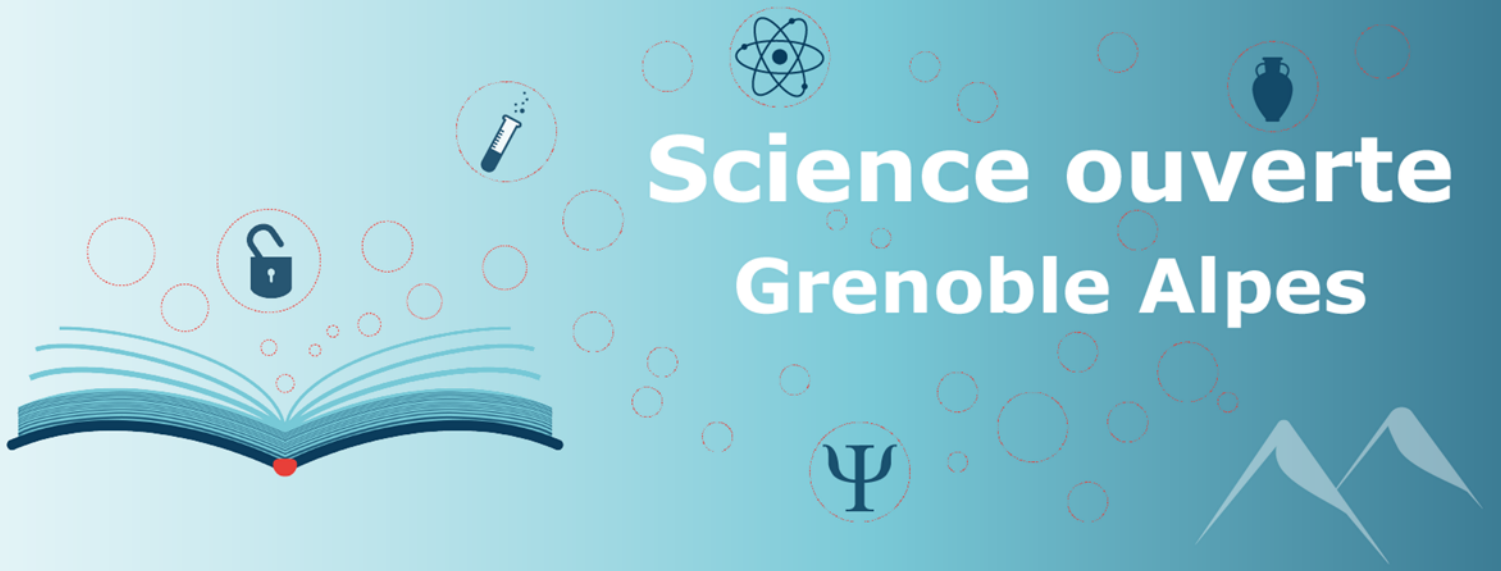


Grenoble Alpes University Open Source Program Office

Official opening of the UGA OSPO

2025 - 09

Grenoble Alpes University

Science ouverte Grenoble Alpes

- **Students**
  - 57,000 students, including 11,000 international students
  - 150 nationalities
- **Staff**
  - 10,500 employees including 2,550 from national research organizations
- **Research**
  - 69 research centers and 1 teaching hospital
  - All scientific disciplines
  - 2,900 doctoral students

- **Synergies between research and industry**
  - **International laboratories and instruments** : ESRF, ILL, EMBL, GHMFL, IRAM
  - **National research organizations** : CNRS, CEA, Inria, Inserm, INRAE, CRSSA, IRD, CHU Grenoble Alpes
  - **Major companies** : Sun Microsystems, HP, Orange, STMicroelectronics, Schneider Electric, Alstom, Xerox, Thales…

UGA Université Grenoble Alpes

Grenoble Alpes University infrastructures: ecosystem for research

Science ouverte Grenoble Alpes

- **Shared infrastructures** play **a key role** for research
- Among them: **computing centers – the backbone of digital research**
- **A long history of sharing machines for intensive computing in Grenoble**
  - Since 1998, a computing centre for all scientific communities in Grenoble
  - Integrated in 2016 into a structure dedicated to computing and research data: GRICAD
- And very close collaboration for several years between **digital infrastructures and libraries**
  - Around publications, research data, research software and the necessary link between all these objects

CIMENT

GRICAD

UGA BU Université Grenoble Alpes

Software development and university computing centers: a historical connection

Science ouverte Grenoble Alpes

- From the very beginning, **software development** has been closely associated with **university computing centers**.
  - Most of the codes used on this computing center are **home made codes**
  - Numerous codes developed in research laboratories are **open source**
  - Computing centers are a **meeting place** for people who develop research codes.
  - They provided **support and tools** for researchers across all scientific disciplines.
  - They **fostered communities and shared practices** for software development.

National context : evolution and good timing

Science ouverte Grenoble Alpes

- Since 2021, the research software has been an **integral part of France's open science policy**.

- A variety of initiatives are being developed to secure and expand the role of software in all its **specific forms**.

