



**MINISTÈRE
DE L'ENSEIGNEMENT
SUPÉRIEUR,
DE LA RECHERCHE
ET DE L'INNOVATION**

*Liberté
Égalité
Fraternité*

SOFTWARE IN THE FRENCH NATIONAL OPEN SCIENCE PLAN

Marin Dacos

National coordinator for open science

Ministry of Higher Education, Research and Innovation

Why open science ?

- Principle : Public money ? Public data !
 - Scientific : better quality research
 - Society: open science is more accessible to society
-



① **IMPACT : CITATIONS AND READERS**

② **BUDGET & ECONOMIC EFFICIENCY**

③ **REPRODUCIBILITY**

④ **HEURISTICS !**
CUMULATIVE SCIENCE VS. DUPLICATE EFFORTS

⑤ **ETHICS, INTEGRITY, TRANSPARENCY**

The primary beneficiary of open science is the researcher himself / herself

NATIONAL PLAN FOR OPEN SCIENCE

4TH JULY 2018

#openscience

 esr.gouv.fr



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)

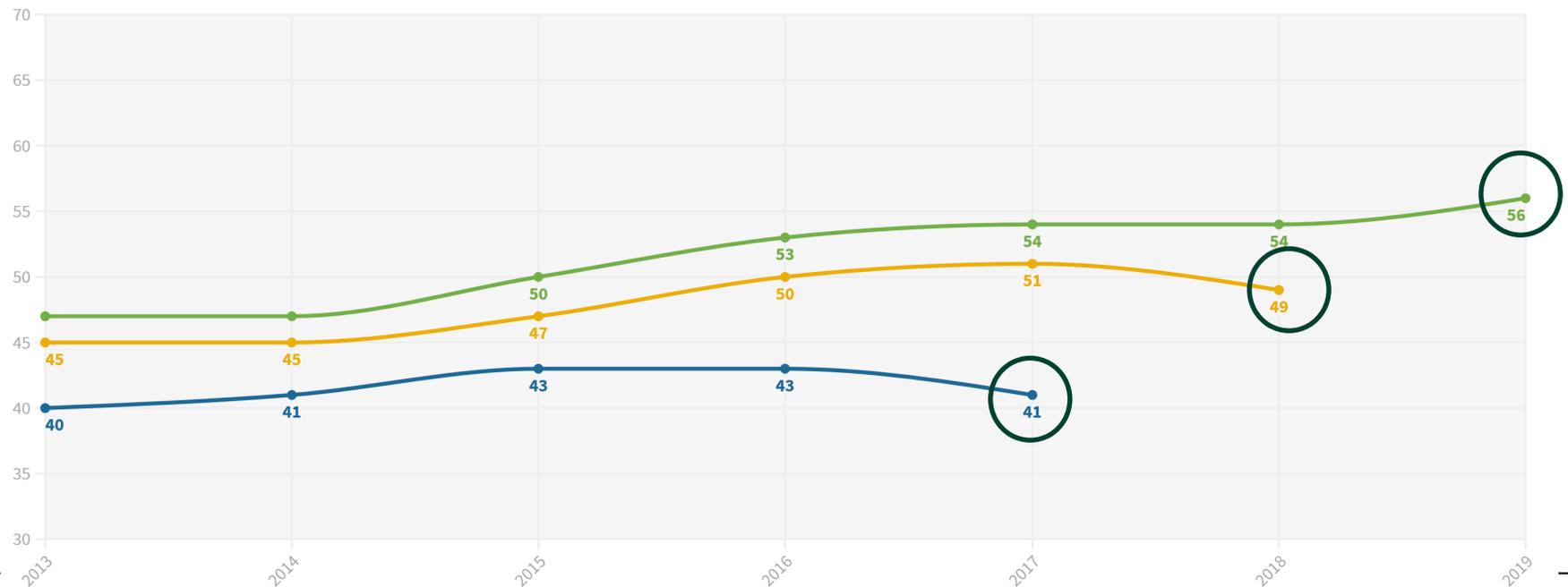
Expertise

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

■ 2018 monitor ■ 2019 monitor ■ 2020 monitor



Politique
des données,
des algorithmes
et des codes
sources

Feuille de route
2021-2024

Appointment of a National Chief Research Data, Software and Algorithm Officer



Isabelle Blanc

https://twitter.com/AMDAC_MESRI



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

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

5

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

« We will create Recherche Data Gouv in order to **involve all research fields in active practices of open 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)

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

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 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.



**FRENCH NATIONAL STRATEGY
ON RESEARCH INFRASTRUCTURES**
2018 EDITION

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.



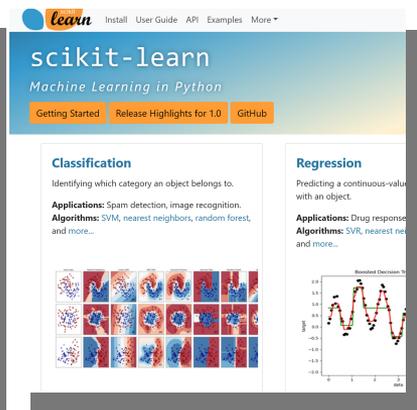
www.enseignementsup-recherche.gouv.fr



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.



Open source digital services for universities



Collect, preserve and share software source code

But there is a lot left to do...

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

<https://twitter.com/ouvrirlascience>

<https://twitter.com/Osec2022/>

Marin.dacos@recherche.gouv.fr

<https://twitter.com/marindacos> (French)

<https://twitter.com/openmarin> (English)



The image shows a Twitter profile for the OSEC 2022 conference. The profile picture is a circular logo with the letters 'OSEC' and a '2' inside. The header of the profile features the text 'OSEC 2022' in large, blue, stylized letters. Below the profile picture, the name 'OSEC 2022 - Paris Open Science European Conference' is displayed, along with the handle '@Osec2022' and a 'Vous suit' (You follow) button. The bio reads: 'Paris Open Science European Conference (#Osec2022) - French presidency of the European Council' and 'Friday 4th & Saturday 5th February 2022'. There is a link to 'Traduire la biographie' (Translate biography). At the bottom, the location is listed as 'Academy of Sciences, Paris, FR' with a location pin icon, and a link to the website 'ouvrirlascience.fr/paris-open-sci...' is provided.

OSEC 2022 - Paris Open Science European Conference
@Osec2022 Vous suit

Paris Open Science European Conference (#Osec2022) - French presidency of the European Council
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[Traduire la biographie](#)

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