



Demonstrator 2:

Increasing the FAIRness of data and image processing workflows in Cryo Electron Microscopy

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“ Professor Sorzano and colleagues are making a huge step towards reaching full traceability of data and analysis workflows within the Cryo-EM field”



When analysing Cryo-EM data, tracing the parameters of all data analysis steps, as well as the particular sequence followed, is essential to understand and reproduce a final structure. The structural biology field needs to improve the dissemination of data and data analysis tools to allow full traceability of Cryo-EM data and workflows.

Professor Sorzano and his team decided to tackle this issue by putting together a storage policy that allows automatic submission of Cryo-EM data from the microscope to a temporary repository at acquisition time, and from the storage to public databases at publication time. This data acquisition and dissemination process will allow full traceability and improve reproducibility of results by making available raw and intermediate data, as well as a Json file fully describing the executed workflow (including the different steps of the workflow, the parameters used and the results).

This storage system includes data protection by restricting data access before publication, and allowing easy dissemination following this embargo period.



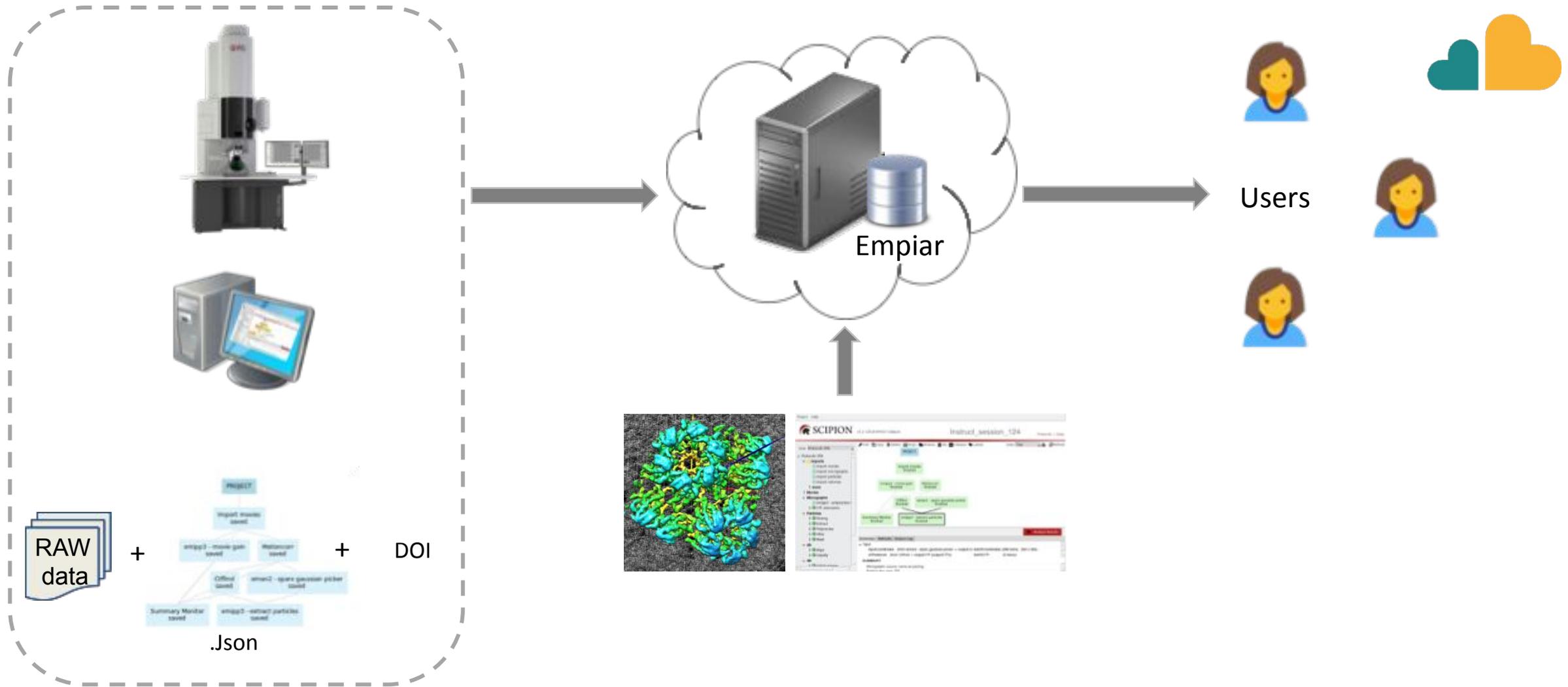
“Our ultimate goal is the FAIRification of the data produced along the image processing workflow in Single Particle Analysis by Cryo-Electron Microscopy”



With this ambitious project, professor Sorzano’s team takes an important step forward towards making structural biology data and analysis tools more standardised, FAIRer and available for re-use by the scientific community.

