

Open Science & Open Source Software Policy

Gilles Mathieu, Research Data and Software Policy Officer

gilles.mathieu@recherche.gouv.fr





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- I : Generalising open access to publications
- II : Structuring, sharing and opening up research data
- III : Opening up and promoting source code produced by research
- IV : Transforming practices to make open science the default principle

Alignment with UNESCO recommendations on Open Science (11/2021), which recognizes open source code as an essential component of Open Science and recommends that open science infrastructure be non-profit, transparent and at the service of the entire academic community

Opening up and promoting source code produced by research

7

Recognize and support the dissemination under an **open source license of software** produced by publicly funded research programs

8

Highlight the production of **source code** from higher education, research and innovation

9

Define and promote an **open source software policy**

« The opening of software source code is a major challenge for the **reproducibility** of scientific results. »

« Distribution of software products under **open source license** will be preferred. »

Concrete actions

Define and promote an open source software policy

Build an ecosystem that connects code, data and publications

Open and promote research software source code

Concrete actions

Define and promote an open source software policy

- Create a College of Experts for source code and software
- Develop a network of **Chief Data and software Officers**
- Develop the **economic models of open source software**
- **Support Software Heritage and recommend it for the archiving and referencing of source code**

Build an ecosystem that connects code, data and publications

Open and promote research software source code

Concrete actions

Define and promote an open source software policy

Build an ecosystem that connects code, data and publications

- Develop **proper coordination** between
 - software forges
 - open publication archives
 - data repositories
 - the scientific publishing sector

Open and promote research software source code

Concrete actions

Define and promote an open source software policy

Build an ecosystem that connects code, data and publications

Open and promote research software source code

- Actions (selection)
 - Charter for research software policy
 - Recognize software development
 - Coordinate communities of practice
 - Build a connected ecosystem of research outputs
- Recommendations (selection)
 - Archive source code in Software Heritage
 - Standardise and use SWHID
 - Build a national catalog of research software

Recognize and reward open science practices

Annual Open Science Awards for Research Software since 2022

Annual Open Science Awards For Research Data since 2022

Annual Open Science Awards For Doctoral thesis from 2024



<https://www.enseignementsup-recherche.gouv.fr/fr/remise-des-prix-science-ouverte-du-logiciel-libre-de-la-recherche-83576>



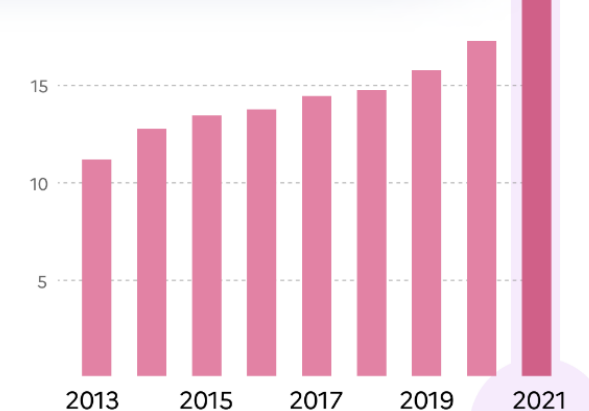
French Open Science Monitor Software and code



2022 Results

Proportion of publications that share:

20% A software or code



20% of French publications published in 2021 share their software or code.

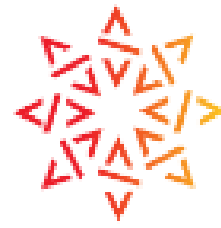
This indicator was created via artificial intelligence by the Ministry of Higher Education and Research.

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Find all indicators on: frenchopensciencemonitor.esr.gouv.fr

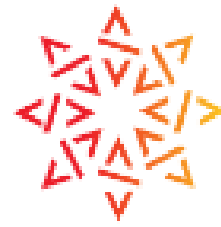
In partnership with





The French Ministry for Higher Education and Research
supports Software Heritage
as a critical international non-profit infrastructure

because...



Software Heritage :

- builds and structures its largest universal code archive
- **is a digital common good**
- is essential for Open Science
- Helps making generative AI more accountable, more transparent and based on common goods and open source (*part of the national AI strategy as per the President's announcement in June 2023*)



UNESCO and Inria, as well as the international partners :
Thank you!

Our expectation is that this support will increase

Thanks !



Gilles Mathieu



Annexes & backup slides



Building an Open Science Monitoring Framework with open technologies' : UNESCO workshop – 19/12/23



- 50 experts from research organisations, universities, national agencies and nonprofit organisations from three continents Australia, Denmark, Japan, Mexico, Germany, the Netherlands, the United States, Canada, Argentina, France, Belgium, the United Kingdom, Spain, Switzerland, Italy and Portugal

- Among the many institutions represented were the CERN, NASA, CWTS, OurResearch, Crossref, DataCite, SPARC Europe, Redalyc, the OECD, COKI, the Max Plank Digital Library, PLOS, CLACSO and the Hcéres

👉 See

<https://www.ouvrirlascience.fr/building-an-open-science-monitoring-framework-with-open-technologies-unesco-workshop-19-12-23/>

Define and promote an open source software policy

- Create a College of Experts for source code and software within the Committee for Open Science
- Develop the **link between data and software** through a network of **Chief Data and software Officers** in the various universities and research performing organisations
- Develop the **economic models of open source software** and make them known within commercialization services
- **Support Software Heritage** and recommend it for the archiving and referencing of source code

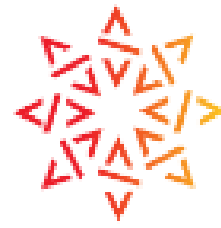
Build an ecosystem that connects code, data and publications

- Develop **proper coordination** between software forges, open publication archives, data repositories and the scientific publishing sector



Open and promote research software source code

- Actions (selection)
 - Charter for research software policy
 - Recognize software development (see [the 2021 prize](#))
 - Coordinate communities of practice
 - Build a connected ecosystem of research outputs
 - Recommendations (selection)
 - **Archive source code in Software Heritage**
 - **Standardise and use SWHID**
 - **Build a national catalog of research software**
- 👉 See [official announcement](#)



Ministry supports Software Heritage as a critical international non-profit infrastructure

Software Heritage builds and structures its largest universal code archive

Software Heritage is a digital common good

Software Heritage is essential both for the Open Science, and for the new frontier of generative AI more accountable, more transparent and based on common goods and open source

A common generative AI that is part of the national AI strategy (President's announcement in June 2023)

UNESCO and Inria, as well as the international partners : thank you!

Our expectation is that this support will increase