- In particular, the creation of a dedicated **Software and Source Codes College** within the framework of the Committee for Open Science
  - With concrete actions such as the research open source software prizes and the French National Catalogue for Research Software

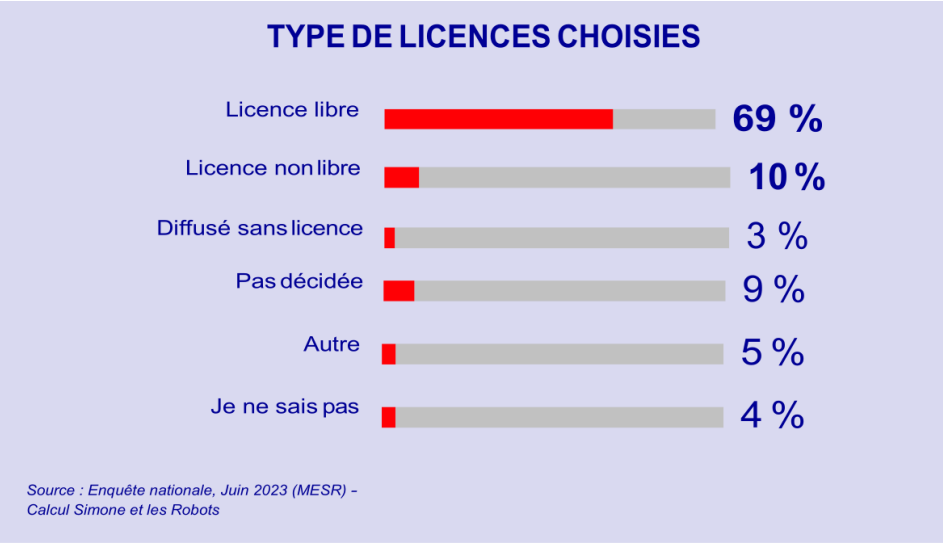
- But also, European projects within the framework of EOSC, the development of infrastructures such as **Software Heritage**

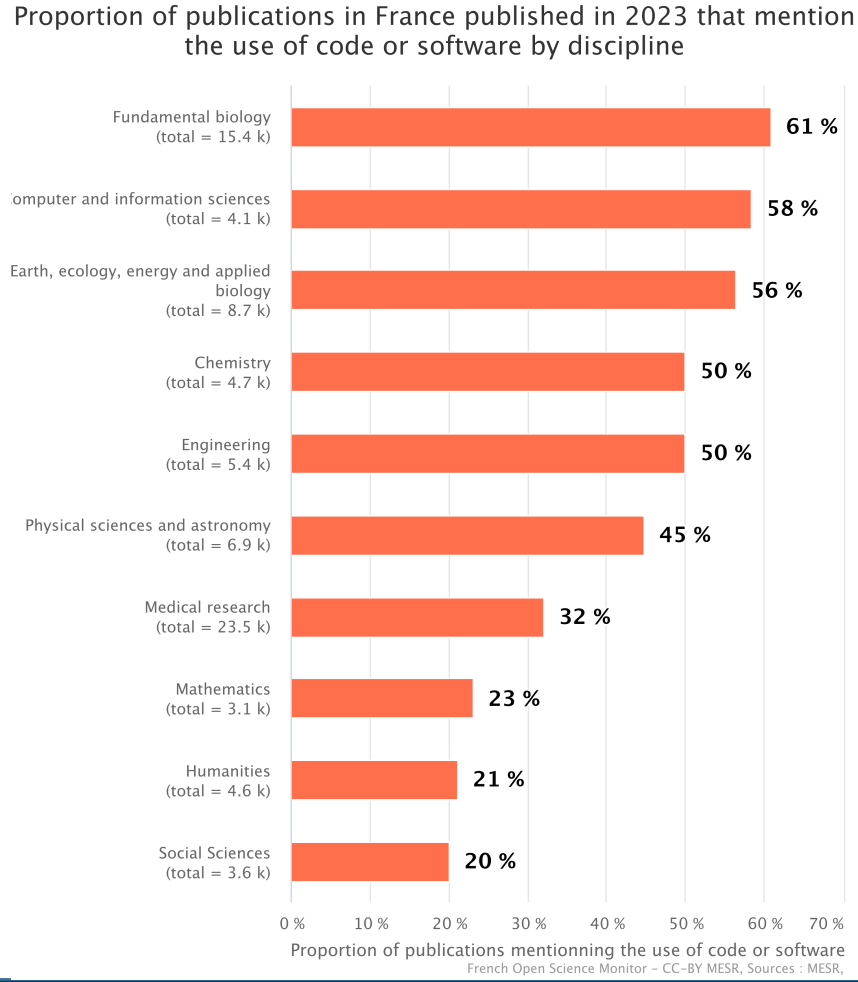
- And the beginning of **recognition** of software as research products alongside publications and research data.

Software Heritage

Challenges to be adressed

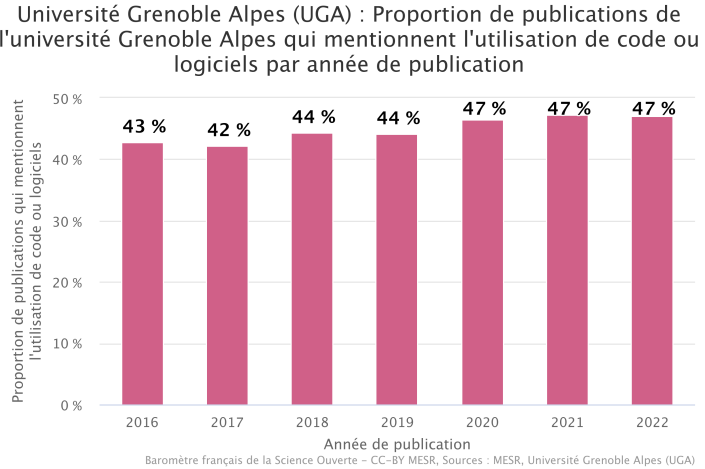
- Software is a **pillar of research**, alongside publications and data
- Software development for research concerns **all disciplines**
- Most software is **open source**



