

ERIC Forum Implementation Project

Draft policy report 1

Work Package 6 - Deliverable 6.4

Deliverable no	6.4
Deliverable Title	Draft policy report 1
Contractual delivery month	August 2019
Responsible Partner	ECRIN
Author(s)	WP6 Task Force

Executive summary

This preliminary draft of the first ERIC Forum policy report, presents the collaborative work of the ERIC Forum on a key topic of common interest. Focusing on Funding models for access to ERIC multinational/transnational services, this policy report analyses the current landscape of funding models across ERICs. It presents their diversity, and highlights how ERICs have successfully made use of a panoply of mechanisms to support access to their services. The report also identifies key areas for opportunities, to enhance the impact of ERICs, broadening their access to funding mechanisms and boosting their visibility. This draft will continue to evolve, as the dedicated Task Force continues editing and drafting. The report will be finalized, in collaboration with key stakeholders, during a dedicated seminar in Q4 of 2020.

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Document log

Issue	Date (yyyy-mm-dd)	Comment	Author/partner
1.0	2020-06-25		ECRIN

ERIC Forum Policy Brief

Funding models for access to ERIC multinational / transnational services

DRAFT

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I. Introduction

Today, access to research instruments and to leading edge technology and methodology is critical for scientific competitiveness in every research community. However, research infrastructures represent a very significant investment for individual countries. Therefore, the concept of pan-European research infrastructures has been promoted as a key contribution to the creation of the European Research Area (ERA), with the Member States and the European Commission joining forces to build and operate instruments accessible to the whole scientific community. Pan-European integration of research infrastructures results in strong synergies with a major impact on Europe's research ecosystem by sharing costs, avoiding duplication, enabling cross-fertilization, unlocking scientific potential and combining expertise.

Composed of representatives of EU Member and Associated countries, the European Strategy Forum on Research Infrastructures (ESFRI) was created in the early 2000's to establish priorities in terms of research infrastructures of pan-European interest. ESFRI-roadmap projects cover a very broad spectrum of scientific instruments, in any scientific discipline, whose mission is to offer researchers leading edge technological and methodological support, whatever their country of origin.

Most of ESFRI-roadmap projects were granted a European Research Infrastructure Consortium (ERIC) legal status, and the first ERICs were created in 2011. Since 2016, a growing number of ERICs have been reaching maturity and are seen as 'ESFRI landmarks' in the European research ecosystem.

The ERICs are multinational, intergovernmental organizations, either single-sited or distributed, designed as pan-European instruments boosting scientific excellence by providing access to services, facilities, samples or data for European research communities. They already have a tremendous impact on Europe's research ecosystem as

- they unlock Europe's scientific potential by enabling trans-national access
- they support multinational cooperation projects
- they allow cost sharing for construction, operation and maintenance
- they avoid unnecessary duplication of efforts
- they enable cross-fertilization across countries and across disciplines as far as common instruments (eg. the EOSC) are used by multiple research infrastructures
- they promote quality and reproducibility in data generated;
- they promote interoperable data standards, data reuse and data sharing;
- they facilitate the sharing of best research practice, technology and methodology across Europe
- they promote scientific excellence in Europe in any scientific discipline, boosting Europe's scientific competitiveness and attractiveness for innovation projects;
- they enable a global reach, as the leading edge for international cooperation.

The ERICs were created as Pan-European instruments boosting scientific excellence by providing access to services, facilities, samples or data for the whole European research communities. National and multinational funding bodies (including the Horizon Europe programme) must consider the impact of the ERICs on Europe's research ecosystem to take full advantage of the new potential arising from these research instruments. This should in particular be reflected in the available volume of funding and the accessibility to requested services and support from ERICs. Due to the broad diversity in the mission of the ERICs and the nature of access and services they provide, the needs in terms of funding for projects supported by the ERICs are highly variable. However, a common denominator is the need for funding mechanisms able to support transnational or multinational projects and/or access.

This policy report *“Funding models for access to ERIC multinational / transnational services”* will address this topic in depth (in turn the funding, designing, building and maintaining the infrastructures will be addressed only when directly linked to the access to services). The diversity of funding schemes that ERICs rely on to support research projects, and their specificities will be presented through a series of use cases. Opportunities for enhancing support and funding through these schemes in order to broaden the impact of ERICs will be highlighted.

II. Funding ERIC services for supported projects

Today ERICs' rely on diverse funding mechanisms to cover the expenses of research projects that require their services. Most often, the funding of a research project is broader than the services it requires from an ERIC, so ERICs have identified and developed internal and external mechanisms that allow them to provide services to projects as efficiently as possible, while ensuring scientific excellence is upheld. The following subchapters present a landscape of the main funding mechanisms that allow ERICs to support research across the ERA, providing access to samples, facilities, transnational distributed services, national services, physical and virtual access to resources, equipment, and more.

