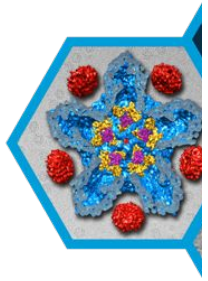
Creating EOSC for the Life Sciences

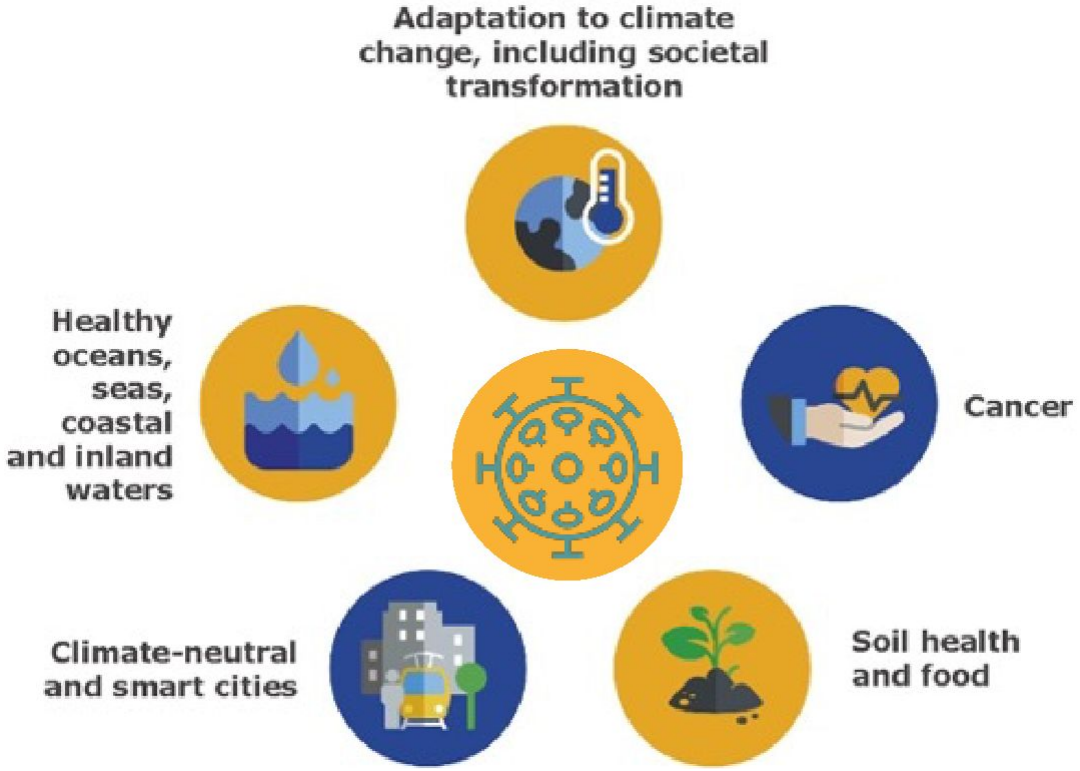
EOSC Symposium, Prague, Nov 2022
Niklas Blomberg, Project Coordinator

Life science data is rich and diverse

Connecting digital life science data will allow us to address major challenges facing humanity



