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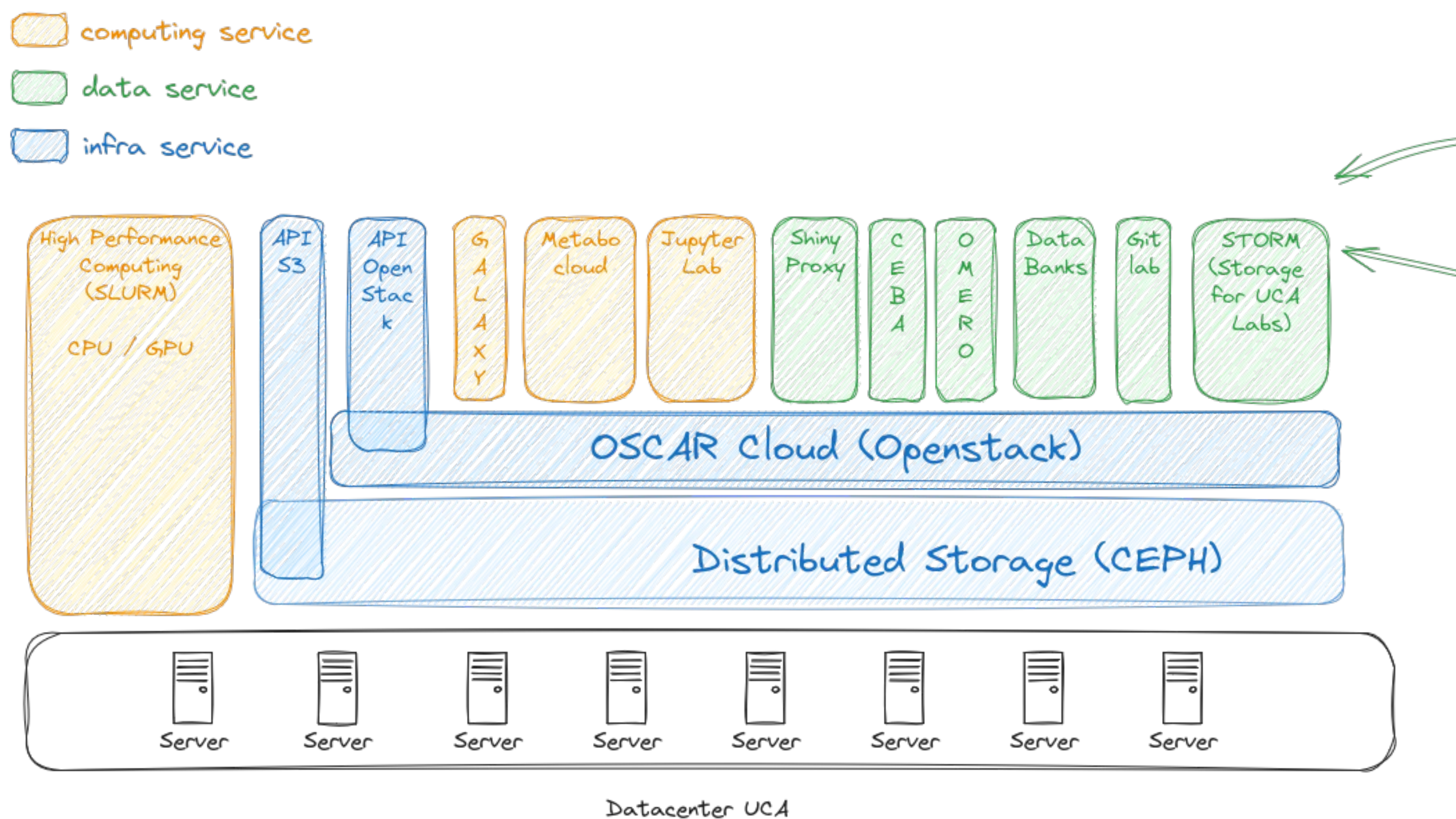
# FAIRing Research Data to Live @AuBi Platform

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Hosted by the Pôle d'Appui Recherche Mésocentre Clermont-Auvergne (PARM), the Auvergne Bioinformatique (AuBi) platform began structuring its community in 2015. AuBi is member of the Institut Français de Bioinformatique (IFB) since 2018, and France Génomique since 2022. AuBi contributes to Open Science through joint initiatives with the recently labeled *Atelier de la Donnée : Gérer Ouvrir Trouver Obtenir les Données de l'Université Clermont Auvergne (GOTODO)*.