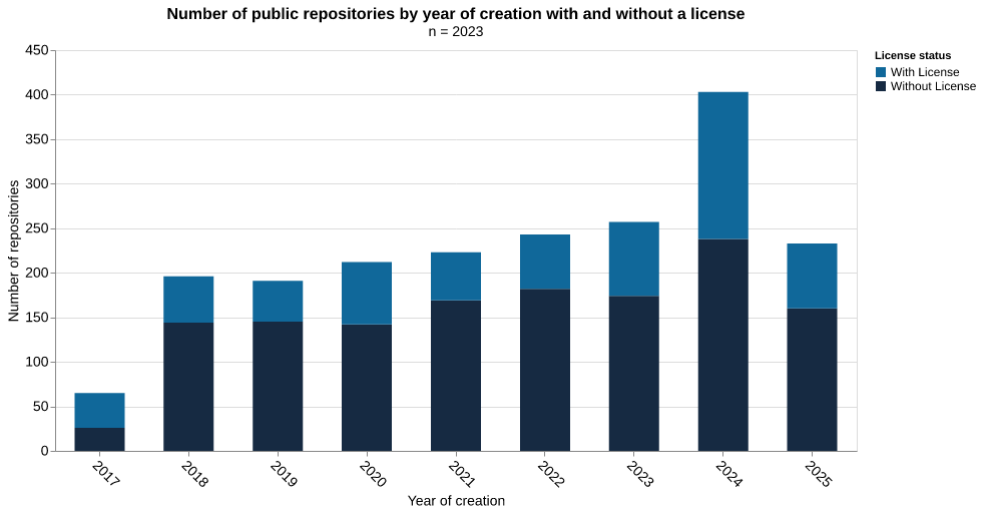


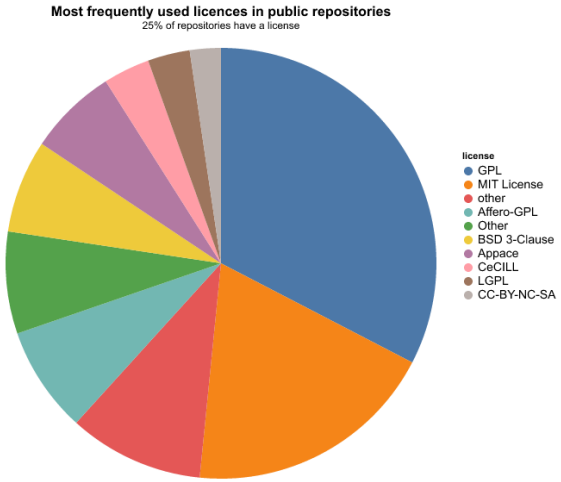
Research Software @UGA

- Some metrics of the **importance of software development** activity in laboratories
  - 174 software notices in the UGA's Open Archive Portal
  - 11000 users, 20000 projects (2600 public ones) on the gitlab forge of the university
  - Only about 40 % of the public projects with software have a licence!!
  - Nearly half of all publications mention the use of software

