

# A Cloud Computing infrastructure for the Competence Centre for the Conservation of Cultural Heritage (4CH)

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On behalf of the 4CH collaboration

*Istituto Nazionale di Fisica Nucleare & ICSC*



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**SAPERI INTERCONNESSI**

# Competence Centre for the Conservation of Cultural Heritage (4CH)

## PROJECT OBJECTIVE 1

Establishing the methodological framework for the Competence Centre focusing on advanced digitization for preservation and conservation of Monuments and Sites Activities foreseen in WP1, WP2 & WP4



Mapping risks for disaster prevention and mitigation



Collecting successful research projects and cutting-edge technologies



Identifying user needs in the CH and related industries



Creation of a Strategic Advisory Board for the project validation

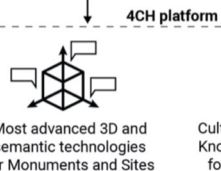
## PROJECT OBJECTIVE 2



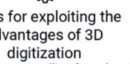
Big Data services for accessing meteorological alerts about weather hazards



HPC infrastructure provided by EU institutions for managing Big Data



Most advanced 3D and semantic technologies for Monuments and Sites



Tools for exploiting the advantages of 3D digitization (including storytelling for cultural tourism and hospitality services)



Cultural Heritage Knowledge Base for organizing information

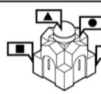


Cultural Heritage Cloud for accessing the KB and delivering digital technologies

## PROJECT OBJECTIVE 4

To develop best practices to make full use of CH data for the benefit of the Cultural Heritage sector and in other domains

Activities foreseen in WP5 (policies), WP3 (platform) and WP4 (services, including training)



Validated by pilot cases



Managed for data re-use and exploitation

## PROJECT OBJECTIVE 5

To define the operational, financial and legal conditions for the creation of the Competence Centre

Activities foreseen in WP2 and WP6



Operational structure



Supporting structures



Community engagement

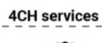


Funding model and sustainability

## PROJECT OBJECTIVE 3

Increasing and enhancing the digitization of Cultural Heritage to support conservation

Activities mainly foreseen in WP4, specific services developed in WP3



Counseling and orienting the digitization by releasing standards and guidelines



Training on new technologies, capacity building and up-skilling



Support in innovation and projects offering innovative services and tools

## PROJECT OBJECTIVE 2

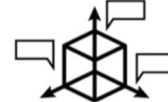


Big Data services for accessing meteorological alerts about weather hazards



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## 4CH platform



Most advanced 3D and semantic technologies for Monuments and Sites



Cultural Heritage Knowledge Base for organizing information



Tools for exploiting the advantages of 3D digitization (including storytelling for cultural tourism and hospitality services)



Cultural Heritage Cloud for accessing the KB and delivering digital technologies

The 4CH is to design and prepare for a European Competence Centre for the Conservation of Cultural Heritage. The Competence Centre will address several topics such as how cultural heritage is managed, the risks it may be exposed to, the technologies that can be used for its conservation and how it shall be exploited.