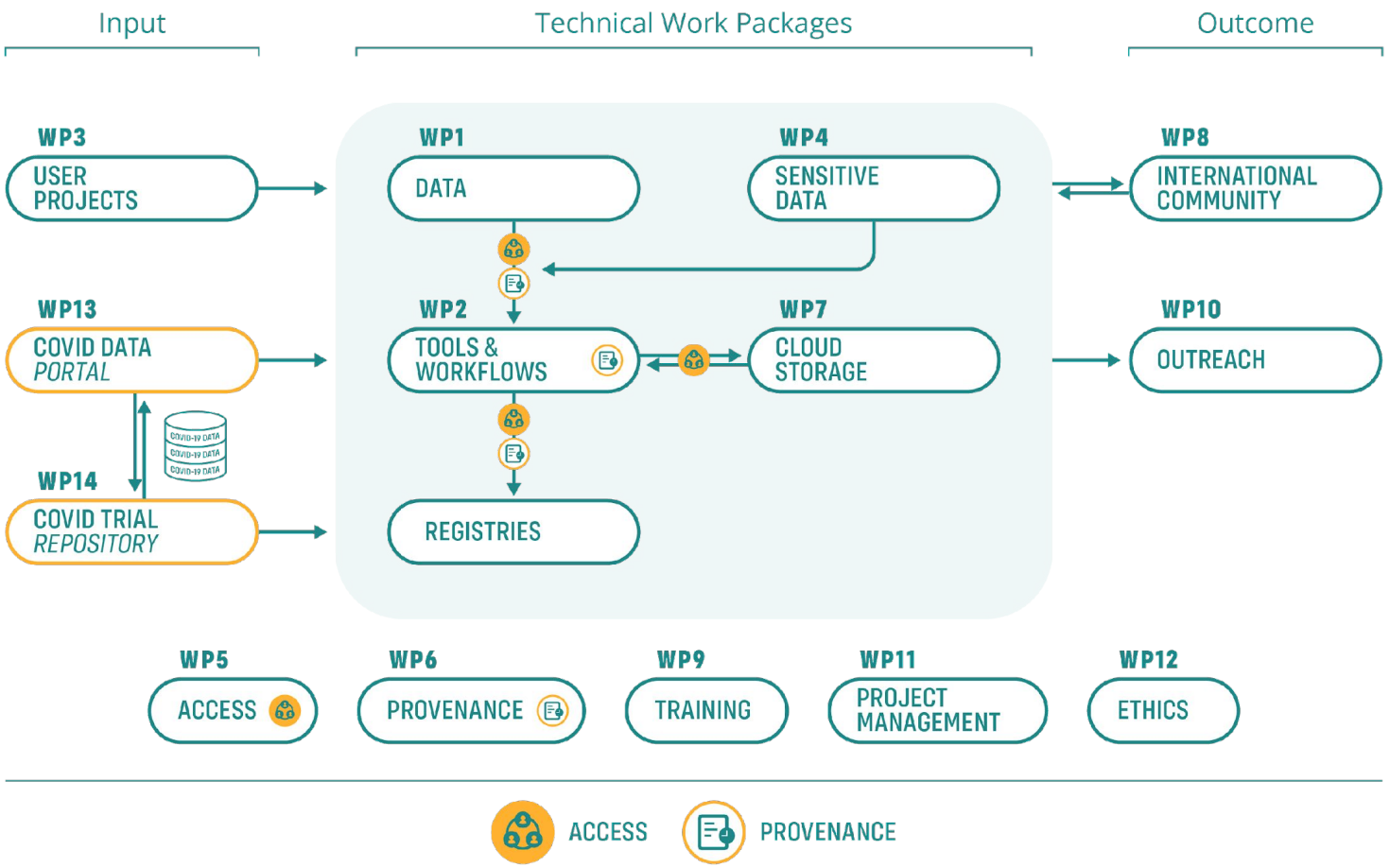
EOSC-Life provides solutions so that life scientists can make use of data, tools and workflows in the cloud



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

EOSC-Life prepares European life science for a new way of working

- *People: skills, new capabilities and networks*
- *Experience and processes for consolidated RI service delivery*
- *Life science data resources, workflows, registries and other services*
- *Training materials, policies, guidelines (FAIR, Sensitive data)*