II.1 – National funding schemes

The principles of the legal framework for ERICs are laid down in Council Regulation (EC) No 723/2009 of 25 June 2009.¹

As stated in paragraph 5 of the Regulation's recital, the ERIC framework "complements other legal forms existing under national, international or Community law," thus allowing for an efficient management of RIs, which are international not only in terms of their research activities but also in terms of their legal and administrative setup. According to the European Commission, the advantages of having such framework in place are as follows:

- "A legal capacity recognised in all EU countries,
- Flexibility to adapt to specific requirements of each infrastructure,
- A faster process than creating an international organisation,
- Exemptions from VAT and excise duty."²

The EU supports RIs not by adopting pan-European policies and legislation as the ERIC Regulation, but by funding research and development (R&D) activities in various scientific disciplines. The Member States play a key financing RIs as well. Figure shows R&D expenditure of Member State as a percentage of its Gross Domestic Product (GDP). out of the seven countries are above the EU average

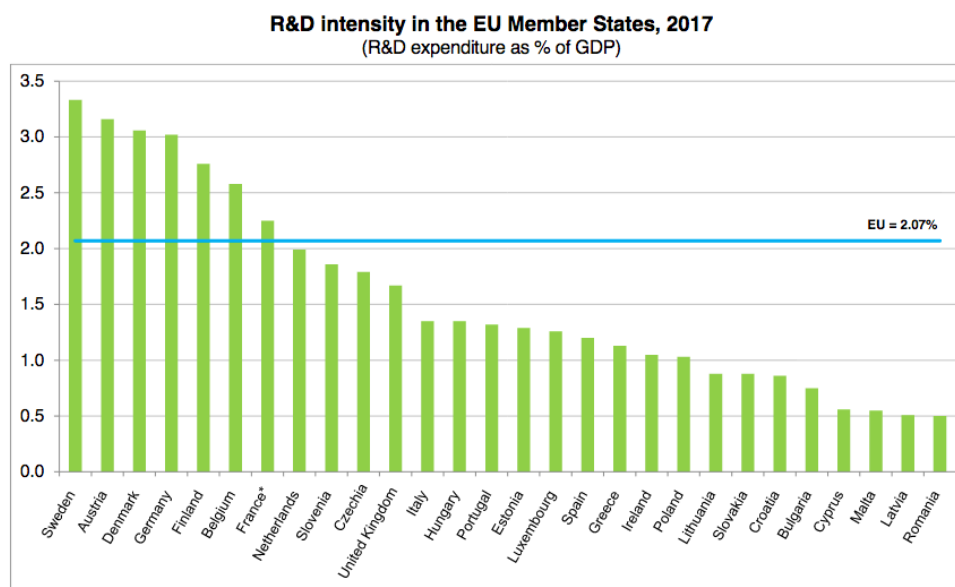


Figure 1: R&D intensity in EU Member States

¹ Council Regulation (EC) No 723/2009 of 25 June 2009 on the Community legal framework for a European Research Infrastructure Consortium (ERIC). Accessed on 17 September 2019 at: <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32009R0723>

² European Research Infrastructure Consortium (ERIC). What ERIC is, related documents, requirements and guidelines. Accessed on 17 September 2019 at: https://ec.europa.eu/info/research-and-innovation/strategy/european-research-infrastructures/eric_en

statutory seat of an ERIC on its territory.

It is of crucial importance that ERICs are allowed to benefit not only from EU Framework Programmes, but also from national funding streams available in all Member States to continue broadening services and support.

ERIC recognition in Member States

During the first decade of the ERIC Regulation's existence, twenty RIs have acquired the status of an ERIC. An ERIC has to have at least three EU Member States as members (Art. 9.2). Associated countries, third countries, and intergovernmental organisations may also become members (Art. 9.1). The existing twenty ERICs have their statutory seat in ten different EU or European Economic Area (EEA) countries, namely: Austria (1), Finland (1), France (4), Germany (3), Italy (3), the Netherlands (4), Norway (2), Spain (1), Sweden (1), and the United Kingdom (2).

Article 7.2 confirms the full legal capacity of an ERIC and its right to conclude contracts under the law of each of its Member States: "An ERIC shall have in each Member State the most extensive legal capacity accorded to legal entities under the law of that Member State. It may, in particular, acquire, own and dispose of movable, immovable and intellectual property, conclude contracts and be a party to legal proceedings." In other words, the Article implies that while an ERIC has its statutory seat in just one country, the legal entity of an ERIC should be recognised in all of its Member States.

