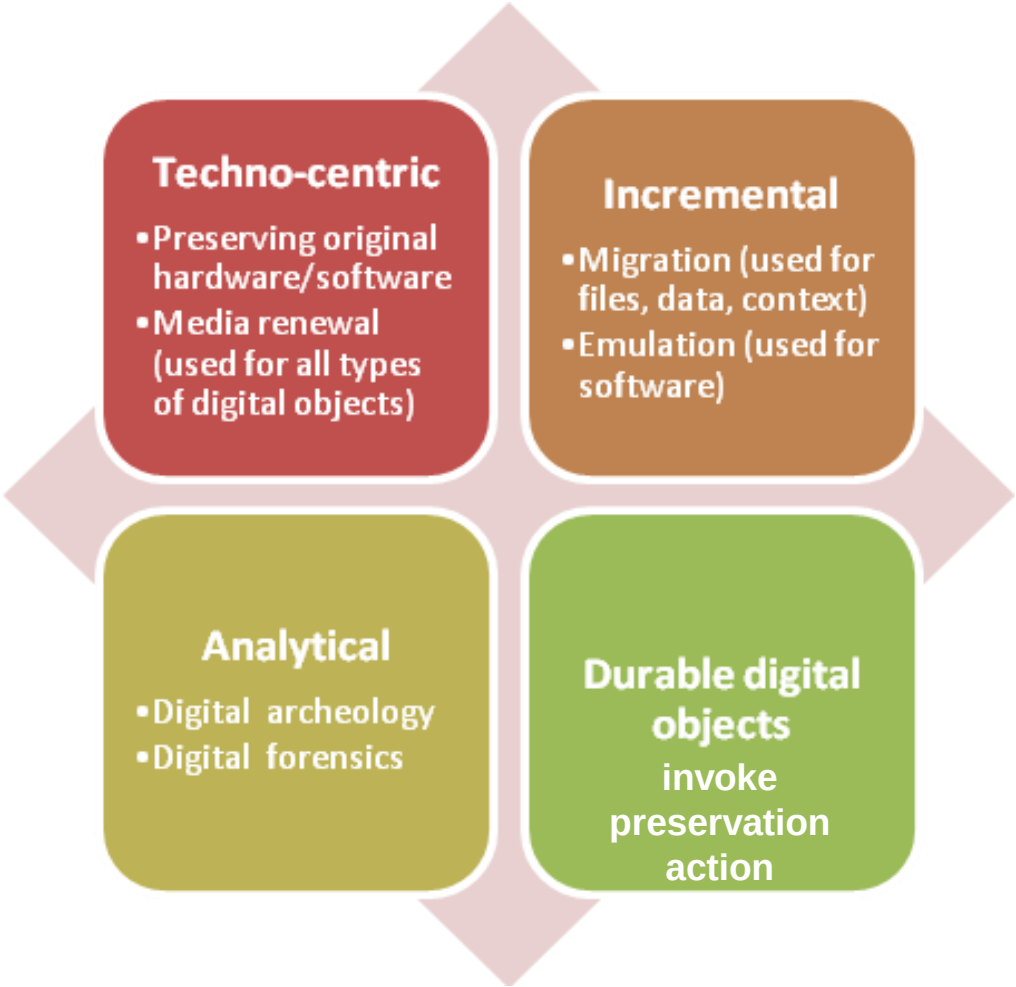
- **Roadmap** for DCH preservation infrastructure
- **Network** of common interest towards a durable cooperation
- **Dissemination** of the topic
- **Case studies ('proofs of concept')**:
  - Trust building
  - Grid
  - Clouds
- **Sustainability**
- **International cooperation**

Solution - Roadmap

- Implementing a **preservation infrastructure** for digital cultural heritage
- **Coherent** and **realistic**:
  - **Policy makers** and programme owners to **plan ahead**
  - **Managerial teams** of cultural heritage institutions in **taking decisions** related to digital preservation

