4 SCIENCE

Share your knowledge

Outstanding Open Source solutions
for research & data management
and for cultural heritage

4SCIENCE
Share your knowledge

Who are we?

Our mission is to contribute actively and substantially to the global open scholarly infrastructure, enabling institutions to enhance their impact and expertise sustainably, via fully interoperable systems and standards

20+
Years of Experience

Our team experts have the longest experience in the repository realm

100+
Clients Worldwide

We are the trusted provider of top institutions around the world

200+
Projects Completed

We enable from nation-wide projects to simple repository installations

30+
SaaS Clients

We provide secure, stable, and easy to install SaaS compliant solutions through our trusted partner AWS

DSPACE CERTIFIED PLATINUM PROVIDER

Dataverse

CLOUD SECURITY ALLIANCE — Trusted Cloud Provider — CSA

DataCite SERVICE PROVIDER

Information Security Management — ISO 27001 Certified

iD CERTIFIED Service Provider

aws PARTNER Qualified Software

euro CRIS

OpenAIRE

LYRASIS

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Why to choose us?

Openness is a defining value of 4Science:

- Open research (open science, open data, open access) and open digital cultural heritage.
- Open-source software and community-based collaboration
- Adoption of key international open standards and protocols, to enable innovation, interoperability & sharing

collaboration: We actively support and collaborate with the major communities around the world that support Open Science initiatives

expertise: Our team draws on decades' worth of domain expertise and experience including technological, methodological, and policy-related projects

enabling solutions: Our solutions are designed to enable institutions to manage research information & data, or cultural assets, with full interoperability, accessibility, global connectedness and robust security

Diversity & Inclusion

At 4Science, we believe that diversity and inclusion are fundamental to innovation and success in the digital world. Our commitment to these principles is reflected in our workplace culture and business practices

Gender Diversity & Pay Equity: We put our commitment to diversity into action by ensuring gender diversity at all levels of our organization. Over 50% of our managerial positions are held by women, a testament to our belief in equal opportunities and meritocracy.

Fostering Inclusion: We create an inclusive environment where every team member feels valued and empowered to contribute their unique talents.

Equal Opportunities: Our strict non-discrimination policy ensures fair treatment for all employees and applicants, regardless of race, gender, sexual orientation, or other characteristics.

What we do best

We help you implement, customize, migrate, update and enrich your repository with quality services.

Institutional Repositories

We support you install, upgrade, and/or migrate your repository platform

Digital Cultural Platforms

We help you preserve & enhance your digital library materials

Hosting & Maintenance

We provide hosting services & solutions through our longstanding partner AWS (Europe & USA datacenters)

Consulting

We provide support to overcome any repository-related issue

Customizations

We work with you in the development of features to meet your specific needs

Training

We support your team in your repository journey towards smooth adoption of your platform for your users and administrators

Advanced Services

We help you implement, customize, update and enrich your repository with advanced services.

System integration

We can integrate your new solution with several other systems in your institution via APIs or other models: human resource software, Ongoing Projects, Student Careers, Awards, Community services, OJS/OMP etc.

Authentication/Authorisation

The solutions we provide can easily work with your LDAP, Active Directory, Single Sign On solutions (ex. CAS or Shibboleth). Authorization rules can be inherited from your systems

Reporting & analytics

Multidimensional analysis and bibliometric information turn your data into information and information into knowledge. The DataMart can be shared with your existent Data Warehouse infrastructure to provide comprehensive analysis

Long Term Preservation (LTP)

The solutions we offer are compliant with the Open Archival Information System Reference Model (OAIS) and we have several options to enhance the LTP reliability and differentiate the LTP strategy, integrating specialized LTP services.

DSpace

The DSpace Community is the broadest open-source repository community globally, and continues to grow, with 93 members, representing 23 countries.

Lead Contributor

We are the lead contributors to the global community of DSpace

Certified Platinum Provider

As the lead DSpace Certified Platinum Provider, we have a key role in the DSpace community & governance

DSpace is the most widely used repository software with more than 3000 installations around the world.
It is free, open source and completely customisable to fit the needs of any organisation.

