OSCARS
Open Science Clusters' Action for Research & Society

Funded Project

SHARE : Synchrotron x-ray analysis of Heritage Accessible to and Reusable by Everyone

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Implemented by

ESRF The European Synchrotron

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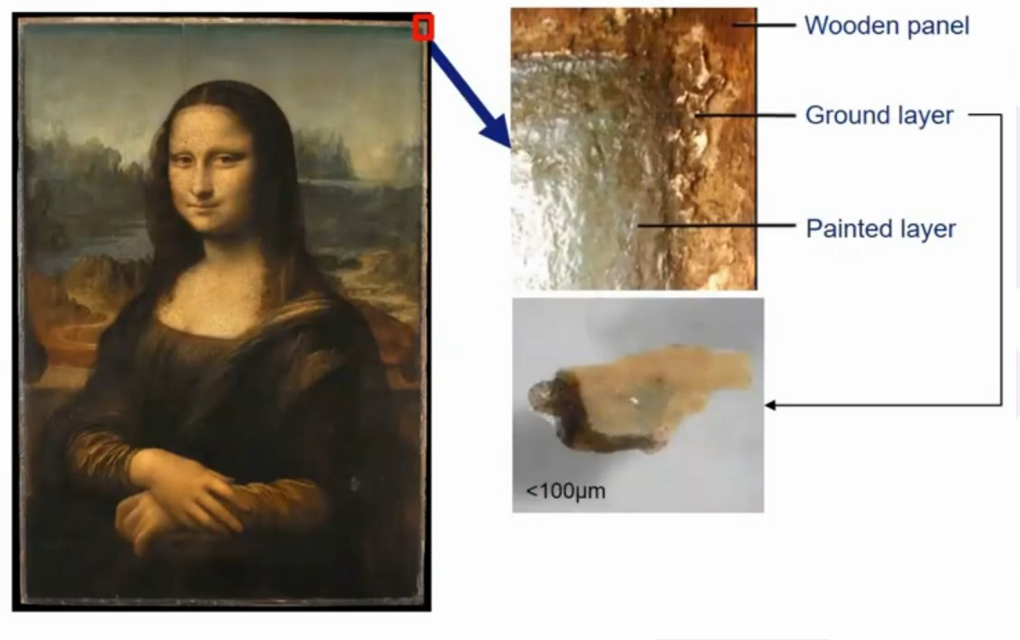
Funded by the European Union

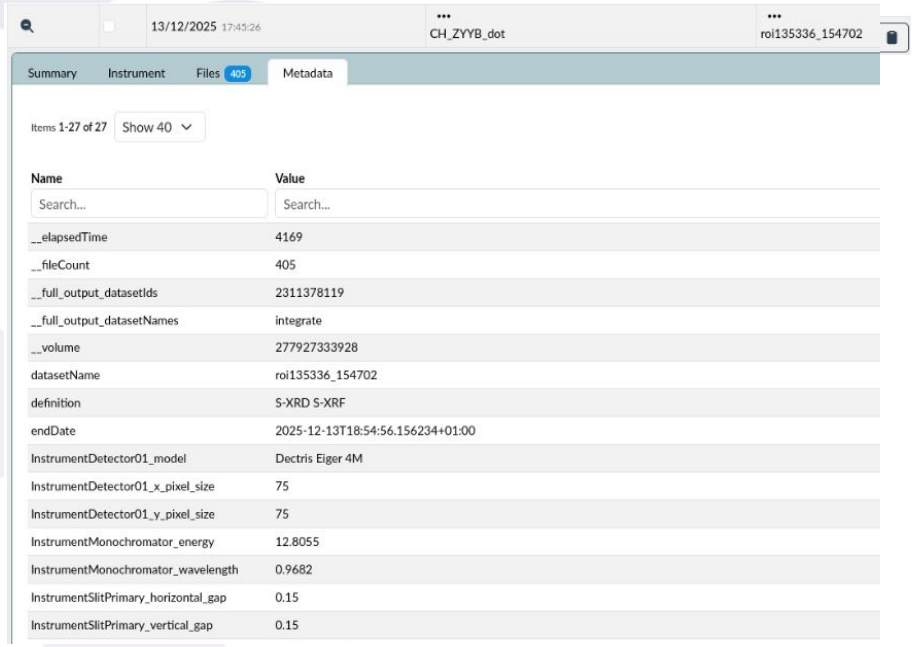
CHALLENGE ADDRESSED: Public data need context

