



E-RIHS

EUROPEAN RESEARCH INFRASTRUCTURE
FOR HERITAGE SCIENCE

E-RIHS ERIC Access Policy

Approved by the E-RIHS ERIC General Assembly on 27 May 2025

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ABSTRACT

The E-RIHS ERIC Access Policy builds on lessons learnt from transnational access provided through EU projects, as well as national access initiatives offered by some National Nodes. It considers the evolution of access procedures to better address research needs and emerging challenges in heritage science field. It first sets eligibility criteria for accessing the four E-RIHS platforms: ARCHLAB, FIXLAB, MOLAB and DIGILAB. Two access mode procedures are detailed: **excellence-driven access** for the physical platforms (ARCHLAB, FIXLAB and MOLAB), which is already operational, and **wide access** to digital data and services, to be provided under DIGILAB once it is fully developed. This document then describes a detailed workflow for accessing both physical and digital platforms, including a User Helpdesk support, feasibility checks and external peer reviewing. It further details the policy on access results, such as data sharing, publication guidelines, and sanctions, and provides an outline of the future role of DIGILAB. This deliverable concludes with perspective access modes to better serve cultural and creative industries, small cultural institutions and local communities. These include **market-driven access** for the economic sector, a **matchmaking service** for routine and exploratory research, and **thematic calls for access** to address specific research needs or challenges identified by E-RIHS or in future initiatives like the European partnership Resilient Cultural Heritage, as well as research projects supported by the European Research Council and Marie Skłodowska-Curie Action.

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WHO CAN ACCESS?

As a research infrastructure, E-RIHS is fully dedicated to Heritage Science and only accepts access requests that align with its mission and vision, falling within the scope of the interdisciplinary domain of Heritage Science, as outlined below:

“Drawing on diverse humanities, sciences and engineering disciplines, Heritage Science is an umbrella term encompassing all forms of scientific inquiry into human works and the combined works of nature and humans that are of value to people. Heritage science focuses on enhancing the understanding, care, sustainable use and management of tangible and intangible heritage to enrich people’s lives today and in the future.”¹

This Heritage Science scope was drafted jointly by the E-RIHS community and ICCROM in 2019 and is used, alongside the mission and vision of E-RIHS, to assess whether a proposal can be included within the remit of E-RIHS access.

Users are individuals or groups working in public or private institutions, industries, or other fields that are working or involved in Heritage Science. They are actors in the conception or creation of new knowledge, products, processes, methods, and systems or in project management. They can submit access proposals alone or, in most cases, in a team composed by researchers, technical staff, and students undertaking research in their studies framework. E-RIHS strongly encourages applications from users’ teams with an important interdisciplinary character.

Unlike previous integrating activities where the transnational access rule required applicants to be located outside of the country where the provider is based, E-RIHS ERIC users can apply to E-RIHS located in their own country, even without foreign researchers in the user group. This “national access” will be regulated by a General Assembly decision, which may establish quotas of national users to be published on the E-RIHS website.

The location of the user’s institution (not the user’s nationality) might be considered as part of the eligibility criteria for excellence-driven access, although this has not been definitively established yet. It is expected that E-RIHS will primarily grant access to users based in Member States and Associated Countries of EU, with ongoing discussions regarding whether priority should be given to users from countries that are members of the E-RIHS ERIC. The specific proportion of access units available to users from Third Countries is expected to be defined and published before each call, subject to the decisions of the ERIC’s governing bodies and existing partnership agreements.

E-RIHS offers through its platforms a wide variety of analytical techniques and resources that can address research questions related to most types of tangible cultural heritage. By focusing its services on the analysis of these heritage materials,

¹ ICCROM. *Heritage Science*. Available at: <https://www.iccrom.org/section/heritage-science> [Accessed 9 October 2024].

E-RIHS aims to uncover the complex cultural and historical layers embedded within them. This approach helps to safeguard both the physical condition of cultural heritage and its intangible meanings.

E-RIHS focuses primarily on heritage objects, monuments, and sites belonging to the public domain. However, it can accept projects involving privately owned objects (collections, objects, samples, monuments, etc.) if:

- the item is listed as an international, national, or regional interest and is accessible and reusable to the public.
- the object belongs to an individual but remains in a public institution.
- the object is private property, but it is an essential element of a corpus of objects belonging to the public domain.

In cases not covered above, providers are required to check with the E-RIHS Helpdesk which statutory limitation applies before submitting a proposal.

WHAT CAN BE ACCESSED?

E-RIHS provide access to four platforms: FIXLAB, MOLAB, ARCHLAB and DIGILAB.

FIXLAB

The FIXLAB platform provides access to major fixed research facilities and the associated scientific experience of their staff, who develop and maintain state-of-the-art instruments for advanced diagnostics and archaeometry. Access is offered to Heritage Science researchers to help them answer the major questions raised by the materiality of artefacts in terms of genesis, manufacturing processes, alterations, conservation and preservation. This includes state-of-the-art instrumentation and dedicated facilities with teams of experts in the micro-analysis of artefacts. The possibilities are evolutive and include the new instrumental and methodologic developments resulting from joint research activities to progressively improve access, new sample positioning devices on a micro-scale, and software tools for the integration of imaging data.