Services provided

installation & Configuration

Hosting & Maintenance

Customizations

Add-On modules

DSpace-CRIS

DSpace-CRIS is a comprehensive, free and open-source Research Information Management System (CRIS/RIMS). It supports the entire research domain

DSpace Extension

It is based on DSpace, providing broader functionalities and an extended data model, relying on its large community

Compliant Platform

It is compliant with and supports key international standards, facilitating interoperability and data transfer

Enabling Platform

DSpace-CRIS enables secure, integrated and interoperable research information and data management – in a single solution

Advanced Performance

DSpace-CRIS offers an advanced, consolidated and performant implementation of the Configurable Entities, which inspired the configurable entities in DSpace ten years earlier

Services provided

Installation & Configuration

Hosting & Maintenance

Customizations

Add-On modules

Our Expertise

DSpace-GLAM

DSpace-GLAM is a free open-source platform for the creation, preservation and dissemination of Digital Collections of Cultural Heritage

DSpace Extension

It is an extension of DSpace with an enhanced data model and can be easily integrated with image viewers, media servers and a OCR module

Compliant Platform

It is compliant with the key international standards that facilitate interoperability and data transfer among Galleries, Libraries, Archives and Museums

Enabling Platform

To create relations between digital objects and entities to fully describe the cultural context

Advanced Performance

DSpace-GLAM enhances the possibilities of creating (and managing) thematic routes, cultural tourism itineraries, digital exhibitions and narratives describing different communication contexts

Services provided

Installation & Configuration

Hosting & Maintenance

Customizations

Add-On modules

Add-On Modules

4Science has been constantly designing and developing new DSpace-compatible add-ons to improve and enrich the repository experience of users and administrators. The add-on modules create a more personalized, detailed, and unique repository experience based on the institution's needs.

IIIF IMAGE VIEWER: Use the best international standard to work with image collections and enjoy them

DOCUMENT VIEWER: Explore, access and work on full documents

OCR MODULE: Promptly find the information you need from your digitized documents

AUDIO/VIDEO STREAMING: Simplify access and reuse of audio/video content

ANALYTICS&REPORTING: Powerful set of tools for Data Analysis, Reporting, and Data Visualization

UX PLUS: Enhance the user experience with a modern and intuitive interface to access and interact with digital content

CONTENT&USAGE STATISTICS: Monitor how users interact with the repository and create charts representing content

DATA QUALITY: Check and manage duplicates and create a duplicate-free repository

NETWORK LAB: Create dynamic graphs to uncover unforeseen connections among people, documents, projects, events, organizations, places, and more

The #makeITopen campaign: For each add-on, thanks to a single one-time contribution from each adopter, 4Science makes the add-on code readily available to the adopting institution with a perpetual user license: the contribution represents a small portion of the costs of design, maintenance, evolution, and management of the modules

IIIF Advanced Image Viewer

Use an international standard to work with image collections.

Enables the integration of the repository with any IIIF Image API compliant server

It is possible to manually create a multi levels Table-of-Content (TOC) and to show it on the side of the image so to easily navigate through multiple scanned images.

The viewer has a side panel that shows the item metadata in order to preserve the integrity of the information and the identity of the repository.

The viewer offers incredibly high quality navigation of items with multiple images/bitstreams in a single-page, two-page (booklet) and thumbnail view mode

The current view, page, zoom level and rotation can be shared as URLs and it is possible to copy & paste code to embed the viewer into external websites (e.g.: blogs and institutional websites) without losing proper attribution

Document Viewer

The Document Viewer allows the online visualization of PDF files in the browser, using only standard web features without the need for any external plugins, such as Flash Player, etc, and with minimal bandwidth use

Enables the integration of the repository with any IIIF Image API compliant server

Partial and resized image files are downloaded by the browser at the optimal resolution for the current device and zoom level

The viewer prevents end users from copying & pasting the content of the file and download of the original PDF file can also be prevented

The viewer provides a "search inside" feature with highlighting for PDFs where text extraction is possible

Combining the Document Viewer module with the OCR module enables the "search inside" feature to be exploited and also highlights scanned (image) PDFs

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OCR Module

enables the integration of DSpace with an external Optical Character Recognition software.

For each image a curation task allows to extract its text representation in hOCR format for full-text indexing in SOLR

Tesseract supports a very large set of languages including: Italian, French, Spanish, German, Arabic, Simplified and Traditional Chinese and many others
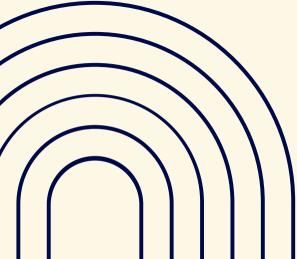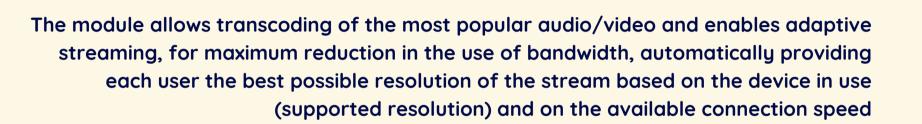
Working with the IIIF Image Viewer module, the OCR module also provides support for IIIF Search API, which enables the activation of the search functionality inside the IIIF viewer, providing search within images, navigation through the results and highlighting on the image of the OCR text corresponding to the search terms entered. The internal search engine also provides the suggestion of search terms during typing