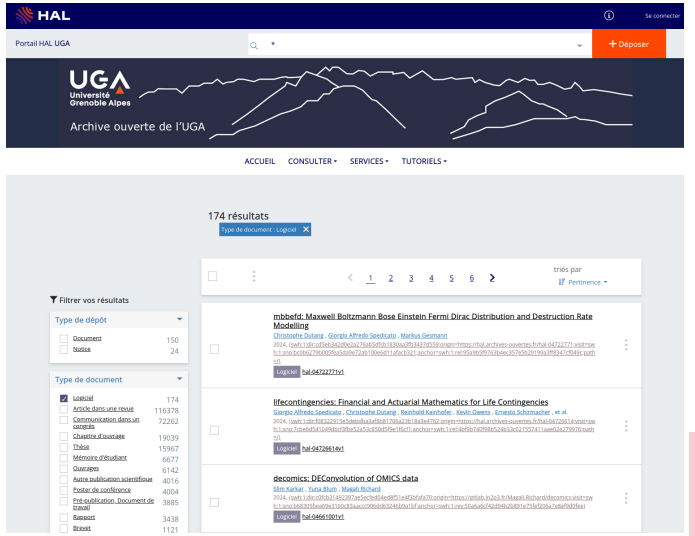


Open Science Barometer of UGA



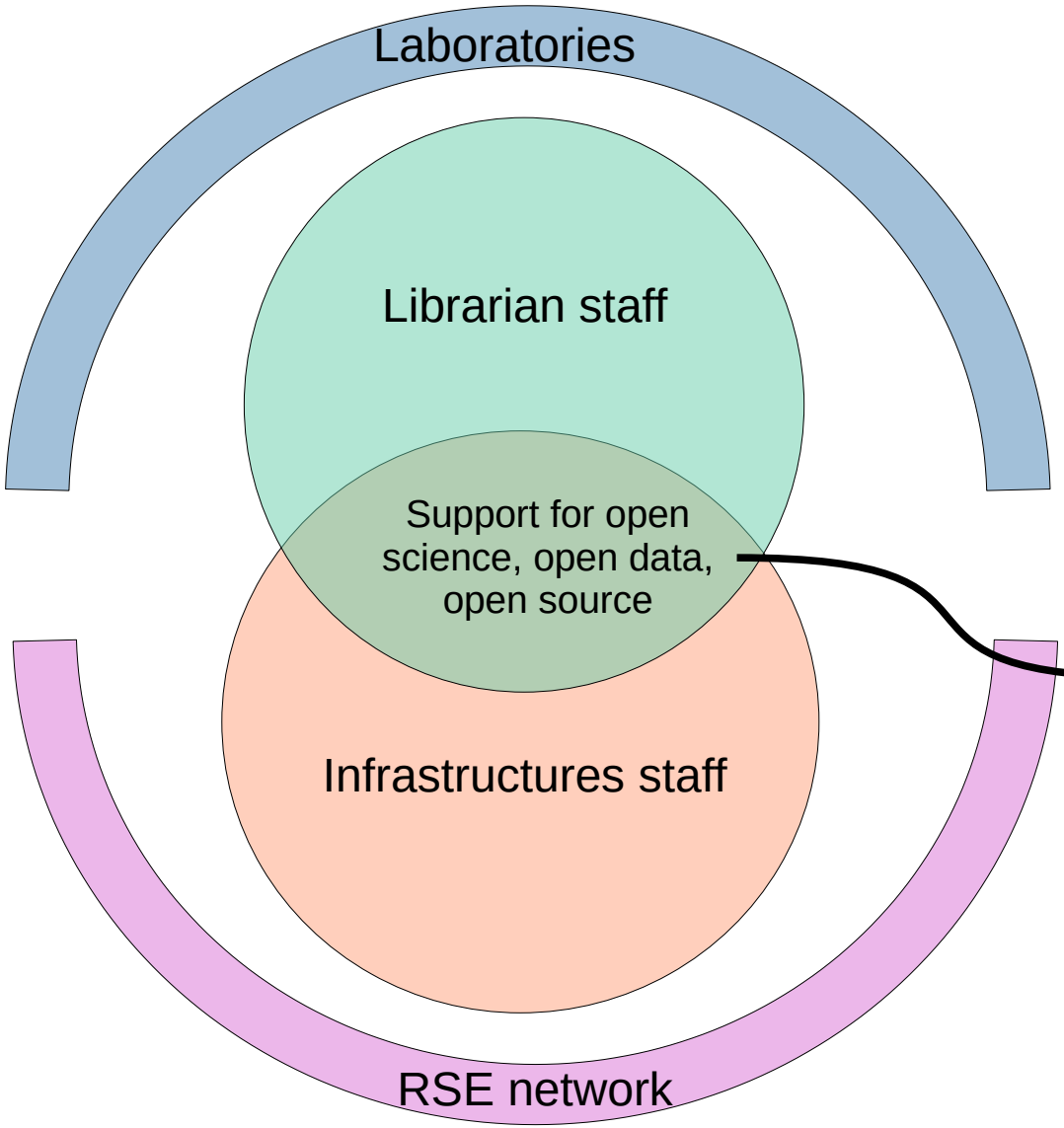


Open Research Software Monitor at UGA

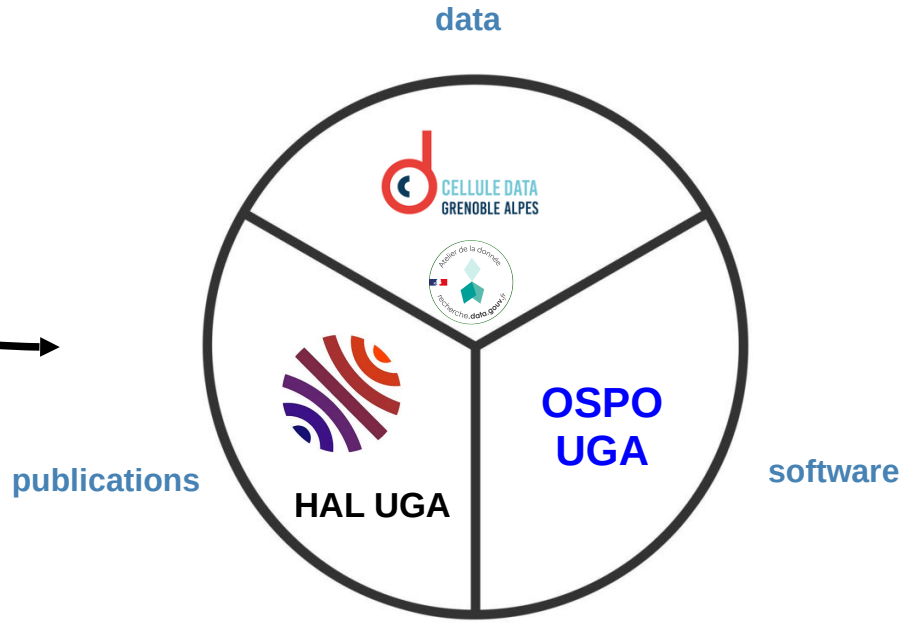


Open Archive Portal of the University

Coordination of site players



An existing structure with librarians, technical staff, legal expert, RGPD referent



OSPO@UGA

- **Support for the scientific community in software development** related to High Performance Computing has existed since the creation of the computing center.

- It was naturally integrated when **research data support services** were developed in 2019.

