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# EOSC-Life: Build the Life Science European Science Cloud

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# EOSC-Life : Build the Life Science European Science Cloud

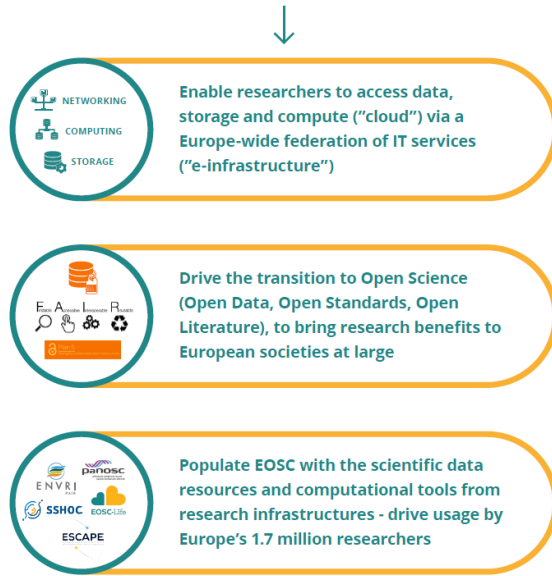
A-F Adam-Blondon, deputy head of ELIXIR-FR, INRAE



# EOSC-Life in a nutshell

- Started in 2019 – ends in 2023
- 13 ESFRI in Life Sciences, 47 Partners and 17 linked 3rd parties
- 26 M€
- Two WPs added in 2020 in response to the COVID-19 crisis

## European Open Science Cloud



E-Infrastructure consolidation

+

Open Science

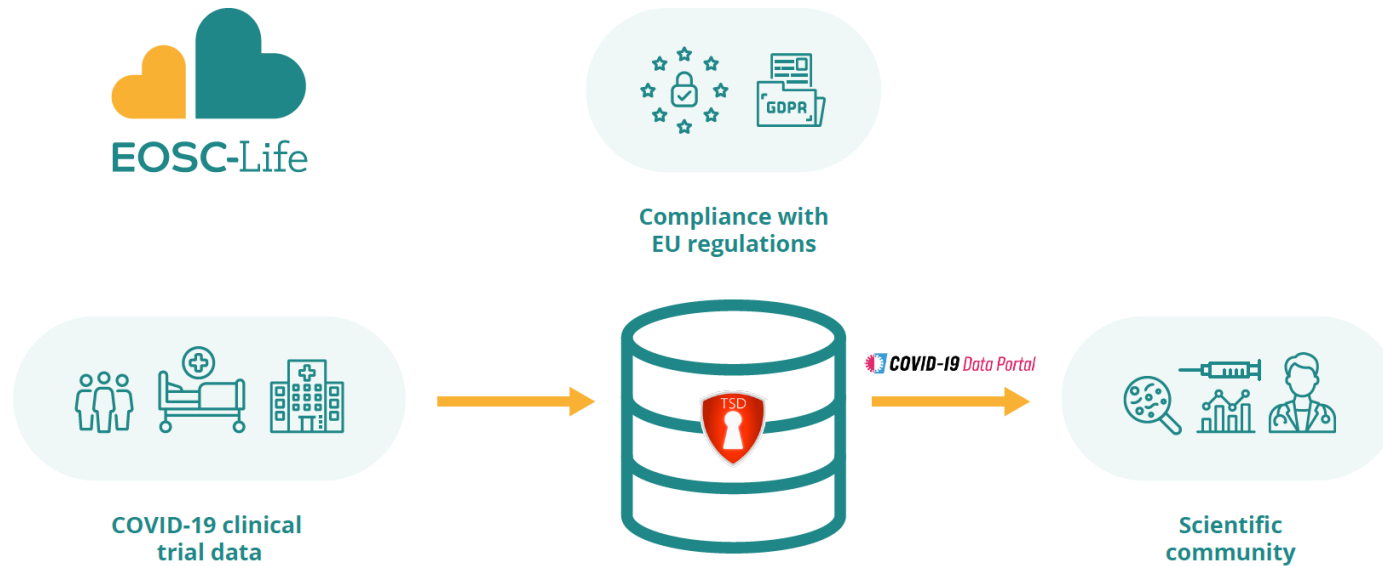
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Scientific Communities' content and users




