

2023

Key results of open science in France

Publications

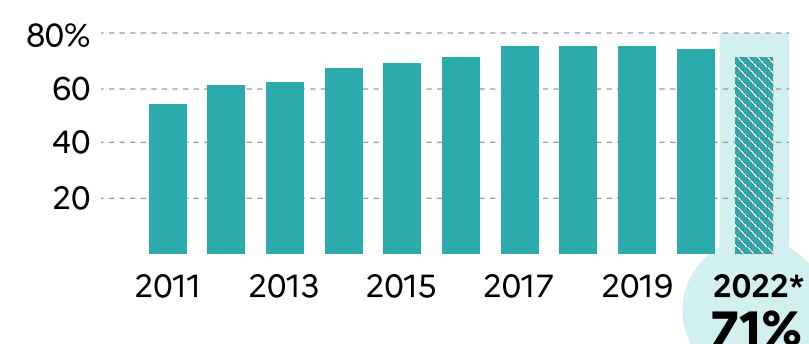
Open access rate of scientific publications in France, with a Crossref DOI, published during the previous year by observation year



65% of the 160,000 French scientific publications published in 2022 will be open access. The rate of open access has stagnated compared with 2022, but a sharp increase has been observed since we began monitoring this indicator in 2018.

PhD theses

Opening rate of doctoral theses in France by year of defense (observational year 2023)

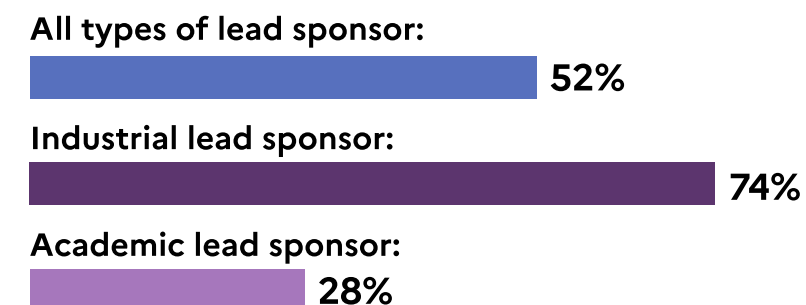


* The slight decline shown for 2022 reflects a number of theses under ongoing embargo

77% of doctoral theses defended in 2021 are in open access, showing a stable ratio since 2017. As with publications, sharing ratios vary significantly between fields.

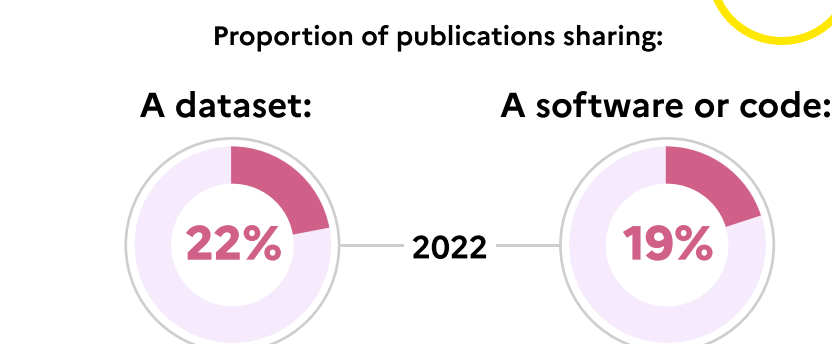
Clinical trials

Share of registered clinical trials completed in 2020 that posted a result and/or reported a scientific publication within 3 years after the end of the clinical trial



The openness of results of clinical trials has not progressed since the later edition, with a sharing ratio of 52%. Yet publishing the results of trials is key to efficient decision making in public health. The significant variation between industrial and academic sponsors should be noticed.

Research data and software



Amongst publications published in France in 2022 mentioning the production of data, 22% are referring to sharing a dataset. The sharing ratio for software and code is 19% in 2022.

What are these results based upon?

Our sources



The Ministry has decided not to rely on proprietary bibliometric databases as they conflict with the principles of open science: their proprietary data cannot be shared and do not encompass the full extent of scientific production in France. To mitigate the lack of open metadata, the monitor's team relies on R&D centred around machine learning.

