# CCSD

Centre pour la Communication
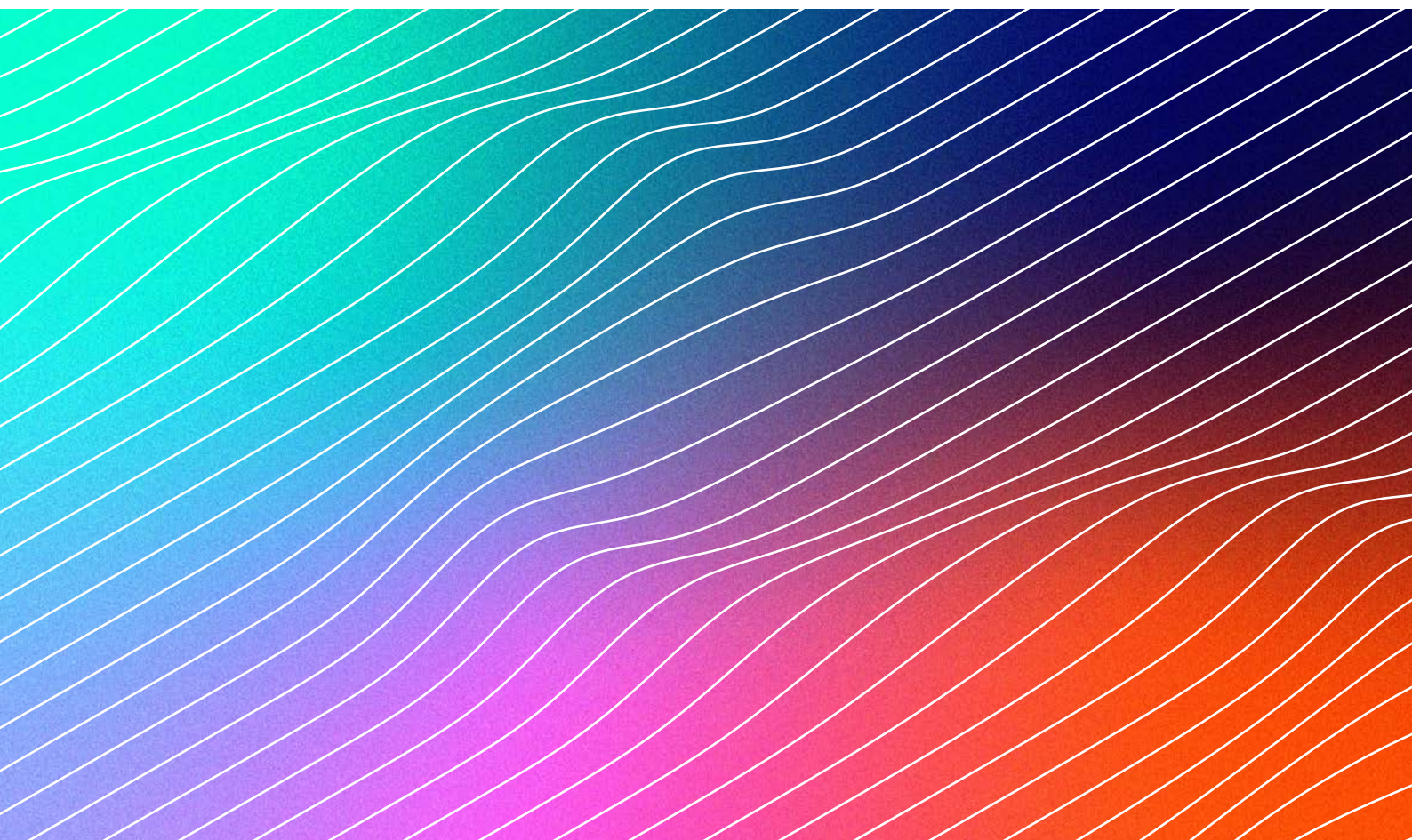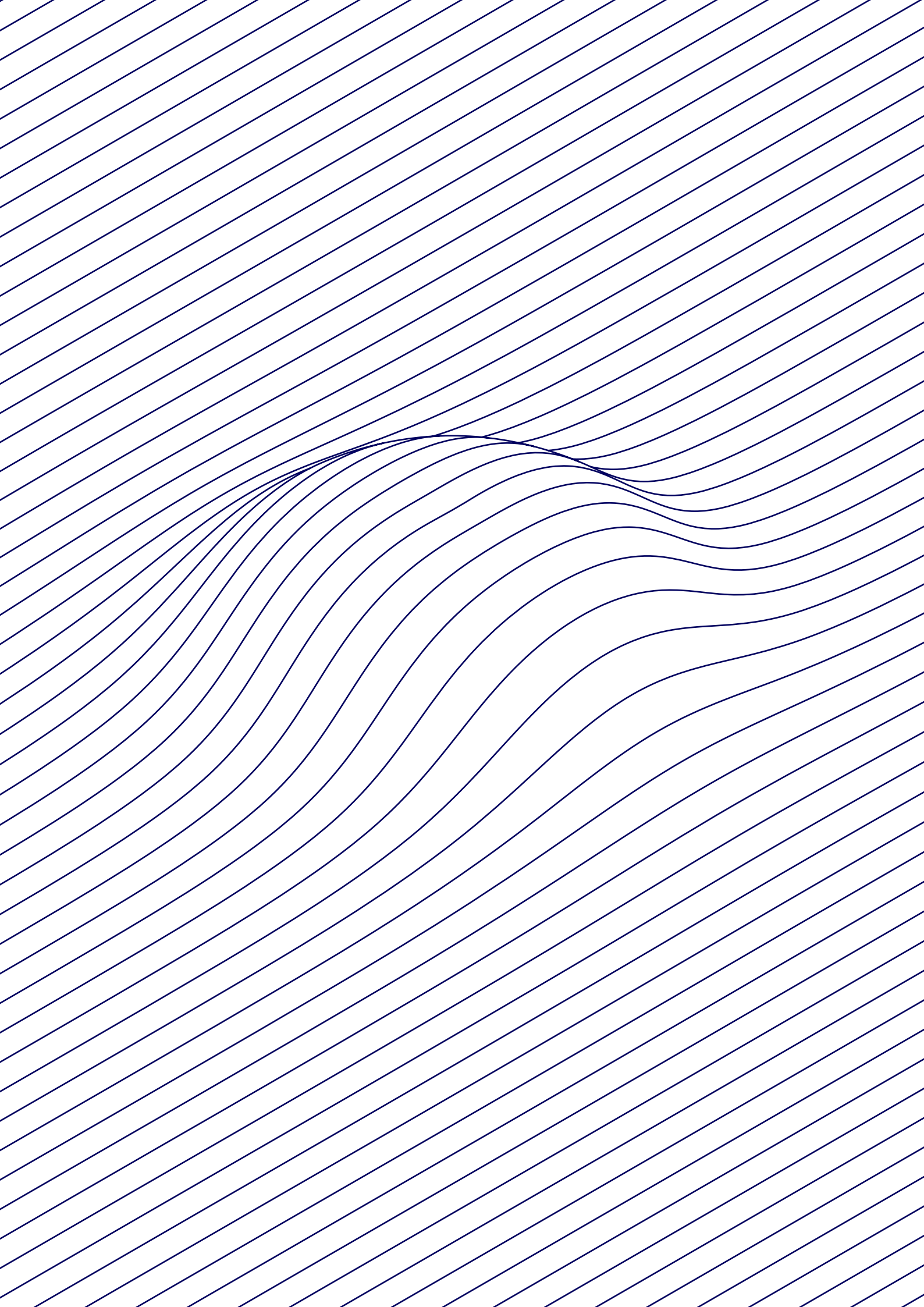Scientifique Directe

# Activity
# report
# 2023

# Editorial
# by Nathalie Fargier

It is with great pride that I present the 2023 activity report of the Centre for Direct Scientific Communication (CCSD). This year has seen major advances in our mission to promote open, public, responsible and sustainable scientific publishing. We have deployed the first services of the HALiance equipment of excellence, while improving the quality of our services and strengthening our interactions with the various user communities.

Interoperability has been at the heart of our priorities. We have continued to integrate HAL, Episciences and Sciencesconf into the digital research landscape, facilitating the exchange and re-use of data. The CCSD has always worked in this direction. Researchers can now submit their documents deposited in HAL to review services and automatically import the full text of their Open Access publications identified by OpenAlex. Our strategy of aligning with ROR and ORCID, stable identifiers recognised by the international community, is continuing to simplify the process for researchers.

Major efforts have been made to clean up the data, improve its quality, optimise our infrastructure and strengthen our technical and moderation support. We have also stepped up our efforts to support user communities through training, community events and close collaboration with researchers. Our commitment to greater transparency is reflected in the publication of the annual action plan and a website setting out the principles and operating procedures of HAL. Our aim remains to create a collaborative and inclusive ecosystem, where everyone can find the resources and support they need.

These achievements would not have been possible without the commitment and expertise of the CCSD team, and the support of the partner institutions and their staff, who have been the driving force behind the current success. The momentum remains strong: after the end of the HALOWIN and OpenAire Nexus projects in 2023, two new projects funded by the FNSO will be launched in 2024, while continuing HALiance and our participation in FAIR4EOSC.

Nathalie Fargier,
Director of the CCSD

# Contents

# The CCSD

In 2023, the CCSD published its action plan for the current year. Validated by the Steering committee and widely distributed in January, it sets out in operational terms the three main directions of the roadmap (2022–2027): anchor the CCSD within the open science ecosystem on a national and international scale; strengthen the uses of HAL, Sciencesconf and Episciences; and ensure the sustainability of these three platforms and their service offering.

## Missions

The CCSD serves the scientific and academic communities and its mission is to facilitate all forms of direct scientific communication, give greater visibility to French research through the open dissemination of its results and ensure its sustainability. It is a major player in national and institutional policy in favour of open science, and in particular in the National Plans for Open Science (PNSO), whose objectives are to generalise open access to publications and structure and open data research.

The CCSD develops and administers the three platforms it has created for archiving, disseminating and promoting scientific publications and data:
– HAL, the multidisciplinary open archive for French research, and its derivative portals;
– Episciences, for journal publishing and editorial innovation;
– Sciencesconf, dedicated to the organisation of scientific events.

These platforms enable researchers and their institutions to make their work visible, discoverable, usable and accessible in the long term, and thus to regain control of the scientific production process.

The CCSD fulfils two other missions. The first is to contribute to the development and creation of the reference systems needed to identify French scientific output. The second is to participate in all French and international initiatives, particularly European, concerning open archives and open science, which help to improve the quality of the service provided to scientific communities and the visibility of their work.

# | Governance

## The ANR joins
the HAL Partners' Assembly

As France's main funding agency, the National Research Agency (ANR) is actively committed to open science, promoting a policy of immediately opening up scientific publications while respecting bibliodiversity. With this in mind, it requests the deposit of the full text (manuscript accepted for publication or publisher's version) in HAL. It must be accompanied by the ANR reference of the research project on which it is based and a permanent identifier. The result of close collaboration between the CCSD and the ANR, the HAL-ANR portal facilitates access to all scientific publications resulting from projects funded by the ANR.

To strengthen the HAL ecosystem and promote exchanges, the ANR recently joined the Partners' Assembly. It participates in the CCSD Steering committee as an observer, helping to enrich strategic discussions and strengthen collaboration on the development of HAL.