This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 824087

# (Unexpected) Use cases to drive the activities of EOSC Life



EOSC Life partners and solutions were quickly mobilized to:


- foster collaborations: International COVID-19 Biohackathon + Cloud resources
- Frontloading of open tools and workflows: <https://workflowhub.eu/> , <https://usegalaxy.eu/>
- Build a repository for COVID-19 clinical trial data
- Extension of the COVID-19 Data Portal: <https://www.covid19dataportal.org/>  **COVID-19 Data Portal**



# Populating the EOSC with Data

- **FAIRsharing EOSC-Life collection** with more than a 100 of datasets : <https://fairsharing.org/3513>
- **Provenance standard for life science data** (ISO 23494) describing all the history of the data, including sensitive data and compliant with the Nagoya protocole + EML technical implementation

**GENERAL INFORMATION**



**EOSC-Life**  
EOSC-Life

Type: Collection

Registry: Collection

Description: More than 100 diverse data resource updated or added to this collection by

Organisations: [EOSC-Life](#)

Homepage: <https://www.eosc-life.eu/>

Reference URL: None found

Maintainers: [FAIRsharingTeam](#), [PhilipGribbon\\_EOS](#)

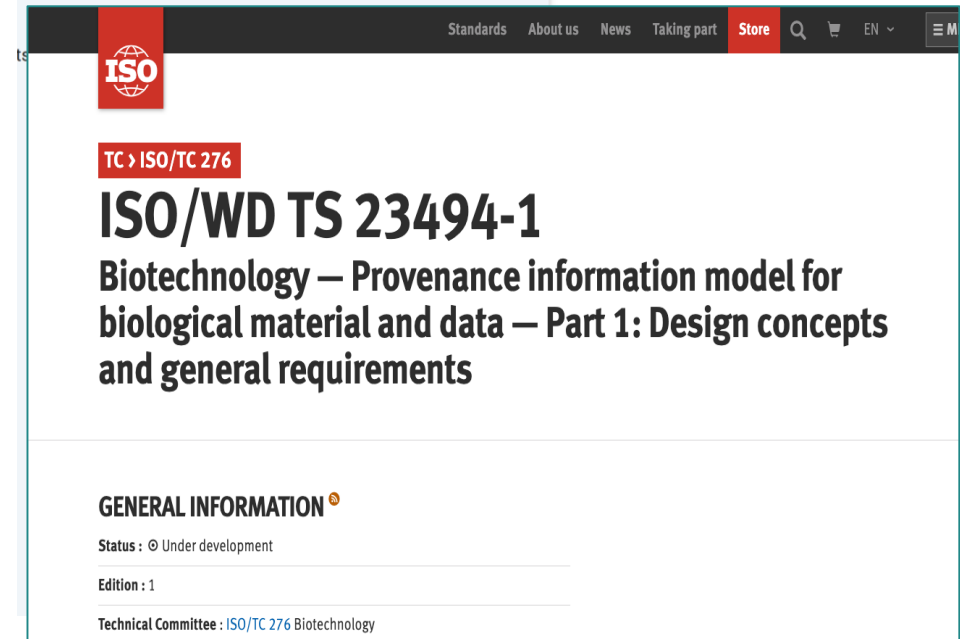
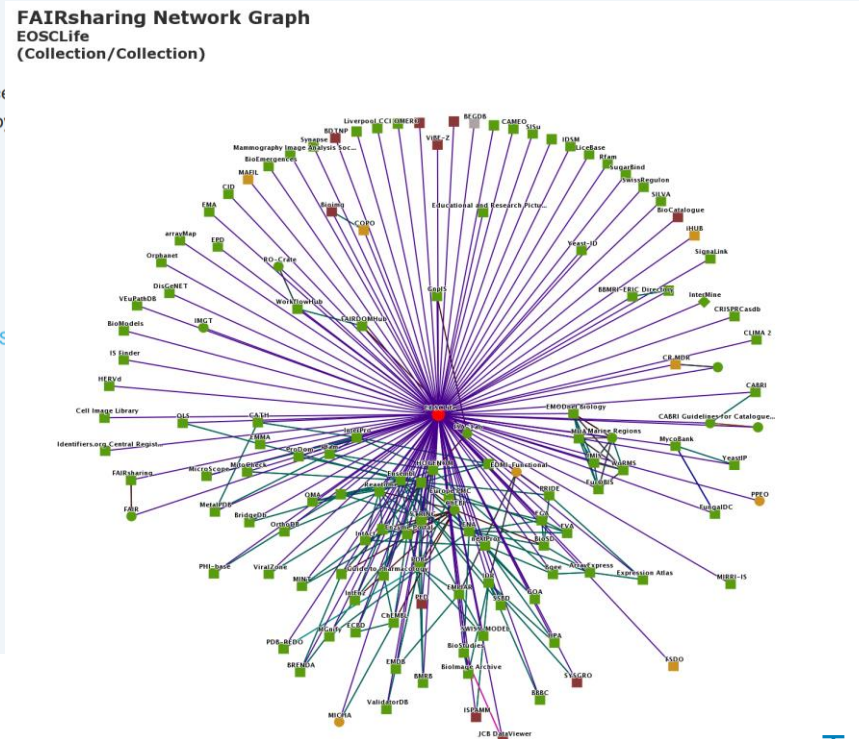
Contacts: [EOSC-Life WP1 General Contact](#)