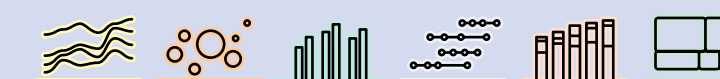
frenchopensciencemonitor.esr.gouv.fr/about/methodology

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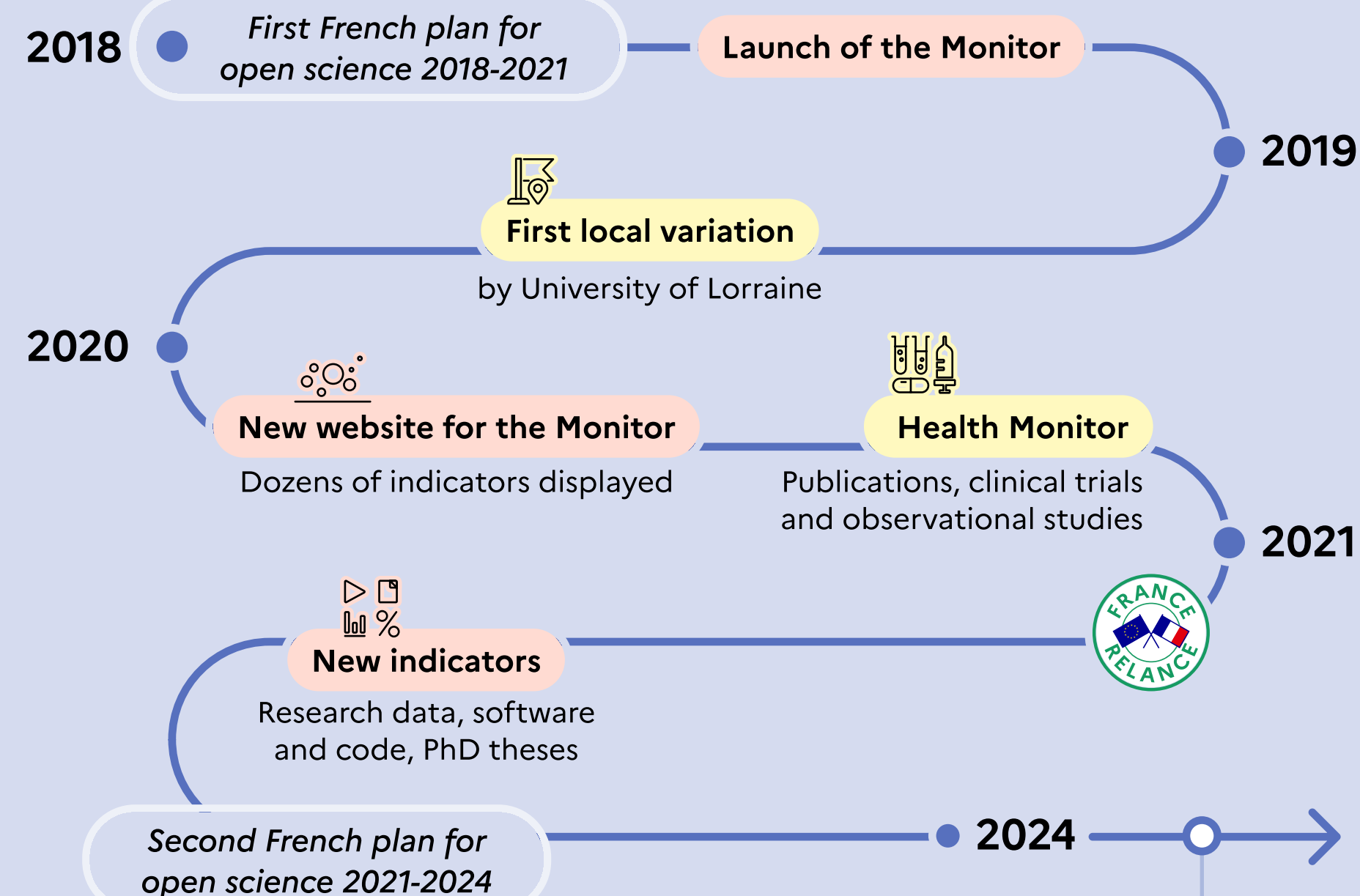
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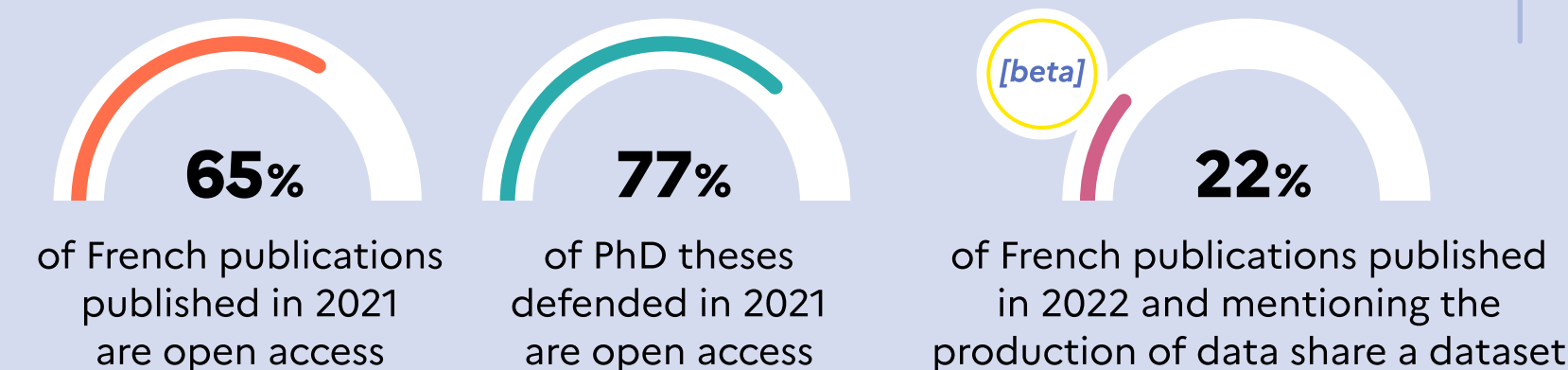
French Open Science Monitor