## INRAE chairs
the Steering committee

The CCSD's supervisory bodies take it in turns to chair the Steering committee for a period of two years. INRAE takes on this role in 2023 and 2024.

In this capacity, INRAE chairs the meetings of the Steering committee, ensures that governance functions smoothly and monitors the implementation of the Committee's decisions in close collaboration with CCSD management.

## Membership and calendar
of the governance bodies

**Steering committee**
CNRS, INRAE, Inria, MESR, France Universités, director of the CCSD.

**Orientation committee**
Members of the Steering committee, plus five elected representatives from the Partners' Assembly, one representative from the Episciences platform and the chair of the ISC.

**International scientific council (ISC)**
Eleven experts in the field of scientific publishing and open archives.

**Partners' Assembly**
One representative from each institution with a HAL portal.

8–9 Nov.

22 Mar.          21 June          18 Oct.

22 Mar.          21 June          19 Oct.
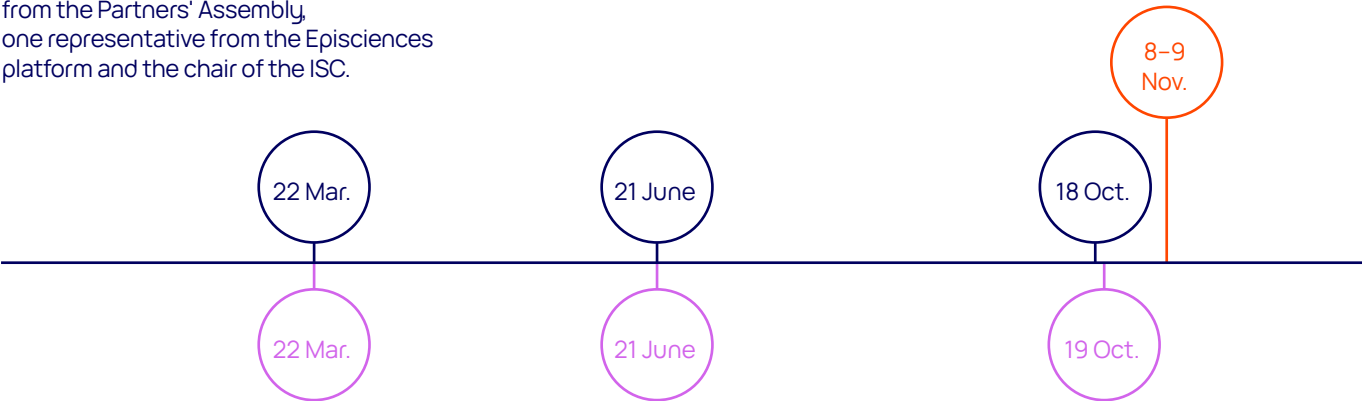
# Significant events in 2023

## Creation of discussion forums on the challenges of open science, with the organisation of two events, and production of a new HAL service for an ever-improved user experience.

## Ten years
of Episciences

Episciences has celebrated its tenth anniversary! To celebrate this anniversary, a meeting was organised at the end of March at the ENS de Lyon entitled "Publishing another way: the epic of Episciences and overlay journals". The event brought together around a hundred people, including some of the key players in its history. The chairman and CEO of the CNRS, Antoine Petit, recorded a video for the opening address.

What is the state of the art in open access scientific publishing? What are the prospects for the overlay journal model? The meeting addressed these issues and also provided an opportunity to assess the progress made by Episciences by situating the platform in the landscape of open science at national, European and international level. It was also an opportunity to hear the voices of the journals that have chosen to join the innovative diamond model it proposes.

Videos of the presentations and debates are available on the CCSD's Canal U channel.

# An annual session
# of the HAL Partners' Assembly
# in a new format

A face-to-face meeting for the first time since the creation of the Assembly and a scientific day combining the themes of integrity and open archives, the annual session of this governance body has innovated for its 2023 edition!

Two days of discussion and debate for the 80 participants, who met at the Enssib premises at the beginning of November to take stock of the year's work, propose future topics for discussion and strengthen links, whether with their elected representatives, their peers or the CCSD team.

The scientific day provided an opportunity to present the system put in place for HAL to manage allegations of scientific misconduct. It concluded with a dialogue—remotely—with Peter Suber and Yves Gingras, two leading figures in open access.

Videos of the presentations and debates are also available on the CCSD's Canal U channel.

# Enrich HAL automatically
# with the new deposit suggestion service

The first deliverable of the HALiance project, the implementation of a new way of feeding HAL by collecting scientific publications already in open access on other platforms, has been operational since the beginning of December. Designed specifically for researchers, it relies on a database of French publications, compiled and updated once a month by Inist, and is presented as a deposit suggestion service. Researchers simply have to validate the suggestion(s) presented in their interface to import the file automatically, without any further intervention on their part.

Just over a month after it went live on 5 December, more than 6,000 user accounts had already activated the service, and 1,000 of them had imported the full text of more than 1,500 publications in HAL.

This highly anticipated service was an instant success! It is therefore fully in line with the objectives of the second National Plan for Open Science, which included it among the measures designed to help researchers make open science a common and daily practice.

# Review of the 2023 action plan

Progress on each action is shown
by a points system:

●○○○   Action started

●●○○   Action in progress

●●●○   Action being finalised

●●●●   Action completed

✦ Achievements related to the action
plan are marked with this symbol
throughout the activity report.

## Anchor the CCSD within the open science and knowledge ecosystem
in a durable and exemplary way and assert its leadership

The CCSD needs to consolidate its role at the service of French public policy,
working closely with the various scientific information infrastructures and research
funding agencies. It must also strengthen its partnerships with the major players
in open science in Europe and worldwide, assert its role and promote its platforms.
This recognition relies, among other things, on the formalisation of its alignment
with the open science criteria of excellence.

**1.** New method
for depositing softwares
and source codes in HAL
●●●●

**2.** Improved listing
of funders linked
to publications
●●○○

**3.** Listing of research
infrastructures on the
national roadmap
●●●●

**4.** Pooling between
EquipeX+ projects
HALiance and Commons
●●●●

**5.** Evolution of
the Episciences
and Sciencesconf
authentication server
●●●●

**6.** Finalisation
of the implementation
of the hal.science
domain name
●●●●

**7.** Availability of TCU
for HAL, Episciences
and Sciencesconf users
●●●○

**8.** Contracts between
Episciences platform
and hosted journals
●●●●

# Increase usage
## of HAL, Episciences and Sciencesconf

Improving the quality and relevance of the services provided to researchers and institutions is a fundamental lever. Emphasis is placed on simplifying existing procedures, adding new functionalities, reinforcing support, ensuring clear and transparent dissemination of information, and valuing the contributions of the various user communities.

**9.** New way of feeding HAL scientific documents

● ● ● ●

**10.** Evaluation of the feasability of giving out DOIs in HAL

● ● ○ ○

**11.** Organisation of the moderation of deposits in HAL

● ● ● ●

**12.** Functional enrichment and ergonomic evolution of Episciences

● ● ● ●

**13.** Link between HAL and peer-reviewing services

● ● ● ●

**14.** Finalisation of the implementation of HAL new interfaces

● ● ● ●

**15.** Definition of new training modalities for HAL, Episciences and Sciencesconf user communities

● ● ● ●

**16.** Evolution of the user documentation for HAL, Episciences and Sciencesconf

● ● ● ●

**17.** Raising awareness and providing information to researchers communities using HAL

● ● ● ●

**18.** Episciences communication operations and community outreach

● ● ● ●

**19.** New support scheme for diamond open access journals

● ● ● ●

# Ensure the sustainability
## of HAL, Episciences and Sciencesconf and their service offer

Maintaining access to the HAL, Episciences and Sciencesconf platforms and services depends on the convergence of various elements: an efficient governance model, the expertise of CCSD team members, a sustainable economic model based on diversified sources of funding, and open and secure technological choices.

**20.** Improved security for infrastructure and hosted data

● ● ● ●

# Scientific
## open archive
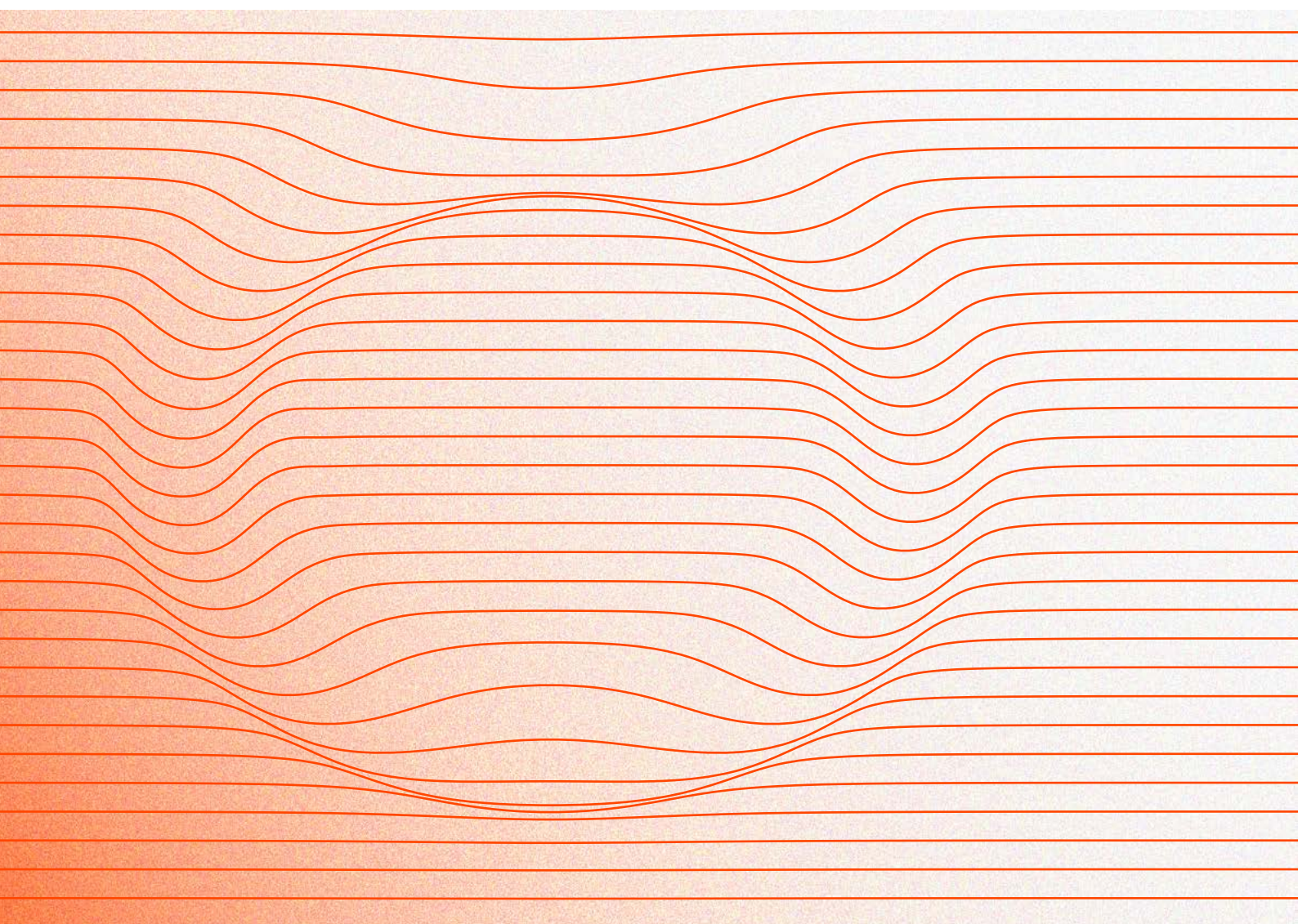
# A new way of feeding HAL: the deposit suggestions service

**HALiance**

The deposit suggestions service introduces a new way of feeding HAL: it allows researchers to automatically import the full text of their publications which are already in open access, whether by adding the file to an existing notice or by creating new deposits. This only concerns publications under the Creative Commons licence.

