

ECHOES: European Cloud for Heritage OpEn Science

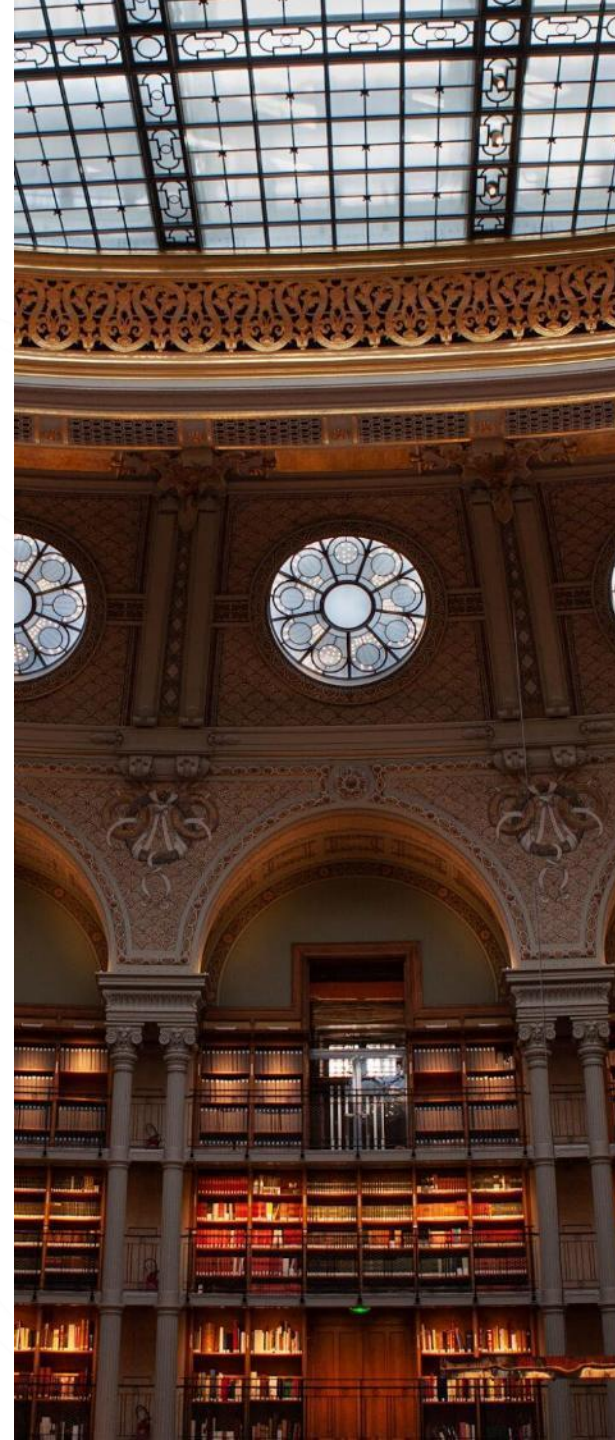
Preserving the Past, Shaping the Future:
your Gateway to a Collaborative and Innovative European
Cultural Heritage Community

GA 101157364

Funded by
the European Union

Mission

ECHOES' mission is to set up the European Collaborative Cloud for Cultural Heritage (ECCCH), a shared platform designed to facilitate collaboration among heritage professionals and researchers, providing them with access to data, scientific resources, training, and advanced digital tools tailored to suit their needs.



ECHOES in Numbers

- 16 Countries
- 51 Partners
- 16 Umbrella organisations representing more than 1000 organisations in Europe



