



ERIC Forum Position Paper

Regarding the “Public consultation on the past, present and future of the European Research & Innovation Framework programmes 2014-2027”

February 2023

1. Introduction

In December 2022, the European Commission (EC) launched their largest public consultation on the past, present and future of the European research and innovation programmes. At this time, 25 European Research Infrastructure Consortia (ERICs) have been set up officially by the EC. As key pillars of the European Research Area (ERA) they are providing their services to researchers across all scientific domains as well as operational users and industry. ERICs are financed by their member states for their basic implementation and upgrades, operation and service provision. However, the European research and innovation programmes have always played a key enabling role for most ERICs during their preparatory, implementation as well as operating phases. EU funding enhances transnational user access to many ERICs, the development of new services, cross-RI efforts and European-level collaboration. It also supports ERICs to facilitate Open Science, the green and digital transition, participation in and contribution to EOSC, as well as integrating them into the Horizon Europe strategic planning (e.g. link them to Missions, Partnerships, etc.) and the new ERA (here in particular Action 8).

Given the key role of EU funding for many operational and strategic aspects for ERICs, ERIC Forum is submitting its position paper in the framework of the ongoing public consultation. It is essential to acknowledge here the fact that the ERIC Forum represents a very diverse community. Indeed, some ERICs provide physical access to facilities while others rely largely if not exclusively on virtual access. Similarly, in contrast to others, some ERICs provide all data in Open Access, cannot deliver any direct service to industry, or may have to sustain operational monitoring duties. ERICs may therefore have different expectations and requirements regarding the EU Framework Programmes.

Since 2017 the ERIC Forum has ensured the coordination of activities of joint interest for the ERICs with the aim of strengthening coordination across ERICs, advancing ERICs' implementation and operation, collectively tackling common challenges, and sharing best practices and knowledge to support both established ERICs and ERICs-to-be. The ERIC Forum has also effectively interacted with the EC and other key stakeholders of the ERA (including ESFRI, EOSC-Association, ERA Forum, and others) and strategically contributed to the development of related policies, making it one of the leading science policy voices in Europe.

2. **ERIC services for the European research communities: Visibility, uptake and integration of multidisciplinary services across ERICs**

ERICs are key facilitators of excellent science by providing a vast variety of cutting-edge services to the European research community, strengthening and contributing to the international positioning of Europe's research and innovation capacity and the potential of having a strong socio-economic impact. Furthermore, the reach of services that ERICs offer often goes well beyond supporting 'just only' research, but having much broader socio-economic impact in all fields, whether its life-sciences, social sciences and humanities, environmental or physical sciences. Thus ERIC services are to be seen as being fundamental and benefitting all of Europe's citizens and therefore need to be supported and tapped by a much broader group of stakeholders.

However, despite the tremendous assets and strongholds of the ERICs, and the efforts invested by the ERICs to promote their visibility, still most researchers are unaware of their existence, due also to the relatively short time they have been established. Their visibility must be significantly enhanced, first among scientists, then as well among public health care and community service organisations, not only to enhance research and provide tools to tackle scientific questions, but also to underpin policy and societal issues.

Therefore, ERIC Forum recommends that

- Future European Research and Innovation Framework programmes better enhance and highlight use of ERIC services, and thus increase the coherence and impact of ERICs in the ERA.
- This can be achieved by integrating the ERIC services into call texts, not just as an eligible cost within successful projects, but as an encouraged resource which should be utilised wherever possible in alignment with the proposed research project.
- Applicants should be encouraged to describe the ERIC services they would require and make use of at the application stage. Greater prominence should be given to the use of the ERICs as ERA instruments, not just in the Research Infrastructures work programmes, but across the Pillars and other relevant policy programmes.
- Future EU Operational Programmes should acknowledge ERIC services as public services and accordingly provide funding, so that they become available to the broadest possible community. This will further increase their wider impact on society in the ERA.
- Attention should be paid to the possible funding gap between development of services and implementation/operation of services.
- Specific Actions supporting outreach and education activities which existed in previous FPs and are now supposed to be taking place within the Horizon Europe Missions, these should be restored; in the context of the Missions, they are hardly accessible for ERICs.

3. **ERICs and the MISSIONS**

Covering the five ESFRI roadmap research domains (energy, environment, health & food, physical sciences and engineering, and social and cultural innovation) at a leading international level, the ERICs hold a tremendous asset for covering the needs in all these research domains as well as addressing global grand societal challenges of humankind, including the UN Sustainable Development Goals and research questions related to those. Importantly, the ERIC capacities are extremely relevant and well-positioned to respond to the five Horizon Europe Mission Areas. Remarkably, while the ERICs and ERIC-driven projects (e.g. canSERV and AgroSERV from among the INFRASERV-projects) are referred to in some of the Mission Calls of the current Horizon Europe Mission Work Programme, these links are still very limited, thus inadequately reflecting the potential and importance of the ERICs in achieving the Mission goals.