- The **Code Data Grenoble Alpes unit** therefore brings together all services related to research data and research software.

  - It is made up of members from GRICAD (the computing center), the university libraries, and some research laboratories
  - It combines both **technical and documentation expertise**.
  - It was recognized as a Data Management Cluster in 2022 within the national ecosystem for research data, Recherche Data Gouv.

- Other key stakeholders play an important role:

  - The **technology transfer and innovation services** of the institutions on the site
  - The **professional network** of IT specialists on the site

OK but what is an academic OSPO?

Science ouverte Grenoble Alpes

- **CURIOSS** (Community for University and Research Institution OSPOs) Definition:

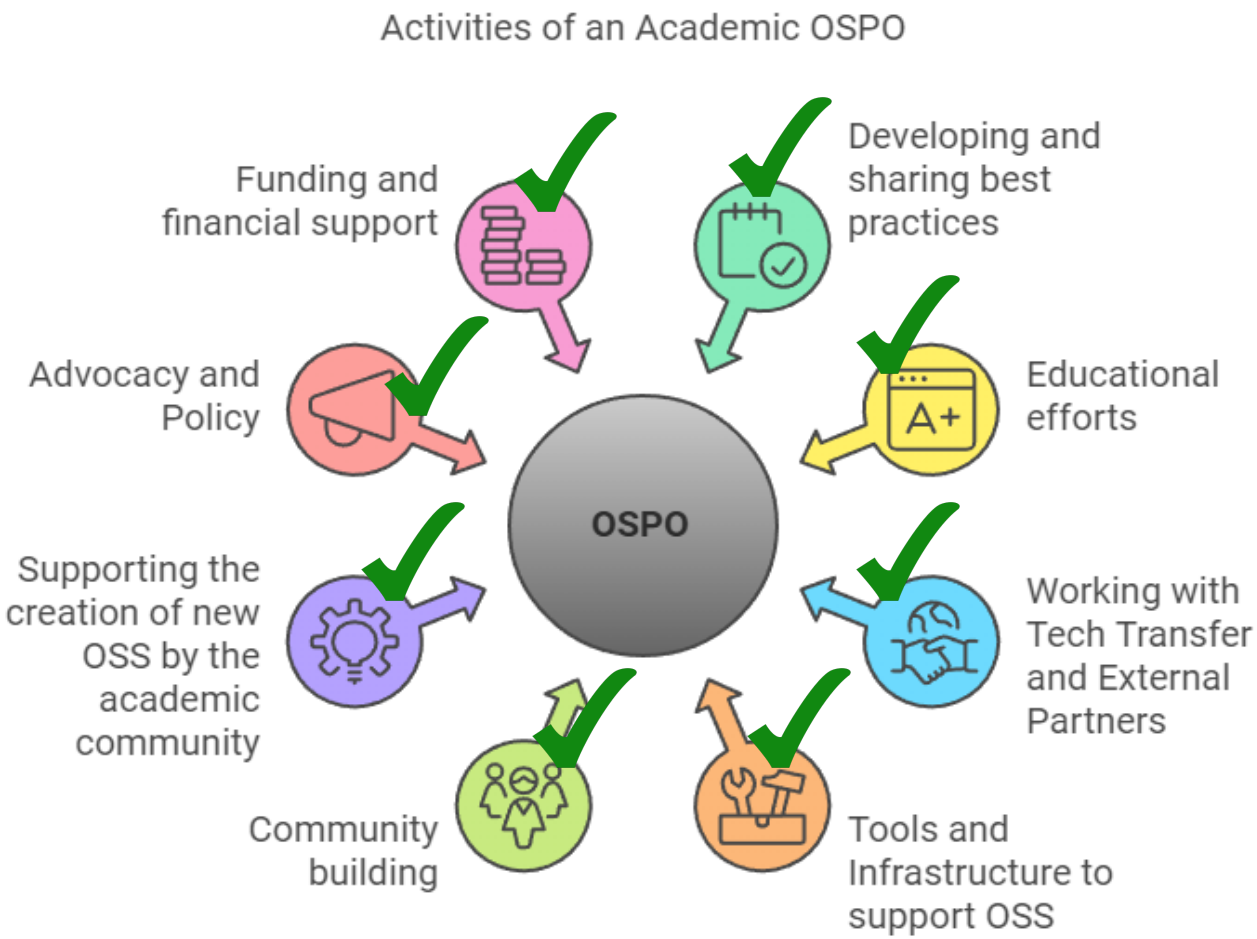
  An academic OSPO is defined as an organizational construct, situated in an academic research institution, supported by one or more individuals that acts as a convener, community steward, and center of competency for open source software.

- In general, an Open Source Program Office is an organizational function that helps coordinate and manage an organization's **open source strategy, policies, and activities**.

- OSPOs are quite common in **large companies**, and also increasingly so in public administrations.

- But **emerging in academic area**.

