OSCARS
Open Science Clusters' Action for Research & Society

Funded Project

CodeMetaSoft

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Project team members: Tom Francois, Anas el Hounsri, Esteban González Guardia

Implemented by

Ontology Engineering Group

LAPP Laboratoire d'Annecy de Physique des Particules

cnrs

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CodeMetaSoft

Improving Research Software metadata good practices across OSCARS science clusters

OSCARS Funding:

€ 250000

Project Start:

01-Nov-2024

Project End:

01-Nov-2026

Field:

All clusters
Research Software Metadata

Principal Investigators:

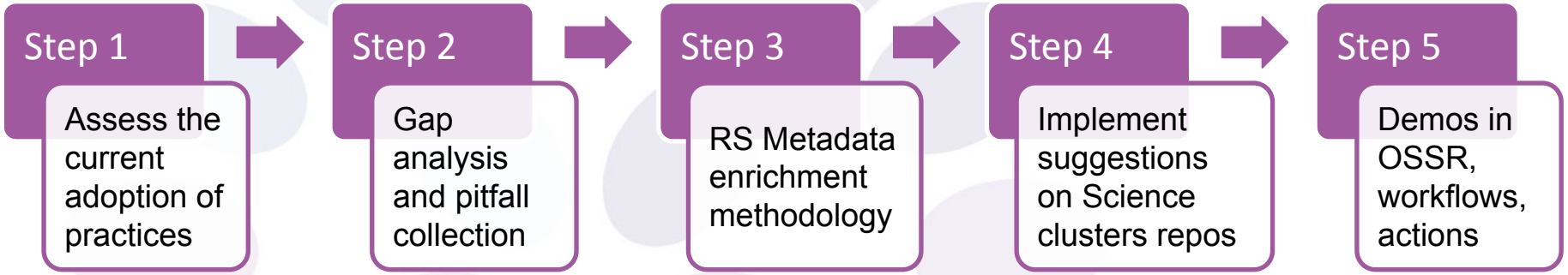
Daniel Garijo, UPM
Thomas Vuillaume, LAPP

Other Researchers involved:

Tom Francois, LAPP
Anas el Hounsri, UPM
Esteban González, UPM

Challenge addressed

Ease the adoption of Research Software metadata & good practices
Automate metadata propagation and interoperability
Propose suggestions for researchers

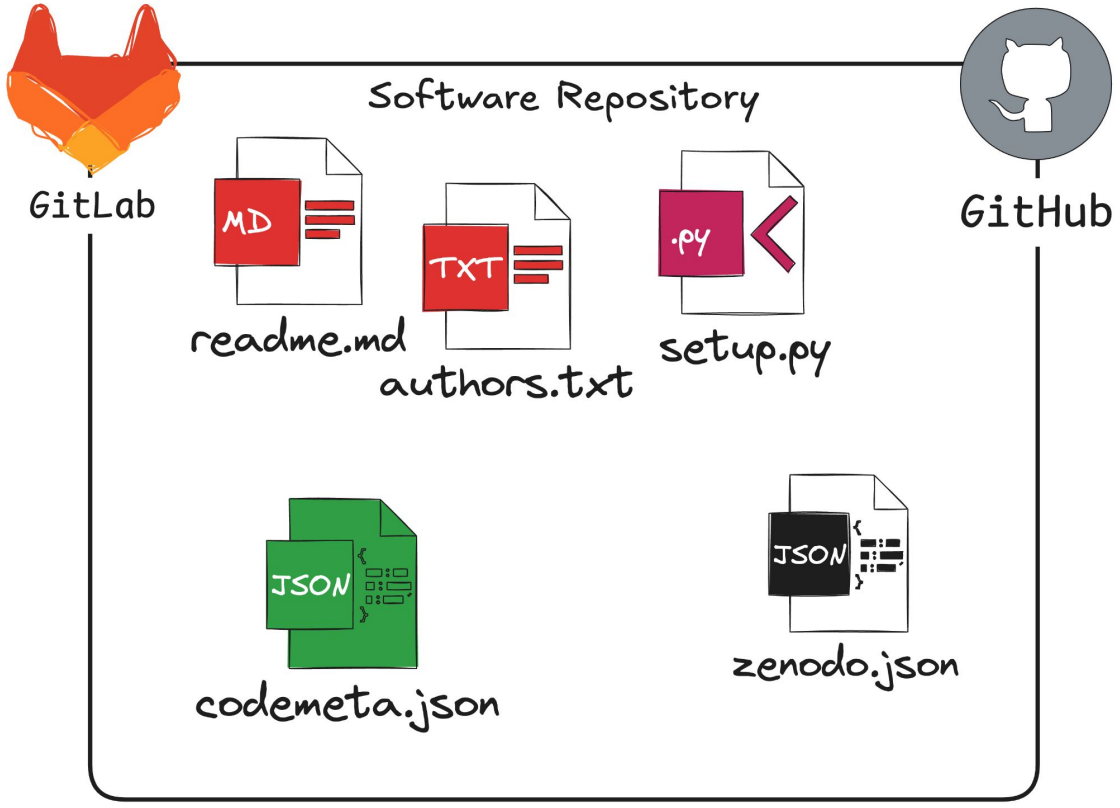


IMPACT

Improving metadata adoption and FAIR4RS principles in European Science clusters, increase the adoption of CodeMeta as a Research Software metadata standard