Therefore, ERIC Forum recommends that

- ERIC capacities are further integrated into the Mission Work Programme both in terms of direct ERIC involvement, as well as by connecting existing RIs to the relevant Mission programmes.
- Visibility of the ERICs is essential at all levels and is further increased significantly; towards the researchers and the national-level communities ensuring the ERICs expertise to be onboarded in activities supporting the realisation of the Mission areas (e.g. in the National Cancer Mission Hubs).
- ERICs are recognized as important partners in the Missions, and that the ERICs should therefore be involved in contributing to the development of the Missions (e.g. through the Mission Assemblies / Boards / Working Groups, or any other suitable means) to facilitate the ERICs' alignment and contribution towards the Mission objectives.
- If ERICs are foreseen as essential operators of the Missions and even considered as building blocks they ought to be closely associated with the Mission planning in order to ensure that they can respond to the expectations.

4. Funding for transnational user access in Horizon Europe

Several dedicated calls in the RIs work programme (e.g. "INFRA-SERV" calls) offer funding opportunities for transnational access (TNA). Funding is usually awarded to project beneficiaries to provide RI services to external researchers that can apply for access via open calls. The actual implementation of TNA access to ERIC services and the participation to Framework projects in general has been challenging, in particular for distributed research infrastructures, and even more so for consortia including several ERICs. Furthermore, a distinction needs to be made between physical access to distributed facilities as service providers (i.e. user and/or sample travel to the ERIC service provider) and access to virtual services, which mostly are available without travel costs or fees at the point of access (while still having operational costs).

While integration of research services and projects that rely on services and resources from several different RIs are encouraged and would greatly increase research impact, administrative hurdles in TNA and project management (e.g. large number of contractual partners, (lack of) granularity of service catalogues, budget administration and cost accounting), lead to long project ramp-up phases and correspondingly decreased time for service delivery. This does disproportionately affect the completion of ambitious, highly impactful projects and cross-RI collaborations.

Depending on the disciplines served by an RI, other obstacles for transnational access may come into play, such as language barriers (especially in disciplines where language plays a role), differences in legislation on access to personal data or intellectual property rights and other national regulations. These costs are difficult to represent as TNA costs, as they can lead to extension or adaptation of existing services, however might be necessary to successfully execute an approved TNA project. When it comes to eligibility of national users of ERIC services for TNA funding, ERICs face contrary interpretations by the EC regarding the provisions in the Horizon Europe 'Annotated Model Grant Agreement' applicable to the ERICs as self-standing international consortia. In summary, further guidance on implementation could unify processes across projects thus reducing efforts while increasing benefits for TNA management and reporting.

Therefore, ERIC Forum recommends the following improvements to the processes for TNA deployment:

- A consistent grant model with the ERIC acting as sole beneficiary on behalf of the totality of their Nodes/service providers without the need to add individual service providers as beneficiaries or affiliated entities.
- The granting of greater flexibility to the ERICs during a TNA project to select services and service providers among their Nodes answering the actual researchers' needs and access requests. This would ensure not only the delivery of optimally tailored and cutting-edge services to researchers, but also reduce the administrative burden of *a priori* specifying TNA costs for service or facilities that might not be accessed during a project.
- According to the current Annotated Model Grant Agreement, to get clear confirmation from the EC on the ERICs' exemption from the restriction of funded access to transnational users, i.e. academic and commercial users are eligible for TNA funding for ERIC services located also in their own country; elevating scientific excellence and unfulfilled need as major access criteria and reducing environmental impact of RI access.
- Eligibility of costs that are not strictly TNA costs, but are linked to the delivery of a service in the context of a TNA project, e.g. measures to alleviate legal, regulatory or language barriers.
- Eligible costs should not only be running costs but also investment costs as long as they are not otherwise depreciated and fully devoted to the accomplishment of the project (drifting instrumented floats, for instance).

5. ERIC Forum on “Access to Research Infrastructures” and proposal for the upcoming new charter

The ‘European Charter on Access to Research Infrastructures’ (here: Charter) is one of the key elements of the Action 8 of the European Research Area policy agenda. Research infrastructures face new challenges in comparison with 2016 when the previous Charter was published. The digital and green transition combined with concerns about financial sustainability of research infrastructure operations are main issues to be tackled. Therefore, ERIC Forum would like to contribute to the development of the new charter. Here, we present some first suggestions.