Setting the Scene

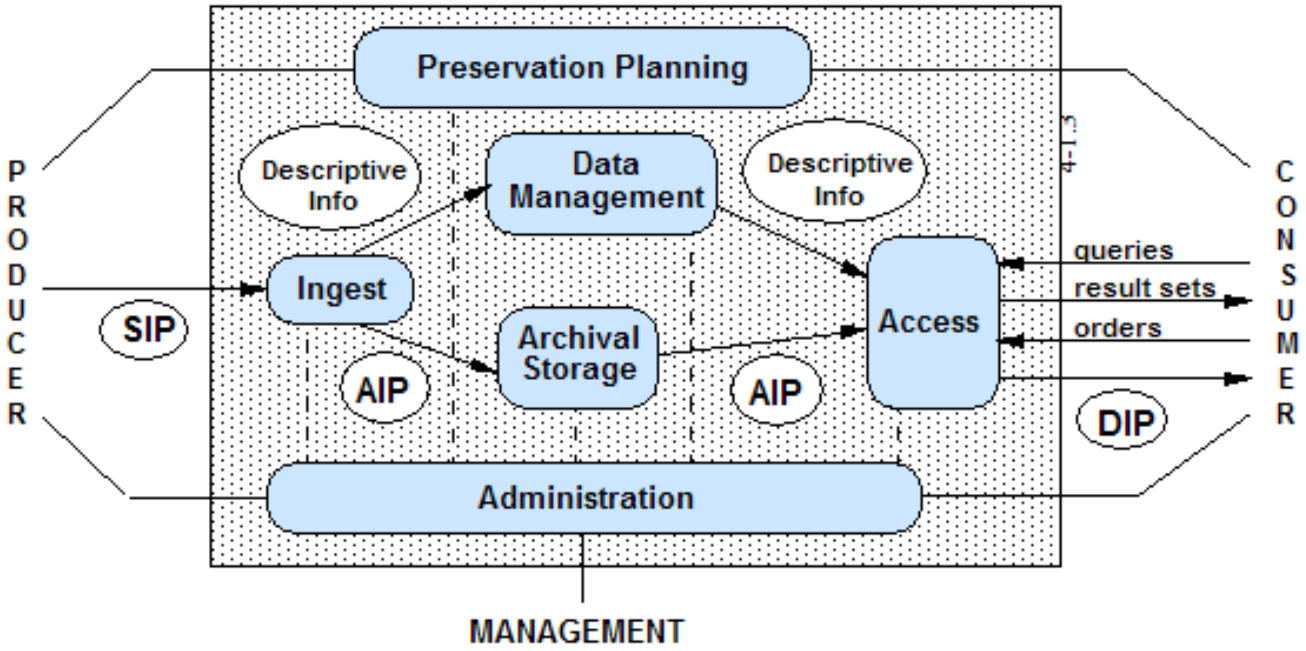
Strategies for Sustainability



Source: *Digital Preservation Services: State of the Art Analysis* (Raivo Ruusalepp and Milena Dobreva)