Delivered at the beginning of December, this new service is the result of developments involving the collection of French publications carried out by Inist using the OpenAlex service, mechanisms for identifying publications that can be imported into HAL (initial estimates give a volume of 80,000 publications for the period 2014–2023), and the creation of interfaces allowing researchers to validate imports.

The implementation of the project included a phase of interviews with researchers to refine and improve the screens, which were carried out before the summer. Researchers were also asked during November to test the service in the production database before its public release at the beginning of December.

The deposit suggestions service is a major component of the EquipeX+ HALiance project.

# Enrichment of reference data for research structure with the ROR repository: more than 4,000 identifiers added

**HALiance**

The optimisation of HAL's interoperability is based on aligning its reference data with stable identifiers that are recognised by the international community. The project to automatically enrich auréHAL with the ROR (Research Organization Registry) identifier, used for research structures, continued in 2023 with a campaign aimed at portal teams. The teams had to check and validate the correspondences between the auréHAL data and the ROR, using the lists made available.

Thanks to their participation, 314 ROR identifiers were added to auréHAL, identifying institution-level structures, whether French or foreign. The subsequent reindexing of deposits has generated more than 3 million updates.

The methodology for aligning auréHAL data with that of the ROR is based on the work of the French Open Science Monitor team. The manual validations carried out during this campaign enabled us to measure the reliability of the alignment method. The enrichment was able to continue in an automated manner, which resulted in the addition of more than 4,000 ROR identifiers in auréHAL.

All of this work forms part of work package 3 of the HALiance project dedicated to the extraction and alignment of metadata.

# ✦ Connecting HAL
## to publication or review services

**HALOWIN**

2023 saw the completion of the HALOWIN project, which aims to improve inter-operability between HAL and preprint review services. The project, funded by the FNSO (National fund for open science), is part of the international initiative launched by the Confederation of Open Access Repositories (COAR) to define open protocols and standards for interconnection between peer reviewing services and open archives.

In terms of developments, the project is based on the implementation in HAL of the COAR Notify protocol, enabling the automated exchange of notifications with Episciences on the one hand, and with Peer Community In (PCI) on the other.

The processing of these notifications gives rise to exchanges of metadata and documents between the platforms.

For researchers, this means a change in the HAL deposit form, making it easier to submit their document either to one of the journals distributed by Episciences with a view to publication, or to one of the PCIs with a view to obtaining a recommendation. These two platforms then provide HAL with the metadata needed to identify the published article or recommendation. The evolution of the interface went live during December.

In addition to simplifying and streamlining the process for researchers, this new service helps to improve the quality and reliability of the preprints available on HAL, while structuring the archive's services so that it is fully recognised as a preprint server.

## 1,280,146
## full-text documents

online as of 5 January, 2024, of which

## 146,704

were deposited during 2023

**Implementation of the national licence agreement with the publisher Elsevier**

3,839 deposits were added to the existing notices of articles published in 2021 via the Accepted Author Manuscripts (AAM) provided by Elsevier. A total of 19,479 PDFs have been imported.

# ✦ Simplification of URLs in hal.science:
## conclusion

Started at the end of 2022, the simplification of URLs in hal.science continued during the first half of the year. All the sites, portals and collections that had archives-ouvertes.fr in their URLs were migrated to hal.science before the summer. The aim, for the HAL ecosystem as a whole, is to simplify web addresses and improve international visibility.

The change of domain name may have impacted the identification of the hal.science site by general search engines (not observed on Google Scholar) and potentially influenced the number of consultation events.

# Internal audit
## on CoreTrustSeal certification criteria

**HALiance**

The CCSD has embarked on a Core-TrustSeal certification process (work package 9 of the HALiance project).

To be certified, a data repository is assessed by peers on the basis of sixteen criteria that take into account technical infrastructure and storage, data and metadata management, and administrative and financial organisation. Certification is awarded for three years.

The internal audit provided two areas of work to improve HAL's compliance: the means implemented to control file integrity were updated and the requirement of transparency of information intended for users was formalised by drafting and posting online information pages available on HAL (about.hal.science).

The report prepared for certification was in the review phase in December.

## Number of full-text deposits and records per month in 2023



Launch of the deposit
suggestion service

**1,584**

documents imported
via this functionality

Legend:
- Full-text deposits
- Full-text deposits annual trend
- Records
- Records annual trend

Months: Jan. Feb. Mar. Apr. May June July Aug. Sept. Oct. Nov. Dec.
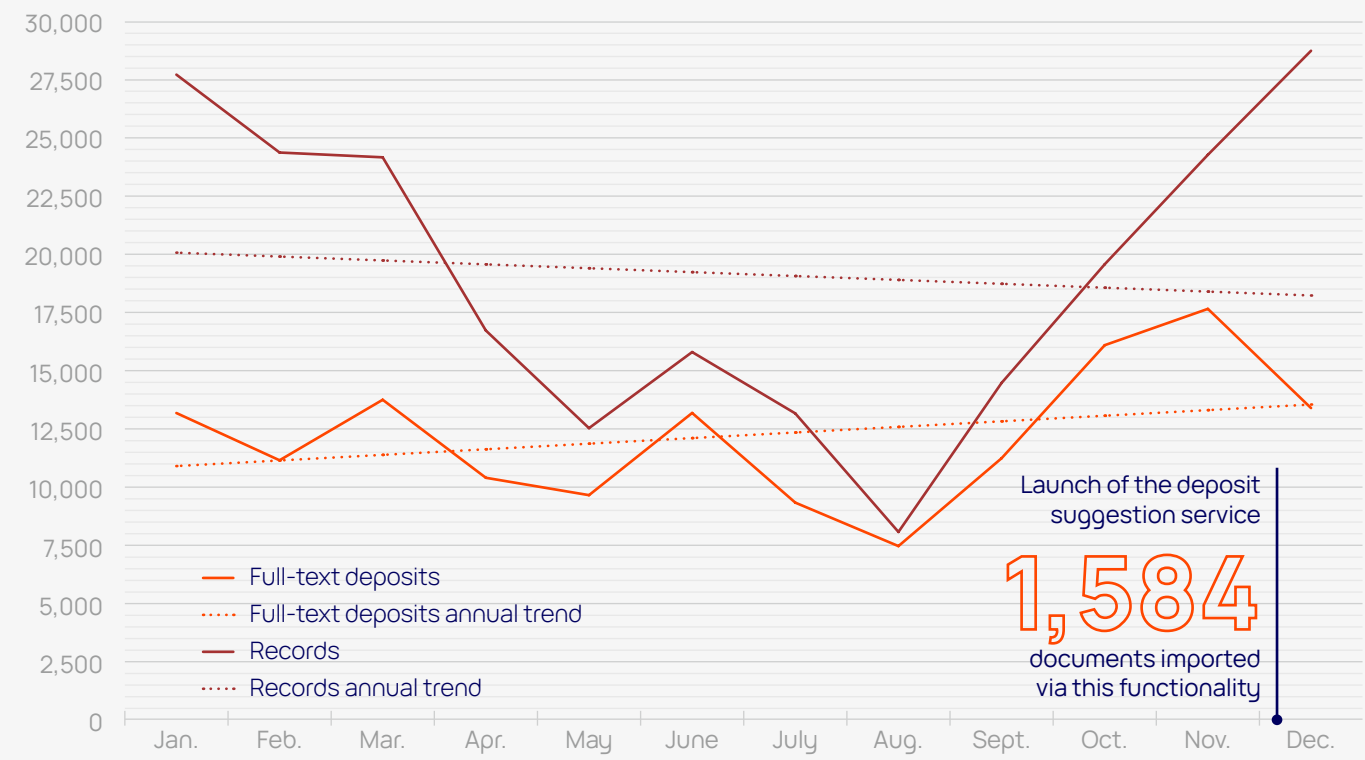
## Breakdown of full-text documents deposited in 2023 by type, by language and by scientific discipline



**document type**
- 9% – misc.
- 1% – HDR
- 1% – books
- 1% – other publications
- 2% – reports
- 3% – posters
- 3% – photos
- 5% – book sections
- 9% theses
- 14% conference papers
- 53% articles

**document language**
- other languages: Spanish, Italian, Portuguese, German…
- 5%
- 28% French
- 67% English

**document discipline**
- 2% – Stats, Economics
- 2% – Cognitive Sciences
- 4% Mathematics
- 5% Sciences of the Universe
- 6% Sciences de l'environnement
- 6% Chemical Sciences
- 8% Physics
- 9% Engineering Sciences
- 10% Computer Science
- 19% Life Sciences
- 28% HSS

# Developments and bug fixes:
## streamlining workflows for better user feedback

Reporting bugs, suggestions for improvements: the support ticket management service receives requests from users on a daily basis. How can the way in which these requests are handled and processed be improved? This is the subject of a study that has been carried out within the team over several months:

it aims to define procedures (review, development, tests), identify the parties involved (support team, IT team) and thus help rationalise developments and deliveries. The challenge is to increase synergies within the team in order to improve the efficiency and quality of responses to users.

## Data
## cleaning

Millions of data in over 20 years of existence means regularly monitoring the quality of this data and carrying out cleaning operations.
The recruitment of a data steward as part of the HALiance project makes it possible to step up this work.

A number of projects have been launched, including the elimination of unknown characters (often due to copy/pastes at the time of deposit), the UTF-8 standardisation of the encoding of accented characters (title, abstracts, authors, etc.), and ensuring that dates are consistent. Under-used metadata (less than 50 occurrences in the database) has also been analysed with a view to reducing the burden associated with managing it.
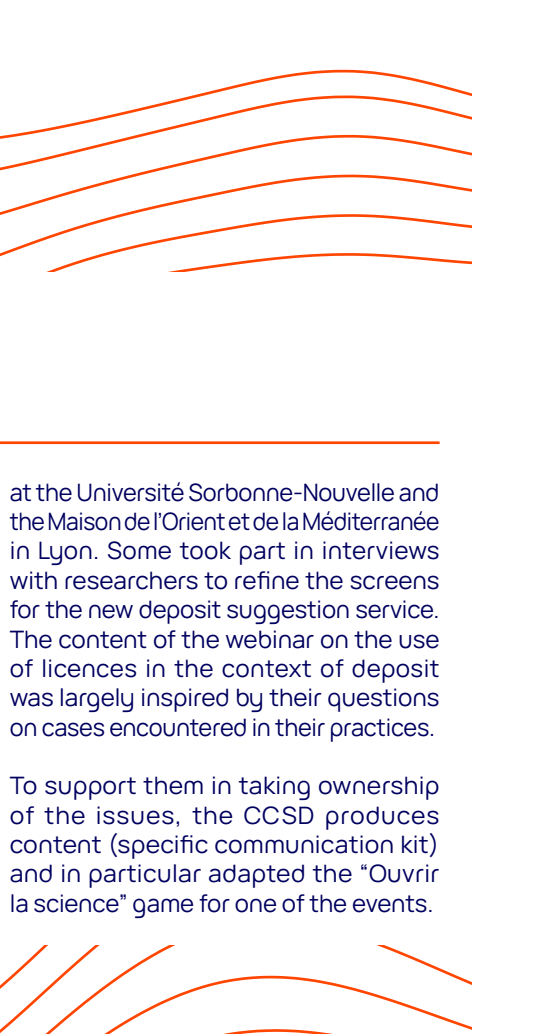
## ✦ HAL
## Ambassadors

The HAL Ambassadors programme was created in 2022 to strengthen exchanges between scientific communities and the archive and to promote open science practices.