Audio/Video Streaming

Self contained streaming solution, entirely based on open-source components

Allows streaming audio/video content loaded in the repository through the integration with a Media Server and the adoption of the DASH protocol

The module allows to transcode the most popular audio/video formats into a format (FLV, MP4) and encoding appropriate to the adopted media server

The module allows transcoding of the most popular audio/video and enables adaptive streaming, for maximum reduction in the use of bandwidth, automatically providing each user the best possible resolution of the stream based on the device in use (supported resolution) and on the available connection speed

Analytics&Reporting

The module brings to DSpace and DSpace-CRIS advanced analytics capabilities with a self-service reporting tool for institutional repositories and CRIS/RIMS

Data are processed at the preferred frequency in an incremental way to guarantee efficient performance and extend the analysis capacity

Dashboard and reports can be set up via wizards, setting query, dimensions and aggregation criteria. Apply graphical visualizations from dozens of options

It provides self-service analytics capabilities, rows and columns level security and automatic periodic generation of reports

The dashboards and visualizations can be shared with other authenticated users via a direct link or an embedded code

All the graphs in a dashboard interact with each other so that users can drill down the analysis

The analytics module can collect any custom information stored in the repository or can extend the repository information with known data available elsewhere, accessible, via a standard protocol and format

UX Plus

Enhance data exploration and visualization for a better UX

Public visualization of information

Custom renderings are available to visualize in a more effective way specific metadata values such as large lists of authors or other values, metadata holding geospatial information such as coordinates or addresses, metadata with html or markdown markup, graphical representations of search results using bars, horizontal bars, pies and time charts

Data collection

The enhancements allow users to input the information in a smooth and easy way. A WYSIWYG (what you see is what you get) editor can be enabled on large texts such as the abstract or any other descriptive metadata to structure your text with paragraphs, lists, links and font effects that will be properly rendered later on in the public page. The enhancements allow editors to quickly find relevant tasks in the MyDSpace, filtering by collection via facets, saving time usually lost in inspecting collections one by one to see which ones have tasks

The module provides a collection of enhancements to DSpace, aiming to improve the User Experience both for final users and for repository administrators during their daily duties
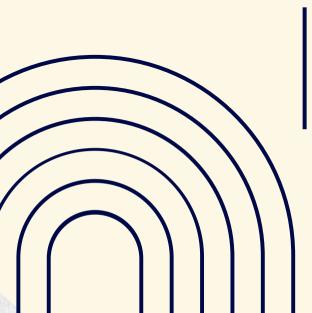
Content & Usage Statistics

This module brings enhancements and additional features to the default DSpace useful to monitor and understand the usage of the repository both in terms of content usage than from an administrative perspective.

Detailed content statistics with dynamic analysis powered by the search system

Fully based on the data collected in the SOLR statistics core as by default in DSpace

Subscriptions available to daily, weekly, or monthly updates about usage statistics that send excel files with total count and increment in the requested period for all the observed objects

The information is enriched to allow an easy join between the statistics data with the content metadata, allowing aggregation by community, collection, submitter, authors, etc., without the need to rebuild the statistics data as by the current limitation of the "basic" DSpace usage analysis features

Access to the statistics pages can be configured separately for items, collections, communities, and the whole repository, and can be public or restricted to the administrator of the objects (Global administrators, Community administrators, Collection administrators)

Network Lab

Generates graphs based on the relationships between the configured entities. In this way it is possible to explore them uncovering unexpected links between people, documents, projects, events, organizations, etc.

Map Mode

The graph is displayed in a map where each node is a geolocated entity with which the focus entity is connected through shared relationships with other objects (e.g. collaborations at institutions level, partnerships, publications, etc.)

Simple Graph Mode

The graph is focused on a specific entity. Each node in the graph is an instance of the same entity, linked with the others through shared relationships with other entities

The graphs can be managed from the UI, choosing the relationships to be visualized and defining the degrees of separation from the focus to be displayed
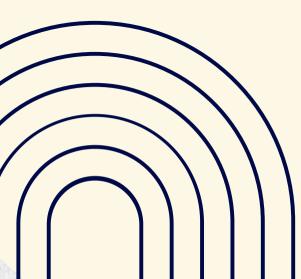
Data Quality

provides the repository managers and the librarians with the tools that they need to monitor and fix the quality of the data in the repository in a very effective and timely manner.