## Datacenter & Mesocenter Infrastructures



- PARM current services
- ✓ HPC
    - 2 500 CPU, 14 GPU
    - Access : CLI, X2Go, JupyterLab
    - Gitlab server
    - Centralized authentication (IAM)
  - ✓ Cloud OSCAR
    - 1 900 vCPU, ~ 10 Tb RAM
  - ✓ Storage STORM
    - 3 PB via Samba (CEPH)
    - Storage (CEPH, S3)
    - 1 800 Tb

In the coming year, and through a FEDER funding, we will update to a new HPC with 24 nodes (128 CPU, 1.5 TB RAM and 2 x 8 cards H100 GPU). In 2025, cloud service will be increased with new hypervisors (550 K€) and STORM storage will reach 2 Pb.

## Community of AuBi users



Around 15 labs and sequencing and imaging platforms contribute to AuBi activities with scientific questions related to health, microbes, agronomy, and environment disciplines.

## Assistance to complete project DMP

[dsw.france-bioinformatique.fr](http://dsw.france-bioinformatique.fr)

- ✓ Working with diversity of communities
- ✓ Offers entity DMPs:
  - Imaging (OMERO as AuBi service)
  - Imaging with CLIC platform
  - Proteomic & Metabolomic with Metahub

[dmp.opidor.fr](http://dmp.opidor.fr)

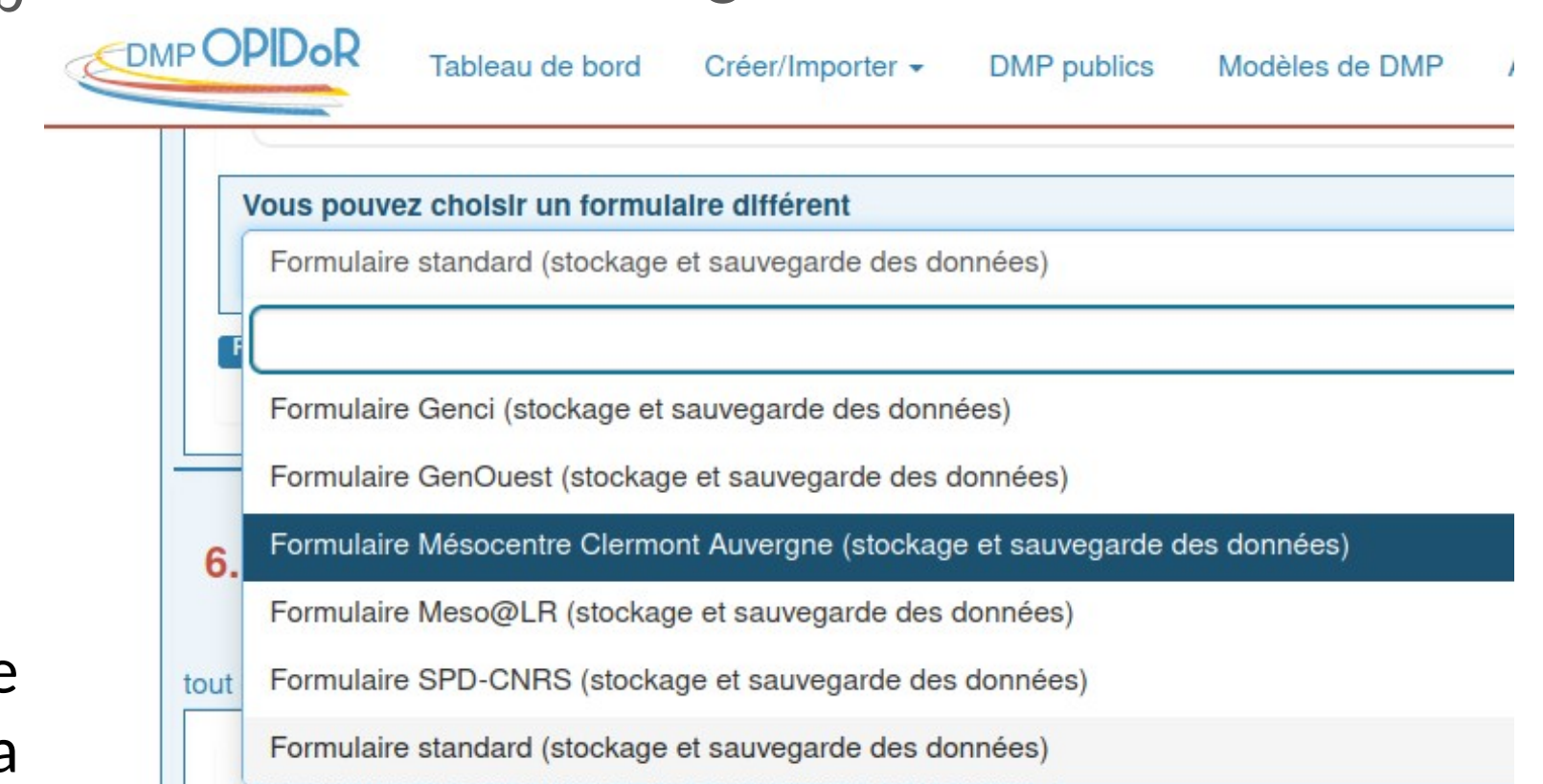
- ✓ AuBi and PARM indexed on [cat.opidor.fr](http://cat.opidor.fr)
- ✓ Collaboration with INIST team to :
  - Analysis cost on cluster
  - Storage cost