Activities of OSPO@UGA



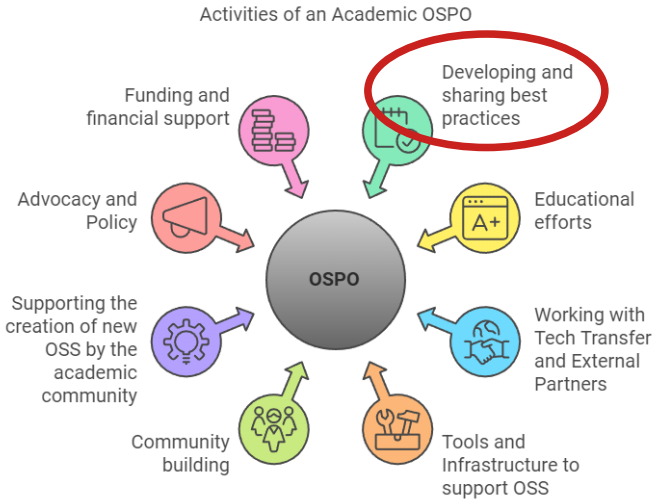
Young et al., 2024. A Definition of an Academic OSPO, Version 1.0.1. CURIOSS.org

Developing and sharing best practices

Science ouverte Grenoble Alpes

- **Best practices** are a key aspect of open source development.
  - For yourself and for others.
  - Commit to the long term.
  - Essential for reproducibility and reusability.
  - And to encourage contributions.

✓ Facilitate **communities of practice** and exchange through various initiatives.



Developing and sharing best practices, some concrete actions

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Software and open science information

- https://scienceouverte.univ-grenoble-alpes.fr/codes-et-logiciels/

Support communities

- Helpdesk: sos-codes-recherche@univ-grenoble-alpes.fr

Exchanges within and between communities

- Seminars
  - Example: IA4Dev, used of LLM for software development
- Mailing list
  - https://listes.univ-grenoble-alpes.fr/sympa/info/floss-uga

Some examples of requests on the helpdesk

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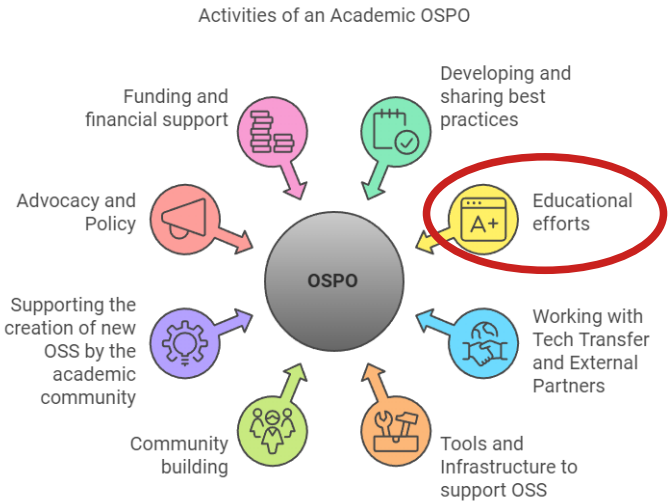
- Questions about **rights and licences**:
  - Most of the time, which licence should I choose for my code?
  - But also more complex situations: my code has been developed with another colleague from another country, diffused under Apache 2.0 licence and has been finalised by an enterprise. What about the intellectual property?
  - ...
- Organising a software project at the **level of a research team**:
  - Audit and implementation of common best practices for the whole team.
  - Support for dissemination and referencing.
- More **technical issues**:
  - Restructuring a Python code to make it open source: removing redundant imports (static analysis), ensuring licence compatibility, etc.
  - In progress: code audit, proposal to co-supervise an intern

Educational efforts

- Some authors of research code are **not developers**.
- **Training** is essential for implementing best practices and learning how to use the right tools.
- This applies at **all levels and to all topics**.
  - In particular, training young researchers is key to building a solid foundation.
- This training should also be made available more broadly, to technological transfert departments, libraries and anyone else **who may be involved at some point**.
- Content must be **adapted** to meet needs.



Educational efforts: some concrete actions

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Training doctoral students

- Digital module: git, gitlab, cmake, compilation, parallelisation
  - https://pole-calcul-formation.gricad-pages.univ-grenoble-alpes.fr/ced/plans_modules/
- Open science module: software (best practices, dissemination, legal issues, etc.), reproductibility
  - https://scienceouverte.univ-grenoble-alpes.fr/ressources/formation-et-seminaires/formation-doctorale-2024/

Internal training

- Raising awareness among librarian colleagues of software-related issues.
- Raising awareness among support team of technological transfert.

Train on a large scale

- Floss@UGA thematic school about the legal framework of open source software (2025)
  - https://floss-uga-2025.sciencesconf.org/

Working with Tech Transfert and External Partners

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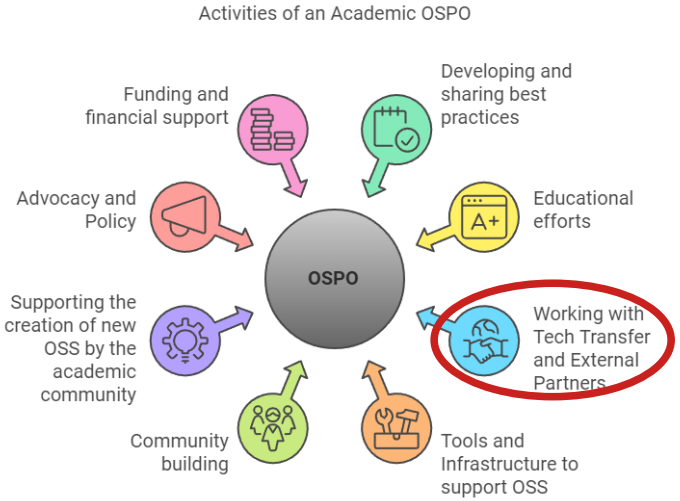
- The technological transfert and legal departments play a **key role** in the area of software
- Some of them have relatively **little overall expertise** in the area of open source software.
- **Close collaboration** is essential to align them with laboratory practices.
- **Non-academic and international** links are particularly valuable for:
  - Gain a thorough understanding of the ecosystem.
  - Identify initiatives, best practices and tools.
  - And discuss and share ideas.
- Through OSPO UGA, participation in **CURIOSS** (international academic OSPOs), **OSPO-FR** (public administration OSPOs), link with **OW2** (association of companies working with open source software), etc.