Coordination

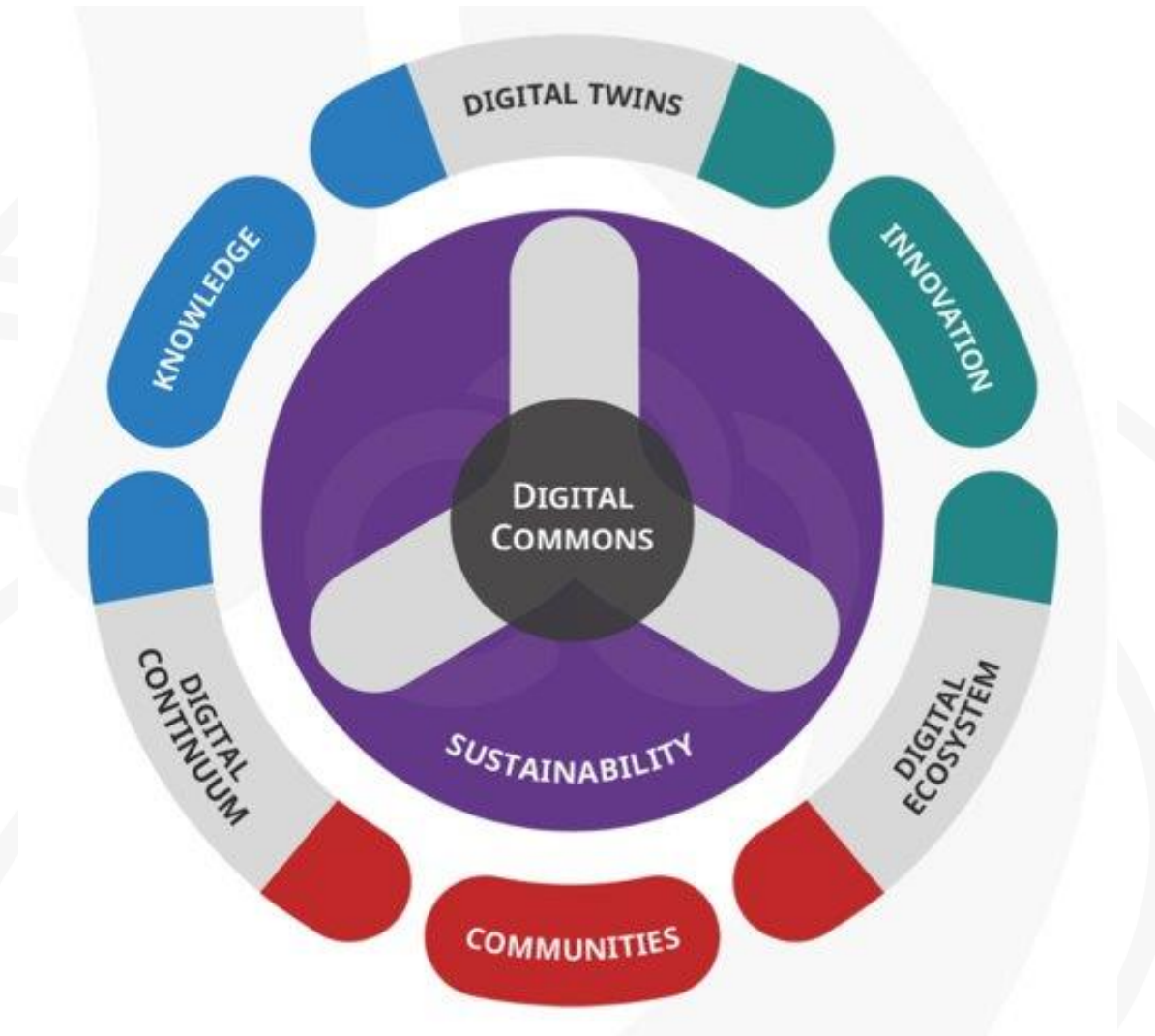


Participating Umbrella organisations



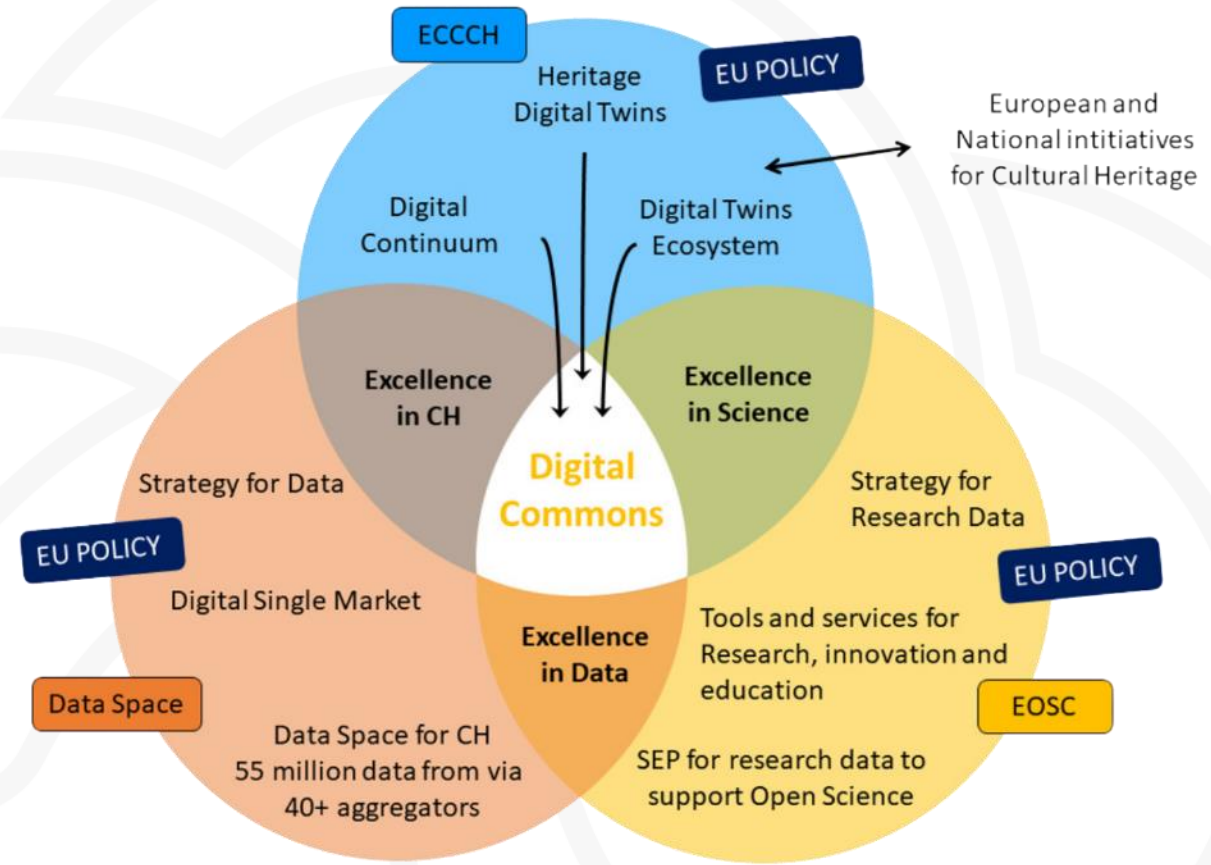
The Digital Commons

- ECHOES will create a Digital Continuum, based on a Digital Ecosystem, which will empower users to interact with, manipulate and enrich Digital Twins, leading to new, jointly developed scientific knowledge.
- This digital environment will allow the creation of a new generation of heritage objects, the Digital Commons, which are semantically rich and collectively produced.