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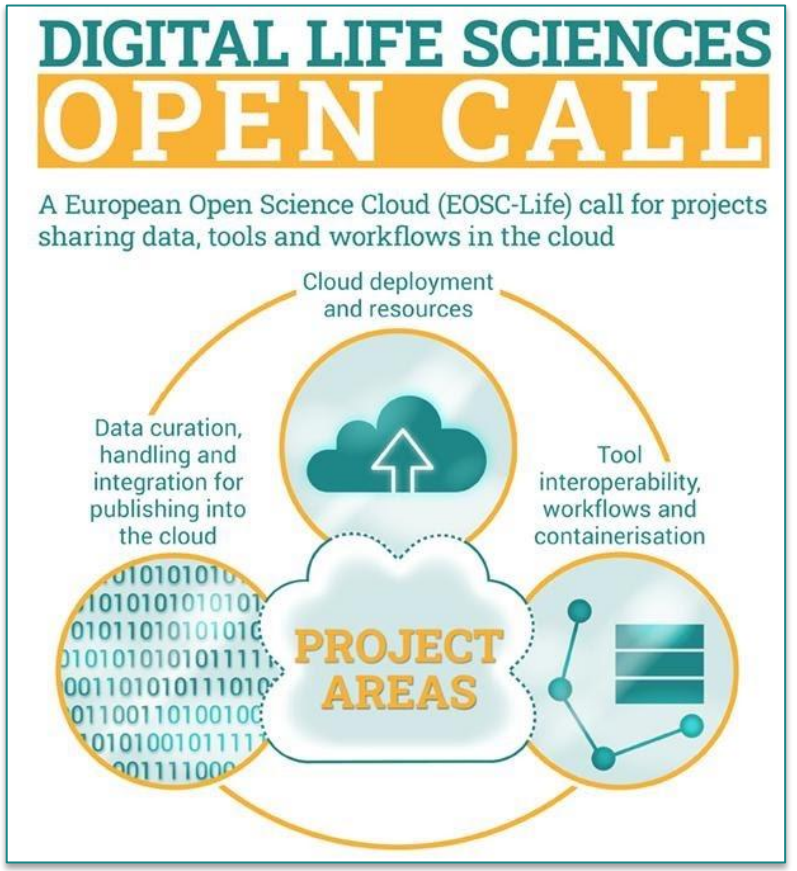
- **EOSC-Life** has run 3 open calls for partnerships
- **EOSC-Life** supporting 27 projects where external users contribute and access expertise, data, tools, workflows and cloud resources
- **EOSC-Life** has refocused activities in response to the ERAvsCORONA action plan:
  - support open science research with workflows, training, cloud access
  - European COVID-19 Data Platform
  - repository for COVID-19 Clinical Trial Data.



https://www.eosc-life.eu/achievements/

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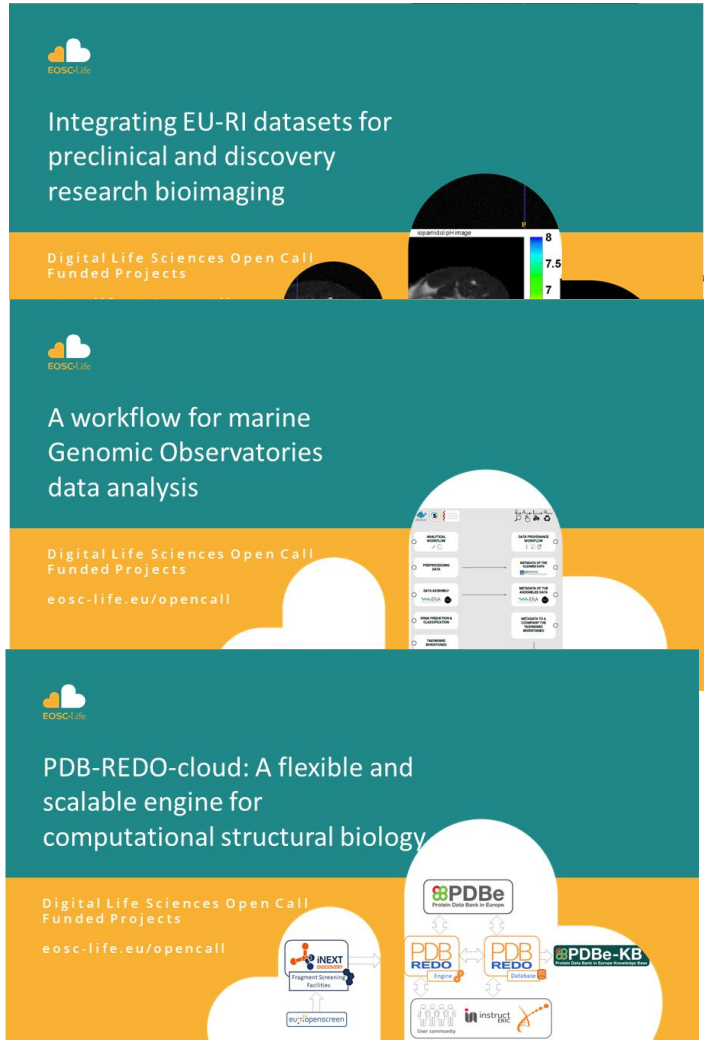
Users