- **Cultural Heritage** at the European Synchrotron Radiation Facility (ESRF): understanding the **manufacturing processes** and the **conservation state** of **art objects**



- When data becomes public
  - **No metadata associated** (only instrument information)
  - **No easy entry point** for non-ESRF users

→ **To be usable**, an external user needs contextual explanations from the author



SOLUTION: A metadata database for Cultural Heritage

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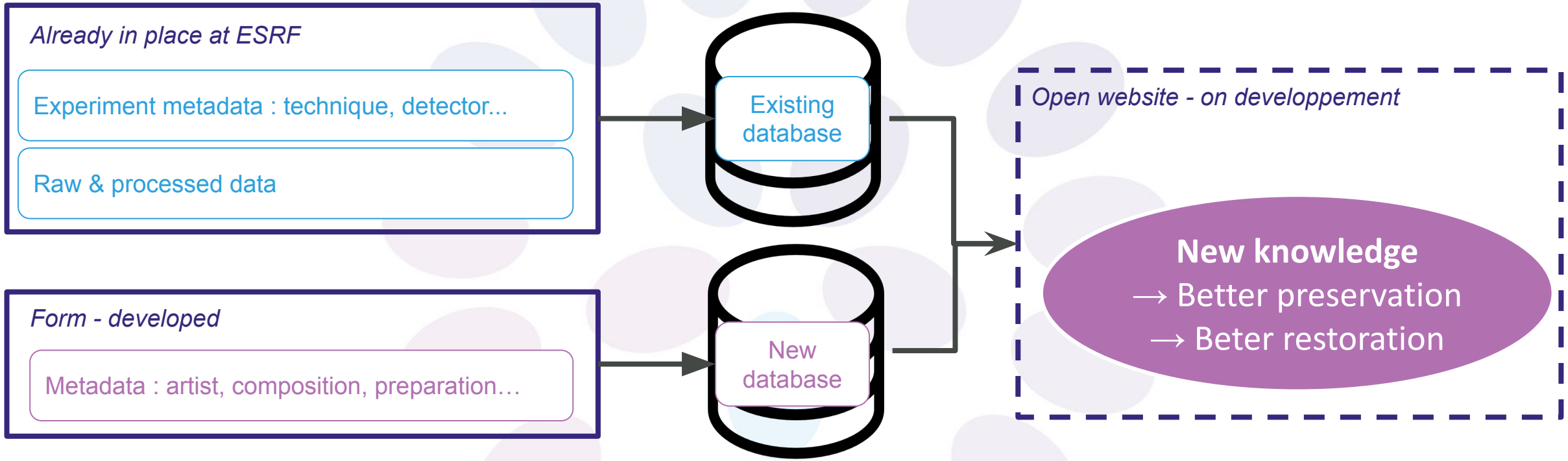
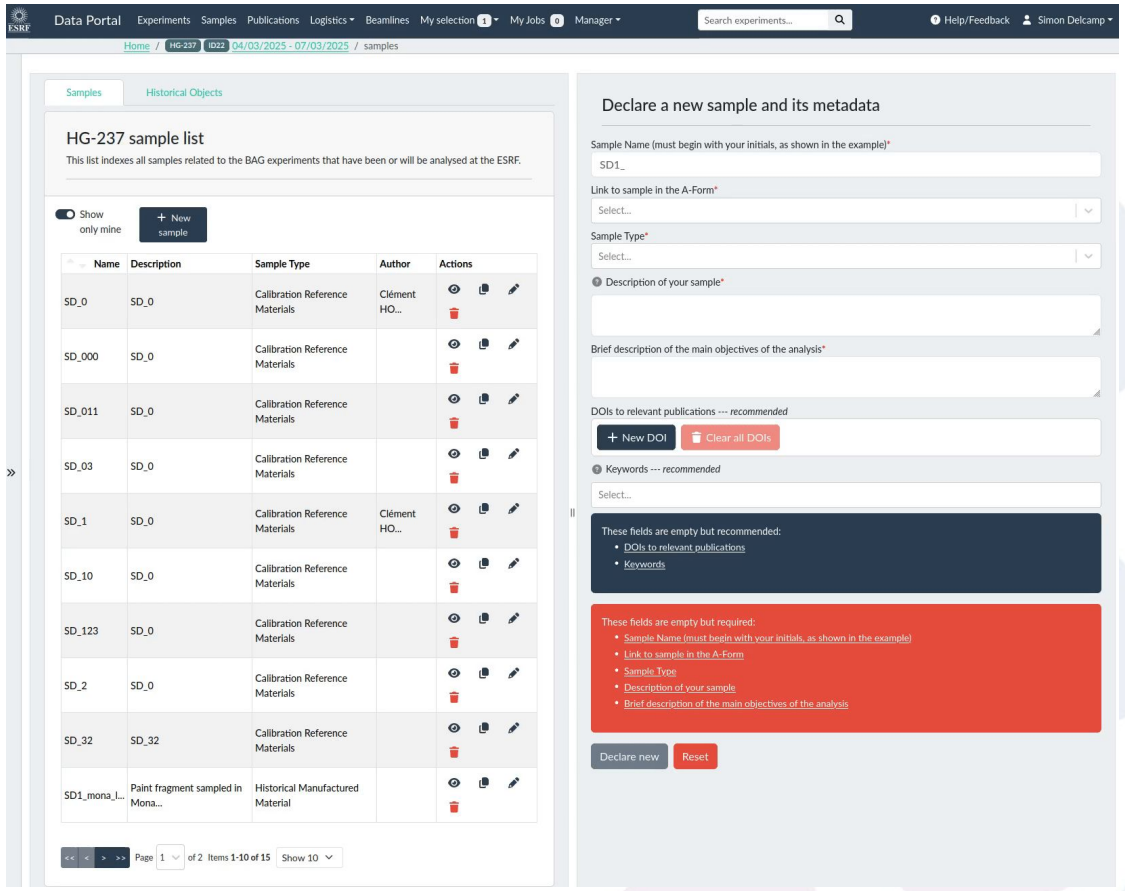
- Develop a **metadata database**
  - Filled by users using a protected form
  - Accessible from a public website (after an embargo period)