The working group will present its work immediately afterwards!



Working with External Partners: some examples

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CURIOSS

- Community of Academic OSPOs
- There are lots of valuable exchanges during monthly meetings and specific webinars.

CURIOSS will be presented tomorrow!

OSPO-FR will be presented tomorrow!

OSPO-FR

- Quite different needs but common issues
- Example of recent discussions around DCOs (Developer Certificate of Origin) and CLAs (Contributor Licence Agreements)

Non-academic

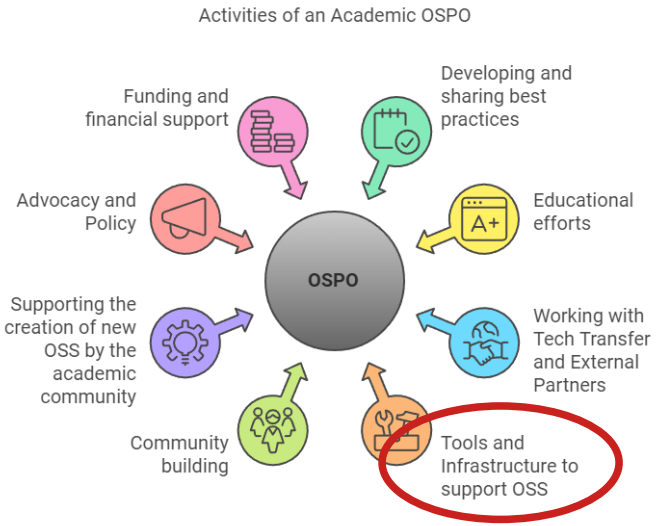
- Close links with OW2, of which INRIA and UGA are members

OW2 will be presented tomorrow!

Tools and Infrastructures to support OSS

Science ouverte Grenoble Alpes

- It is essential to provide tools and infrastructure that are **tailored to the needs** of communities.
- In particular, access to a **software forge** is crucial.
  - This must be provided with the right tools and support.
  - CI/registry/GitLab pages are also important.
  - It should also have shared runners and accept private runners.
- Other relevant infrastructure includes notebook servers, BinderHub, etc., are also relevant.
- Needs for scientific computing, data analysis, and AI are most often associated with the development of open source software.
- It is also important to collaborate closely with the **computing centre**.



Tools and Infrastructures to support OSS: Site's Infrastructures

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Forge

- Forge based on GitLab
- CI / Shared runners / Private runners
- GitLab pages
- Registry
- Immediate external accounts

HPC/AI

- OSPO/CDGA included in GRICAD
- Close collaboration with infrastructure teams
- Strong links with computing user communities that are heavily involved in open source development

Outlook

- Deployment of an LLM
- Fossology or other licence analysis tool
- Static code analysis

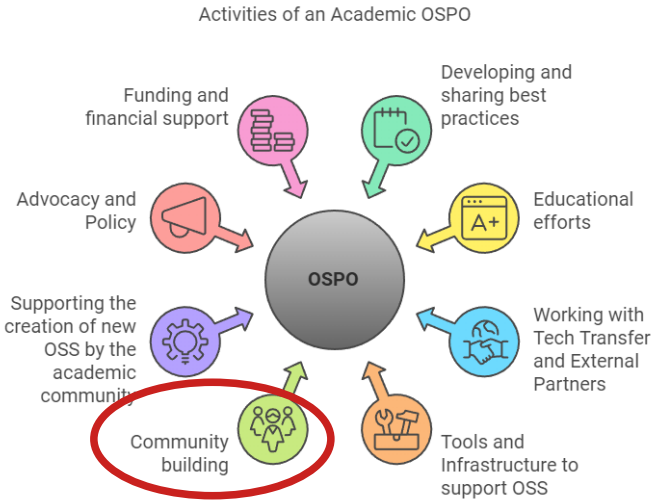
Cloud Infrastructure / K8

- Private Runners with or without GPU

Community building

Science ouverte Grenoble Alpes

- Communities of practice and professional networks play an **essential role** in facilitating discussion and sharing beyond specific disciplines.
- There is **significant overlap** with OSPO activities.
- It is important to **coordinate** and combine certain efforts, particularly those relating to facilitation and training.



SARI

- Local professional network

SARI will be presented immediately afterwards!