The eleven researchers who are currently taking part in the programme—two joined at the end of the year—provide their expertise in their field, their feedback on HAL so that it can be better adapted to needs and… a little of their time.

In 2023, this included co-hosting with the CCSD the *Rencontres de la Recherche*

at the Université Sorbonne-Nouvelle and the Maison de l'Orient et de la Méditerranée in Lyon. Some took part in interviews with researchers to refine the screens for the new deposit suggestion service. The content of the webinar on the use of licences in the context of deposit was largely inspired by their questions on cases encountered in their practices.

To support them in taking ownership of the issues, the CCSD produces content (specific communication kit) and in particular adapted the "Ouvrir la science" game for one of the events.

**Top 10 countries—plus France—with the most consultation logs (record consultations and document downloads) in 2023 (millions)**

Canada
**2.2**

United States
**14.2**

Ireland
**1.8**

United Kingdom
**1.6**

Germany
**3.7**

Italy
**2.9**

Russia
**2.1**

China
**5.8**

Morocco
**2.6**

Algeria
**2.2**

France
**33.4**
being **33.41%** of all consultations

SciencesPo
ATELIER DE CARTOGRAPHIE

# 99,966,244
## consultations

in 2023
(record consultations, record exports
and documents downloads)

## Focus on
## the collections

**Breakdown of collections by category**

laboratory

symposium

thematic

journal

other

0   1 000   2 000   3 000   4 000

# 9,214
## collections

online as of 31 December, 2023

## Focus on
## identifiers

idHAL
80,835

ORCID
203,204

AUTHORS

idRef
85,912

ROR – 5,730

AFFILIATIONS

idRef
3,917

ANR – 30,381

RNSR – 5,979

PROJECTS

# Institutional
# portals

universities

*Grandes Écoles*

institutions (research organisations)

68

## 148
## institution portals

10 portals open in 2023: HESAM Université - Communauté d'universités et d'établissements Hautes écoles Sorbonne Arts et métiers université, École Nationale Supérieure d'Arts et Métiers, Institut Agro, Université de Rennes, Université de Haute-Alsace, Office français de la biodiversité, Oniris, EHESS, École Nationale Vétérinaire de Toulouse and TBS Education.

34

46

# Activities
## of the Partners' Assembly

### A forum discussion
### on open science policies

In 2023, the Assembly's activities were dominated by the preparation and running of three workshops devoted to institutions' open science policies.

These workshops, focused on feedback from six partner institutions, were attended by around a hundred participants. The aim is to provide a forum for discussion and exchange for establishments, and in particular to encourage decision-making. How can the measures set out in the national plans be implemented in institutions? What organisation should be put in place? What are the human resources and skills needed? And where does HAL fit in? There are just a few of the issues under discussion.

The two webinars devoted to the CCSD's action plan, at the start of the year and mid-term, are also part of this dynamic.

### Organisation
### of the scientific integrity day

The topic of scientific integrity and open archives was discussed by the Steering committee on the basis of cases encountered by the CCSD team, and was developed into a study day for the Assembly's annual session in early November. The Scientific committee responsible for organising the day was made up of members of the Assembly. It put together a rich programme on a subject that has so far received little attention, bringing together the views of researchers—some of whom are scientific integrity officers at their institution—and library professionals.

Open science and open access do not guarantee the integrity of research or the reliability of shared results. Open archives are part of a vast ecosystem for disseminating and sharing publications. As they are also places where metadata is produced (authors, affiliations, publication references, identifiers, etc.), they contribute to the drive for transparency.

# Open access
## scientific journals
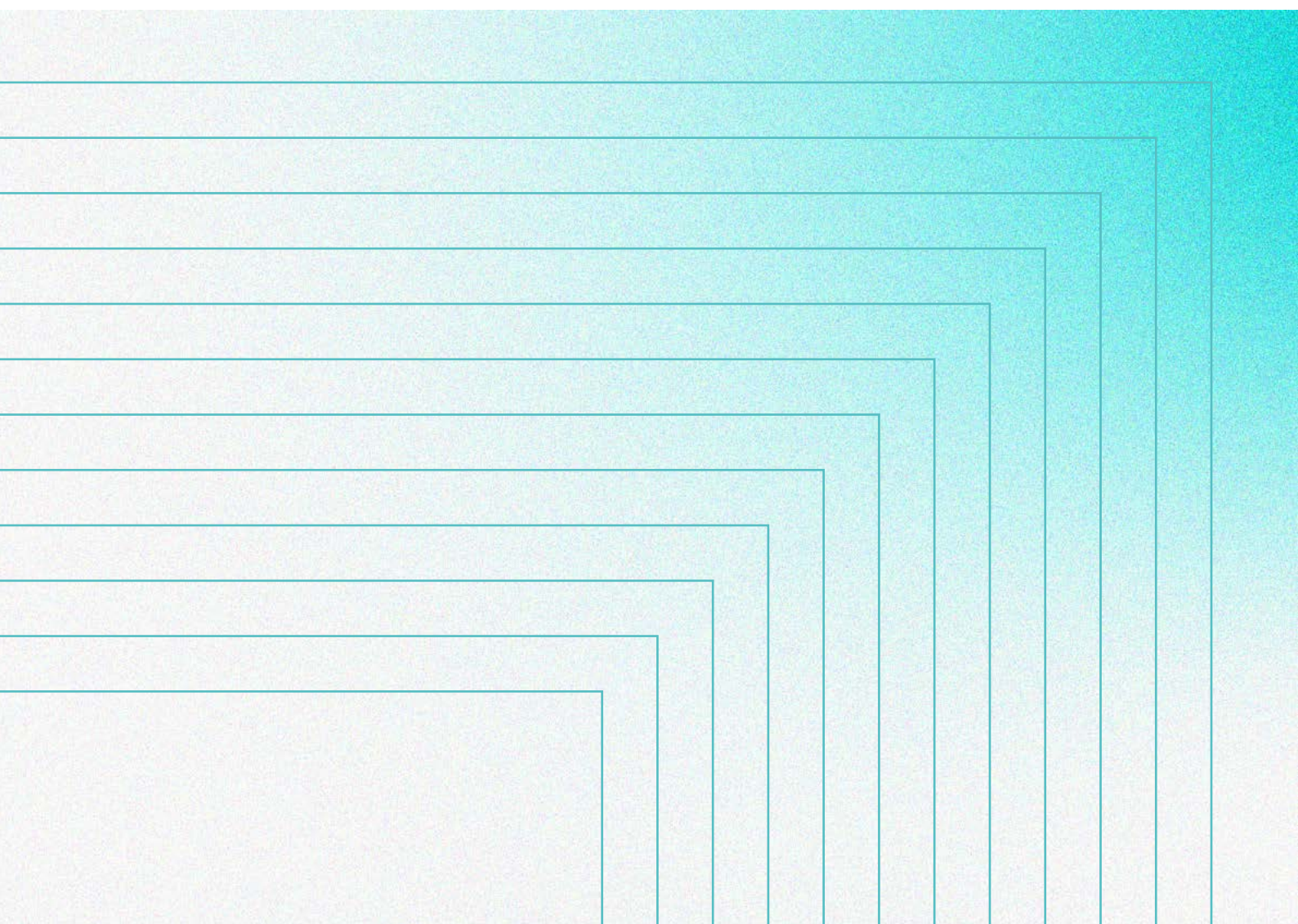
# 30
## journals

The platform includes 30 publications, of which 5 were put online in 2023 :
- *Archéologies. Sociétés, réseaux, matériaux* ;
- *Electronic Notes in Theoretical Informatics and Computer Science* ;
- *Open Plasma Science* ;
- *Le partenariat de soin avec le patient : analyses* ;
- *Recherches en didactique des mathématiques*.

The platform is opening up to new disciplines: physics and health sciences.
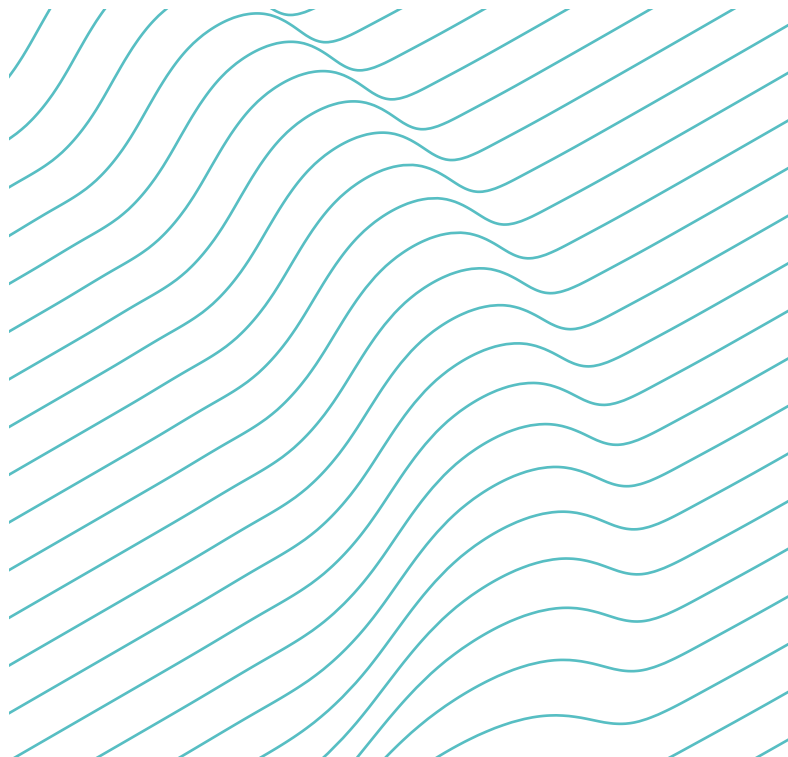
## ✦ The tenth anniversary
### of Episciences

The *Publishing another way: the epic of Episciences and overlay journals* international days organised at the end of March at the ENS de Lyon to celebrate the tenth anniversary of the platform were a great opportunity to meet members of journals' editorial boards, who came from all walks of life. The round table "A lifetime on Episciences" focused on the paths and operation of several journals and to discuss common issues.

This strengthened the journals' links with the CCSD team, as well as with the teams at Inria and Institut Fourier, who support the editorial teams on a day-to-day basis, and fostered a real dynamic for projects, in particular the redesign of the journals' website interfaces.