Digital Archive Life-Cycle

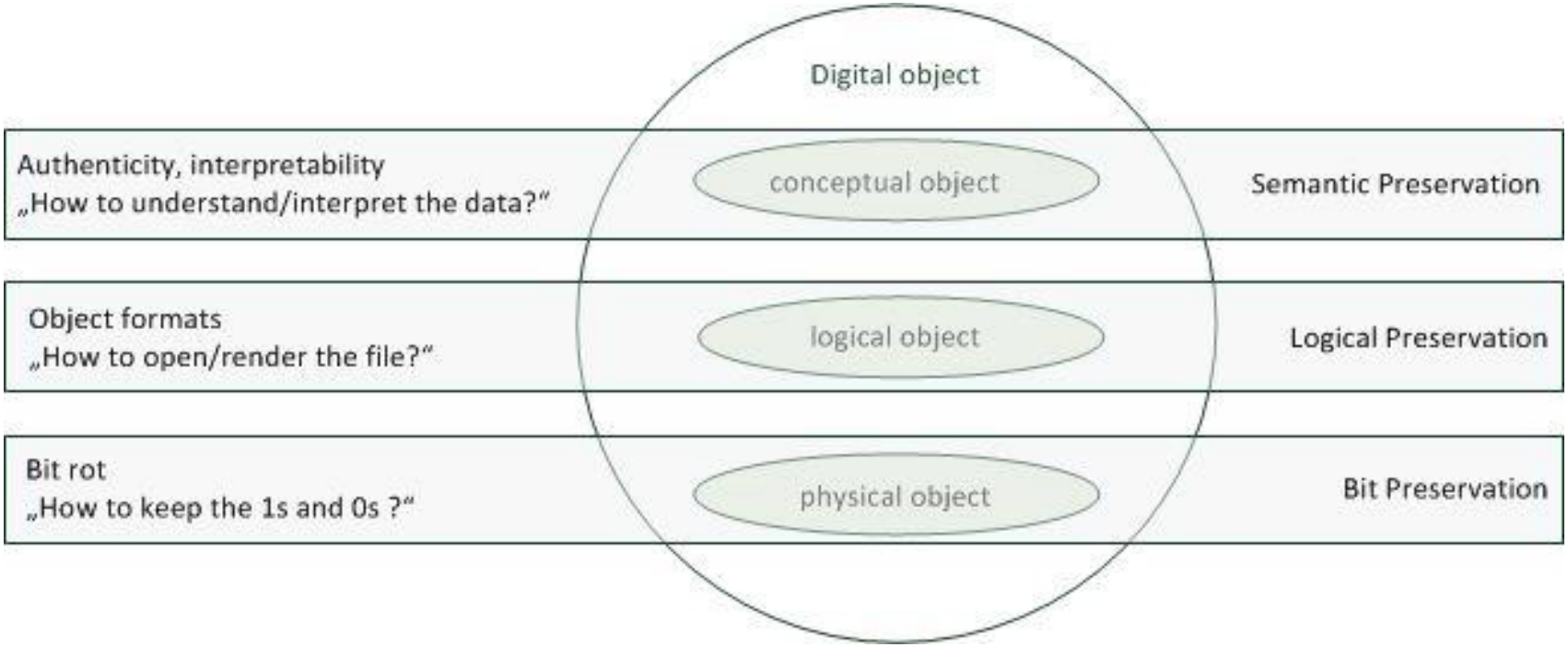
OAIS functional model



Information packages:

- **Submission (SIP)**: Transfer data from the producer to the archive
- **Archival (AIP)**: Archival storage and preservation,
- **Dissemination (DIP)**: Within the access function when consumers request archived materials