Bioimaging

Metabolomic



As part of the MuDiS4LS project, IFB-core and IFB members collaborate with Data Stewart Wizard to produce entity DMP.



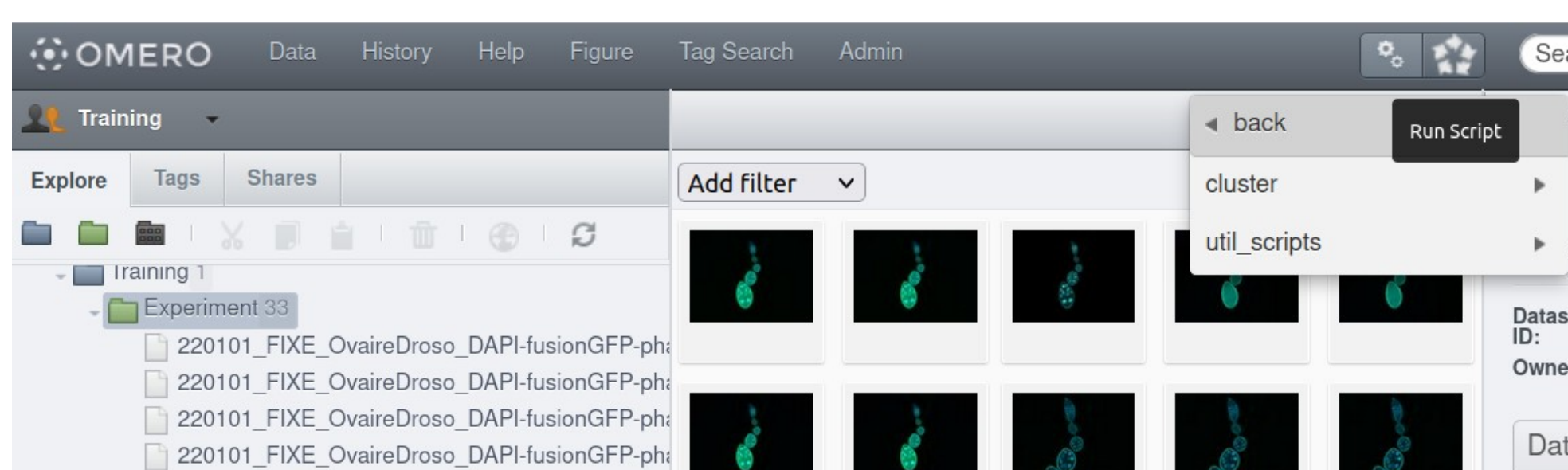
## Origin & Diversity of Data stored and analyzed at AuBi