ERIC Forum recommendations on currently identified access modes:

- Excellence-driven, peer-reviewed access shall remain the principle ensuring the excellence of research results. Addition of recent developments in access to RIs can strengthen the new edition of the charter:
 - Boosted by the pandemic and continuing now while preparing ERICs for the Green and Digital Transition, many of the ERICs are now in a position to offer remote access to services. Here, it is important to understand that in many cases more highly educated operators setting up experiments physically on-site will be needed. In addition to this, digital tools will have to be developed to ensure the participation of the remote experimentator in the running of the experiment. When designing services where also remote access can lead to the expected outcome and added value, it should be listed as a strong recommendation.
 - Societal challenges-oriented access: RIs expect to see increasing user requests for their capacity to support tackling global challenges, to better-serve society in a multidisciplinary manner. Here, the role of RIs service provision should be acknowledged and be made more visible.

- Fast-track for emergency access: As the recent COVID19 pandemic showed (during a state of emergency officially recognized by the EU), many ERICs were able to reply to research requests in an immediate fashion. The new Charter is recommended to define this type of access so in general RIs design and implement a dedicated fast-track access policy in order to prioritise and support relevant research teams in case of emergency, providing that a transparent procedure is in place.
- Proprietary access: The sustainability of operations, as well as better inclusion of RIs in the innovation ecosystem requires some of them to provide direct services to the industry.

ERIC Forum suggests that the new Charter introduces recognition of different user affiliations (national versus transnational user access) and origins of funding for access for RIs as support when defining their policies:

- EU funded access. Framework Programme grant holders / special access for European researchers supported by the EC: This type of access is provided through grants supported by the EC. For ERICs this support is an invaluable token of sustainability of operations. We suggest to the Commission to treat ERICs as priority European RIs and pledge to provide a limited % of access cost for their operations. This could be done by a special call dedicated to ERICs only or a strategic partnership between the ERICs and the EC.
- National researchers of a Node or an ERIC sited on their territory should not be excluded from applying to European-supported access as the principle of European excellence in research. Nationally funded access should be applied without exemption. Some RIs already apply the principle that a nationally evaluated project explicitly listing the name of a RI does not have to be evaluated for a second time and provide a limited capacity of access for such cases.
- Internationally funded access from outside of the EU and Associated Countries to the FPs.
- State and public service users, with support for full real costs and from operational, non-research funds.

ERIC Forum general recommendations on the new Charter:

- Scope: The Charter should emphasise that user access takes place also to human expertise and training opportunities, in addition to instrumentation and data resources as RI services.
- Recognition of ERICs: The Commission should take into account the growing number of ERICs, European legal subjects, and in the charter dedicate a special focus to ERICs including their promotion among potential future users.
- Gender equality, diversity and inclusion: The charter should introduce the novel gender equality, diversity and inclusion plans and policies approach in the new ERA (see Action 5), and explicitly encourage applications from underrepresented genders (or groups), while considering excellence (i.e. among equals in excellence, favour gender). The charter should encourage RIs to design plans for increasing their access to disabled researchers and users (e.g. websites suitable for blind and visually impaired researchers, mobility paths for mobility impaired users, etc.). Also, stronger participation of widening countries may be promoted among the ex-aequo proposals.
- Include impact-driven access as additional criterion for excellence-driven access.
- Include access to existing FAIR data as one of the services RI can offer, not only for the individual RI's user group, but also for EOSC users. This could be integrated in the definition of RI services, but also in guidelines, and data management plans.

6. ERICs and the Green and Digital Transition

There are three areas where the twin transition can happen in many ERICs. First - in particular for new, single-sited ERICs -, during construction and upgrade, measures to reduce energy consumption and enhance digitalisation can and should be taken. Second, during operations, such technologies and instrument modes can be chosen to reach the same goal. Third, it is important to understand that the research and scientific strategies of ERICs do, and in the future should take into account the fulfilment of societal priorities including twin transition.

ERICs are indispensable for reaching the goals of twin transition and solving other societal challenges of our times. Therefore, we suggest starting a broad discussion on assessing the development in these three areas for ERICs, also taking into consideration their broad diversity of set-up (single-versus multi-sited; size) and mode of operation.

In the pandemic situation in 2020-2021, rapid measures were taken to ensure access to the "critical research infrastructure" in Europe. It is important to leverage this experience to learn how to make remote access a routine tool, while again respecting the different types of ERICs and their individual needs. We feel that awareness of the associated increase of cost to enable and maintain (digital) remote access must be appreciated and future programs need to integrate the aspect of staff and user training. These moves will also have a positive impact on the CO₂ footprints of the European RIs.