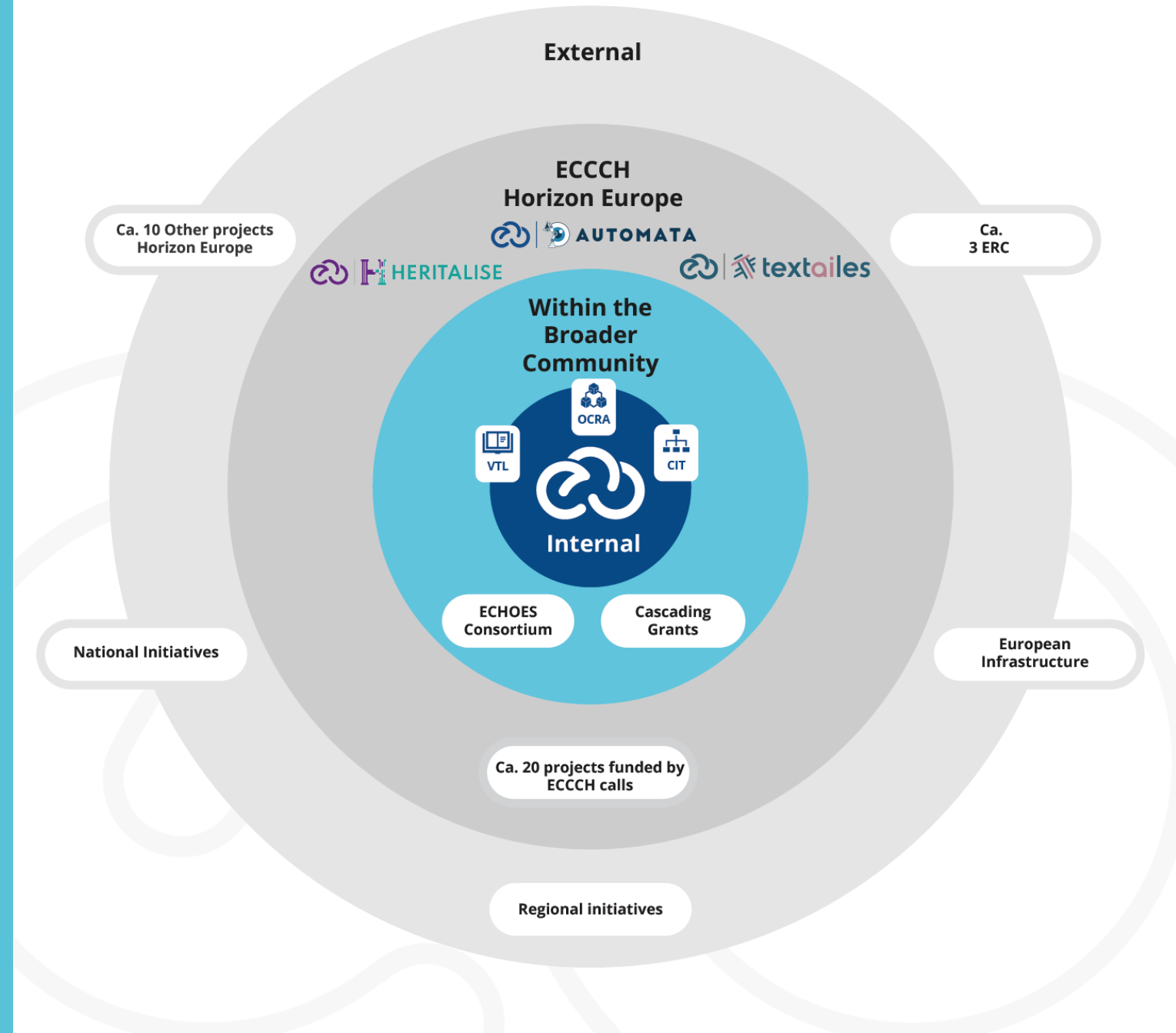
The European Initiatives

- ECHOES must set up the European Collaborative Cloud for Cultural Heritage (ECCCH) by involving the National initiatives for Cultural Heritage.
- ECCCH should also interact with the Data Space for Cultural Heritage and the European Open Science Cloud (EOSC). ECHOES' vision is that these 3 European initiatives should come together around the new concept of Digital Commons.



Levels of Integration

- From internal to external
- From local to international
- In connection with other infrastructures



Different type of Integration

Within ECHOES

Communities & Technical Work Packages

Within the broader
Community

ECHOES Consultation:
Existing datasets, tools and workflows

Within ECCCH
Projects

Ca. 20 projects funded by ECCCH calls

Cascading Grants

3 Cascading Grant calls (ca. 50 projects)

ECHOES Integration Task Force (EITF)

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Established in November 2024

EITF Coordination
Team

Communities

ECHOES Use Cases:

- Collaborative Conservation-Restoration Platform
- Virtual Transcription Laboratory
- Collection Ingestion Tool