MOLAB

MOLAB (MOBILE LABORATORY) is a world-class distributed infrastructure of key laboratories in several European countries offering coherent access, under a unified management structure, to a range of mobile equipment and related skills. It concerns non-destructive in situ measurements of artworks, collections, monuments and archaeological sites. Analysis can be geared towards questions of art history or archaeology (execution techniques, dating, underlying drawings in paintings, etc.); assessing the state of conservation of artifacts; determining or testing the optimum preservation strategy to slow down alteration processes; monitoring and controlling conservation treatments over time and assessing the risks induced by them.

ARCHLAB

ARCHLAB platform provides access to all the documentation and archives - both physical and digital - held by the resource centres of member institutions, in compliance with the disclosure rules of each National Heritage Code (when existing):

- databases,
- scientific and technical documentation (study or intervention reports, imagery),
- iconographic collections,
- manuscripts,
- administrative archives,
- private archives,
- material libraries (samples, stratigraphic sections, reference materials).

These archives, made available to historians, archaeologists, curators, restorers and natural history specialists, are largely unpublished and represent an exceptional resource for research into cultural and natural heritage materials. Users also have access to the specialized collections of the institutions' libraries: monographs, print and electronic periodicals.

The teams responsible for access (curators and documentation officers) offer users personalised support. Depending on the research project, this may involve scientific orientation in the collections, digitisation, or the organisation of exchanges with experts belonging to the structure.

After a positive assessment, ARCHLAB access may be accompanied by access to small-scale laboratory equipment (sample study).

E-RIHS prioritises integrating new institutions and making the most of ARCHLAB's opportunities. Expanding ARCHLAB aims at enhancing the use of the documentary resources and material libraries available within E-RIHS access providers. This expansion seeks to include, in the medium term, additional archives from E-RIHS partners, such as universities and research laboratories, providing broader access to valuable scientific resources.

DIGILAB

The new DIGILAB platform is still under development and will provide access to data and digital tools and services like visualisation tools, data processing, statistical tools, data mining, etc. Although most of its services will be offered to the community in a wide access mode, some resource-intensive services may be offered in excellence-driven access mode and will be treated like physical platforms.

HOW TO ACCESS

Although the majority of E-RIHS are made available through the **excellence-driven access** mode through competitive calls for access and external peer reviewing. E-RIHS will also provide Open Access to some **DIGILAB services in a wide access** mode. Non-research-driven or exploratory projects that could not reasonably be submitted as excellence-driven projects will be enabled by a **matchmaking service** between available providers and E-RIHS National Nodes. This section will also describe potential activities that could be carried out for economic actors active in Heritage Science under a **market-driven access** mode.

EXCELLENCE-DRIVEN ACCESS

Objectives:

Provide excellence-driven access based on competitive calls for proposals with an independent scientific evaluation after consultation with a Local Technical Committee (LTC) composed of the requested providers.

Access offer:

Access to the physical platforms (FIXLAB, MOLAB, ARCHLAB) and some selected, resource-intensive DIGILAB services (high-performance computing, etc.) available in the E-RIHS Catalogue of Services (CoS).

Access modalities:

All the access procedures are managed through the E-RIHS single entry point of the E-RIHS Catalogue of Services, which lists all available facilities, and the Dashboard, which manages the entire access process—from user access requests and evaluation by the Peer Review Panel to monitoring access completion and handling the results and post-duties of both providers and users.

While access is provided for free as much as possible, some facilities can request financial participation from users as long as it does not include a profit margin or overheads. The amounts that facilities can request from users will be governed by an internal regulation that sets a maximum share of the total costs that can be charged. In such cases, prices per access unit are directly advertised in the CoS using flat rates. Access providers are solely responsible for billing and following up on payments.

E-RIHS ERIC and the access providers are not liable for the transportation and/or insurance costs of the objects.

E-RIHS ERIC will set up travel grants for the travel and accommodation of both users and MOLAB providers. The application process for this travel grant will be integrated into the proposal submission process, but the attribution of this grant will be decided by E-RIHS ERIC according to internal rules. Whenever travel and accommodation costs cannot be covered by the travel grants, users bear the costs. These costs may include the travel and accommodation of MOLAB scientists travelling on-site for a granted project.

WIDE ACCESS

Objectives:

Provide Open Access to data, tools and digital services through E-RIHS DIGILAB.

Access offer:

Open access to DIGILAB services and the E-RIHS digital platform. There are no calls for access, but users may be requested to log in and have different access privileges based on the status of the data or the services.

Access modalities:

These services can be accessed online and found through the E-RIHS website or its partners. Access to data is free and governed by open-access principles. Tools and services are free by default, although a specific pricing policy might be adopted for certain services.

MARKET-DRIVEN ACCESS

Objectives:

Upon approval by the General Assembly, a matchmaking service offered to for-profit or non-profit stakeholders. This service must address confidentiality requirements while adhering to the ethical framework of E-RIHS and complying with the legal restrictions set up by the ERIC regulation on commercial activities.