‘Layers’ of a Digital Object



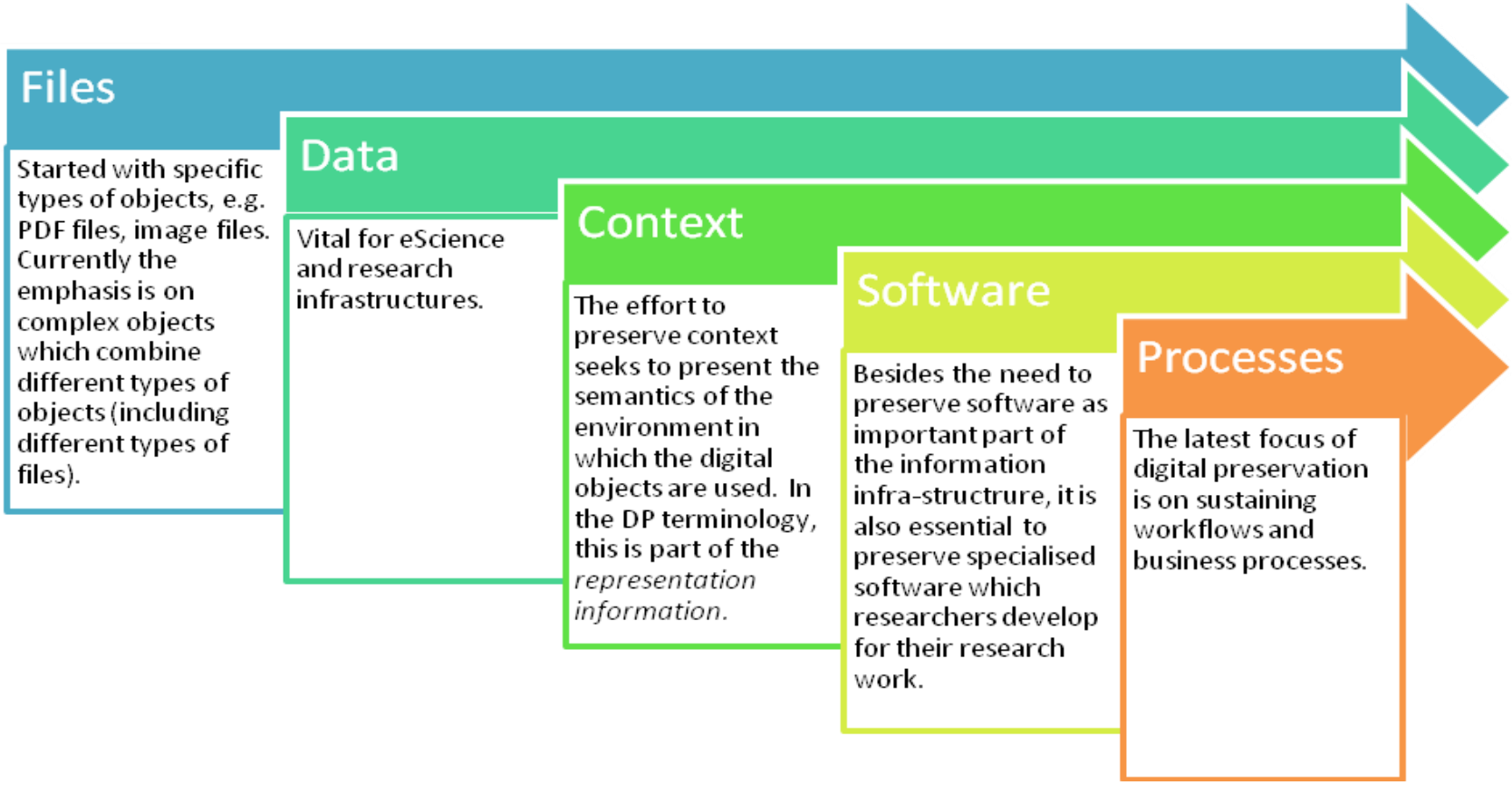
Source: EU project DURAARK, D6.6.1: *Current state of 3D object digital preservation and gap-analysis report*

