

Vom 8.-10. März fand in diesem Jahr die Open Science Conference als 9. Internationale Konferenz der Leibniz Research Alliance Open Science statt. Viele interessante Beiträge haben das Thema aus den unterschiedlichsten Blickwinkeln beleuchtet. Wir konnten für diese Ausgabe von b.i.t.online zwei Beiträge gewinnen, die einen Fokus auf die Open Science Aktivitäten in Frankreich und Griechenland werfen.

French Second National Plan for Open Science

Support and Opportunities for Universities' Open Infrastructures and Practices

Adeline Rege und Sophie Forcadell

Abstract

The French second National Plan for Open Science was launched in July 2021 and will run through 2024 with funding of €15 M per year. Through the following four action lines, the plan seeks to foster open science practices:

1. Generalize open access to scientific publications;
2. Structure and share research data;
3. Open and promote source codes produced by research;
4. Transform practices to make open science the default principle.

Based on two use cases, we focus on the opportunities that this plan offers to French universities to advance their own policies, projects, infrastructures and practices.

Der zweite französische Nationale Plan für Open Science wurde im Juli 2021 gestartet und läuft bis 2024 mit einer jährlichen Finanzierung von 15 Mio. €. Durch die folgenden vier Aktionslinien soll der Plan die Praxis der Open Science fördern:

1. Offener Zugang (Open Access) zu wissenschaftlichen Publikationen;
2. Forschungsdaten speichern, teilen, publizieren;
3. Offenlegung und Förderung von aus der Forschung stammenden Quellcodes;
4. Umwandlung von Praktiken, um Open Science zum Standardprinzip zu machen.

Anhand von zwei Anwendungsfällen konzentrieren wir uns auf die Möglichkeiten, die dieser Plan den französischen Universitäten bietet, um ihre eigenen Strategien, Projekte, Infrastrukturen und Praktiken voranzubringen.

» This article is a follow-up to a poster presentation at the Open Science Conference 2022 which was the 9th international conference of the Leibniz Research Alliance Open Science. This annual conference is dedicated to the Open Science movement and provides a forum for researchers, librarians, practitioners, infrastructure providers, policy makers, and other important stakeholders to discuss the latest and future developments in Open Science.

The poster presented¹ is about the French second

National Plan for Open Science which was launched in July 2021 and will run through 2024. The first National Plan² for Open Science had previously been launched in 2018 and had focused on open access to scientific publications. The second plan, currently in force, embraces a much broader definition of open science. Through four action lines, the plan seeks to foster open science practices, to make science more effective, more transparent and more accessible, and to contribute to the EU goal of promoting open science. Its funding, which amounts to €15 million per year, further facilitates the dissemination and sharing of publications, research data and codes produced in France, as well as increasing open research practices among research units and universities.

Four ambitious action lines

This second national plan includes research source codes, provides a framework for actions in fostering data openness and sharing, for example through the creation of the national repository for research data, recherche.data.gouv.fr. The plan multiplies the transformational levers for spreading open science practices among various disciplines.

The four action lines are the following:

1. Generalize open access to scientific publications;
2. Structure, share and open up research data;
3. Open and promote source codes produced by research;
4. Transform practices to make open science the default principle.

We focus on a double opportunity that this plan offers to French universities: the possibility of relying on a national policy framework to advance their own policies, infrastructures and practices on the one hand, and the implementation of cooperation between universities to improve systems and their visibility at international level on the other.

¹ Forcadell, Sophie / Rege, Adeline: French Second National Plan for Open Science: Support and Opportunities for Universities' Open Infrastructures and Practices. Open Science Conference 2022, Online Conference, Zenodo. <https://doi.org/10.5281/zenodo.6365997> [21st July 2022]

² <https://www.ouvirlascience.fr/national-plan-for-open-science-4th-july-2018/> [21st July 2022]

A single ecosystem and a trusted repository for research data

The first use case relates to the national research data repository and registry, recherche.data.gouv.fr, which was launched on July 8th 2022. It represents a sovereign solution, which is part of the open platform for public data, and federates the support systems for French research teams into a single ecosystem complemented by a trusted technical infrastructure based on the Dataverse software for depositing, opening, sharing and reporting data. For its first three years, this collective project will be steered by the French Ministry of Higher Education and Research and will receive €7 million of funding from the French National Fund for Open Science. The project is led by the Ministry in collaboration with partner institutions: University Grenoble-Alpes, University of Lille, University of Lorraine, University of Strasbourg, University of Paris, University Paris-Nanterre, CNRS and INRAe.