Access offer:

Only participating providers would be accessible through this service, and the access would be regulated by a separate agreement between users and providers in compliance with E-RIHS internal regulations.

Access modalities:

Access modalities would be negotiated on a case-by-case basis between users and providers. These agreements would cover IPR and data management issues.

MATCHMAKING SERVICES

Objectives:

Provide short, routine or exploratory services through a matchmaking service between providers and National Nodes to serve local cultural heritage communities or prepare longer excellence-driven projects.

Access offer:

Only participating providers would be accessible through this service, and the access would be regulated by a separate agreement between users and providers in compliance with E-RIHS internal regulations.

Access modalities:

Access modalities would be negotiated on a case-by-case basis between users and providers or organised directly by National Nodes. The E-RIHS Data Policy would apply to projects made possible by this service. Efforts should be made to promote Open Access agreements, including embargoes, to ensure that these results also enrich the knowledge base of DIGILAB.

THE ACCESS PROCEDURES

Access to E-RIHS platforms is open to questions from scholars and practitioners that fall within the scope of Heritage Science, as long as they comply with ethical and regulatory framework set by E-RIHS ERIC, European or national laws and regulations.

As described in Chapter 1, access to E-RIHS platforms can be available through four modes: (1) an excellence-driven access mode, currently active for the three physical platforms (E-RIHS ARCHLAB, E-RIHS FIXLAB and E-RIHS MOLAB); (2) a wide access mode for E-RIHS DIGILAB, currently in development; (3) a perspective market-driven access mode, subject to approval by the E-RIHS General Assembly, available to participating providers within a shared ethical framework; and (4) a perspective matchmaking service. Additionally, thematic calls for access are considered as future access options.

ACCESS FUNDING AND MANAGEMENT

Free access, contribution to access costs and grant opportunities

E-RIHS ERIC strives to offer free access to excellence-driven and wide access projects through in-kind contributions from E-RIHS partners. However, certain services can request financial participation from users to cover a fraction of the access costs according to a clear pricing policy accessible on the E-RIHS website. Whenever applicable, the travel and accommodation costs of users travelling to FIXLAB and ARCHLAB facilities and MOLAB researchers on site are paid by users themselves. However, users can apply for an E-RIHS ERIC travel grant on the E-RIHS website during the application process.

The integrated single-entry point of access

The access system is structured as an integrated single-entry point available on the E-RIHS website, (www.e-rihs.eu), consisting of three key components: the E-RIHS Catalogue of Services, the Dashboard and a dedicated User Helpdesk. The **Catalogue of Services (CoS)** details the array of services and facilities offered by E-RIHS. Users can consult the CoS to identify services that align with their research needs. The **E-RIHS Dashboard** serves as a personalised interface, enabling providers to manage their services and resources, and allowing registered users to follow their access to E-RIHS platforms, from the proposal submission to the exploitation phase. The **User Helpdesk** is a dedicated support service that assists users throughout their interactions with E-RIHS. The Helpdesk offers guidance on proposal submission, clarifies access procedures, and addresses any inquiries related to the services. It ensures that users receive the necessary support to effectively use E-RIHS resources. The E-RIHS Central Hub manages the E-RIHS Catalogue of Services, the Dashboard and the User Helpdesk in close collaboration with access providers.

EXCELLENCE-DRIVEN ACCESS PROCEDURE

E-RIHS users will typically request access to several techniques offered by one or several E-RIHS facilities by submitting a proposal that involves researchers or heritage

stakeholders from various fields and institutions, although single users can also apply. In both cases, one person, the User Group Leader, will be responsible for the administrative contact with E-RIHS. The User Group Leader will be requested to fill out and submit a specific application form on the E-RIHS Dashboard to apply for E-RIHS access.

Calls for access are issued by E-RIHS every six months. Once each call for access opens, users can submit their applications anytime until the closing deadline. After each deadline, applications are evaluated. The offer of services is periodically updated to reflect their availability or to include new services.

In case of an unexpected event that makes a technique unavailable, the Central Hub can propose the User Group swap techniques at any stage of the proposal or granted project phase.

Users will be encouraged to use the CC0 Public domain mark by default. However, they will also be given the choice to select one of the Creative Commons licenses. This suite of licenses offers six possibilities that can accommodate most of the users' needs while abiding by the E-RIHS values. This part of the application will also lay down the rules on the transfer of the project data to E-RIHS DIGILAB, when applicable.

Each Excellence-driven access proposal will be evaluated following a linear procedure performed after the closure of each call. This procedure will consist of an administrative eligibility check of the proposal by the Central Hub and a feasibility assessment of the proposal followed by a scientific evaluation. The latter steps, respectively, involve the provider and a Peer Review Panel (PRP), as detailed below.

The procedures for excellence-driven access described in this paragraph are applied to the current access provided by the FIXLAB, MOLAB and ARCHLAB platforms. The integrated access to the ARCHLAB, FIXLAB, and MOLAB platforms is organised around calls for proposals published once every six months. Projects are selected by an external Peer Review Panel (PRP) based on scientific excellence.