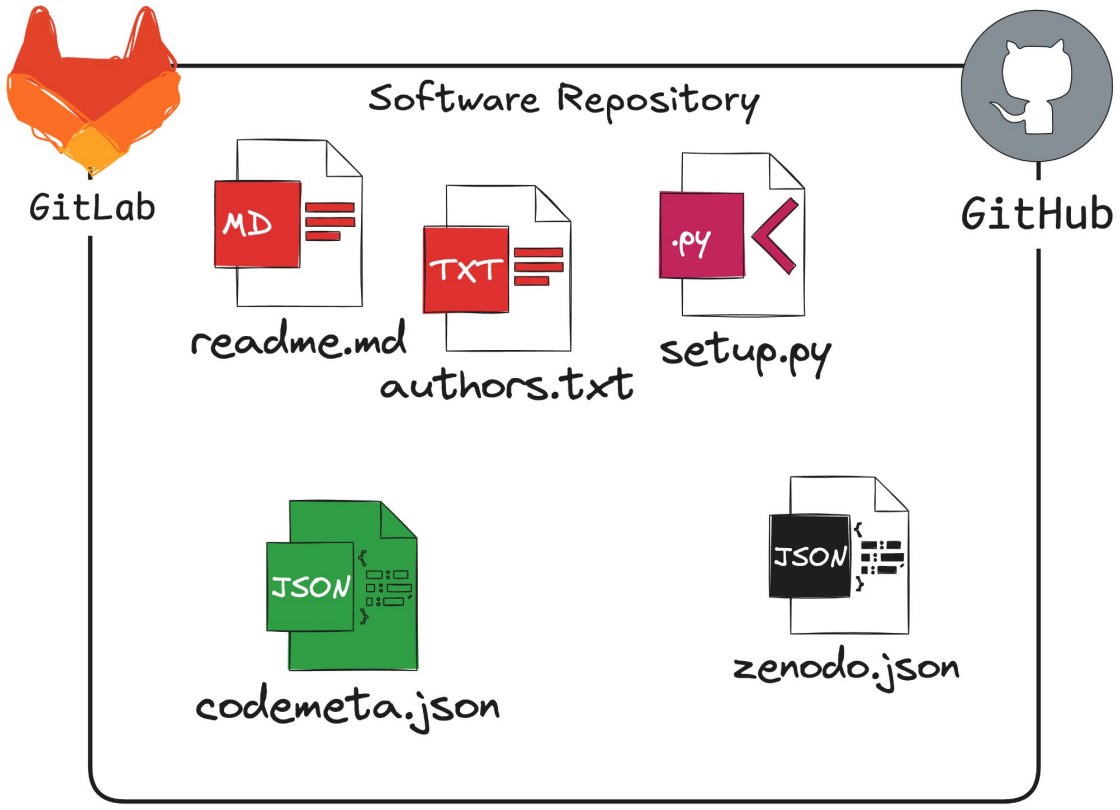
Organisations involved:

Research Software metadata are a core element of FAIRness.



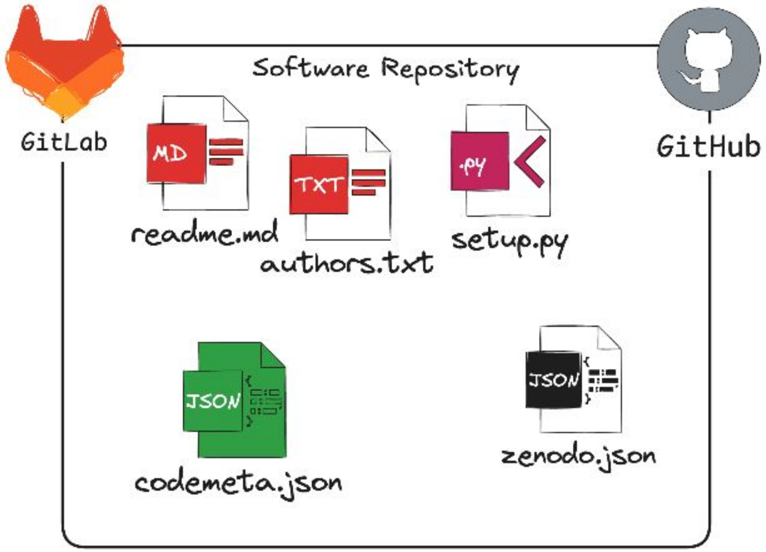
- Sources of software metadata are often project or platform specific.
  - setup.py, setup.cfg in python
  - pom.xml in Java
  - README.md
  - …
- CodeMeta is becoming the metadata standard for software metadata.