Subjects: **Knowledge And Information Systems**

Domains: **Knowledge Representation**

Taxonomic Range: **All**

User Defined Tags: None



**ISO**

Standards About us News Taking part Store

TC > ISO/TC 276

## ISO/WD TS 23494-1

### Biotechnology – Provenance information model for biological material and data – Part 1: Design concepts and general requirements

**GENERAL INFORMATION**

Status : Under development

Edition : 1

Technical Committee : ISO/TC 276 Biotechnology

# ELIXIR CONVERGE : upscaling the support to research data management

- 2019 – 2023
- 5M€ + 4M€ pour 3 WP COVID 19
- Complement/in synergy with EOSC Life

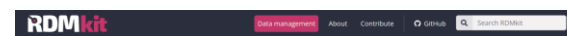


ELIXIR-Converge has received funding from the European Union's Horizon 2020 Research and Innovation programme under grant agreement No 871075.

- Major outputs:
  - ELIXIR RDM community
  - RDMkit: collaboratif knowledge portal in support to Data Management Planning



<https://rdmkit.elixir-europe.org>



**Data management**

- Data life cycle
- Your role
- Your domain
- Your tasks
- Tool assembly
- National resources
- All tools and resources
- All training resources

**Are you working with data in the Life Sciences? Do you feel overwhelmed when you think about Research Data Management?**

The ELIXIR Research Data Management Kit (RDMkit) is an online guide containing good data management practices applicable to research projects from the beginning to the end. Developed and managed by people who work every day with life science data, the RDMkit has guidelines, information, and pointers to help you with problems throughout the data's life cycle. RDMkit supports FAIR data – Findable, Accessible, Interoperable and Reusable – by design, from the first steps of data management planning to the final steps of depositing data in public archives.

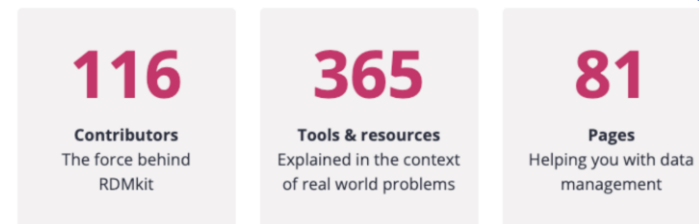
The RDMkit organises information into the six sections displayed below, which are interconnected but can be browsed independently.

**Data life cycle**

Start here to get an overview of research data management. Click on a section of the diagram below to get an introduction to that stage of the data management life cycle.