In the future, as DIGILAB is developed, there is a possibility that, alongside the primary mode of wide access to DIGILAB, some resource-intensive DIGILAB services may be offered in an excellence-driven access mode, applying the procedures described below along with any necessary adaptations.

For ease of understanding, the specificities of each platform are isolated from the main text in boxes.

The excellence-driven access procedure is divided into four stages (see Figure 1):

- Stage 1:** Submission of the proposal during the call for access,
- Stage 2:** Receipt and evaluation of the proposal,
- Stage 3:** Implementation of the access if the proposal is accepted,
- Stage 4:** Fulfilment of post-access user duties as defined by each platform.



Figure 1: Excellence-driven access procedure for ARCHLAB, MOLAB and FIXLAB.

Proposal submission

A user or a group of users (referred to as a “user”) can respond to the E-RIHS call for access by submitting a research proposal. Proposals are submitted through the E-RIHS Dashboard, which centralises the evaluation of all submissions, regardless of the territorial scale of the collaboration requested (national or transnational).

Proposals for long-term projects requiring repeated access must provide a justification for this request. Note that proposals involving artwork authentication are not permitted.

The term “provider” will be used to designate a provider or a group of providers. It refers to:

- For **FIXLAB**, large scale research facilities managers and their staff,
- For **MOLAB**, scientific experts responsible for the use of mobile equipment,
- For **ARCHLAB**, resource centre managers and their staff.

When submitting their proposal, users identify potential providers for the platform from the online E-RIHS Catalogue of Services, which is made available and updated before each call for access.

MOLAB The providers identified by the user may evolve during the evaluation process, with the aim of providing an optimal response to the research needs of the proposal.

If the need is justified in its proposal, a user may call more than one platform and, for each platform, several providers. The user has access to the entire E-RIHS Catalogue of Services. The country of origin of each provider is not an evaluation criterion, although specific limitations may apply for users outside of the European Union and Associated Countries. Users are free to select providers from their own country or not, according to their needs, without this interfering with the evaluation process. If any country-specific rules apply, users will be informed accordingly.

When the access concerns a long-term project, the user undertakes to provide a continuation application for each subsequent call for access, which will be evaluated

by the provider and the PRP. This document must summarise the results obtained, demonstrate that the methodology is viable, and demonstrate that the measurements are useful and relevant. The proposal will proceed if, and only if, the provider and the PRP validate this document for each call for access.

Proposal evaluations

The selection procedure for access to the E-RIHS platform/s involves a validation by each provider requested in the proposal, followed by evaluation and classification by an independent Peer Review Panel (PRP).

Validation by all providers

The selected providers, whose services have been requested, evaluate the proposal's technical feasibility and methodology. This is a unique opportunity to provide the PRP with information related to the instrumental adequation and scientific skills of the scientific provider's team. Providers may indicate at this moment whether it could be interesting to connect with other providers for technical, methodological, equipment, skills, documentary resources or know-how reasons.

The provider's assessment of the feasibility and overall adequacy of a proposal with the local expertise concludes with the issue of either an agreement or a refusal of the proposal, accompanied in all cases by a substantiated document explaining their decision.

A refusal is issued if the technique or resource requested is not appropriate for answering the research question or for any other reason that makes the proposal irrelevant or unfeasible. This decision is eliminatory if all requested providers issue a refusal. In this case, they will be removed from the evaluation process.

Evaluation by the Peer Review Panel (PRP)

After feasibility validation by the provider/s, the proposals are forwarded to the Peer Review Panel (PRP). The PRP is composed of independent scientists and experts who are not affiliated with the E-RIHS providers or the user group. The Committee of National Nodes suggests names of experts. These experts volunteer their services and are assigned proposals based on the match between their expertise and the proposal's topic.

In all cases, PRP scientists must not have any conflicts of interest with the proposals they evaluate. By agreeing to review a proposal, a reviewer declares an absence of conflict of interest. A conflict of interest arises when an individual or institution involved in the decision-making process has personal interests that could compromise their objectivity and neutrality. Specifically, a conflict of interest exists when a PRP member (or their research unit) has personal interests or benefits that may compete with those of the user, potentially influencing the decision-making process. In such instances, the individual must voluntarily withdraw from the evaluation process. If a conflict of interest is discovered ex-post, the reviewer will be withdrawn from the pool of referees.

The PRP assesses the scientific and heritage impact of all research proposals. They evaluate the proposals based on their scientific and heritage significance, considering the validation document provided by the provider. The evaluation criteria are rated on a scale of 1 to 5, with associated coefficients to be published on the E-RIHS ERIC

website, to ensure a thorough and balanced assessment. The evaluation criteria are presented in Table 1.