Project lead: Emma Karoune, Historic England

https://open-phytoliths.github.io/FAIR-phytoliths/

Accessible and scalable detection and identification of foodborne pathogens

Team lead: Bérénice Batut, University of Freiburg

Industry partner: Biolytix AG

Project team: Ralf Seyfarth, Anna Henger, Engy Nasr

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https://www.eosc-life.eu/calls/

Cross-cutting, horizontal services and technologies serving non-bio stakeholders

Services

Galaxy EUROPE — Workflow Platform
33K users, 40K workflows

PULSAR — Remote computation sharing across Europe and Australia

WorkflowHub — Workflow Registry
System agnostic

OPENEBENCH, Life Monitor — Workflow Testing and Monitoring services

Technologies & Techniques

Metadata standards for describing workflows and tools — schema.org, Bioschemas

FAIR Digital Research Object for exchanging workflows & data & service **interoperability** — RO-Crate

Standardised description of a workflow — COMMON WORKFLOW LANGUAGE

Secure federated processing of sensitive data

Across disciplines

Life Sciences — EOSC-*Life*

Earth Science — Reliance
Research Lifecycle Management technologies for Earth Science Communities and Copernicus users in EOSC

Biodiversity — DiSSCo
Distributed System of Scientific Collections

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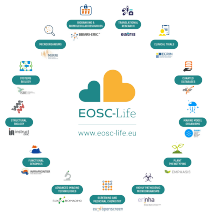
Enabling Open Science