Pool the expertise of the community for the community

### RDMkit in numbers



Best practices

Tools

Bio.tools

Services

Data Stewardship

Wizard

Resources

FAIRcookbook

Standards

FAIRsharing

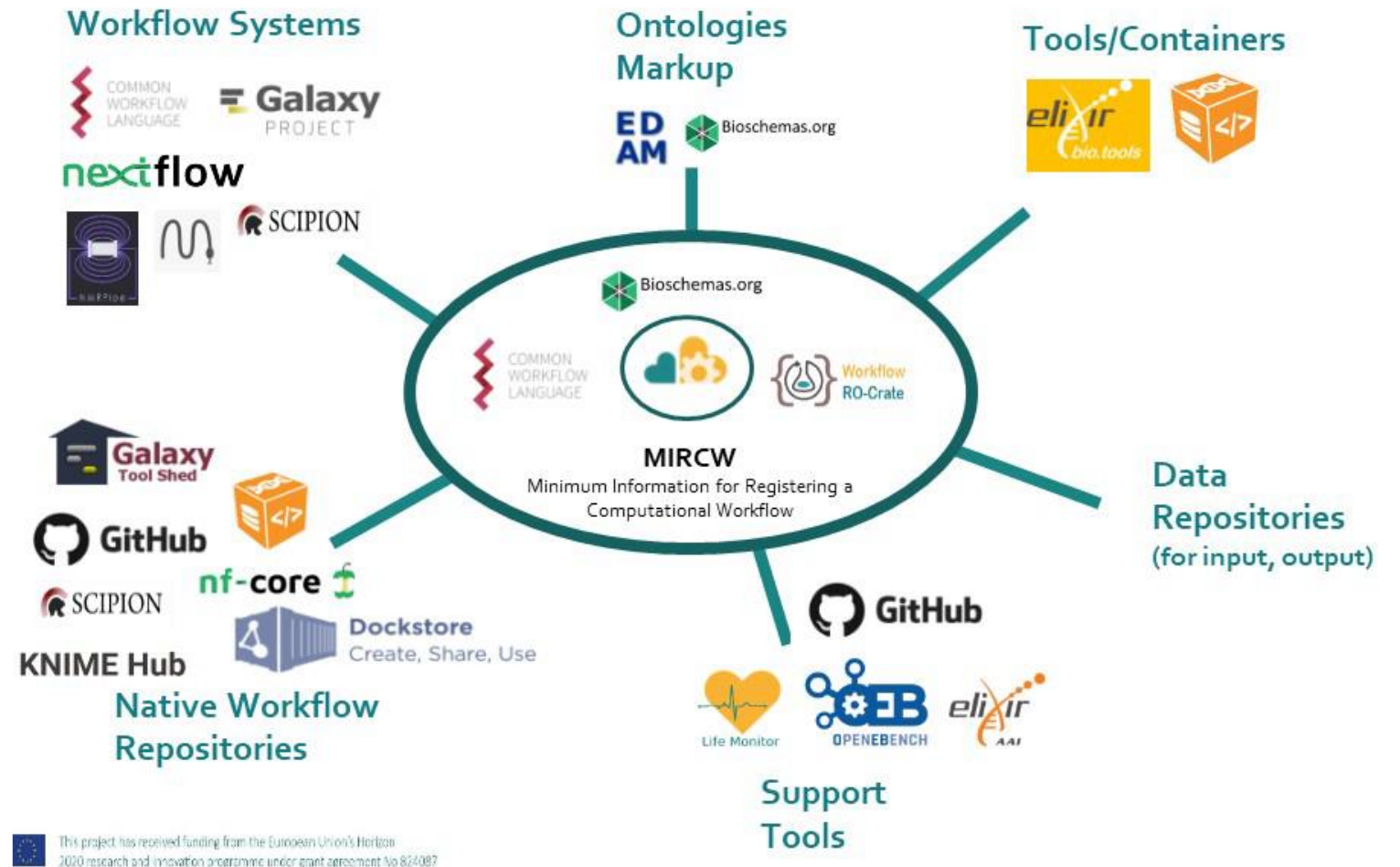
Training

TeSS

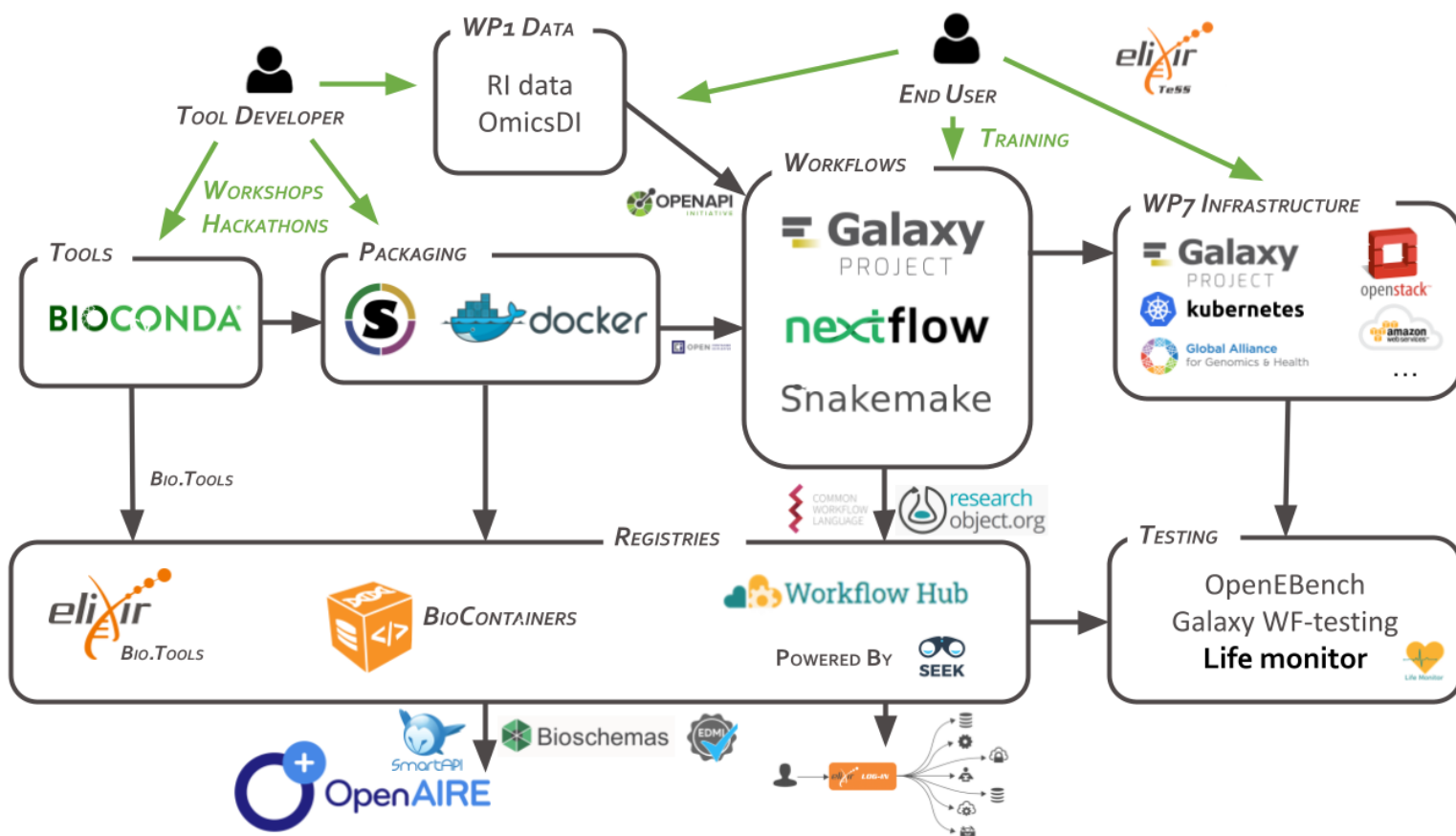


# Packaging tools and workflows for use in the cloud

- **WorkflowHub**
  - a registry of scientific workflows to make them more findable
  - Adoption par Australia BioCommons
- **RO-Crate**  
(<https://www.researchobject.org/ro-crate/>)
  - formalize packaging of research data with structured metadata (including provenance) using schema.org.
  - Integrated in workflowhub and Galaxy.
  - Adopted by projects/infrastructures to create FAIR digital objects (e.g. DISSCO SYNTHESIS +, Biodiversity Genome Europe)



- Cloud deployment and cloud resources + identification of suitable providers for sensitive resources



- Providing access: **LS LOGIN** system
- Connecting, informing and training users





EOSC-Life has received funding from the European Union's Horizon 2020 programme under grant agreement number 824087.



# Thank you!

## Sources:

- <https://www.eosc-life.eu/wp-content/uploads/2021/03/eosc-life-achievements-brochure-Final.pdf>
- Romano P, Rosato A & EOSC-Life project Consortium (2022) <https://doi.org/10.5281/zenodo.7853116>