## Project to develop
### journals' websites

Structuring the information on journals' websites and making them more modern and accessible are the main objectives of a project that the CCSD is carrying out in consultation with the journals' teams. The project, lasting 9 months, began in June 2023. The new interfaces will be implemented during 2024.

# bioRxiv and medRxiv,
## new partner archives

Episciences is consolidating its multidisciplinarity by adding bioRxiv and medRxiv to the list of servers and open archives accessible for submitting manuscripts to journals published on the platform.

Fundamental research in the life sciences and clinical research are not yet disciplines represented on Episciences. By interconnecting with these two preprint servers renowned in their disciplines, the platform opens up opportunities for groups in these fields to adopt the publication model proposed by Episciences.

# 12,698
## user accounts

of which 1,629
were created in 2023

## ✦ Facilitating the submission to a journal
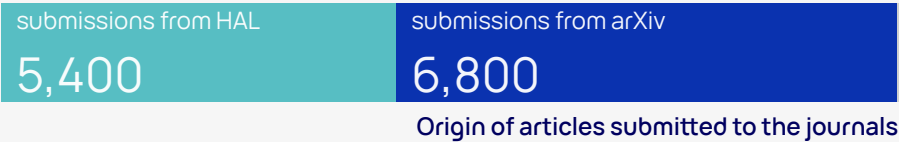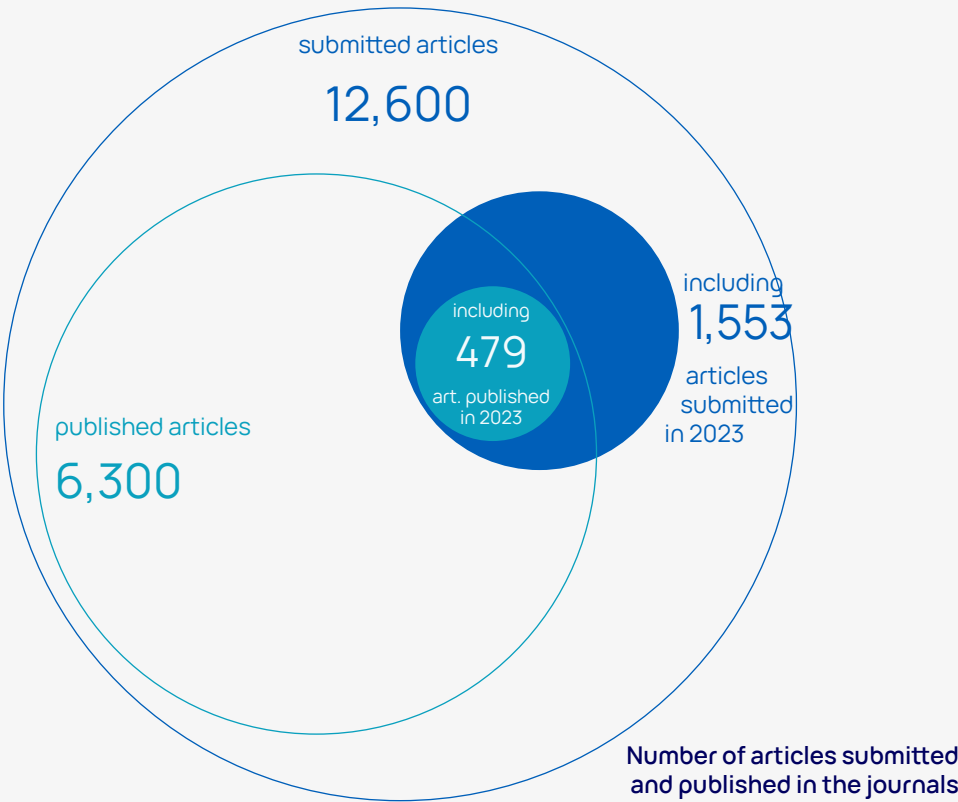## of preprints deposited in HAL

**HALOWIN**

Episciences is a partner of the HALOWIN project and is a use case for a publication service interconnected with HAL (see page 14).

Implementing the COAR Notify protocol for the automated exchange of notifications optimises interoperability between the two platforms. On the one hand, it facilitates the updating of deposits with publication references: this phase of the project was put into service at the end of 2022 and 167 notifications have been sent by Episciences to HAL since then. On the other hand, it simplifies and streamlines the process of submitting a preprint deposited in HAL to a journal distributed by Episciences, thus improving authors' experience. Since the service was launched in December 2023, 29 manuscripts have been submitted for peer reviewing.

The challenge for Episciences is to transpose this use case to other preprint servers.

submitted articles

12,600

published articles

6,300

including

479

art. published
in 2023

including

1,553

articles
submitted
in 2023

**Number of articles submitted
and published in the journals**

submissions from HAL

5,400

submissions from arXiv

6,800

**Origin of articles submitted to the journals**

**Breakdown of the journals
by scientific field**

informatics and applied
mathematics (9)

mathematics (8)

social sciences
and humanities (8)

other fields : physics,
mechanical engineering,
environment, health
sciences, proceedings (5)
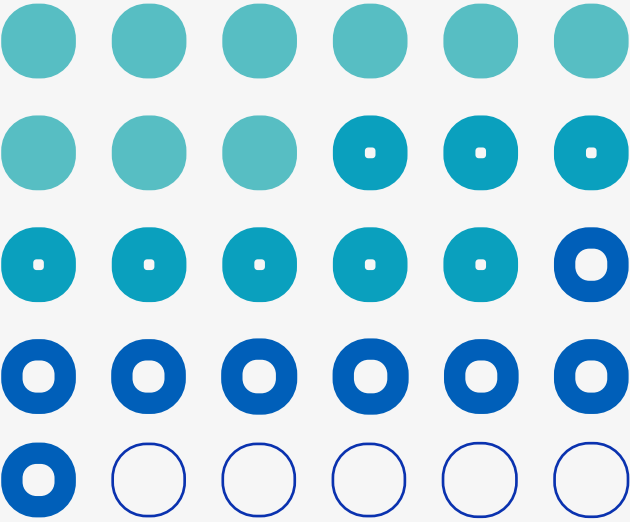
# The European OpenAIRE Nexus project
## comes to an end

**OpenAIRE Nexus**

Thanks to its participation in the OpenAIRE Nexus project, Episciences is now part of the OpenAIRE catalogue of services and is available on the European Open Science Cloud (EOSC) marketplace. The platform is part of a process for sharing metadata to facilitate enrichments (author ORCIDs, licences, research data identifiers, etc.) that improve the discoverability of content. For authors, this means that they can submit a preprint deposited in Zenodo to journals published on the platform.

2023 was marked by numerous presentations at conferences, contributing to the platform's international reputation.

# Software development
## as part of the European FAIRCORE4EOSC project

Episciences is taking part in another European project, FAIRCORE4EOSC, which aims to develop and integrate new components into existing EOSC services. In concrete terms, Episciences needs to be interoperable with Software Heritage (SWH) for the citation of software and thus adapt to best practice. By offering the option of adding the identifier produced by SWH at the time of submission, we can ensure that the software citation is maintained throughout the publication workflow, is machine-readable and is correctly formatted in the article's DOI.

The *Journal of Theoretical, Computational and Applied Mechanics* (JTCAM) and *Open Plasma Science* encourage their authors to cite software.

# ✦ Automatic retrieval
## of bibliographic references

Adapting Episciences to the criteria of certain indexing databases also involves displaying the bibliographic references mentioned in the published articles.

Launched in December, a tool for extracting references from PDF files is now available to journals. These are validated manually either by the authors or by the editorial team, before being displayed on the article page and associated with the metadata provided with the DOI identifier.

As well as meeting the needs of indexing databases, this functionality also contributes more broadly to the opening up of bibliographic references as part of the Initiative for Open Citations (I4OC).

# Improved indexing
## in the DOAJ

A functionality has been added to facilitate the transmission of metadata to the Directory of Open Access Journal (DOAJ) and improve the referencing of journal content. It uses the DOAJ schema to export items or an entire volume.

# ✦ Editorial
## support

In addition to providing day-to-day support to the journal teams, the Episciences editorial department is continuing its referencing activities, particularly in the Mir@bel database. In 2023, the data provided obtained the quality label of the national knowledge base BACON, which collects and disseminates the metadata of electronic resources.

The journal catalogue, created the previous year, was put online on the website presenting Episciences. It is available in four languages, as is all the other content, which has been translated into Spanish and Portuguese as well as English, to boost international visibility.

The migration of documentation to a new consultation tool ( ✦ ) required a complete redesign and update. It is enriched by the creation of tutorials.

The internship of a Master 2 student from Enssib enabled a comparative study to be carried out on French open access scientific publishing platforms, across all disciplines, in order to assess the services offered by Episciences in terms of hosting, editorial support and journal referencing. Episciences is characterised by its overlay service model and its multidisciplinary approach.

![sciencesCONF conference management logo]