FAIRsharing.org
standards, databases, policies

Bioschemas.org

RO-Crate

WorkflowHub

LS LOGIN

Galaxy Europe

RMS

ecrin

BY-COVID

eosc
cancer

eosc | EuroScienceGateway

ISIDORe

canSERV

SIMCor

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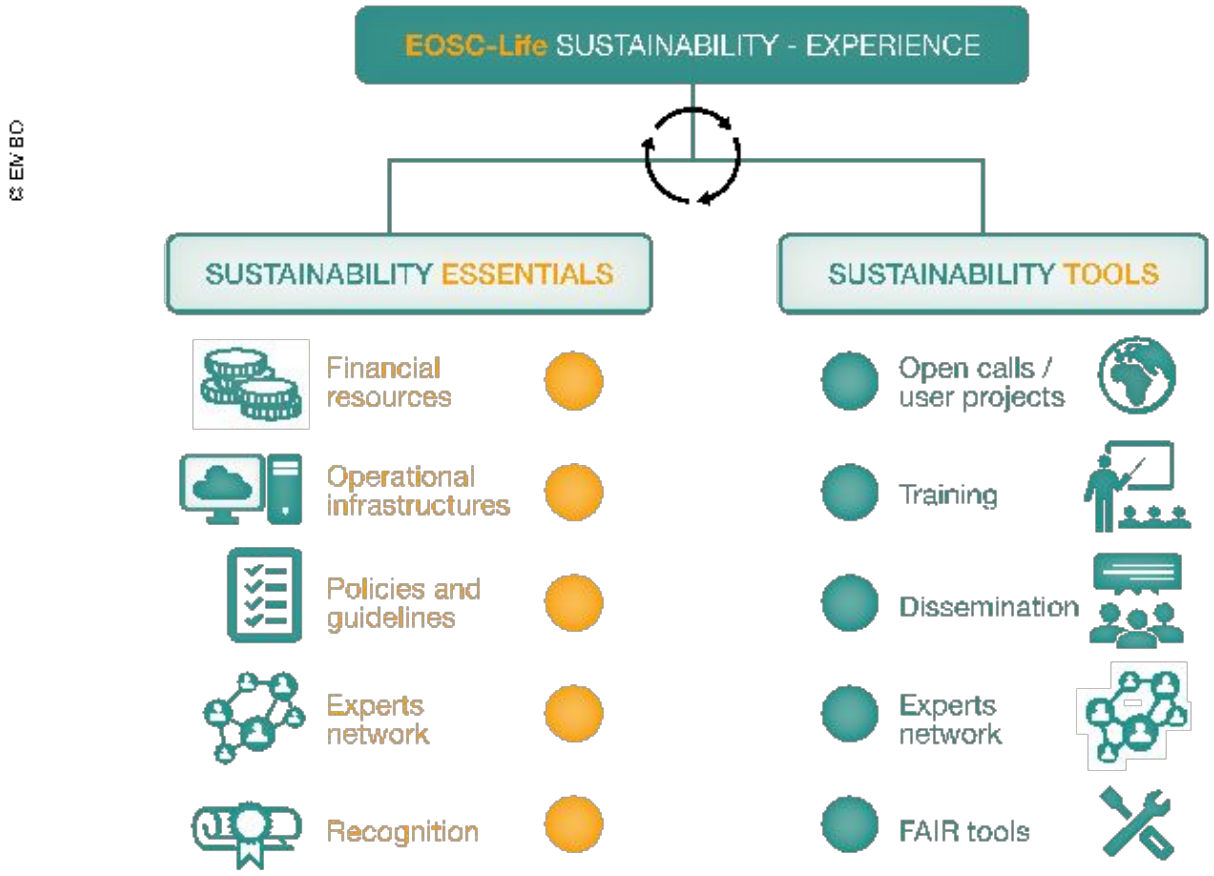
Long-term sustainability – the EOSC-Life legacy



"Be Sustainable Recommendations" for FAIR Resources in Life Sciences research: EOSC-Life's Lessons
(preprint DOI:10.5281/zenodo.8059830, EMBO J, in press

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Long-term sustainability – the EOSC-Life model