Category	Sequences	Images	Quantitatives Qualitatives	Digital models
Sequences	GDEC, MEDIS, PI AF, M2iSH, UNH, Laboratoire Microorganismes Genome et Environnement			
Images	GReD, IMOST, GDEC, NEURO-DOL, PI AF			
Quantitatives Qualitatives	PI AF, UNH, INRA, MEDIS, UMR1213			
Digital models	PI AF, GReD, NEURO-DOL, MEDIS			

## FAIRisation of Image Data by Metadata Storage Management

[omero.mesocentre.uca.fr](http://omero.mesocentre.uca.fr)

- ✓ Adding a "Public" folder with the possibility to get an DOI
- ✓ Guidance for metadata



50 active users  
12 projects  
3 Tb

## FAIRisation with Reproducible Workflows in Galaxy

[galaxy.mesocentre.uca.fr](http://galaxy.mesocentre.uca.fr)

- ✓ Open access tools
- ✓ Active communities : Hackathons [bio.tools]

[usegalaxy.fr](http://usegalaxy.fr)

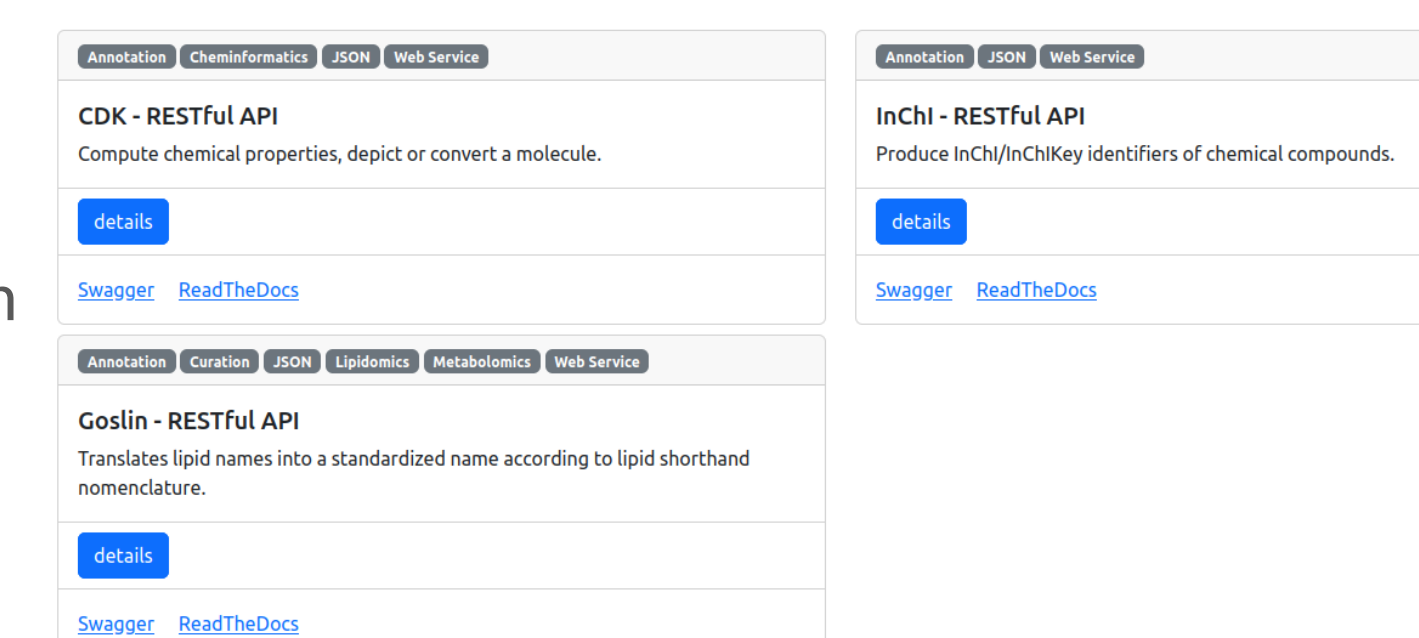
- ✓ ABRomics project
- ✓ Specific workflows
- ✓ Specific Galaxy Training Network

- ✓ Galaxy Working Group & Eurobioimaging
- ✓ Enable reuse of workflows [DOI]
- ✓ Active with Galaxy Training Network