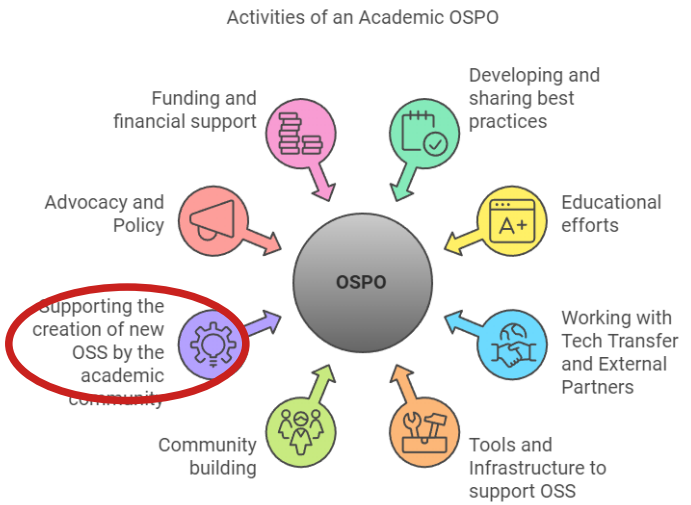
Exchanges within and between communities

- Mailing list: https://listes.univ-grenoble-alpes.fr/sympa/info/floss-uga
- Coming soon: points of contact for Software in labs

Supporting the creation of new OSS by the academic community

Science ouverte Grenoble Alpes

- The software developed at UGA is **mostly open source**.
- However, there are **not always well visible** and are often not sustainable.
- It is important to **capitalise on these developments**.
- This can be achieved by implementing the **best legal, technical, and organisational practices** to encourage others to adopt them and to create communities.



Supporting the creation of new OSS by the academic community: some concrete current and future actions

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Improve visibility.

- Encourage the creation of HAL records and move towards a UGA software catalogue. Highlight the importance of standards and moderation.
- Work on automating the extraction of information (Forge, Software Heritage, publications, etc.).
- Link codes, publications and data.

Develop training and support resources for community issues.

- Focus on tools such as Fossology and static code analysis.
- Help to initiate communities around specific codes by providing training on relevant tools and practices.

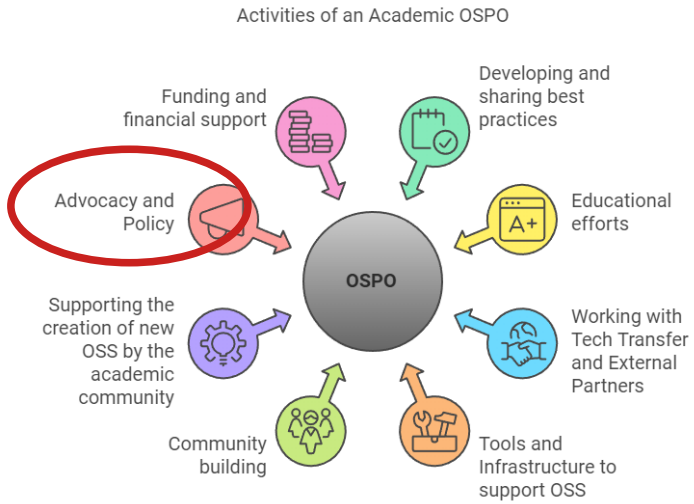
Legal issues.

- Working with UGA legal services to make documents available (DCO, CLA, etc.), licence recommendations

Advocacy and policy

Science ouverte Grenoble Alpes

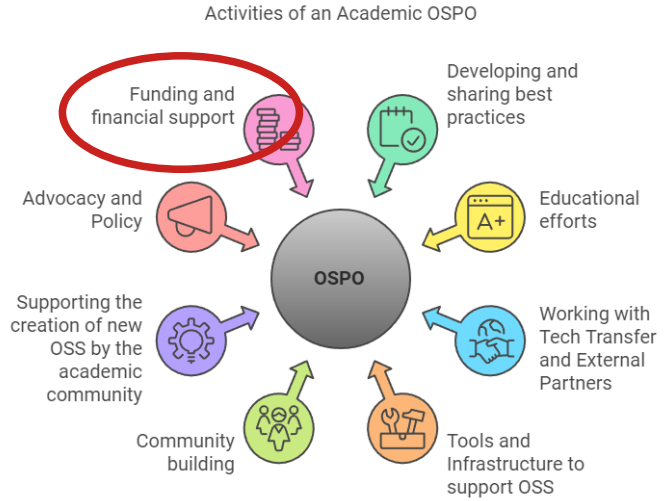
- Adopting **open science** at an institutional level is an essential first step.
- In 2022, the University of Grenoble Alpes (UGA) voted on its open science charter and master plan, which included the **issue of software** alongside data and publications from the outset.
- The aim is to **build on this foundation** by promoting recommendations, particularly with regard to theses.
- The CDGA/OSPO makes **proposals to the governance** on these subjects and supports the ADAC (Administrateur des Données, des Algorithmes et des Codes Sources, Chief Research Data and Software Officer).



Funding and financial support

Science ouverte Grenoble Alpes

- **From the outset of a project**, it is important to consider the issue of open source code development.
- This enables clear identification of **needs and associated costs**.
- Showcasing the infrastructures and support available on the Grenoble site is a **key driver** for reinforcing the strength of a project.
- Collaboration with **project support services** is already in progress.



Conclusions

Science ouverte Grenoble Alpes

- Supporting the development of open-source software on a site like Grenoble is a **multifaceted challenge**.
- We must first be able to address both **technical and legal** questions.
  - The open-source world has its own framework that needs to be understood - and colleagues need guidance to navigate it.
- **Close collaboration** with legal and technology transfer services is essential.
- Strong involvement is also required at the level of **infrastructures and tools**.
- **Training** - as well as **building and sustaining communities** - is at the heart of the effort.
- Finally, **complementary expertise** is key: technical, open-source, legal, librarian, and more