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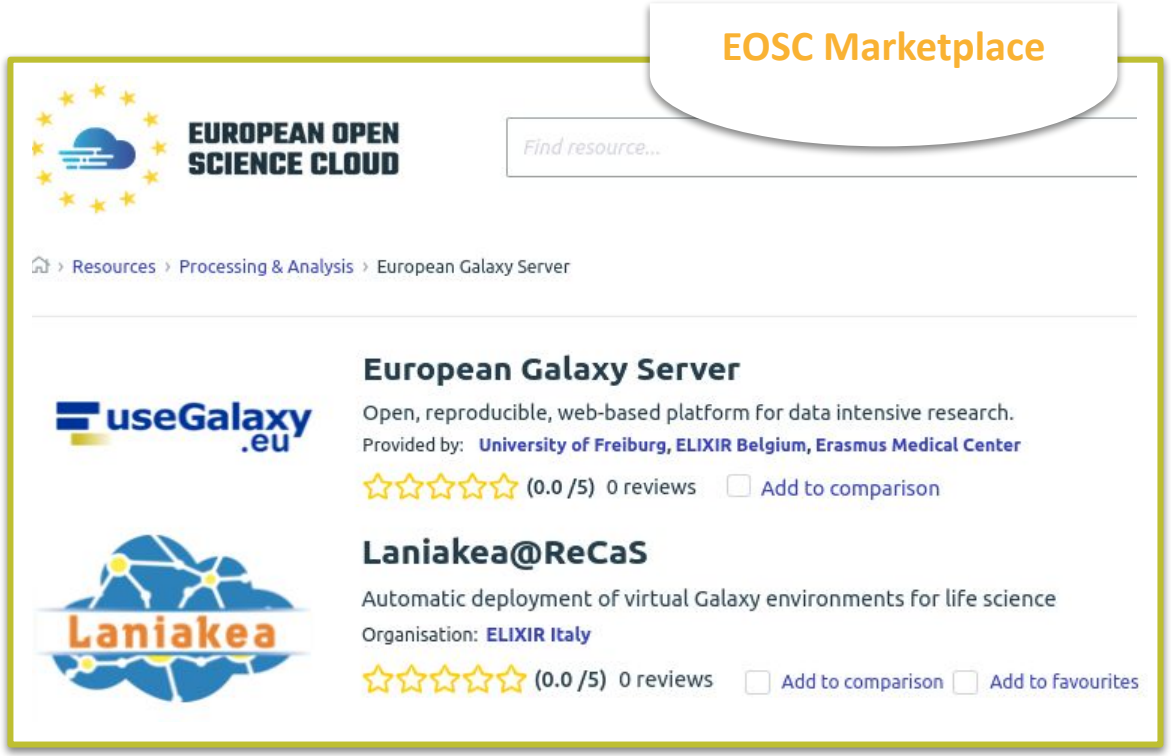
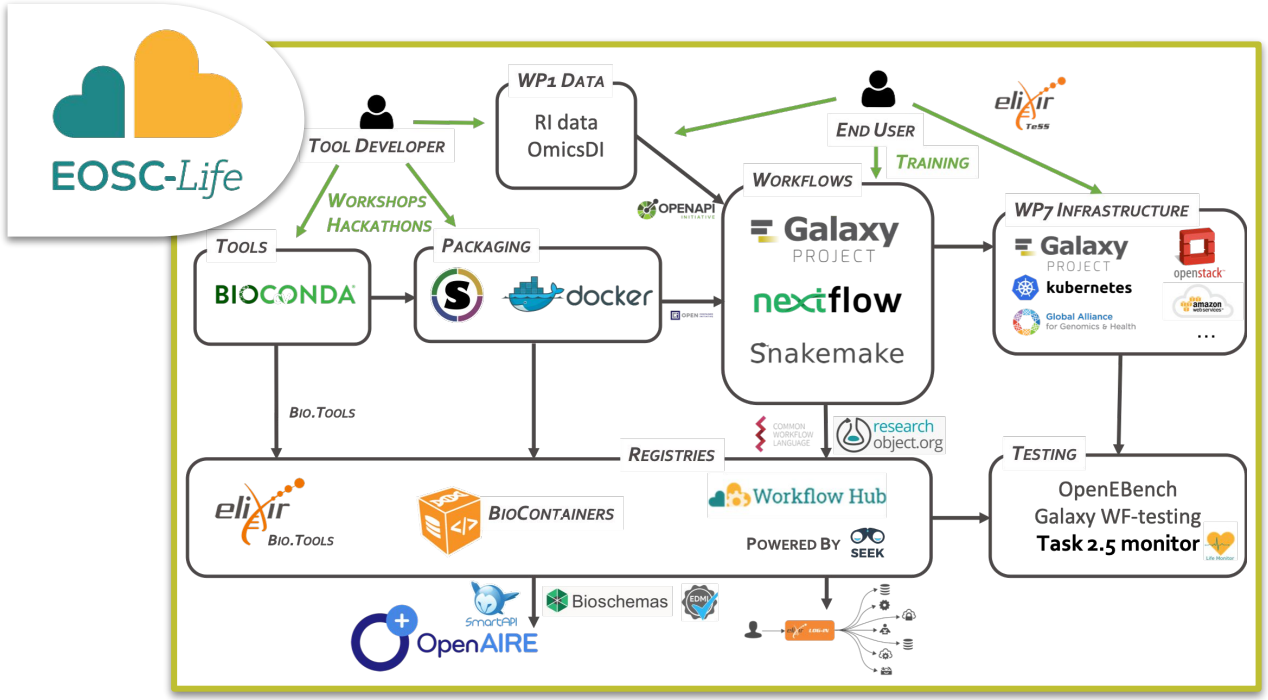
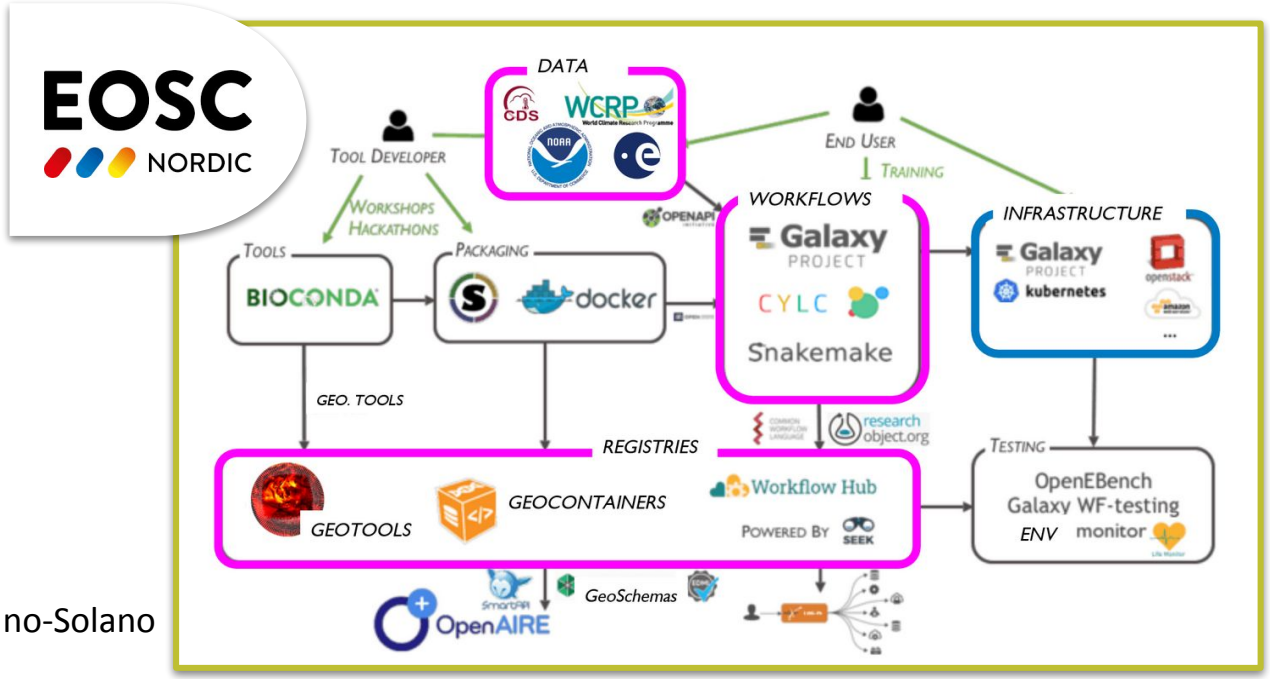
Thank you

Cross-EOSC Platform

EOSC Marketplace







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Slide by Beatriz Serrano-Solano