Table 1: Evaluation criteria

EXCELLENCE
Relevance of the research questions: Are the research questions appropriate and significant? To what extent will the research enhance knowledge of an object/site, advance heritage science research or the wider multidisciplinary cultural heritage research field to which heritage science belongs?
Methodology and research plan: Are the research methods and plan appropriate and will they answer the research questions. Are they clearly described and robust?
Originality: Novelty and innovativeness of the proposed research. how original and new is the research?
Expertise of user group: Is the expertise of the user group relevant and sufficient to make a success of the research. Does the expertise of the user group include the multiple relevant disciplines?
Timeliness: Relevance to current issues and advancements in heritage science. To what extent does it advance past research in the same areas?
State-of-the-art: Complete, relevant and of quality. Is the research background adequately described? Is key past research missing or not cited? How does the project build on past research?
Use of multi-access platforms or long-term project: Request following a previous access to E-RIHS platforms justified. In the case of multi-platform access, is the use of another platform justified in terms of previous results and proposed methodology?
FEASIBILITY AND IMPLEMENTATION
Risks to object: What is the level of risk to the object expected considering the proposed methodology and implementation plan? Have all risks been taken into account? (e.g., have object/site condition issues been taken into account and risks identified to do with handling etc? Have risks related to the analyses been identified (e.g., what else is the risk from exposure to light and ionising radiation during the analyses)
Providers feasibility review: Has the providers feasibility review identified all relevant issues? Do you agree with the provider assessment?
Helpdesk use: Preliminary contact with Helpdesk or potential providers.
Implementation plan and timeline: Is the work plan sufficiently detailed and have all possible issues been taken into account (scaffolding, available space and equipment, etc.). Is the timetable appropriate and feasible? Are the services available for the timeline required?
Health and safety risks: What is the level of risk to the personnel involved in the project (both user group and providers)? Have all risks been identified by the Provider review (poisonous substances, physical risks in the workplan e.g. from scaffolding use etc.)
IMPACT
Research community Impact: Importance and significance of the issue and expected outcomes for the community specialized on/concerned by the topic.
Inclusion / Capacity building and training: Does the project serve to encourage new users and/or research communities? Does it benefit and involve small and medium-sized cultural institutions? Does it serve to provide valuable training/experience to early career researchers, or cross-disciplinary training to users who come from different research disciplines?
Relevance of the object: Studied object and its heritage interest.

Knowledge sharing: Plans for publishing results and disseminating findings to the broader community. Will the plans reach all the relevant interdisciplinary communities?

Innovation potential: How innovative is the proposed research (e.g. high-risk high-reward exploratory project). To what extent does it open new avenues in heritage science or multidisciplinary knowledge of heritage objects/sites?

Open Access: Is there commitment and appropriate plans for managing, archiving and documenting the generated data and results to enhance accessibility and transparency for future re-use.

Expected impacts on society or industry: Anticipated positive societal and/or economic effects (including cultural heritage, cultural memory, education, industry, etc.).

This list is communicated to users to guide them in drafting their proposals.

It is recommended that the evaluation criteria be reviewed at least every 3 years as a part of the Committee of National Nodes (CNN) mandate. The CNN may choose any procedure it considers appropriate for this review, including engaging providers through a consultation and/or a committee of experts. If necessary, some criteria can be adapted or further developed to include the specificities of a platform.

The PRP can issue a reasoned refusal of evaluated proposals. The PRP has an expertise capacity and can suggest improvements to the proposal or additional analysis elements, justifying them scientifically.

The E-RIHS Central Hub then ranks proposals based on the scores given by the PRP, available providers, and, if applicable, national quotas.

PRP's assessment outcomes to applicants

The applicant is informed of the validation or rejection of the proposal with the E-RIHS dashboard and an automatic email. This message includes information on how to access the PRP's assessment summary upon request to the E-RIHS Central Hub.

Rejected proposal

If the proposal is rejected, the PRP must provide a reasoned explanation. The user will be free to use these arguments to modify the proposal and re-submit it for the next call. Refusal of a proposal by the PRP does not preclude the user from modifying the proposal for a future call, provided that the user considers all the comments made by the PRP on the previously refused version. Comments made by the PRP on the previous proposal must be clearly identified in the new proposal as well as the argumentation answering the PRP and improving the proposal.

Approved proposal

If the proposal is approved by the PRP, the access is implemented.

MOLAB In this case, a representative from among the providers is appointed to take joint responsibility for the project organization with the MOLAB platform coordinator. The identity of this representative is communicated to the user.

Access implementation

Prior to the access

The user must provide required documents to organise and carry out the access in accordance with the constraints of the provider.

A non-exhaustive list of frequently requested documents, depending on the platform:

- Work schedules [FIXLAB and ARCHLAB]
- Risk prevention plan signed [FIXLAB and ARCHLAB]
- User agreement, outlines insurances, responsibilities of parties [MOLAB]
- Certificate of insurance for analysed items [FIXLAB]
- Organisation of the transport of the analysed items [FIXLAB]
- Accommodation [MOLAB]
- Workspace plans, particularly for drafting the risk prevention plan [MOLAB]
- Parking space, on-site access map, etc. [MOLAB]
- Accreditation/licenses for drones, X-ray instruments, or any equipment requiring authorization under national law, or for providing assistance in obtaining them.
- [MOLAB]

In return, the provider must provide the documents needed to organise and carry out the access in accordance with the needs of the user.