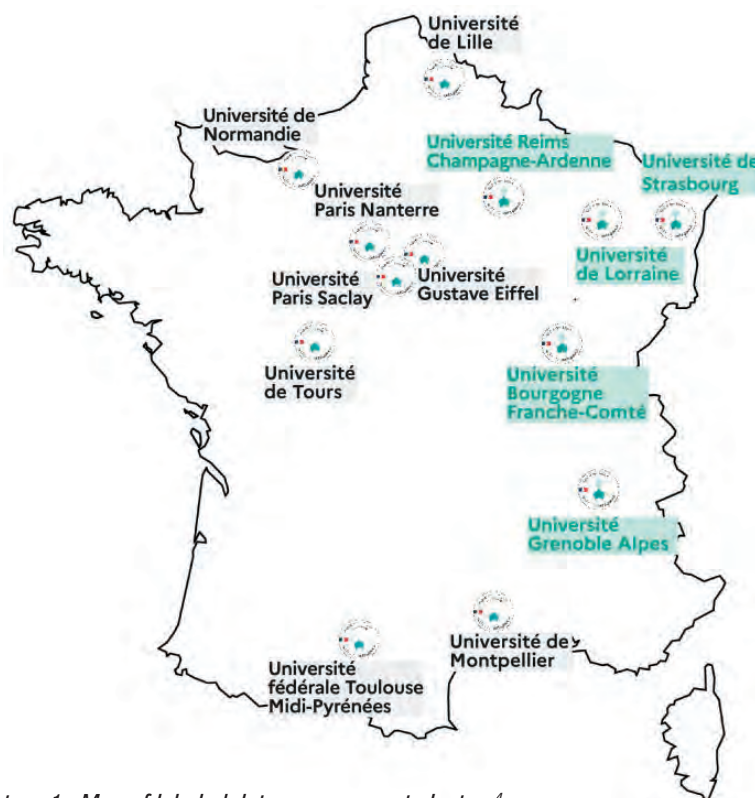
Regarding the repository in itself, it has been designed to help support staff and researchers in universities and research organizations to comply with the FAIR principles, which enable data to be Findable, Accessible, Interoperable and Reusable. Universities can create their own institutional space in the federated repository and invite their researchers to deposit their data in this space. At present, ten institutions such as University of Lille, University of Strasbourg, or CIRAD, have created their institutional space. They may also not have a dedicated space and in this case encourage researchers to deposit their data in the repository also, but at the generic level.

There will be functional evolutions in the coming years, among which the creation of the data registry in 2023 which will identify and search for data published in other external national, international or thematic repositories. It also has ambitions to become a service of the European Open Science Cloud (EOSC).

Ongoing incentive calls for projects

The adoption of this ecosystem by the universities is facilitated by ongoing incentive calls for projects which allow the development of data management clusters, thematic reference centers and resource centers.

The clusters are intended to be the local contact point for research teams for all questions regarding the management and dissemination of research data. They are spread out throughout French universities and provide research teams in their regions with initial expertise in the rational management of their



Picture 1 : Map of labeled data management clusters⁴

research data and are not designed to replace the support services (local, national or international) that already exist in certain institutions or in certain disciplinary and thematic fields.

They are subject to the award of a label of approval that requires certain elements to be specified or completed regarding awareness raising, guidance, counseling, training and implementation (e.g. drafting the first version of a DMP). Clusters should also specify usage indicators for the services: e.g. number and nature of requests processed, awareness-raising and training actions carried out, number and profiles of beneficiaries.

Five data management clusters have already been labeled and eight are registered as „on the pathway to labeling“ (see above Picture 1). University of Strasbourg has been labeled for its ADELE Helpdesk and has received funding. ADELE Helpdesk is led by the University Library and groups all data support services within the university and outside, with higher education and research partners such as University Hospital (Hôpitaux Universitaires de Strasbourg), schools of engineering (INSA Strasbourg), and CNRS. ADELE Helpdesk is designed as a one-stop shop to provide support covering the entire data lifecycle:

- DMPs reviewing
- FAIR Data and software management
- Web applications development

³ RechercheDataGouv, an ecosystem for sharing and opening up research data. 2022/07/08. Canal-U video. <https://www.canal-u.tv/131550> [21st July 2022]

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

Second French Plan for Open Science

OUVRIRE LA SCIENCE !

Support and opportunities for universities' open infrastructures and practices

4 lines of action to foster open science practices, to make science more effective, more transparent and more accessible, and to contribute to the EU goal of promoting open science.

€15 million per year 2021-2024

Research Data Repository

The plan includes research source codes, provides a framework for data openness and sharing through the creation of the national repository for research data...

It also multiplies the transformational levers for spreading open science practices among various disciplines.

Structuring, sharing and opening up research data

Open and promote source codes produced by research

Generalise open access to scientific publications

Transform practices to make open science the default scientific

Proposes, in the context of the French presidency of the European Union, that open science practices be efficiently taken into account in individual and collective research evaluations.