7. Open Science

ERICs are key enablers of Open Science and their quality-managed services facilitate FAIR research data and outputs. From their outset, ERICs are deploying Open Science principles and are best practice examples. Therefore, ERICs and their users are key stakeholders for the EOSC, as infrastructure providers, developers, and users, populating EOSC with research data, software tools and workflows. ERICs are digitising their data life cycles through standardisation, automation of instrumentation and operational procedures, employing and training of FAIR data stewards, provision of open access data repositories, and more.

ERIC Forum recommends that the next HE work programme continues playing a key role in scaling collaborations between ERICs and their users on the one hand, and EOSC as well as the European 'Data Spaces' on the other. This can take place by

- Further interlinkage between existing data resources of the different ERICs as well as resources that are developed in different projects in which ERICs take part (e.g. science cluster projects and sustainability of their outcome).
- More support for data mobilisation and digitalisation of ERICs.
- Recognition of the importance of software, workflows, tools and other non-data digital assets, also in the form of Open Science policy recommendations and targeted funding.
- Funding for standardisation efforts for experimental data as key to produce FAIR data. ERICs are a 'central' structure to promote standard development between different research institutions in Europe as well as beyond with their international partners. Here, tailored resources to compare similar studies across institutions and member states could accelerate these efforts.
- Support for FAIR data stewards as a young profession starting at ERICs. FAIR data stewards are helping ERIC users to acquire and make openly accessible their FAIR research data. The increasing demand exceeds the available expertise, and built-up of education, training and other career support mechanisms is crucial.
- Renewal of funding for science cluster projects would benefit not only inter-RI efforts in digitalization but could truly boost contribution from each cluster's scientific community to contribute to and participate in EOSC and the Data Spaces, building directly on the success stories, expertise and resources built during the H2020 funded projects PaNOSC, ENVRI-FAIR, EOSC-Life, ESCAPE, and SSHOC.

8. ERIC Nodes and hosting institutions

Most of the ERICs are of a distributed nature, with their activities developed in different sites rarely self-standing but most often hosted by research organisations and/or universities operating in the ERIC member countries. These sites have different functions within the ERIC organisation, as, e.g. coordination, a mix of coordination and research, or research and users support. The language employed at present to describe these complex systems may be misleading by giving different meanings to the same word. ERIC Forum suggests developing a standard, agreed, glossary allowing to describe correctly the different functions:

- The Statutory Seat (sometimes referred to as headquarter), which has a well-defined legal status (even if it could be hosted by another research institution) and has the general task to ensure administration, coordination and support to the statutory bodies;
- The Hub has a scientific coordination action extending beyond its site and the hosting Country;
- The National Node, which has both research activities and a coordination/outreach function within a single country; and, finally
- The Node being the elementary constituent of the distributed ERIC and hosting the function of research and providing support to external users.

A further element relates to the funding of the function: the basic operation of Statutory Seats is normally funded by the ERIC “own central budget” (typically composed basically by member’s contributions), also most Hubs are mainly funded within the ERIC’s “central budget” for the coordination activities but part of this could be contributed by the hosting member(s). National Nodes and single Node basic operations are typically funded by the host Country (often via the Host), and contributed “in-kind” to the ERIC but also, sometimes, partly refunded for the service costs by the central budget of the ERIC and/or incoming ERIC user fees.

Following the findings of the EGERIC expert group, and in order to make it possible to correctly evaluate the impact of the investment into the ERICs, we recommend including the identification of the activities and resources of an ERIC. We suggest detailing all its operational components belonging to an ERIC (Seat, Hub, national Node, and single Node), and allowing each one of them to participate as ERIC or as part of their ERIC, respectively, to the European system of funding and tenders and the national systems, within the coordination of the ERIC.

ERIC Forum recommends adding to the European system of funding and tenders a beneficiary category for ERICs, their Hubs, and Nodes. Also, this will allow statistics to be made more precisely including the contributions (both cash and in-kind) of the ERIC members and measure the impacts of the ERIC as a whole and of the members individually to the European Research Area. At the same time, each Host is allowed to be recognised and rewarded for the activities and functions it contributed to the distributed ERICs.

For the distributed ERICs, the integration and coordination of activities are crucial and are best performed by having staff mobility within each ERIC, ideally building on ERIC-funded positions. This should be developed within a pan-EU approach and could be an activity supported by the EC.

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