A non-exhaustive list of frequently requested documents, depending on the platform:

- On-site access map [FIXLAB and ARCHLAB]
- Information on available workspaces [FIXLAB and ARCHLAB]
- Risk prevention plan to be signed [FIXLAB and ARCHLAB]
- Work schedule [MOLAB]
- Detailed list of equipment brought on site [MOLAB]
- Vehicle dimensions [MOLAB]
- Workspace requirements [MOLAB]
- Risk prevention plan [MOLAB]

During the access

The execution of the access is tailored to each platform.

FIXLAB The access provider undertakes to provide access to the requested facilities and to ensure their proper operation. It either trains the user to carry out the analyses or carries out the analyses directly. It then manages the sharing of results, enabling data interpretation to be completed and all reports to be sent (raw data, localisation of measurements, photographs of experiments, reports, general summary, etc.).

- *Remote access option*

Some E-RIHS FIXLAB providers can make analysis on samples that can be sent by post-mail and the presence of the users is not compulsory. The platforms and laboratories that can provide E-RIHS FIXLAB remote access will be identified, and the user group should explicitly ask for such an access. The proposal flowchart and the selection procedure remain the same as for any E-RIHS FIXLAB access.

MOLAB The provider carries out the measurements, processes the data acquired and draws up the summary and reports. The provider representative, co-responsible for the mission, and the MOLAB coordinator oversee organising the mission. They are responsible for centralising, managing and facilitating communication between the various participants, for transmitting information as the mission progresses, for sharing results, and for completing data interpretation, drafting a final synthesis and sending all reports (raw data, localization of measurements, photographs of experiments, reports, general synthesis, etc.).

ARCHLAB The provider provides the user with documentation relevant to research objectives and shares its scientific expertise. It may also digitise documents and communications. If certain documents are not freely communicable under the National Heritage Code (when existing), he or she may initiate an early access procedure by derogation. They may organise meetings with data producers and researchers from his/her institution.

Access completion and post-access duties

The mission concludes with the dispatch of all reports, depending on the platform (summaries, results, environmental data, reports, etc.). Data must be produced within the framework of open science.

WIDE ACCESS PROCEDURE

E-RIHS Open Access policy

E-RIHS supports an Open Access policy for data and digital services. However, access limitations may be necessary to comply with copyright regulations, protect personal and privacy-sensitive data, and safeguard legitimate Intellectual Property Rights (IPR).

Data storage

All scientific data will be stored and curated in “local” repositories managed by a partner or a cooperating institution. Exceptions may be made for a small number of reference datasets, such as vocabularies, reference tables, and manuals, which may be stored in the E-RIHS DIGILAB platform to facilitate searches and support DIGILAB usage.

Data access conditions and user permissions

E-RIHS providers will grant data access under the specified conditions and share metadata for their datasets with the E-RIHS DIGILAB platform according to a common data model. Access to tools and services will be provided through the main portal of E-RIHS DIGILAB.

E-RIHS DIGILAB platform will facilitate access to data, enabling users to search metadata and locate datasets stored in “local” repositories.

The E-RIHS DIGILAB Authentication, Identification, and Authorization System will provide a federated identity system for all participating data managers and users.

User access will be regulated with different levels of privileges as follows:

- **Anonymous users** can only access the E-RIHS DIGILAB catalogue and fully open datasets.
- **Registered users** can access three types of datasets: (i) fully open datasets, (ii) datasets open to registered users, (iii) datasets partially open to registered users, with restricted-access data excluded.

The procedures to obtain special access permissions to restricted data or dataset may differ, but they will be explained to users trying to access them.

Data re-use and licensing

Conditions for data re-use must be specified in each dataset metadata. Such conditions may refer to general licensing schemes (e.g. Creative Commons) or to specific re-use conditions established by the data owner/depositor as well as by legal constraints, e.g. a non-transferable use license. A document summarising the terms of data re-use, should be available in each participating repository and referenced in each dataset.

Access and use of digital tools and services

E-RIHS will provide a number of digital services through its E-RIHS DIGILAB. Such services include, for example, visualisation tools, data processing, statistical tools, data mining and so on. Some of these services will need to store data, and some will not. This distinction will have an impact on the accessibility of E-RIHS DIGILAB services:

- **Services not requiring data storage** will be available to anonymous and registered users with a simplified procedure related to the service such as making the results available for instantaneous download or sending the processed results by email.
- **Services that need data storage** will only be available to registered users. The detailed policy on the access to such services will be elaborated and updated at the level of E-RIHS ERIC.

E-RIHS DIGILAB will favour free and open-source digital tools and services. However, certain paid tools and services may also be included if they provide a significant added value, align with the E-RIHS ERIC mission and ethics and comply with the limits on commercial activities laid down by the ERIC regulation.

POLICY ON ACCESS RESULTS

The policy of using results applies beyond the completion of the access.

FIXLAB and **MOLAB** The following rules apply equally to both the provider and the user.

DATA

FIXLAB and **MOLAB** In line with good scientific practice, the user must follow the principle of co-creation of knowledge. It must respect the principle of co-authorship with provider producing and/or interpreting data who have made genuine scientific or technical contributions to their work.