RESULTS: An accessible website with all data files and theirs metadata



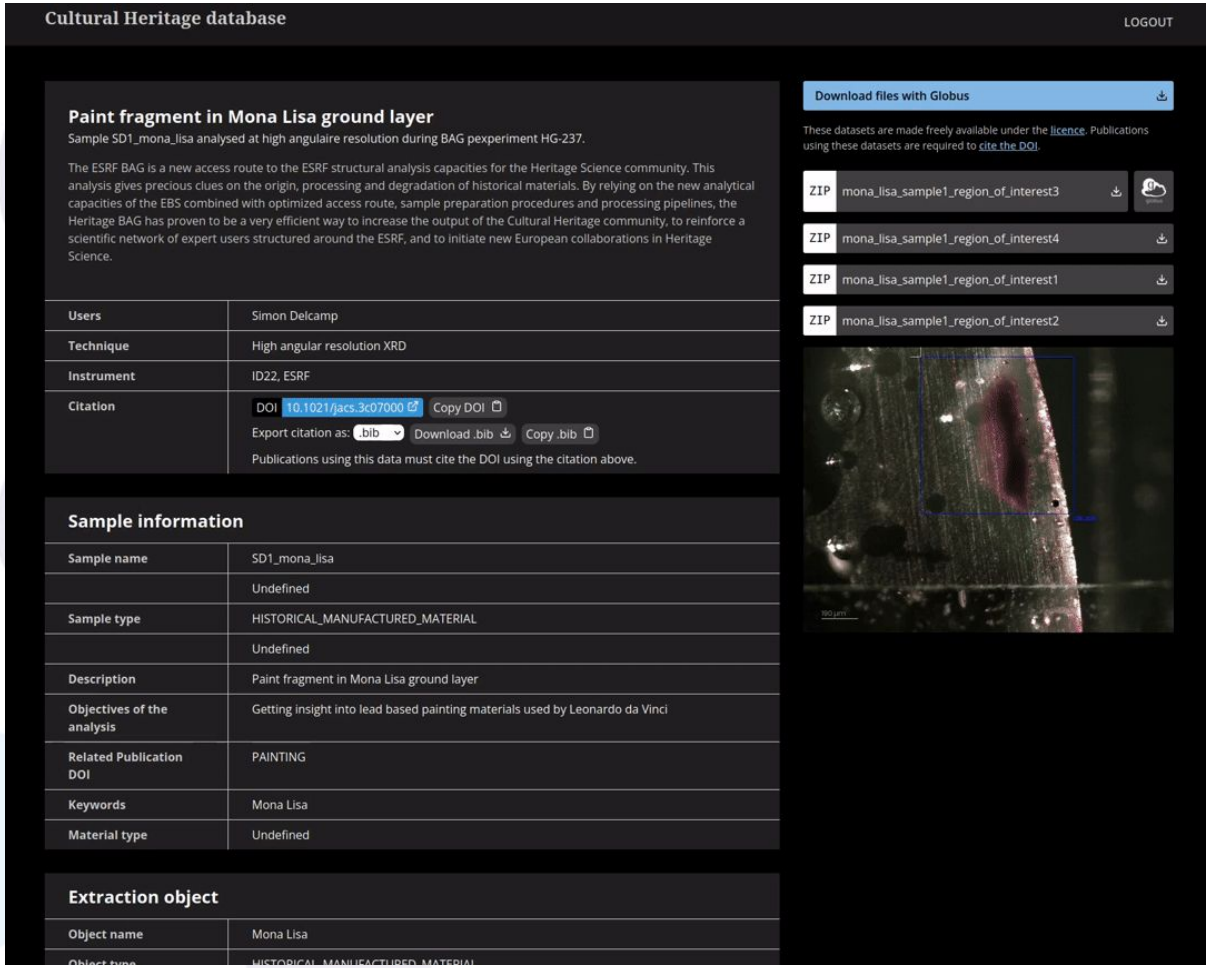
Before the experiment

→ Only for participants of the experiment

→ Already developed: ~ 200 samples and >2,000 metadata registered

After the embargo period

→ Accessible to everyone



RESULTS: An open source code for a FAIR science

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- All **tools** and **software** designed are **public**
  - Developed to be configurable
  - Extension of the form to **other beamlines**
  - Future: **sample PID** to allow **external referencing**

- All websites are and will be **hosted** by the ESRF
  - (Very) low risk of a service shutdown
  - Serve as a showcase for the ESRF

- Study and preservation of **unique** and **precious cultural treasures**
  - Some metadata linked to external database ⟶ **interoperability**
  - FAIR data will lead to **more analysis**
  - **Increase trust** between scientists and objects-sharing institutions

TEAM

Marine COTTE (PI)

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Axel BOCCIARELLI (Collaborator)

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Simon Delcamp (Myself)

Picture of the ESRF and surrounding (Grenoble, France)