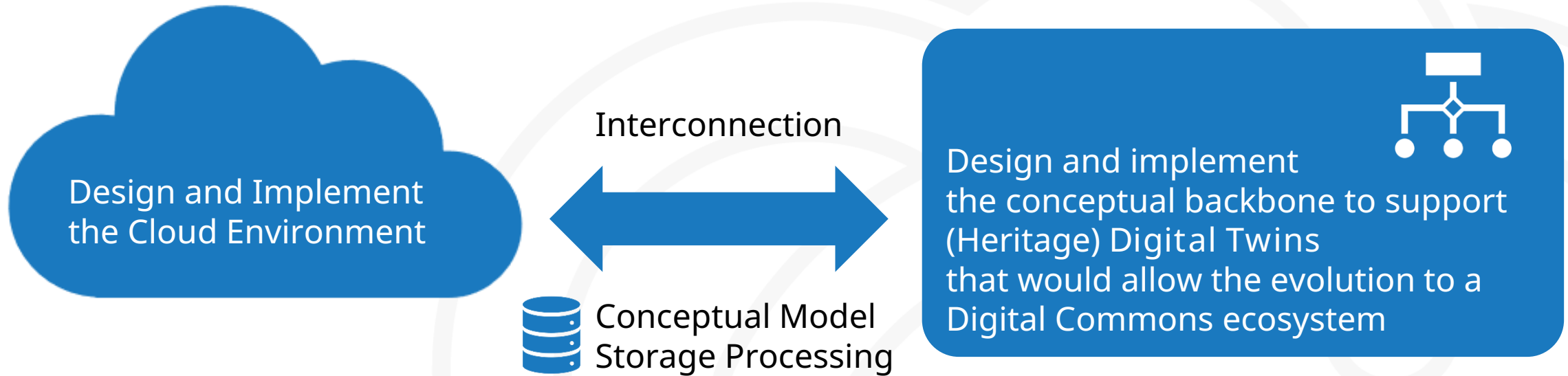
ECCCH Projects:

- Call 1: AUTOMATA, TEXTaiLES, HERITALISE
- Call 2: XXXX, XXXX, XXXX, ...
- Call 3: XXXX, XXXX, XXXX, ...