Research Data Management and Open Science Training

Recherche Data Gov, the federated national platform for research data

Measure #10: to develop open science skills of students and support staff
 A "booster" for University of Strasbourg's international cooperation with Upper Rhine partners:

EUCOR – Le Campus européen (University of Strasbourg, University of Haute-Alsace, Albert-Ludwigs Universität Freiburg, KIT, Universität Basel):

- Workshops for the exchange of best practices between support teams;
- a shared training offer on open science for doctoral Students of the EUCOR Marie-Curie programmes (Immunology, quantum science and Technologies)

A sovereign offer for researchers to deposit and disseminate their data:

- Complementary to thematic repositories
- Part of the EOSC services
- A support offer for research teams

RECHERCHE DATA GOV

Data workshops: Data experts in charge of supporting researchers

Repository: With interfaces for researchers to deposit their data + modernise spaces

Catalogue: Tracking and harvesting data from external repositories

Thematic Reference Centres: Disciplinary data experts

Resource Centres: Interface to RECHERCHE DATA GOV

Dr Adeline Rege, University of Strasbourg – Sophie Forcadell, Sciences Po

Picture 2: Poster presented at the Open Science Conference.

- Research data management training
- Guidance on data deposits in repository
- Curation: deposit reviews

Specific of disciplinary questions are redirected to the reference centers.

The reference centers go a bit further, as they disseminate best practices and international standards for data management, processing and dissemination in their respective scientific fields or disciplines. They are led by scientific communities who structure the centers' work and mechanisms. For example, they may define the appropriate international data dissemination standards for openness, embargo period or restricted access. They also compile and manage a list of national and/or international reference data repositories in their thematic field. Researchers in that field will be asked to deposit their data in these repositories which are to be harvested by recherche.

data.gouv. Up to now, there are reference centers in astronomy and astrophysics, earth system and environment, humanities and social sciences, and biology and health.

The resource centers offer a range of services and training at the disposal of researchers and for administrators and curators of institutional spaces within recherche.data.gouv, through the data management clusters to support research teams wishing to deposit and publish data and for research teams who deposit data in the generic space because their home institutions do not yet possess a dedicated space. The resource center is also responsible for the moderation and curation of datasets in the generic space (for all data that has not been deposited in an institutional space).

An incentive to foster open science skills

The second use case concerns the 4th action line, and more precisely its measure n° 10, whose objective is to develop the open science skills of students and support staff throughout their career. To transform daily practices, the concept of open science should be present throughout the research training programmes, from bachelor's degree level to senior researchers, with an emphasis on the strategic stage of the doctorate. The management and opening up of research data requires new skills and leads to the emergence of new professions which are important to develop, recognize and value. The National Plan encourages the development of teaching units or training pathways in open science at bachelor's and master's level and strengthens open science training for doctoral students. At the same time, it supports the evolution in skills and career pathways for staff, with a notable emphasis on valuing skills and professions linked to managing data lifecycles and developing source code.

The example of the University of Strasbourg shows how this national impetus makes it possible to strengthen the cooperation already established within EUCOR – the European Campus with German (Karlsruher Institut für Technologie, Albert-Ludwigs-Universität Freiburg) and Swiss (Universität Basel) partners to train support staff and doctoral students in research data management. Thanks to the continuous support of the EUCOR-team and the coordination by Karlsruher Institut für Technologie, it was possible to organize joint training sessions on data management. These sessions are aimed at both support staff and PhD students but with different formats. Workshops

4 <https://recherche.data.gouv.fr/en/actuality/data-management-clusters> [21st July 2022]

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for the exchange of practices bringing together the support teams are organized on a regular basis. Each participating institution presents its organization and services and can benefit from the feedback of the partner institutions. At each meeting, a common issue is also discussed, e.g. „how to make the service offer known to researchers?“.

It was also at these meetings that training sessions were jointly organized for the EUCOR doctoral programmes. These training sessions build on the fact that the interdisciplinary training offer of the European Campus universities is already open to all doctoral students enrolled in EUCOR universities. The EUCOR doctoral programmes receive funding from the Marie Skłodowska Curie “Cofund” action of the EU research framework program Horizon 2020 and must therefore comply with the European Commission’s open science requirements. The first programme, QUSTEC, involved 25 PhD students in quantum science from EUCOR universities. In close collaboration with the programme manager, the University of Strasbourg organized an introductory workshop on open science during the kick-off meeting in the summer

of 2020, and Karlsruher Institut für Technologie then took over for more in-depth sessions. Individual support for doctoral students has since been provided by the support team at the university where they enrolled, always in close contact with the programme manager, who relays doctoral students’ requests to the support teams. A second programme in immunology (EURIdoc the Eucor Upper Rhine Immunology doctoral programme) will start in the second semester of 2022.

The use cases presented reveal how the framework provided by the National Plan helps institutions to develop their projects, by defining political and operational priorities at national level, but also by setting up shared tools and resources and by providing funding. It also allows French policy to be placed in the international framework of the Council of National Open Science Coordination (CoNOSC)⁵, which brings together national open science leaders to engage in an international dialogue and to share good practice for a stronger and more unified, workable Open Science policy framework. ■

⁵ <https://conosc.org/#page-content> [21st July 2022]



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