97 active users  
30 Tb

## FAIRisation with API microservices

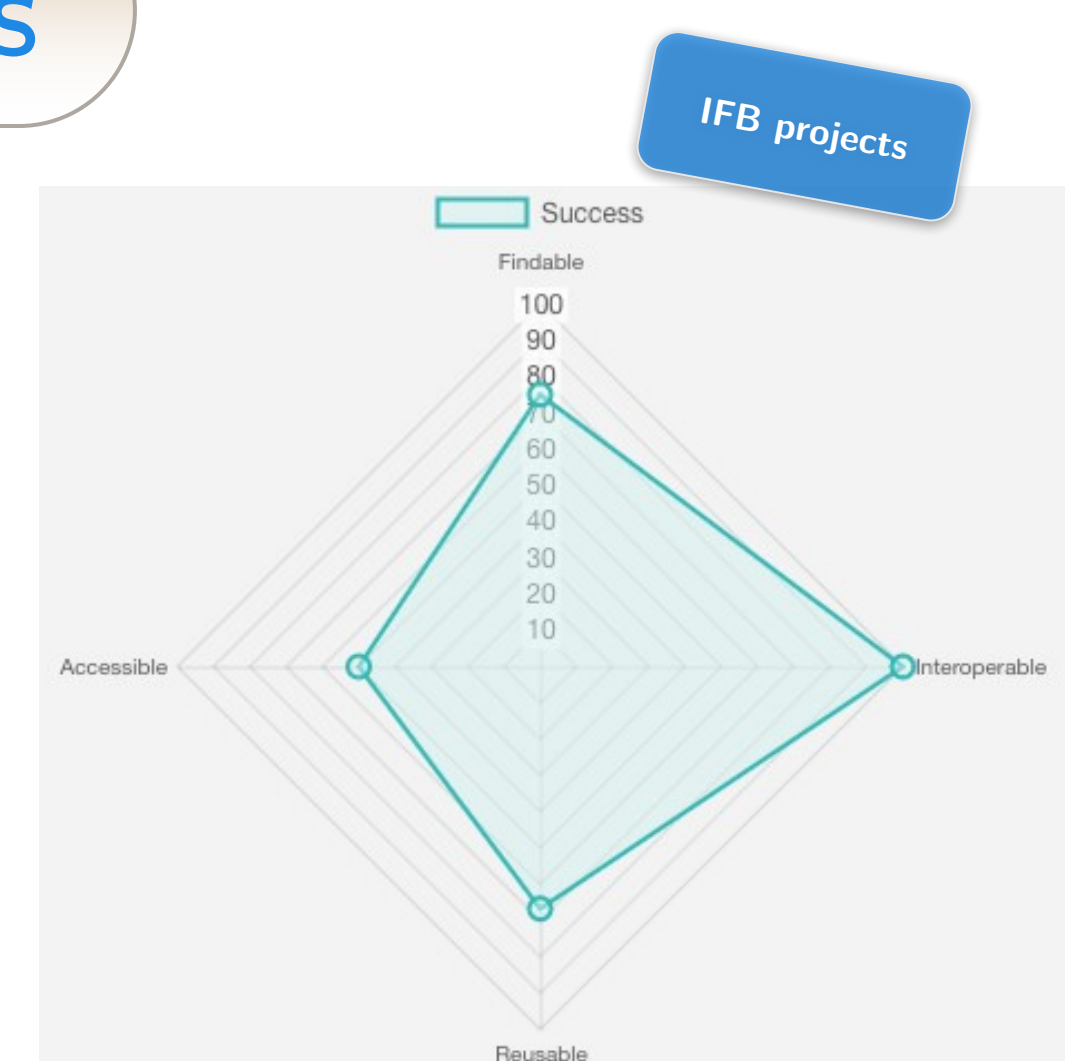
Welcome on the MetaboCloud catalog !



[metabocloud.mesocentre.uca.fr](http://metabocloud.mesocentre.uca.fr)

- ✓ Open access tools through API
- ✓ Including metadata and documentation
- ✓ bio.tools identification
- ✓ Improving website with FAIRChecker

GO AND SEE POSTER : MetaboCloud : A catalog of microservices hosted on a Cloud infrastructure and addressing issues linked to FAIR principles and open science



IFB projects