SOFTWARE IN THE FRENCH NATIONAL OPEN SCIENCE PLAN

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Why open science?

- Principle: Public money? Public data!
- Scientific: better quality research
- Society: open science is more accessible to society
The primary beneficiary of open science is the researcher himself / herself
Launch on 4 July 2018 by Frédérique Vidal, Minister for Higher Education, Research and Innovation

• First Commitment: Generalise open access to publications
• Second Commitment: Structure research data and make it available through open access
• Third Commitment: Be part of a sustainable European and international open science dynamic
Governance: The Open Science Committee

**Open science steering committee**
Ministry of Higher Education, Research and Innovation (MESRI), research performing organisations, Universities, National Research Agency (ANR), Couperin, High Council for Evaluation of Research and Higher Education (Hcéres)

**Makes decisions**
Makes decisions, arbitrates the use of funds from the National Open Science Fund

**Open Science Executive Committee**
MESRI, research performing organisations, Universities, ANR, Couperin, Hcéres, ADBU, EPRIST, Colleges

**Coordination**
Prepares decisions, proposes guidelines, monitors work

**Working groups**
Publications, Research Data, Skills and Training, Europe and International
(72 members from 44 institutions)

**Expertise**
Investigate issues, propose guidelines, initiate and manage projects
First Impact Assessment

Open Science Monitor:
Rate of French scientific publications in open access by year of publication
Appointment of a National Chief Research Data, Software and Algorithm Officer

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Launched on 6 July 2021 by Frédérique Vidal, Minister for Higher Education, Research and Innovation

- **Triple the open science budget**
- **Create a dedicated chapter to software and code source**
- **European and international inclusion** in the context of the French Presidency of the European Union
- **Disciplinary and thematic variations**: open science policies must be adapted to disciplinary specificities
Path One: Generalising open access to publications

1. Generalise the obligation to publish in open access all articles and books resulting from publicly funded calls for proposals.

2. Support open access economic publishing models that do not require the payment of articles or books processing charges ("diamond" model).

3. Encourage multilingualism and the circulation of scientific knowledge by translating publications by French researchers.

“Our goal is to reach 100% of open access publications.”

“We will support bibliodiversity so that the scientific community can regain control over the publishing system.”
Path Two: Structuring, sharing and opening up research data

4. Implement the obligation to disseminate publicly funded research data

5. Create Recherche Data Gouv, the federated national platform for research data

6. Promote widespread adoption of data policies that cover the whole lifecycle of research data, to ensure that they are Findable, Accessible, Interoperable and Reusable (FAIR)

« We will encourage practices that favor research data reuse. »

« We will create Recherche Data Gouv in order to involve all research fields in active practices of open data. »
Path Three: 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 programmes.

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


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

« Distribution of software products under open source licence will be preferred. »
Define and promote an open source software policy

1. Develop the link between data and software through a network of Chief Data and Software Officers in the various universities and research performing organizations.
2. Produce a National Charter for Open Software coming from higher education, research and innovation.
3. Produce recommendations for funding bodies to best support software development.
4. Improve the skills of commercialisation services for the economic models associated with producing open source software.
5. Support Software Heritage and recommend it for the archiving and referencing of source code.
Recognise source code as a contribution to research

1. → Create an open source research software prize which rewards teams and projects for exemplary work in this domain.
2. → Provide greater recognition for software production in the career of researchers, research support staff and in the assessment of research organisations.
3. Monitor over time the production of code and software by French research teams so as to identify and assess their dynamics, openness and impacts through the Open Science Barometer.
4. Build a catalogue of software resulting from research, using a standardised metadata model that is shared by all the stakeholders in higher education, research and innovation.
Coordinate the communities that use source code and open source software

1. → Create a **College of Experts for source code and software** within the Committee for Open Science.

2. Establish a long-lasting link between the Committee for Open Science and the Open Software Task Force at the French Interministerial Directorate for Digital Technology.

3. Establish a link with **national and international stakeholders**, particularly the Software Working Group at the EOSC, the FAIR for Research Software Working Group at the RDA, FORCE11 and the Research Software Alliance – ReSA.
Build an ecosystem that connects code, data and publications

1. In the context of public funding for journals and conferences, recommend adopting a policy of open source software associated with the articles, developing articles about the software and experimenting with approaches that link articles, data and code.

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

3. Propose standardising the Software Heritage Identifier (SWHID), which will complement the DOIs for software.
More than 100 research infrastructures

• We have conducted a deep open science analysis of all the RI for the next edition of the French National Strategy on Research Infrastructures (2022).
• They are heterogeneous concerning their open science practices and regulations.
• A part of them have a long history of opening up code and software.
We have done a lot...

OpenDreamKit –
Open Digital Research Environments
Toolkit for the Advancement of Mathematics

Scikit-learn is a free Python library for machine learning.

But there is a lot left to do...

Open source digital services for universities

Collect, preserve and share software source code
Path Four: Transforming practices to make open science the default principle

10. Develop and value open science skills throughout the educational and career pathways of students and research staff.

11. Value open science and the diversity of scientific productions in the assessment of researchers, of projects and of universities and research performing organizations.

12. Triple the budget for open science through the National Fund for Open Science and the Investments for the Future Programme.

“Transformation of the assessment system is required in order to foster long-term open science practices.”
You are invited in Paris!

Our official website: [www.ouvrirlascience.fr](http://www.ouvrirlascience.fr)
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