# Management
## of scientific conferences
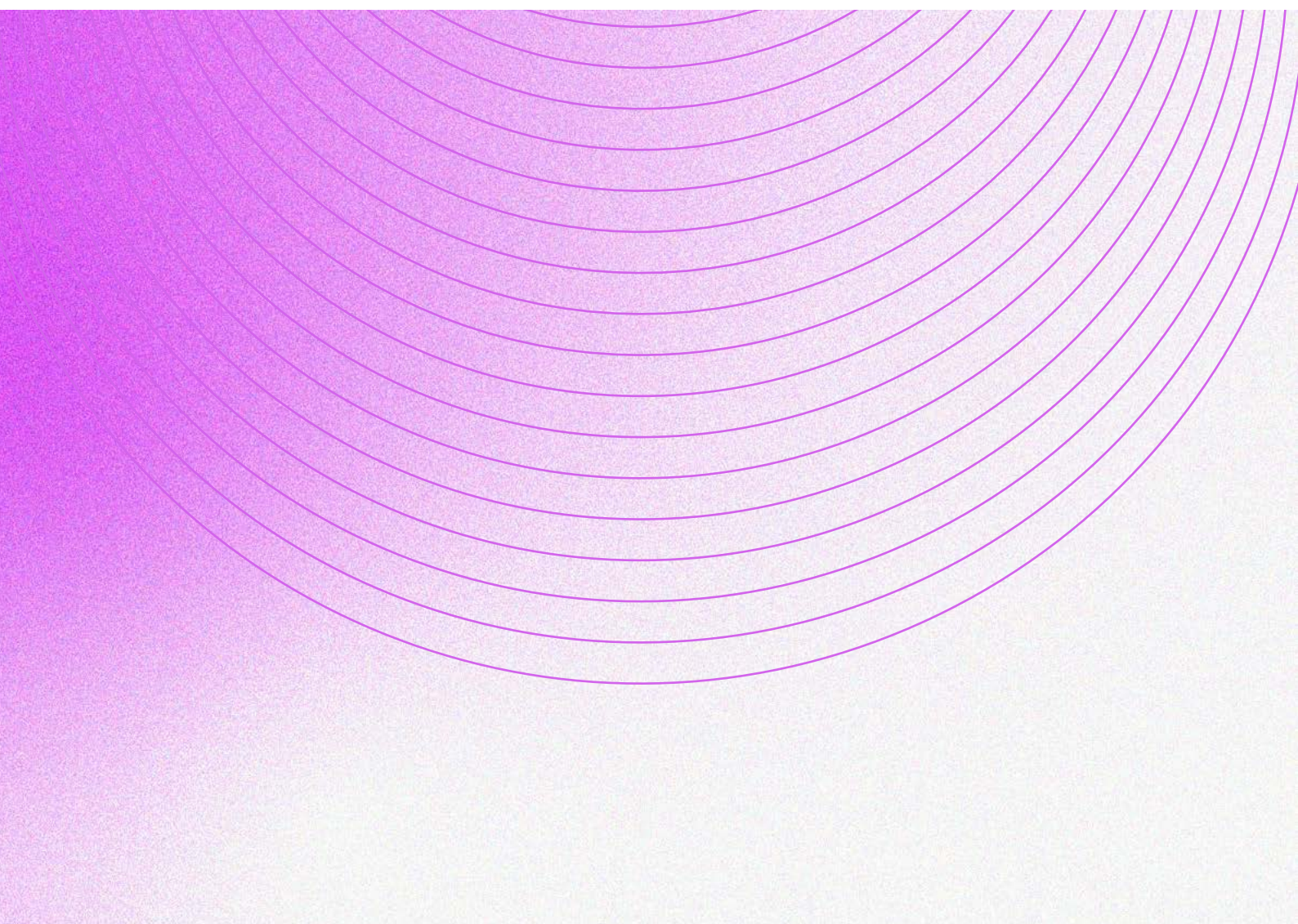
# 12,225
## conferences

online as of 31 December, 2023

# 108,455
## registrations

In 2023,
108,455 people
registered for conferences
created on Sciencesconf

## ✦ Evolution
### of user documentation

As with other platforms, the tool for producing and consulting user documentation has evolved: the pages (French and English versions) have all been migrated to Sphinx/ReadTheDocs. The access URL is unchanged: doc.sciencesconf.org.

Six video tutorials have also been produced: one describes the first steps to using the platform while others guide users on more technical points such as rating grids for review or payment categories. The tutorials are integrated in the documentation and are also available on the CCSD's Canal U channel ("Sciencesconf Tutorials" category).

## ✦ Adaptation
### to the new authentication server

## Aligning the code
### with current programming standards

The evolution of the authentication service with the implementation of a new LemonLDAP server involves technical adaptations as well as the preparation of data migration.

These were completed in 2023, with production scheduled to start in 2024.

The implementation of a new global improvement strategy for the Sciencesconf code was carried out in 2023 to bring it into line with current standards and good programming practice. The aim of this improvement is to make the code easier to read, more scalable and easier to maintain.

This has resulted in the widespread use of external style sheets (CSS) to standardise the display and optimise the links between user interfaces and data models.
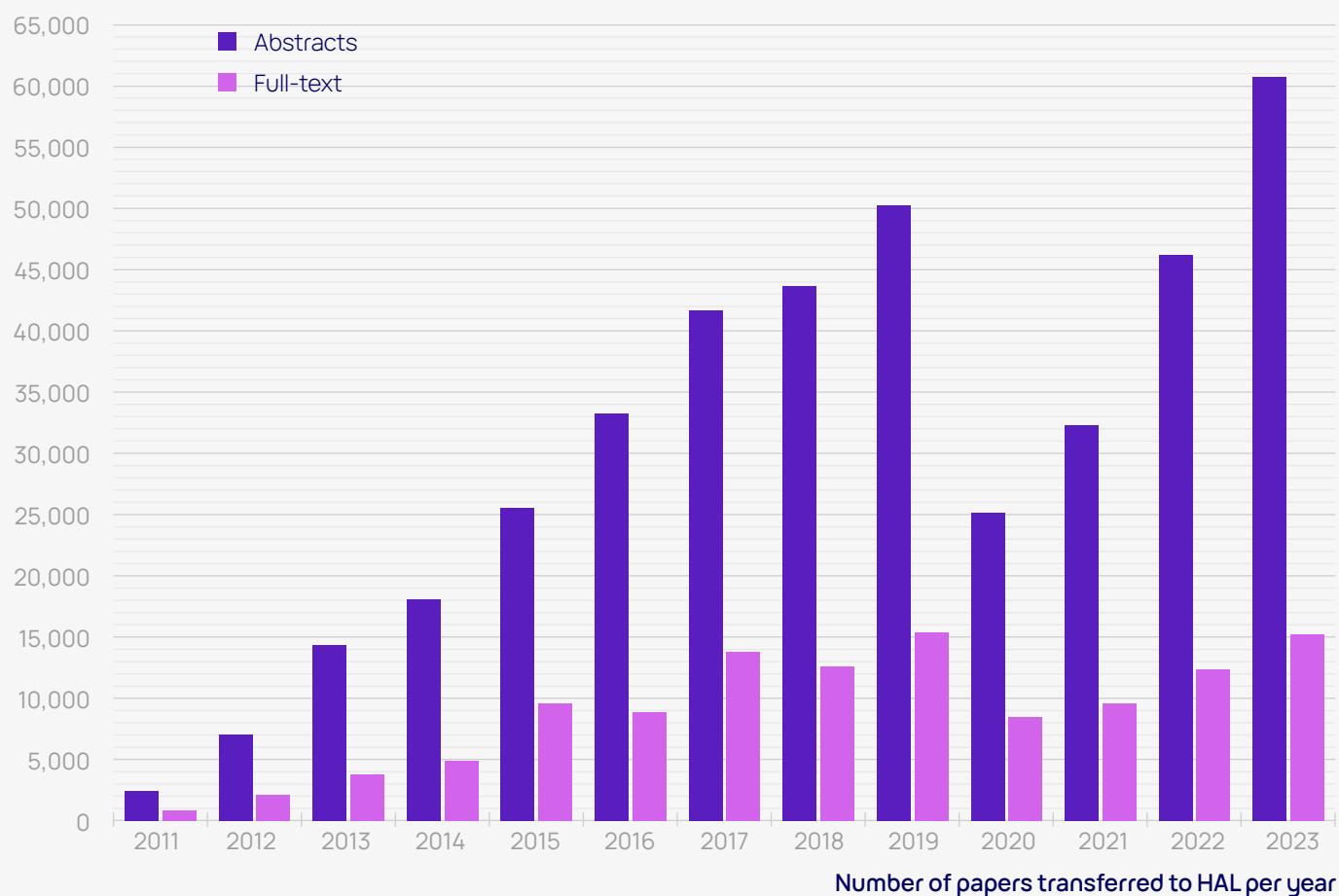
# 75,927
# conference papers

In 2023, 75,927 papers (full text or abstracts) were submitted to Sciencesconf, an increase of 30% on 2022.

## Switchover of old sites
### to static and data cleaning

Conference sites that are more than three years old are processed each year to make them static: only the public part (offline) is visible, making it possible to optimise access times for more recent sites. In 2023, 1,202 sites were processed.

In addition, a number of conference sites are created without actually being used, producing data that there is no need to retain. Regular cleaning of this data is therefore carried out: in 2023, it covered more than 800 sites corresponding to events more than two years old.

Number of creations and conference registrations per year



Number of papers transferred to HAL per year
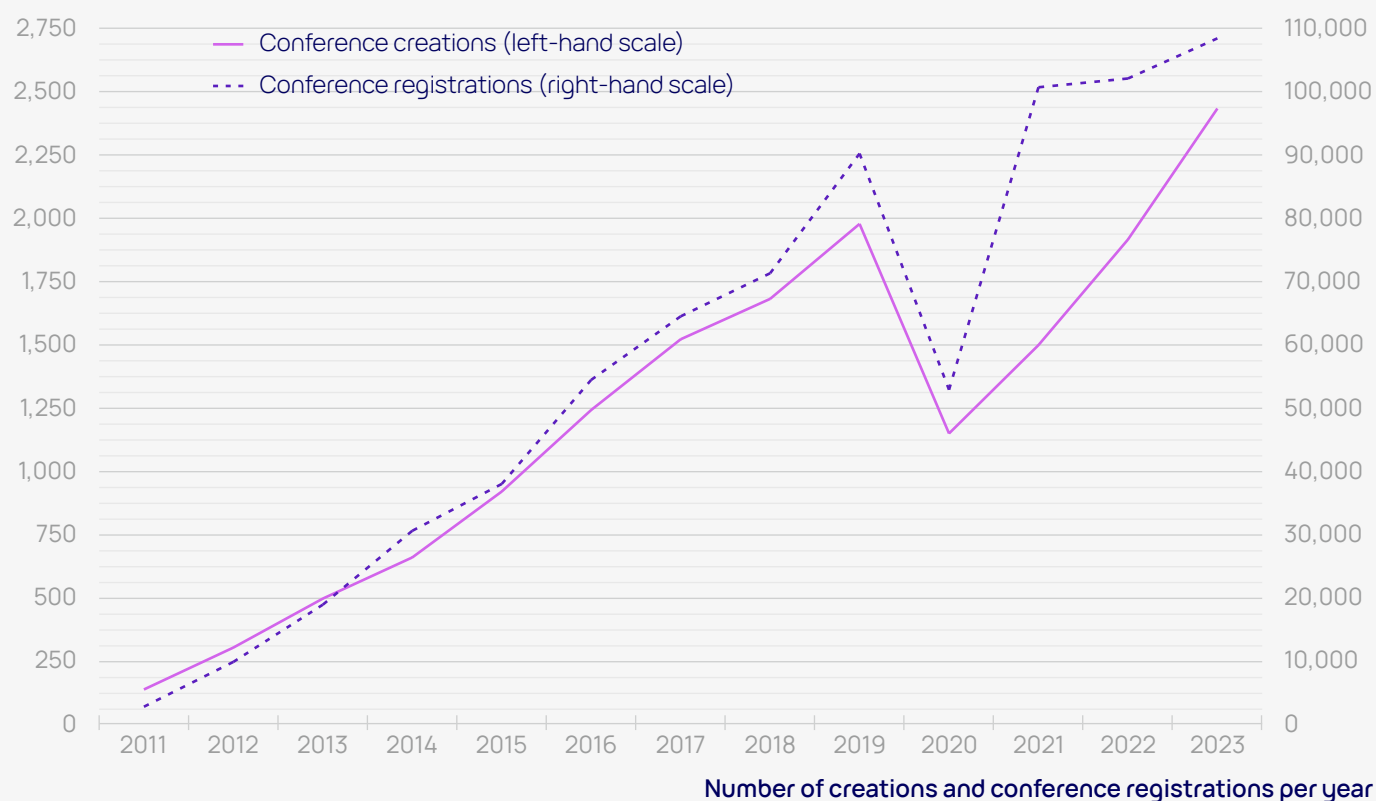
# EquipeX+ HALiance project