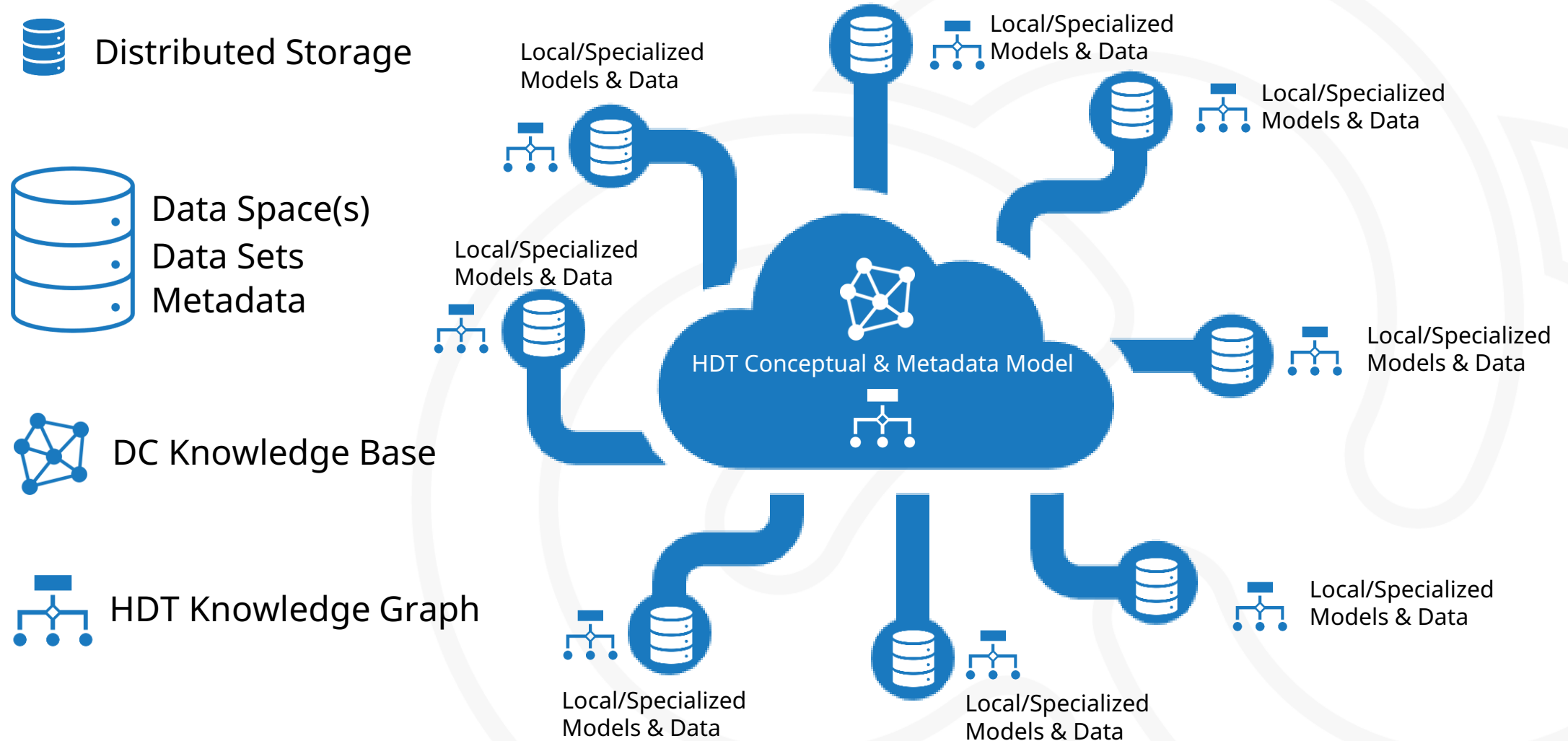
ECHOES Integration Strategy

ECHOES Integration Roadmap

Setting up the Cloud



Digital Commons Knowledge Base



DATA PROCESSING TOOLS

VA 1 - CRP
3D analysis

VA 2 - VTL
Digitalization

VA 3 - CIT
Data normalization and enrichment

VA X
Future Applications

Entrance/Information:
Web site

MICROSERVICES

Single Entry Point

Authentication and
Authorization Module

Queue Manager

Integration Manager

Processing Manager

CI/CD Pipeline

Cultural Heritage Cloud Base Layer

Monitoring
Component

Control Plane

Resource Manager

Node Manager

Security
Management

High Availability
Management

Metadata DB

RDF Triple
Store DB

EXTERNAL DATA STORAGE

Metadata DB

User Personal Space

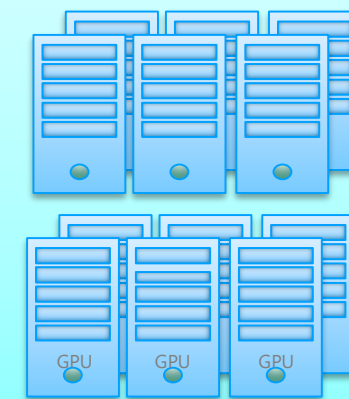
RDF Triple
Store DB

ECHOES DATA STORAGE

DB to store
queue

DB for
logging

OPERATIONAL STORAGE



RESOURCES



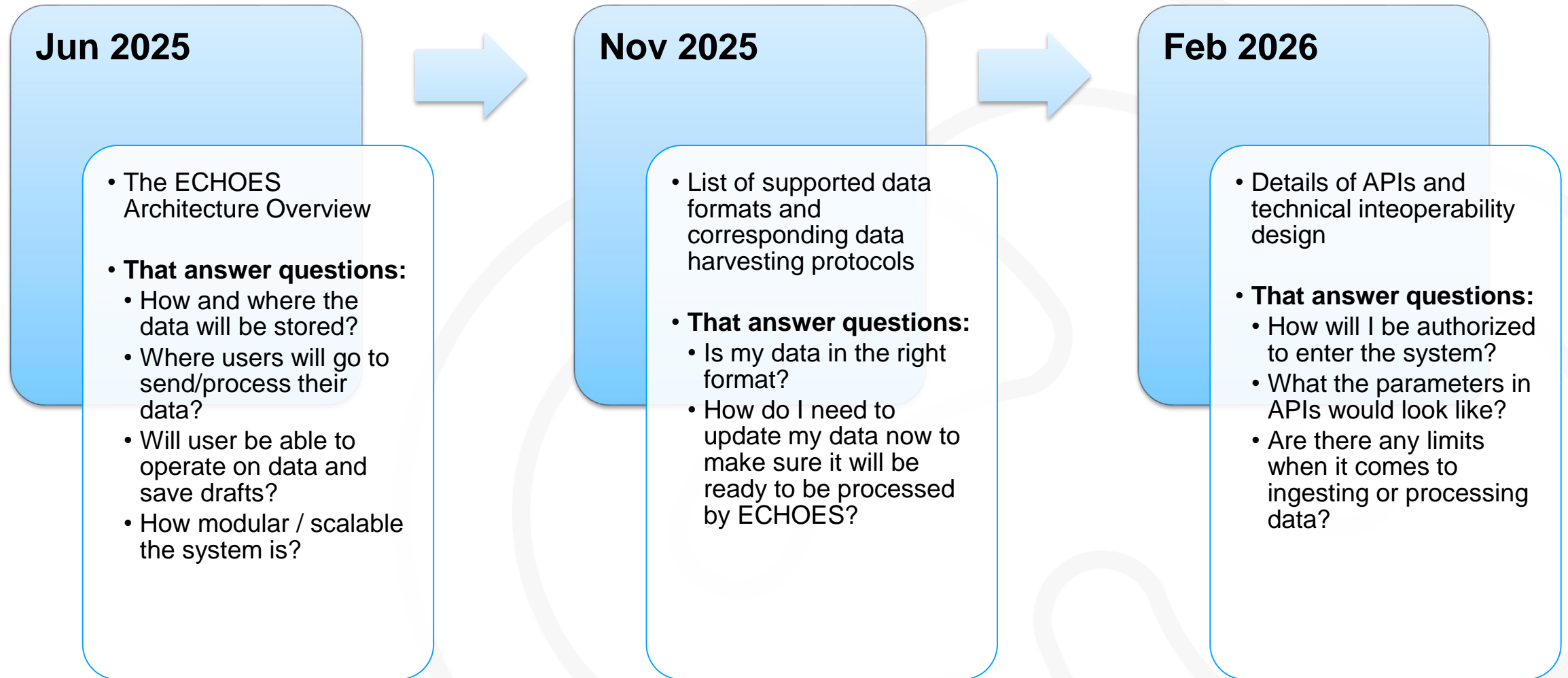
Version_0.1

System Component	Purpose
Single Entry Point	Main gateway for all incoming system requests.
Authentication & Authorization	Manages user login and access control.
Queue Manager	Handles task queuing for asynchronous processing.
Integration Manager	Handles data coming in various formats.
Processing Manager	Orchestrates data processing workflows.

Storage Component	Purpose
External Metadata DB	External metadata repositories.
External RDF Triple Store DB	External repositories for semantic data in RDF format.
ECHOES Metadata DB	Internal metadata repository.
ECHOES RDF Triple Store DB	Internal repository for semantic data in RDF format.
User Personal Space	Stores user-specific data, drafts and personal resources.
Queue DB	Holds task queue data for asynchronous processing.
Logging DB	Stores system and operational logs for auditing and debugging.

Cloud Component	Purpose
Monitoring Component	Monitors system health, performance, and availability.
Control Plane	Central management layer for cloud infrastructure and orchestration.
Resource Manager	Allocates and manages computing and memory resources.
Node Manager	Oversees the operation of individual compute nodes or containers.
Security Management	Ensures data and system security (e.g., encryption, access control).
High Availability Management	Maintains system uptime and fault tolerance.
CI/CD Pipeline	Automates the process of integrating, testing, and deploying code.

Timeline for the ECHOES Infrastructure - what can be announced externally



Target Users

The success of ECHOES depends on effectively engaging a diverse range of stakeholders. These groups, each with unique needs, roles, and contributions, form the backbone of the project's ecosystem. By addressing their specific requirements and setting up meaningful interactions, ECHOES builds a robust, collaborative platform that supports cultural heritage preservation, research, and innovation.



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**Funded by
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**UK Research
and Innovation**

ECHOES is a project funded by the European Union under Grant Agreement n.101157364, with the support of UK Research and Innovation (UKRI) under the UK government's Horizon Europe funding guarantee n.10110142 & n.10110466.

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