frenchopensciencemonitor.esr.gouv.fr

The tool which measures the evolution of open science in France using reliable, open and controlled data.



KEY FIGURES



What are the objectives?

From the launch of the national plan for open science in 2018, the **Open science Monitor** was designed as:

- A **autonomous and upgradeable** tool assessing the impact of the open science policy, under **open and therefore non proprietary licences**,
- A **strategic** tool enabling to sharpen and adjust policies promoting open science
- A **measuring** tool for open science practices and their **development** through time
- A lever for **deepening our understanding** of the production of research in France

The team behind the project

The French Ministry of Higher Education and Research (MESR), in charge of coordinating the open science policy nationwide, runs the monitor. Three specific institutions are involved:

French Ministry of Higher Education and Research (MESR)

University of Lorraine

Inria

An unprecedented combination of various expertise

- Software architecture
- Data engineering
- DevOps and Cloud engineering
- Data science and machine learning
- Data analysis
- UX / UI / data design
- Front-end development
- Communication

What for? Uses and services

The monitor is used as a tool, a source of information and is used to supply new services. It is aimed at a variety of audiences, for instance:



Decision-makers at a national level in the field of higher education and research

The monitor enables them to assess the progress of open science and pinpoint areas for improvement.



Decision-makers within higher education and research institutions

They use the national results to standardize what they do at a local level. Using their own data, they also have the opportunity, at practically zero cost, to design their own local variation of the monitor, including all areas of the analysis.



French officials amid European or International talks

Tangible data that is easily shared with counterparts enables to substantiate and reinforce the positions held by France.

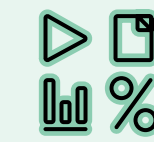


Journalists, researchers, university lecturers...

Open access to the dashboard allows the use of its data and visualisation for research, articles, investigations...

What are the key assets?

As a key enabler to France's open science policy, the monitor was designed along the same **principles of public sharing and openness** so as to encourage **transparency** and **reuse**.



The most comprehensive tool available worldwide

The monitor relies on a database of French scientific production which is recognised as the most comprehensive to date. It catches **more than 90% of French scientific publications**, compared with less than 60% spotted by Clarivate Analytics's Web of Science (WoS) tool, a worldwide standard*.

* Lauranne Chaignon, Daniel Egret; Identifying scientific publications countrywide and measuring their open access: The case of the French Open Science Barometer (BSO). Quantitative Science Studies 2022; 3 (1): 18–36. doi: doi.org/10.1162/qss_a_00179

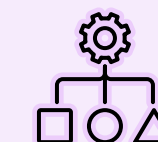


Open source code and open data

From the beginning, the monitor's code was made available on **GitHub under open license**. Its database is available under **Etalab license** on the on MESR's open data portal* as well as on Data.gouv, the open platform for French public data**.

* data.enseignementsup-recherche.gouv.fr

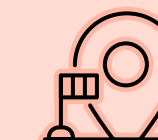
** data.gouv.fr



A transparent and substantiated methodology

Each significant amendment to the methodology is communicated either via a scientific conference or through a scientific publication*.

* Laetitia Bracco, Anne L'Hôte, Eric Jeangirard, Didier Torny. Extending the open monitoring of open science: A new framework for the French Open Science Monitor (BSO). 2022. hal.science/hal-03651518



Easily reproduced by universities, labs, grandes écoles...

Following the first initiative to reproduce the open science monitor by the University of Lorraine in 2020, the MESR team has drafted an easy process for stakeholders on the ground. To this date, **more than 70 research performing organisations, universities, grandes écoles and research centers** have crafted their own tailored monitor. Such dynamism is reflected in the more than 170 subscribers to the newsletter devoted to local monitors.



A website to visualize and explore the data

The monitor is equipped with a new website displaying dozens of indicators organized by themes. Each provides **interactive data visualizations** to ensure easy access to the information for all. Graphs can be embedded and tailored to facilitate reuse on other websites.