Equipex+ HALiance is a 5.5-year project funded with a budget of €3.4m. Centred on HAL, its goal is to expand the service offer, strengthen interactions with other players in the knowledge ecosystem and fully satisfy Open Science criteria of excellence, both nationally and internationally.
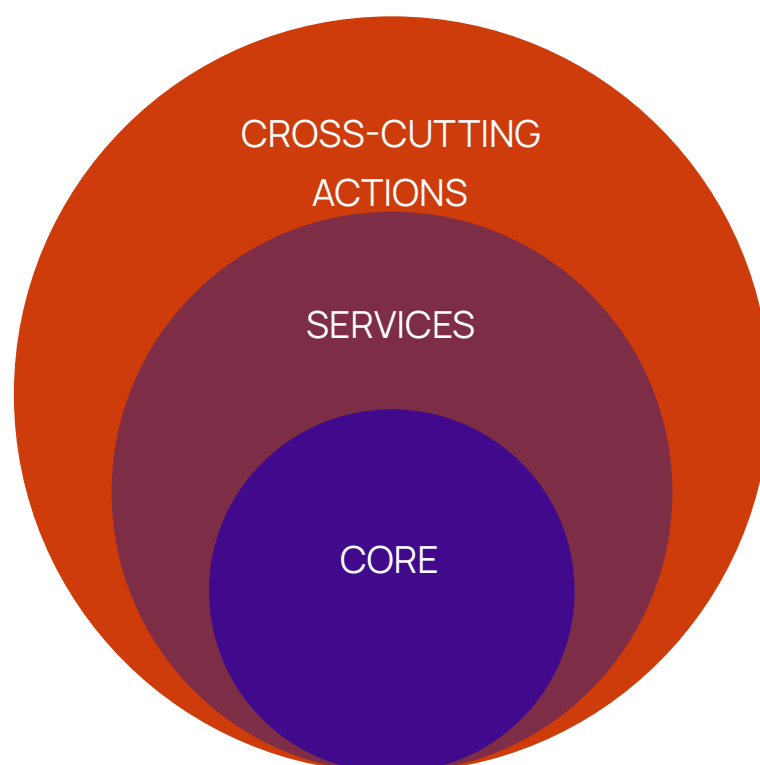
It is based on renewal of the core hardware and software

The highlights of this second year of the project are, on the one hand, the evolution of the hardware infrastructure aimed at an overall improvement in server performance and security and, on the other hand, the production launch of the new deposit suggestions service.

## Divisiob
in 9 Work Packages (WP)

# Achievements
## in 2023

**WP1** | Upgrading and securing HAL's physical infrastructure
- Recruitment of a systems engineer
- New NAS storage server
- Switch to HaProxy to guarantee high availability
- Improved network performance (installation of optical switches and 10 Gb cards)
- Preparation of data backup in a second datacentre

**WP2** | Migrating, securing and opening the HAL software code
- Recruitment of a developer
- Start of the application migration project (service)

**WP3** | Metadata extraction and alignment with HAL reference data
- Enrichment of auréHAL with the ROR identifier, in collaboration with the French Open Science Monitor team
- Preliminary study and prototype for the automatic retrieval of funding data from PDF files (partnership with Science-Miner for the development of the Grobid application)
- Preparation of the redesign of the automatic author affiliation service

**WP4** | Organising and documenting the life cycle of bibliographic metadata imported to HAL

The actions in this work package depend on the progress of WP2.

**WP5** | Coordinating HAL with preprint review systems and making the publication cycle visible

The actions in this work package are a continuation of the HALOWIN project. It ended at the end of 2023.

**WP6** | Implementing a new method for populating HAL by collecting scientific publications (full text)
- Launch of the deposit suggestions service: user interface, monitoring back office, import workflow in HAL

**WP7** | Coordinating publications in HAL and the research data associated with them
- Integration of the COAR Notify protocol into HAL

**WP8** | Ensuring visibility and uptake of new HAL services by its users
- ROR alignment campaign (WP3)
- Gathering user feedback for the new suggestions service (WP6)
- Drafting of user documentation the suggestions service
- Publication of blog posts on the CCSD website

**WP9** | Ensuring consistency with FAIR principles
- Recruitment of a data steward
- Internal audit for CoreTrustSeal certification, gathering of information for report writing
- Drafting of about.hal.science pages

# User support,
# training and assistance

## ✦ | The support service in 2023

Building and proposing a range of HAL training courses that are better suited to needs has been a major focus for the service. The recruitment of an instructional designer to the team at the start of the year helped to structure the needs analysis process, develop new learning methods and encourage skills development among service members.

The webinars previously offered to researchers have evolved into a virtual classroom format: in groups of a maximum of ten people, interaction with the speaker and practical work are given priority. Two skills are targeted: "Getting started with HAL" and "Depositing in HAL". Launched at the beginning of October, 32 sessions were scheduled for the last quarter, with a total of 160 participants

(i.e. as many as the 19 webinars offered from January to September). The emphasis was also placed on practical work, with shorter sessions for collection managers. As for the training courses dedicated to portal administration, they are still held face-to-face but have been extended by half a day and, with 9 sessions scheduled, were more numerous than in 2022 (5 sessions).

The creation of new formats and the increase in the number of slots require a high level of mobilisation of service members.

Participant satisfaction, measured by a questionnaire sent out at the end of each session, shows that 97% would recommend the training courses (144 respondents).

## Moderation of HAL deposits: recruitment of an FTE

From March, the team was strengthened by the recruitment of a member hired under a fixed-term contract specifically dedicated to the processing of deposits awaiting moderation. This member also coordinates the service's moderation activities if the volume of deposits to be processed so requires.

The network of moderators includes the Inist team, which handles the deposits of CNRS researchers, and those of 24 portals, which handle the deposits within their scope.

# Panorama of the activity
## of user support

### Training delivered

**277** hours of training in a total of **98** sessions (including support for the creation of portals)

**1,387** people trained
of whom **36%** were researchers

**28** hours of external training over **4** sessions (Enssib, Mediadix) for **47** people trained

### Moderation

**52,031** deposits posted on HAL by the CCSD team

**5%** of deposits rejected for non-compliance

**20,573** modification requests

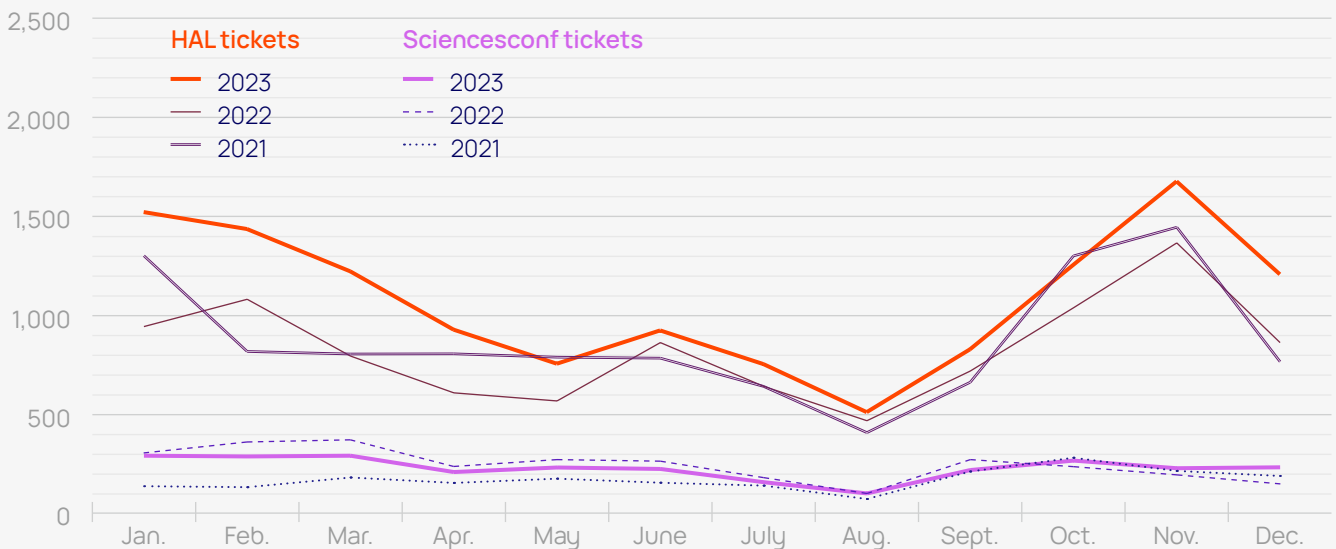**29.9%** of deposits moderated by the CCSD team

### Specific support

Support for the creation of portals: **9** training sessions for **83** people trained

### Support tickets

**15,747** tickets handled in 2023 (HAL and Sciencesconf)

**31%** increase in HAL tickets in 2023 compared with 2022



**Number of HAL and Sciencesconf tickets received per month (2021–2023)**

# Communication and dissemination of information

## Multilingual websites

International influence also means using languages other than English. The CCSD and Episciences websites have been translated into Spanish (the Sciencesconf website has been translated into Spanish since 2022). To raise awareness of Episciences' innovative model, its website has also been translated into Portuguese.

## Open science talks

The CCSD offers information webinars on open science and the platforms it is developing in connection with the national open science policy.

Two sessions were offered in 2023: one on the French Open Science Monitor and its local adaptations, the second on the use of licences within the framework of HAL deposits.

These two sessions were attended by 460 participants. The videos are available on the CCSD's Canal U and Youtube channels.

## Mailing lists

This year, the CCSD launched a discussion list for Sciencesconf users: sciencesconf-infos@groupes.renater.fr. Subscription to this list is free.

Subscription to the three mailing lists,
  – portails-hal@groupes.renater.fr,
  – collections-hal@groupes.renater.fr,
  – moderation-hal@groupes.renater.fr
is managed by the CCSD according to the roles of the users in HAL (administrator, collection manager and technical validator).

## Communication materials made available

The various communication materials created by the CCSD (posters, flyers, etc.) are now available to download from the institutional website so that those who wish can have them printed as required.

# Communication channels
of the CCSD

## CCSD blog

**19** posts

**10,650** cumulative visits
on blogposts

## ActuHAL newsletter

**1,618** subscribers

**5** editions

Average opening rate of **33.9%**

Average clic rate of **12.97%**

## CCSD videotheque
on Canal U and Youtube

**9** videos uploaded

**7,243** views on uploaded videos

**648.4 h** of cumulative watch time

## Twitter/X account @hal_fr

**10,293** followers, including
648 new followers in 2023 (**+ 7%**)

**123,684** tweet impressions

**3.77%** average engagement rate

## Mastodon account @hal_fr

Creation of the account
in **November 2023**

**435** followers

## CCSD LinkedIn account

**648** followers, including
242 new followers in 2023 (**+ 60%**)

**9,563** cumulative
single impressions on posts

**7.7%** average interaction rate

## Twitter/X @episciences

**134** followers

**15,052** tweet impressions

**5.47%** average engagement rate

## Twitter/X account @ccsd_fr

**3,748** followers, including
132 new followers in 2023 (**+ 4%**)

**90,522** tweet impressions

**4.78%** average engagement rate

# List of
# **publications**

## January

**20 January, 2023**
Céline Barthonnat and Raphaël Tournoy. *Episciences, une solution complète pour l'édition et la publication de revues scientifiques en accès ouvert*. Open-SHS seminar : les formes alternatives de publication en accès ouvert. Online.

**26 January, 2023**
Céline Barthonnat. *Conservation et accès aux données de la recherche : les publications sur Episciences*. Juriconnexion : Conservation et accès aux données juridiques. Enjeux et perspectives. Online.