This project was funded and supported by EOSC-Life in partnership with Instruct and will fully contribute to the overarching aim of the EOSC to enhance FAIR data, software and standards within Life Science.





Step 1

- Data acquisition
- Identification (DOI)
- Json file describing the Workflow

Step 2

- Raw data and Workflows added into Empiar database
- Data protected by embargo

Step 3

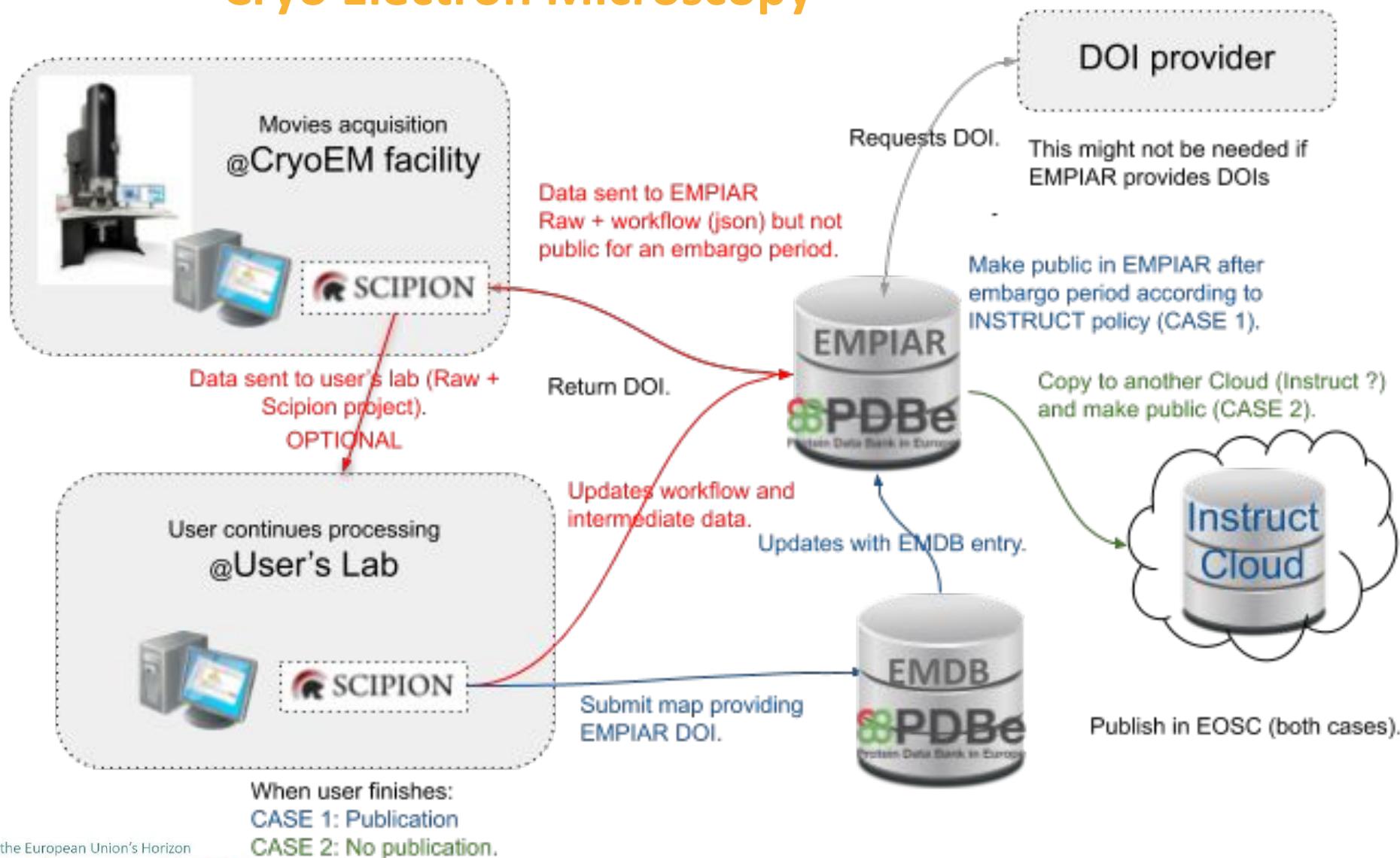
- Updated data and workflows added into Empiar
- Map manually deposited at EMBD

Step 4

- Data made publicly available after an embargo period
- Possibility to copy in another cloud



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The Demonstrator Team



EOSC-Life: building a digital space for the life sciences



- Establish EOSC-Life by publishing FAIR life science data resources in EOSC
- Provide the policies, guidelines and processes for secure and ethical data reuse
- Populate an ecosystem of innovative life-science tools in EOSC
- Enable data-driven research in Europe by connecting life scientists to EOSC via open calls for participation

Open Call Contact

Email: opencall@eosc-life.eu

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