# Towards the development of a 4CH Cloud Platform - part I

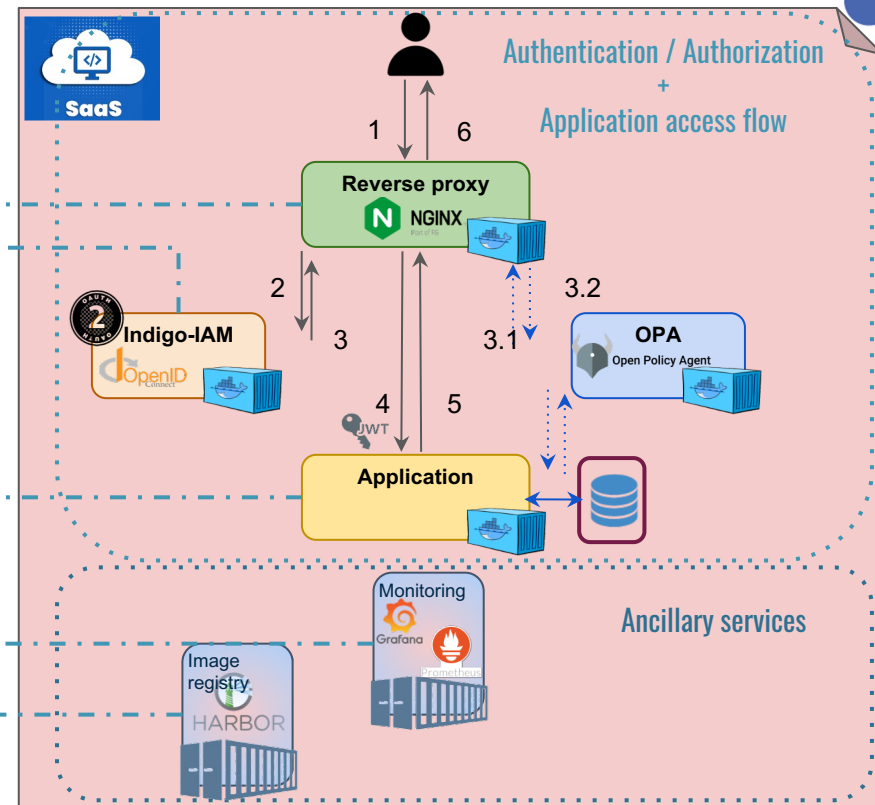
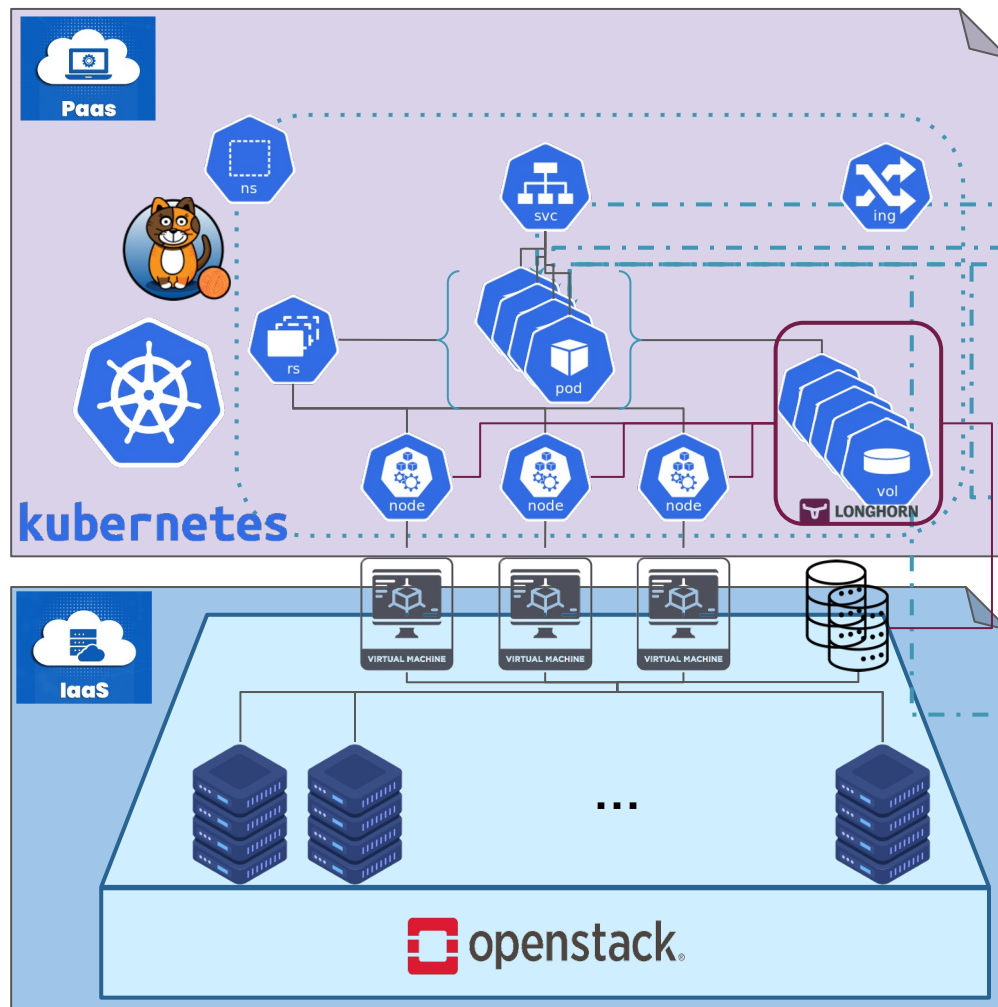
Effort has been spent to **design** and **implement** a proper architecture, able to combine different software stack, and aimed at **providing** users with the capability of using different software services.

To host the 4CH services for cultural heritage, a cloud-native approach has been adopted to implement a 4CH Pilot infrastructure hosted on **Cloud@CNAF** resources as part of **INFN Cloud** collaboration





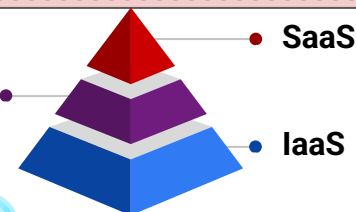
# Towards the development of a 4CH Cloud Platform - part II



Infrastructure-as-Code (IaC)



PaaS





# 4CH cloud - next steps

At the time being, some services provided by and for the **Cultural Heritage community** within the activities of the 4CH project have been ported and hosted in the **4CH Cloud Platform**.

Those **services** and processes are **part of a lively ecosystem** of activities expected to evolve within the 4CH project to **accommodate** further needs and requirements.



**PaaS**  
(Platform as a Service)

2

**SaaS**  
(Software as a Service)

1

**IaaS**  
(Infrastructure as a Service)

3

**4CH CLOUD**



5

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# Thanks for your attention!

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*4CH: <https://www.4ch-project.eu/>*



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