**January, 2023**
Céline Barthonnat and François-Xavier Mas. *Medici, un réseau par et pour les professionnel-les de l'édition scientifique publique*. Arabesques n°108. ([10.35562/arabesques.3162](), [hal-04092726]())

## February

**February, 2023**
Raphaël Tournoy. *Diffuser, évaluer et publier les recherches en libre accès à partir d'overlay services*. Training DCB31 : Données et science ouverte ; Approfondissement 1 : Publier en Open Access. Villeurbanne.

## May

**May 2023**
Agnès Magron and Sébastien Mazzarese. *Animer un portail HAL : une offre de services pour les acteurs de la recherche*. Archimag n°364, pp.38-39. ([https://archivesic.ccsd.cnrs.fr/sic_04133582]())

## June

**5 and 6 June, 2023**
Hélène Begnis, Émilie Cassagne and Nathalie Fargier. *L'archive ouverte HAL*. Collège doctoral training, Université de Lyon, Master Class "Science ouverte et édition scientifique" on the occasion of the 150th anniversary of the Société française de physique. Lyon.

**from 12 to 15 June, 2023 – 18th International Open Repositories Conference. Stellenbosh, South Africa**
– Raphaël Tournoy. *Connecting overlay journals with open repositories and other open science infrastructures*. ([hal-04130473]())
– Bénédicte Kuntziger and Benoît Legouy. *Building the compliance of HAL, the French national open archive, with Open Science funders policies*. ([10.5281/zenodo.8116617](), [hal-04430963]())
– Bénédicte Kuntziger, Yannick Barborini, Nicolas Larrousse and Adeline Joffres. *Linking publications and data from two French national repositories*. ([10.5281/zenodo.8091581](), [hal-04431079]())

**14 June, 2023**
Céline Barthonnat. *Episciences, open access overlay journals*. Masterclass on Open Sciences and Publishing. Grenoble.

**from 19 to 23 June, 2023**
Raphaël Tournoy. *Episciences overlay journals*. Shaping services for the EOSC: the experience of EOSC Future and the infraEOSC 07 projects. EGI 2023. Poznań, Poland.

**29 June, 2023**
Céline Barthonnat. *Organisation éditoriale* (atelier). 11es Journées du réseau Médici. Liège, Belgique.

## July

**from 4 to 6 July, 2023 – ANF CNRS : pratiquer la science ouverte : des services et compétences en action. Paris**
– Bénédicte Kuntziger and Sébastien Mazzarese. *HAL, comment relier publications, données et codes logiciels ?* (atelier).
– Céline Barthonnat. *Les différentes facettes du modèle diamant*.

**from 5 to 7 July, 2023 – LIBER 2023 Annual Conference. Budapest, Hungary**
– Hélène Begnis and Françoise Rousseau-Hans. *Building Trust Around the French Open Research Archive HAL*. ([hal-04205376]())
– Raphaël Tournoy, George Papanikos, Marion Gaigeot and Agnès Magron. *Improving the user experience through automated and on-the-fly metadata enrichment – Episciences overlay journals and the Open Science Lens Page Enhancer* (poster). ([hal-04328017]())

**12 July, 2023**
Céline Barthonnat, Vincent Chollier, Alice Fritsch and Stéphanie Trine. ANF Médici/Renatis Édition académique : comprendre les processus de publication et de diffusion. Villeurbanne.

# September

**13 and 14 September, 2023**
Raphaël Tournoy. *Particularités de la plateforme Episciences et des overlay journals / épi-revues au sein du modèle diamant*. 3rd international France-Latin America meeting on open science. Paris. (hal-04209382)

**from 25 to 27 September, 2023 – Open Science FAIR 2023. Madrid, Spain**
- Yannick Barborini, Bénédicte Kuntziger and Philippe Chan. *A new way for researchers to deposit in HAL, the French Open Archive*. (10.5281/zenodo.8402880, hal-04234288)
- Raphaël Tournoy. *Episciences: diamond open-access overlay journals* (demo). (10.5281/zenodo.8416296)
- Raphaël Tournoy. *Publishing diamond open access overlay journals with the OpenAIRE services*. (10.5281/zenodo.8402662)

# October

**10 October, 2023**
Céline Barthonnat. *Episciences : faciliter la publication en libre accès diamant avec le modèle overlay*. Publier autrement : un plus pour une carrière scientifique ? Angers.

**from 23 to 27 October 2023**
Raphaël Tournoy, Céline Barthonnat, Marion Gaigeot and Agnès Magron. *Episciences: Diamond Open Access Overlay Journals*. Global Summit on Diamond Open Access. Toluca, Mexico. (hal-04326029)

# November

**from 8 to 10 November, 2023**
Raphaël Tournoy. *Episciences overlay journals: a bridge between scientific publications, open repositories, data and software repositories* (communication). 18th Munin Conference on Scholarly Publishing. Tromsø, Norway. (10.7557/5.7147 hal-04325981)

**13 November, 2023**
Céline Barthonnat. *Accompagner le référencement des revues* (table ronde). Journée d'étude Mir@bel, La visibilité des revues scientifiques françaises. Lyon.
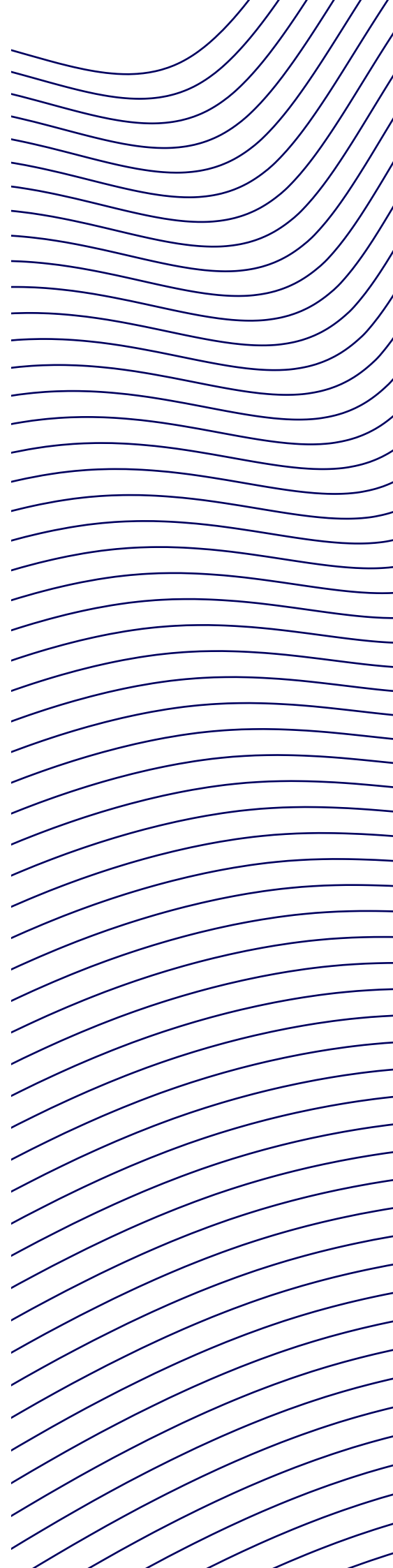
**16 November, 2023**
Hélène Begnis and Nathalie Fargier. *HAL, un atout pour la recherche française*. Open Science Days @ UGA. Grenoble.

# December

**8 December, 2023**
Nathalie Fargier. *HAL, actualités et perspectives*. Politiques d'ouverture de la science en France : le terrain des laboratoires de recherche. Lille.

# Resources

## Budget data

### expenditure

### resources

| | |
|---|---|
| (k€) 1,250 1,000 750 500 250 0 | 250 500 750 1,000 1,250 (k€) |

**Development of services**
877,171.43 € / 153,289.34 €

269,517.00 € — Supervising bodies (CNRS, Inria and INRAE)

**Hosting CC-IN2P3 and archiving CINES**
76,739.13 €

300,000.00 € — MESR

**Infrastructure**
38,551.35 € / 4,079.28 €

697,000.00 € — Fees from institutions

**Communication and promotion**
35,932.89 €

3,542.00 € out of 58,654.00 € — H2020 OpenAIRE Nexus

**User support and training**
5,778.15 €

27,404.81 € out of 73,287.00 € — FNSO HALOWIN

**Real estate (rent, charges, utilities)**
121,874.76 €

38,613.00 € out of 75,000.00 € — CNRS DDOR for Episciences

**Running costs**
115,530.63 € / 108,038.33 €

127,733.00 € out of 127,800.00 € — SPM

**Contractual payroll**
836,293.70 €

1,246,237.00 € out of 3,143,210.00 € — ANR HALiance

**Legend:**
- ■ Operating expenses
- ■ Investment expenses
- ■ Payroll expenses
- ■ Resources
- ■ Multi-year resources bound to projects

# Human
# resources

In 2023, the CCSD had 31.1 FTEs (full-time equivalent employees) working in the fields of IT development, network system administration, scientific and technical information, publishing, communication and management.
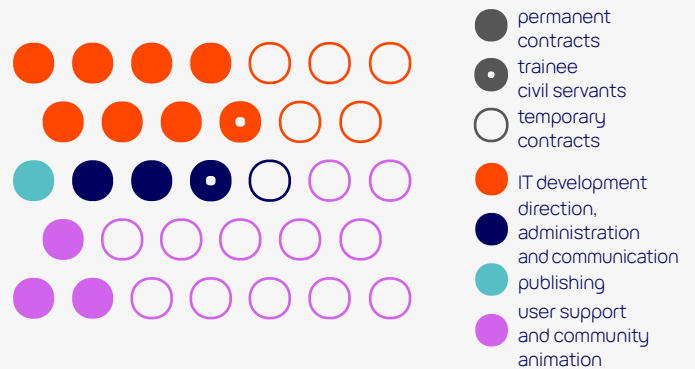
During the year, two people were appointed as trainee civil servants, one employee under a permanent contract and ten employees under fixed-term contracts were recruited and four contract staff left the CCSD.

permanent contracts

trainee civil servants

temporary contracts

IT development direction, administration and communication

publishing

user support and community animation

# Infrastructure

## ✦ Reinforcement of the infrastructure

**10.5 To**
of documents backed up at the l'IN2P3 computing centre

**7.3 To**
of documents archived at CINES, being **821 Go** archived in 2023

**HALiance**

– New NAS storage server
– Switch of all services to HaProxy to guarantee high availability
– Implementation of filters to prevent aggressive robots from slowing down platforms
– Improved network performance (installation of optical switches and 10 Gb cards on two thirds of the infrastructure)
– Replacement of hypervisors to limit the number of hypervisors required and improve the carbon footprint
– Implementation of acceptance, pre-production and production platforms for HALiance
– Preparation of data backup in a second datacentre

**Other reinforcements**
– Upgrade of obsolete systems
– Implementation of a new version of the Proxmox hypervision system
– Switch of the database on the MySQL cluster
– Setting up servers for the SSO project



INFRASTRUCTURE HOSTED BY CCIN2P3

FRONTAL RELAY
HAProxy / Keepalive

CLIENT
web browser, API

Switch

APACHE SERVERS
HAL front-end
API (import/export)
Thumbnails
Triple Store
Reference data

FRONTAL
HAProxy / Keepalive

Solr cluster

ElasticSearch cluster

Authentication

External authentication
› Renater Federation
› ORCID

NAS

Optical switch

› Virtuoso
› Conversion
› Compilation
› Vignettes

INFRASTRUCTURE HOSTED IN AN EXTERNAL FACILITY

Redundant NAS