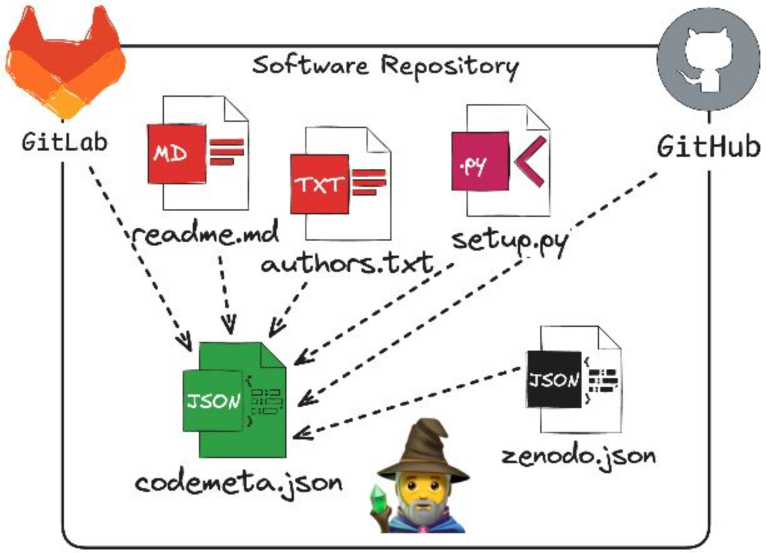
Challenge Addressed

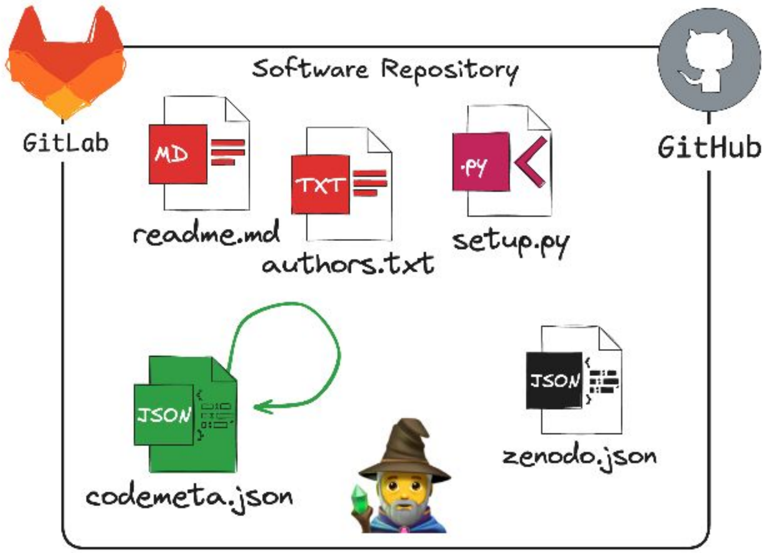


- Software metadata is currently disseminated in heterogeneous files and documentation
- Lack of automated suggestions and enrichment for improving software metadata

Proposed Solution







- Integrate and enrich Research Software (RS) metadata records
- Tools to ease metadata compliance, propagation and automated suggestions and enrichment
- Automate RS metadata maintenance workflows
- Means to measure metadata gaps and the adoption of best practices
- Methodology for RS enrichment
- Demonstrators through clusters and OSSR

Next Steps & Expected Scientific Impact

- What is going to change thanks to your project?
  - CodeMeta **maintenance in software repositories is simplified**. As a result its adoption in the Science Clusters increases, making software more FAIR globally.
  - **Gaps in metadata are identified in software catalogues**, helping Science Clusters focusing their efforts where they are most needed
- Resources that will be made available:
  - Open service(s) and actions usable by others from any community
- Sustainability:
  - Rely on **existing tooling** (e.g., CodeMeta generator) and **standards** (CodeMeta)
  - The developed solution and results will be open-source and published in Zenodo to be (re)usable by anyone.
- A first landscape analysis of good practices has been accepted at MSR'25 [1]

[1] El Hounsri, Anas and Garijo, Daniel. Good practice versus reality: A landscape analysis of Research Software metadata adoption in European Open Science Clusters. To appear in Proceedings of the Mining Software Repositories Conference, 2025. Association for Computing Machinery. MSR '25. 2025. https://dgarijo.com/papers/El_Hounsri_MSR_2025_landscape_analysis_CR.pdf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Thank you