National funding strategies

The first ERIC was established in 2011. The legal framework is still relatively new and the national authorities in countries which are members of an ERIC are not always familiar with the fundamental principles of the framework. As a result, the funding bodies in countries where ERICs have their seat or in countries which are members of an ERIC have challenged ERICs' eligibility for national research and innovation funding. Whenever ERICs want to engage with them and apply for funding, they have to invest significant efforts to prove their eligibility. The lack of a harmonized position from authorities the status of ERICs, i.e. whether to recognise it as a national research institute or an international research organisation, limits ERICs' opportunities for funding in ERIC Member States.

In order for ERICs to fulfil their role as RIs of European interest that enable excellent science, drive innovation, and generate socio-economic impact across the ERA, ERICs need to be able to collaborate with academic and industrial users in all Member States. A national strategy for ERICs would enable ERICs to tap into national public funding streams to support projects, in addition to the dedicated RI budget lines. Such coordinated approach would help to fuel EU's innovation potential, advance European R&D, and allow ERICs to contribute to the success of research and innovation missions identified by the European Commission.

Furthermore, the ERIC framework was set up, amongst other reasons, to provide a robust framework that would replace the fragmented structure of rules for the governing of RIs on the European level. The framework was introduced with the aim to facilitate, the implementation of ERIC activities. This issue is of utmost importance for enhancing ERICs' outreach. By guaranteeing ERICs' eligibility for national funding, the EU Member States would significantly boost cross-border, multidisciplinary research and increase the organisational strength of the ERICs.

Recommendations

Much has been accomplished by the EU and its Member States have done a lot in the last decade to strengthen the European Research Area. The creation of the ERIC legal framework and the establishment of twenty ERICs are both commendable achievements. In order to exploit the R&D potential of the ERICs and allow them to serve as state-of-the-art tools used by researchers to deliver excellent science, there is a need to safeguard ERICs' eligibility for engagement in

national and international platforms. All member state national funding agencies should consider the ERICs eligible for funding. The active support of the European Commission and the European Strategy Forum on Research Infrastructures (ESFRI) in informing national funding agencies and authorities on ERICs, their status and their potential, would ensure a coordinated and balanced way forward.

II.II - ERA-Net/EJP mechanisms

The ERA-Nets and the research landscape

ERA-NETs are funding instruments designed to support public-public partnerships in the preparation, establishment of networking structures, design and implementation, and general coordination of joint activities. This instrument mainly 'tops-up' funding for single joint calls and transnational research and innovation, in selected areas with high European added-value and relevance within Horizon 2020. The EJP Cofund also contributes with supplementary funding in key selected areas of Horizon 2020. EJP networks must gather a minimum of five legal entities from Member States to address research, coordination, networking, training, or demonstration and dissemination activities in targeted areas.

The participation in an ERA-NET allows the country/region to link its research programme to the ones of other Member States/countries and participate in joint activities, in particular the funding of transnational research projects through a 'virtual common pot'. The implementation of transnational research programmes based on an international peer review evaluation process contributes to raising the quality of research, increases the level of funding for challenges which no Member States can tackle alone, and avoids the duplication of research funding.

The ERA-NETs allow Member States to apply national funding rules. They are however encouraged to harmonize rules and implementation modalities of the joint calls and actions.

ERICs' participation in ERANET's and JPI's

Recently, following the work in the CORBEL project³ in the field of life-sciences and health, several ERA-NETs and JPIs have begun to encourage the use of ERICs in their calls for funding. The call description would include a list of relevant ERICs that candidates could engage with, to strengthen their proposals. However, the description in those calls remains limited to the name of the RI and the link to their website and does not provide indications for the researchers about what services the RI can offer in the context of the call and how they could access it. In most cases no contact point is provided. Hence, this has not translated into a substantial increase of requests for support. In addition, ERA-NET focus on specific scientific domains, and ERA-NET mechanisms are missing for most of the research fields covered by the ERICs.

Unfortunately, the participation of ERICs in ERA-NETs/JPIs has thus far been limited due to the eligibility criteria of certain national funding bodies. Most often, if an ERIC is interested in joining a consortium, the location of the host country will determine which eligibility criteria apply. This renders the preparation of the proposal much more complex and leads the ERIC to the challenges described in Section II.I of this policy brief. If the country of the ERIC's headquarters does not participate in the ERANET or JPI, the ERIC must resort to using its own budget (in-kind partner) or must join the consortium as a subcontractor of a partner based in another country (provided the funder of that country allows subcontracting).

Other more stringent criteria may also limit ERIC's opportunities, such as requiring that research be carried out on the beneficiary's premises and/or have researchers on their payrolls.