Deduplication

During the submission authors, and librarians during the workflow, will be notified about potential duplicates. Users will be required to quickly acknowledge the notification deciding to drop their current submission or proceed stating if it is a false positive or adding an explanation notes about why the duplication is required that will help, later on, the repository manager to take a decision and eventually merge the records

Improve existing data in the Repository

Using feedback received by external system, such as OpenAIRE, reporting about missing or additional metadata (abstract, subjects, PIDs, projects), the repository manager is able to go through the different suggestions and decide to accept or reject them in one click operation. The feature is set up to work with other datasource that can be quickly integrated developing dedicated connectors

Check whether two items are the same or not and create a duplicate free repository

Dataverse

Dataverse is an open source web application to share, preserve, cite, explore, and analyze research data giving academic credit and web visibility to researchers, data authors, publishers, data distributors, and affiliated institutions

Preserve

To preserve your datasets, make them more discoverable and compliant with data management plans

Links

To establish a durable link between a publication in your repository and its associated data and datasets

Collaborate

To provide an environment where your researcher can analyze, collaborate and safely share their data of any kind (GIS, Tabular, etc.)

Display

To be able to link and display your Dataverse in the profile pages of your researchers, departments and projects

Services provided

Installation & Configuration

Hosting & Maintenance

Project Highlights

The Fraunhofer Society is a major German research organization with 76 institutes spread throughout Germany, each focusing on different fields of applied science. With over 30,000 scientists and engineers and an annual research budget of over €3 billion, it is the biggest organization for applied research and development services in Europe.

4Science was awarded the design and implementation of DSpace-CRIS solution to manage the research performance indicators for the institutes.

We also replaced the legacy repository to collect, manage, preserve, and disseminate the intellectual output of the Fraunhofer's institutes and the information about the entities that populate its research domain. The new solution is integrated and interoperable with all data sources, both external and internal, such as ORCID, bibliographic and bibliometric databases, HR and IdM systems, and more. URL: https://publica.fraunhofer.de/

Project Highlights

IAS | INSTITUTE FOR ADVANCED STUDY

The Institute for Advanced Study of Princeton (IAS) in the United States of America is an independent, postdoctoral research centre for theoretical research and intellectual inquiry founded in 1930. The IAS is perhaps best known as the academic home of Albert Einstein, Hermann Weyl, John von Neumann, and Kurt Gödel, after their immigration to the United States

4Science implemented the IIIF Image Viewer to support remote research and enhance the user experience accessing images of the precious ancient inscriptions kept at the Institute: https://albert.ias.edu/handle/20.500.12111/120. More recently, 4Science was awarded the upgrade of Albert Repository to the latest version of DSpace

Project Highlights

Imperial College London, located in London, England, is a public research university. It was founded in 1907 through the consolidation of various institutions, such as the Royal College of Science and the City and Guilds of London Institute.

4Science was awarded a successful tender with the Imperial College of Science, Technology and Medicine (ICL) in London. The project contains a plan to implement a repository based on an extension of DSpace, in its latest version. This new repository will replace ICL's current DSpace installation, providing new features and enabling a smoother and more meaningful user experience. In addition to the implementation of the new solution 4Science will provide configuration, system testing, hosting of the platform and its maintenance for 5 years, as well as dedicated University staff training.

Project Highlights

EPFL

École Polytechnique Fédérale de Lausanne (EPFL), one of the top universities and research institutions globally, is well known for its commitment to innovation and excellence. EPFL is recognized as one of the top universities in several engineering disciplines. The Times Higher Education also places EPFL as one of the best institutions globally for Engineering and Technology. These accomplishments highlight EPFL's position as a global leader in education and research

EPFL has chosen 4Science as its partner for implementing a state-of-the-art digital repository using the powerful DSpace extension for research information, DSpace-CRIS based on dedicated servers provided thanks to our long standing partner AWS. https://infoscience.epfl.ch/

Project Highlights

U^b UNIVERSITÄT BERN

The University of Bern is a university in the Swiss capital of Bern and was founded in 1834. Regulated and financed by the Canton of Bern, it is a comprehensive university offering a broad choice of courses and programs in eight faculties and some 150 institutes. With around 20,000 students, the University of Bern is the third largest university in Switzerland

4Science was contracted to design and implement, along with university staff, a repository and Research Information System representing the research outputs, researchers' profiles and project records of the institution. It is based on DSpace-CRIS with important customizations and integrated with other internal systems https://boris-portal.unibe.ch/

Partnerships & Collaborations

4Science partners and collaborates with a range of strategically important international organizations and communities

Partnerships & Collaborations

4Science is unique in being the only DSpace Certified Platinum Provider that can demonstrate this breadth and depth of engagement, active participation and substantive contribution in these key communities

Partnerships & Collaborations

4Science is the only DSpace service provider among Participating Institutions of the IIIF community (https://iiif.io/), which defines open standards that help libraries, archives, and museums make the most of their digitized collections with visualization, deep zoom, annotation capabilities, and more.