Map:
Landscape of digital preservation

Solutions & Services

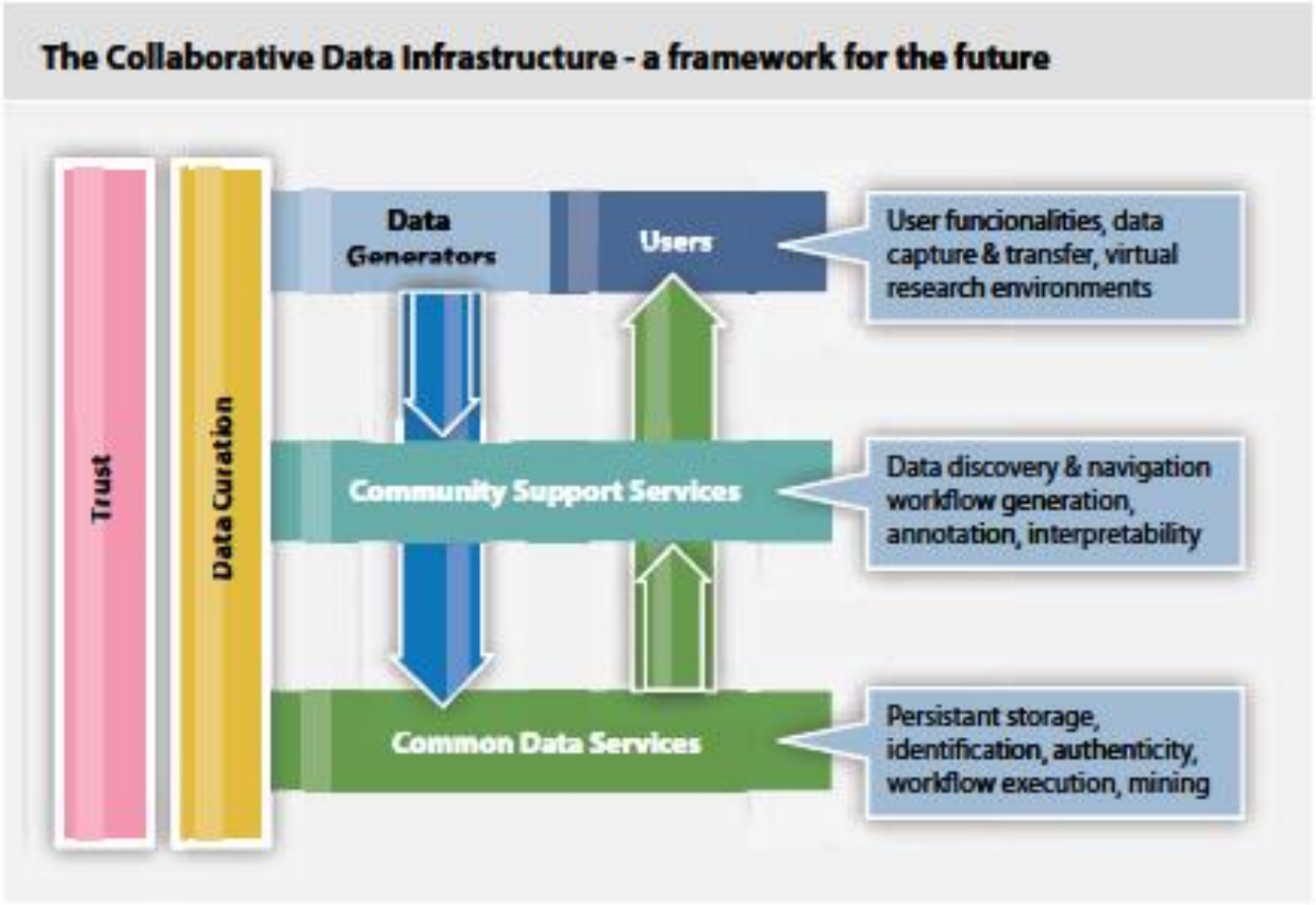
- Time span for **preservation solutions**:
  - Short-term: <5 years
  - Medium-term: <10 years
  - Long-term: After the system's use
- **Distributed services**:
  - Service types and objects
  - Type of service architecture
  - Level of maturity
  - Licensing conditions

