WorkflowHub
FAIR Workflow Registry

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Computational Workflows make EOSC data analysis FAIR
What is a workflow ...

Computational data pipelines and analytics, chain codes, handle data flow, manage execution on computational platforms.

**Access EOSC** computation and data infrastructure, tool interoperability, processing portability and optimisation.

Software Execution on EOSC computational platforms / clouds

Precise Specification in a language
Increasing widespread tracking rise in data-driven reproducible analytics, data processing at scale & professionalisation of data pipelines.
Are workflows Findable, Accessible, Interoperable, Reusable?
WorkflowHub

FAIR Workflow Registry

Launched Sept 2020

EOSC service provided by ELIXIR, EOSC-Life, The University of Manchester

Open Development

https://workflowhub.eu

283 workflows

11 system types

110 teams

103 organisations

360 people
FAIR Workflow registry for EOSC

- Workflow-system agnostic
- Search for and discover workflows
- Metadata standardization (CWL, schema.org, custom tags, RO-Crate)
- DOI publication, citation & credit
- Collections, Teams, Organizations and Communities
- Programmatic access: GA4GH TRS API, RO-Crate
- Registry, not repository
  Workflows can live elsewhere, e.g. GitHub
- Integration with EOSC execution platforms
Low barrier to entry for publishing workflows

- Workflow-system agnostic
- Import from native repositories
- Git integration
- Versions, any stage of development
- Automated metadata extraction
- Include documents, test data

**tl;dr:** Workflows can remain in existing repositories
Helping EOSC communities make FAIR workflows
Supporting workflow communities in EOSC

WorkflowHub Teams serve numerous EOSC organizations, projects and ad-hoc collaborations.

Catalogue the team’s workflow collections, related resources, people and institutions.
Communities at WorkflowHub

Galaxy Climate

CINECA

Australian BioCommons

EOSC-Life

DSSCO

EMOBON

nf-core

useGalaxy.eu

TRANSBIOMET

-omics.nl

UNLOCK

IBISBA

Individualized Paediatric Cure

by-COVID

European Joint Programme

RARE DISEASES

bioexcel

ADOPT BBMRI-ERIC

gateway for health

SYNTHESYS+

Pôle National de Données de Biodiversité

bioinfo Ifremer

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https://workflowhub.eu/projects
WorkflowHub integrates with EOSC services
Services in the

**Workflow Collaboratory** exchange workflows as **FAIR Digital Objects using RO-Crate**

- Packaging workflow files & companion objects
- Exchange between services & systems
- Reproducibility & Testing
- Citation
- Workflows in the EOSC PID graph
- Standards-based exchange

https://doi.org/10.5281/zenodo.4605654
WorkflowHub Club
https://about.workflowhub.eu/
Open Development
Bi-weekly community calls

Workflow Community Initiative https://workflows.community/about
EOSC-Life https://www.eosc-life.eu/
ELIXIR http://elixir-europe.org
RO-Crate https://www.researchobject.org/ro-crate/
WorkflowHub https://workflowhub.eu/
Galaxy Europe https://galaxyproject.eu/
Bioschemas https://bioschemas.org
Common Workflow Language https://www.commonwl.org/
Life Monitor https://crs4.github.io/life_monitor/

FAIR Computational Workflows at WCI

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