Partnerships & Collaborations

4Science is a partner of COAR, the Confederation of Open Access Repositories (https://www.coar-repositories.org/), an international association with over 100 members and partners from around the world representing libraries, universities, research institutions, government funders and others

COAR brings together the repository community and major repository networks in order to build capacity, align policies and practices, and act as a global voice for the repository community

4Science actively participates in COAR Vocabularies Editorial Board to support interoperability across repositories, and in the "Next Generation Repositories" Working Group of Experts

Partnerships & Collaborations

The Notify protocol is a model for (bi-directionally) linking resources held in repositories with related resources held in networked services using a distributed, message-oriented approach based on W3C Linked Data Notifications (LDN): ttps://coar-notify.net/

4Science has been implementing the Notify protocol for DSpace, developing a standard and interoperable approach that links reviews and endorsements from different services with the research outputs housed in the distributed network of preprint servers, archives, and repositories

Partnerships & Collaborations

OpenAIRE is a European network of infrastructures (aggregators, interoperability services, repositories, archives, and journals) that supports Open Science, funded by the European Commission. 4Science was awarded several funding opportunities to integrate OpenAIRE services in DSpace

4Science actively participates in many OpenAIRE (https://www.openaire.eu/) initiatives, contributing to the guidelines, implementing services, participating in meetings and webinars, promoting goals and actions, and conducting funded projects

Partnerships & Collaborations

EOSC is an international and multi-partner cooperation supporting institutions and companies to accelerate the transition to more effective Open Science and Open Innovation by removing the technical, legislative and human barriers to the re-use of research data and tools, and by supporting access to services, systems and the flow of data across disciplinary, social and geographical borders

4Science released two new services: the Data Correction (based on the OpenAIRE Notification Broker), to enrich repository data by exploiting the vast amount of information made available by OpenAIRE, and the Publication Claim (based on the OpenAIRE Graph), to ensure that the repository stays up-to-date by automatically discovering new content produced by the institution's researchers in the OpenAIRE Graph, thus reducing the manual input from researchers. Both services are now available out-of-box in DSpace and its extensions

EOSC DIH
DIGITAL INNOVATION HUB

Partnerships & Collaborations

euroCRIS is an international not-for-profit association founded in 2002 in order to bring together experts on research information in general and research information systems (CRIS) in particular

4Science supports euroCRIS (https://eurocris.org/) and its mission, participating in the activities to enhance, promote and implement the CERIF standard to model the Research Information domain in interoperable contexts and applications such as OpenAIRE and DSpace-CRIS

Certifications

4Science brings a high level of assurance to the services it provides for its clients. 4Science is the DSpace Certified Platinum Provider with the highest number of certifications

DSPACE CERTIFIED PLATINUM PROVIDER

ISO 27001 — Information Security Management Certified

iD CERTIFIED Service Provider

CLOUD SECURITY ALLIANCE — Trusted Cloud Provider CSA

aws PARTNER Qualified Software

DataCite SERVICE PROVIDER

ACCREDIA — ISO 9001 BUREAU VERITAS Certification

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Contacts

Central contact point: info@4science.com
Phone numbers: +1 (816)905-8227, +39 348 0745050

Susanna Mornati, co-Chief Operating Officer: susanna.mornati@4science.com

Andrea Bollini, co-Chief Operating Officer & CTIO: andrea.bollini@4science.com

Irene Buso, Deputy Chief Sales&Marketing Officer: irene.buso@4science.com

Nicole Mariani, Sales executive: nicole.mariani@4science.com

Federico Verlicchi, Business&Marketing Developer USA: federico.verlicchi@4science.com

Headquarter & Branches

4Science European headquarter is located at Viale A. Papa 20, 20149 Milan, Italy. Other branches are in Rome and Ravenna.

4Science USA is located at 435 Nichols Road Suite 200, Kansas City, MO 64112.

info@4science.com
www.4science.com
VAT no. IT02451840397
LEI code no. 8156005C8604D23F7649
D.U.N.S. no. 433959163

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