If the provider wishes to use the data collected for its own research (i.e. for a different purpose from that for which the data was acquired), it must inform the user in advance and offer it the opportunity to collaborate. This applies, for example, to a study on the stability of measurements taken by an equipment.

The data produced may be subject to a defined embargo period. This period can be defined by the "user group" or the "provider group" upon completion of the access.

PUBLICATIONS AND OTHER FORMS OF COMMUNICATION

In all cases, the provider must be informed, with reasonable lead time, of the user's intention to publish data or results relating to the access.

ARCHLAB The user must respect the Intellectual Property Rights of the documents consulted and possibly reused (reports and photographs).

FIXLAB and **MOLAB** By default, the provider must be invited to participate in the drafting of any publication using its work or the results of the work resulting from the assignment. The provider may decide not to participate in the publication if the work it has provided is not sufficiently substantial to justify its role as co-author.

At the end of the access, a list of all participants must be drawn up between the provider and the user. This list must be adapted to suit each publication and its content. It includes potential co-authors. Contributors on this list who are not co-authors must appear in the "Acknowledgements" section.

The "Acknowledgements" section must contain the legal notice relating to E-RIHS and the platforms involved in the publication. For any published material resulting from work conducted wholly or partially at E-RIHS facilities, or supported by mobility funding, the following statement is suggested, to be adapted as appropriate: "*The authors acknowledge E-RIHS, the European Research Infrastructure for Heritage Science, for providing access to [ARCHLAB | DIGILAB | FIXLAB | MOLAB] services, [data], [and financial support].*"

All forms of communication of results – conference participation (abstract, oral communication, poster), invited communication, seminar, etc. – are subject to the same standards as publications.

SANCTIONS

Any breach of the rules set out by the Access Policy and ethical guidelines of E-RIHS, or local regulations by a user or provider must be reported to the E-RIHS Scientific and Ethics Advisory Board through the Central Hub. In the event of a first proven breach of these obligations, a reminder will be issued by the Central Hub to the infringer, who will be given reasonable time to rectify the situation.

In the event of a second breach or a failure to rectify the first breach of obligation, the user will be declared ineligible to submit a proposal or to participate in a granted project for three years starting from the first notification of the breach. These sanctions do not preclude further legal action from E-RIHS ERIC or any involved party. Sanctions to providers will be decided internally within E-RIHS ERIC.

PERSPECTIVE ACCESS MODES

As a research infrastructure, E-RIHS aims to address the evolving needs of its community constantly and to face ongoing challenges. This aim is directly driving the elaboration and the update of the excellence-driven access calls, but it can also be addressed through other access-related modes, which are outlined below.

ENGAGING FOR-PROFIT STAKEHOLDERS AS USERS: MARKET-DRIVEN ACCESS

Conversely to the European project-based consortia that preceded it, E-RIHS ERIC is allowed to carry out limited economic activities. Article 2(5) of its Statutes opens the possibility for E-RIHS to carry out for-profit activities, as long as they are related to its normal Heritage Science related activities and that they do not conflict with them. This rule has very strong ethical implications and, by a common longstanding agreement with the E-RIHS community, excludes all kinds of authentication services.

After several exchanges during the project and interim Committee of National Nodes meetings during the E-RIHS IP, we recommend to the future E-RIHS ERIC General Assembly the following approach to market-driven access:

- E-RIHS ERIC should not directly sell access to its access providers, nor should it require its providers to do so to stay in E-RIHS. However, E-RIHS must act as a business facilitator between industries, particularly cultural and creative industries, and its providers. This business facilitation service could have two main dimensions:
 - **Matchmaking services:** E-RIHS should be able to redirect straightforward market-driven access requests to participating access providers. This service would be free.
 - **Scientific consulting:** for users that have general questions but are not able to specify their analytical needs, E-RIHS could help refine a scientific project and provide tailored advice on the type of instrumentation and expertise they should seek within the available market-driven access offer. In this case, the ERIC would get a fixed cut, or a percentage of the revenues generated by this access.
- Whenever E-RIHS providers accept a market-driven request, the access is defined through a commercial contract between the user and the provider, adhering to the E-RIHS ERIC commercial activities procedures. This document should include precise ethical guidelines on what can be carried out under the E-RIHS label. Providers would charge customers directly, with a portion of this revenue being allocated to the ERIC.
- All commercial activities under the E-RIHS label must be reported to the ERIC.

SERVING EXPLORATORY, ROUTINE AND SMALL CULTURAL INSTITUTION NEEDS: NATIONAL NODES MATCHMAKING SERVICES

One of the strengths of E-RIHS is its distributed nature, which enables it to reach communities through its National Nodes that would not otherwise engage with a European-level infrastructure. Smaller actors in the Heritage Science domain, including small heritage institutions, heritage professionals engaging in collaborative research, or smaller research teams, do not always have the linguistic or management capacity to participate in European-level activities or engage in long-term research projects.

To help these communities build capacity to eventually participate in E-RIHS ERIC excellence-driven access calls and better structure communities at the national level, E-RIHS National Nodes must find a way to reply to local needs for routine analysis, small, or exploratory projects.