Evolution of Digital Objects

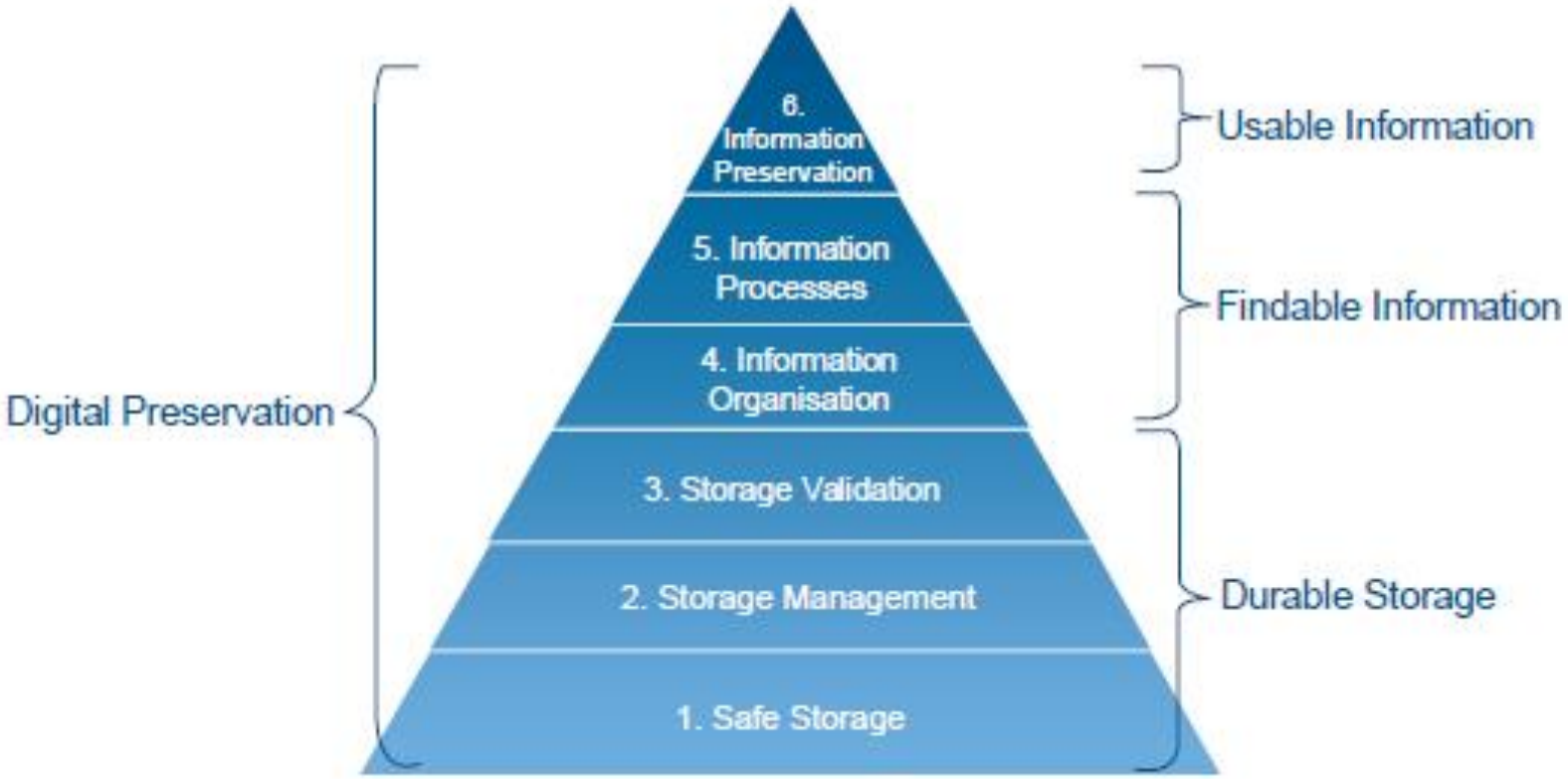


Source: *Digital Preservation Services: State of the Art Analysis* by Raivo Ruusalepp and Milena Dobreva

Type of Service Architecture



Maturity Model



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‘Road’ – Action plan

Major Areas

Need to address:

- **Harmonisation** of data storage and preservation: Research data & 0ther digital objects
- Improved **interoperability**: integration of preservation within the overall workflows for digitisation and online access
- Establishment of **conditions for cross-sector integration**: Maximising the efficiency; transferring knowledge and know-how
- **Governance models** for infrastructure integration: needed for institutional participation in larger e-Infrastructure initiatives

Short-term Action Plan

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)

Thank You!

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