As a project, E-RIHS IP recommends that those needs be addressed at the national level through **matchmaking services**. National Nodes are the best place to know what the analytical capacity and expertise of their local partners are. This position must be used to match the needs of the communities to what providers are able and willing to offer beyond excellence-driven access calls. In several cases, local providers already host such heritage community-led projects either through institutional calls for access or informal collaboration. National Nodes must help clarify and, whenever relevant, these offers through a matchmaking service.

This access-related service would be an excellent tool to train local communities and ensure that the E-RIHS excellence-driven access mode is not flooded with routine or exploratory proposals that would compete with ambitious, fully-fledged research projects. All cooperation enabled by this service must acknowledge the E-RIHS contribution and comply with the general quality standards and data management policy. Analytical data and outcomes from the matchmaking service will be integrated into the DIGILAB knowledge base.

THEMATIC CALLS FOR ACCESS TO ADDRESS CRITICAL CHALLENGES

As a European research infrastructure, E-RIHS is fully committed to addressing the main challenges faced by the European Research Area and the cultural heritage community jointly with all willing partners. The Joint Programming Initiative on Cultural Heritage and Global Change (JPI CH) identified in its 2020 Strategic Research and Innovation Agenda (SRIA) four main themes: a reflective heritage for a resilient society, sustainable management of cultural heritage, cultural heritage in a changing context, and cultural heritage facing climate and environmental change.

There are many ways E-RIHS could contribute to addressing these challenges. One potential way would be to open thematic calls for access. These calls could be organised by E-RIHS itself or in collaboration with other infrastructures or programming initiatives, such as the future European Partnership on Resilient Cultural Heritage. This perspective is currently being discussed and was included in a Memorandum of Understanding between E-RIHS and the JPI CH. Should such

thematic or joint calls be issued, they would have their own participation rules, given that they comply with the E-RIHS vision and mission.

Efforts will also be made to promote the use of E-RIHS services within the framework of European Research Council (ERC) and Marie Skłodowska-Curie Actions (MSCA) projects, exploring technically simple solutions that can be easily implemented.

Finally, E-RIHS may also consider, through internal discussions and with the involvement of relevant governing bodies, opening dedicated thematic calls for access focused on topics identified as crucial for advancing heritage science.

CONCLUSION

Heritage Science is a complex field that brings together scholars, practitioners and experts from many different disciplines to work on multi-faceted objects, monuments or sites. To meet the diverse needs of its community, E-RIHS provides four access platforms: ARCHLAB, FIXLAB, and MOLAB, which have been tested over 20 years, and DIGILAB, which is still under development. This work has been supported since 2004 by a series of EU projects under the Research Infrastructure Work Programme.

As a research infrastructure, the main role of E-RIHS is to provide excellence-driven access to advanced analytical facilities and resources, supported by the expertise of local providers who operate these services. The access provision follows a fair, integrated and transparent procedure that is guided by the decisions of E-RIHS member countries and is designed to take into account the needs and constraints of users and providers. The access system takes shape through an integrated online single-entry point consisting of three key components: the E-RIHS Catalogue of Services, the Dashboard and a dedicated User Helpdesk.

The work carried out on the three physical platforms and, more broadly, by the Heritage Science community generates large volumes of complex data that must comply with FAIR principles. The ongoing development of DIGILAB will enable an additional access mode, the wide access mode, providing access to data generated by the other platforms, along with new services. This aligns with E-RIHS's commitment to Open Science principles.

Meetings and exchanges with participants from the E-RIHS IP project, including CNN, as well as insights gained from the access activities of IPERION HS providers and users, shed light on potential complementary access activities that E-RIHS ERIC and its National Nodes could pursue. They include marketing-driven access, offering dedicated services for the economic sector, a matchmaking service for local communities to support routine and exploratory research needs, and call for access tailored to address specific research needs or challenges, for instance in the framework of future European partnerships, ERC and MSCA projects. While these prospective access modes are promising, they also present challenges and raise ethical questions that may require the development of an ethical framework.

As a key policy of E-RIHS ERIC, the Access Policy must adapt to the evolving field while always upholding E-RIHS core values.

ABBREVIATIONS

Abbreviations	Expansion
CoS	E-RIHS Catalogue of Services
E-RIHS	European Research Infrastructure on Heritage Science
E-RIHS PP	E-RIHS Preparatory Phase (H2020-INFRADEV funded project, GA No. 739503)
EOSC	European Open Science Cloud
ERC	European Research Council
ERIC	European Research Infrastructure Consortium
HS	Heritage Science
CNN	Committee of National Nodes
GA	General Assembly
IPR	Intellectual Property Rights
JPI CH	Joint Programming Initiative on Cultural Heritage and Global Change
MSCA	Marie Skłodowska-Curie Actions
OPERAS	European Research infrastructure for open scholarly communication in SSH
PRP	Peer Review Panel
RDA	Research Data Alliance
RI s	Research Infrastructure(s)
SRIA	Strategic Research and Innovation Agenda
TNA	Trans-National Access

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