³ H2020 Grant Agreement n°654248 (<https://www.corbel-project.eu/home.html>)

Recommendations

As discussed in Section II.I, increased flexibility in eligibility criteria of national funders would be key. It could open the possibility for ERICs to join consortia affiliated to any country participating in the programme if that country is a member of the ERIC, not only the host country where its headquarters reside. Collecting information from ERICs as calls are being organized, to disseminate more relevant information to candidates on how RIs can support researchers would also be of great added value. This information, and the contact information of each RI could be included in FAQ's of the call. A complementary mechanism could be a dedicated line of funding, managed by the ERANET/JPI secretariat to support RI participation in successful proposals could be created. ERICs would therefore not be considered as “national entities” that are attached to national country and would not have to abide by national eligibility criteria. It may also be envisaged that rules for eligibility of ERA-NETs and JPIs fully align with those of Horizon Europe rules and regulations.

II.III - Regional funds for cross-border projects

Regional funding mechanisms

There are multiple avenues for regions to invest in RIs. The foremost is through capital investment in the RIs for buildings and equipment, for the construction and up-grading of facilities. One key instrument for regional support is through the European Structural Funds (e.g. ERDF). Similarly, regions can invest in human resources to ensure, or increase, the capacity of a platform to service local enterprises. The European Social Funds (ESF, part of the European Structural and Innovation Funds (ESIF)) can also be deployed in this context. ESF can be used to enhance, improve, and build up the capacities of scientific communities (new technicians) or the quality of human resource in public sector institutions (business development, incubation, and consolidation) that will serve local enterprises. Their knowledge and enhanced skills provide more efficient or better quality services for local businesses and the research community.

Interreg (e.g. POCTEP, SUDOE, ATLANTIC ARC, and MED programmes) funding is a mechanism for improving inter-regional collaboration in the European Union. The funding is connected to ERDF and is therefore heavily geared towards tangible and measurable outputs. This funding is particularly interesting for connecting regional players, such as companies, local officials/regions, researchers, RIS, and science parks, to create joint activities, particular developments with a business aim, and to build stakeholder engagement.

ERICs in a regional context – success stories and opportunities

Research infrastructures (RIs) provide significant support to research and innovation across Europe, but also have considerable impact on the regions where they have their facilities and installations. RIs are at the center of the quadruple helix⁴, connecting academic research, industry, civil society, media, and public administration. They provide a backbone for innovation involving not only scientific and technological communities of practice, but also decision makers and citizens in general terms.⁵

⁴ Pór, G. (2005). “Liberating the Innovation Value of the Communities of Practice”. *Knowledge Economics: Emerging Principles, Practices and Policies*. Tartu University Press.

⁵ Hildreth, P., Kimble, C. (2004). *Knowledge Networks: Innovation through Communities of Practice*. Idea Group Publishing.

Regionally, the impact is principally on local industries that benefit from proximity and therefore privileged access to the research infrastructure. This provides a boost to the local innovation and a competitive edge to the region. Furthermore, the construction of the infrastructure sites provides local employment and opportunity. Finally, there is important opportunity for local industry to work on the technological development of the site, if the expertise is available. RIs thus generate a significant local socio-economic impact and, as such, provide an incentive to regions to entice RIs to set-up in their territory, or if already present, to invest financially in them.

Moreover, there is a tight relationship between these research-focused inter-organisational knowledge systems and their local environment, making them valuable assets when thinking about territorial competitiveness considering a multi-level (European, National, Regional), and trans-regional, trans-national and trans-boundary perspectives⁶.

Recently, a number of regions have expressed an interest and willingness to be part of such a process. Several regions of Eastern and Southern Europe (e.g. Puglia (Italy), Porto (Portugal), Canary Islands & Galicia (Spain) and Crete (Greece)), have included the construction or upgrade of existing RIs in their Regional Strategies for Smart Specialization (RIS³), with the aim to mobilize the Structural Funds allocated to them. The result of these experiences, as shown in the publication “Making a joint use of EU-FUNDS: Opportunities and challenges associated to European Research Infrastructures”⁷, led to the establishment of interesting innovative methodologies for the use of ERDF for the construction of ERICs (i.e. LifeWatch ERIC).

Another approach to facilitate regional access for SMEs and thereby encourage the use of RIs, is to create an access fund for the use of the RI. This is particularly interesting as it essentially enables SMEs and Start-Ups that may have limited financial capabilities, i.e. those that are likely to benefit most from access to equipment and expertise they do not possess and cannot afford, to benefit from the RI (this is currently the case for the Basque Country Region in Spain for EMBRC-ERIC).

Recommendations

ERICs have demonstrated impact on local research and innovation, bySmart Specialization Strategies offer niches where ERICs can add real benefit to their local stakeholders. Based on these niches, a regional and interregional dialog can be established to identify needs and to provide aid in achieving local agendas. The Interreg projects also offer many opportunities, as creating real change at the local level is only achievable with the involvement of the regional authorities. Interreg projects can be used to effectively link regions with similar interests and sectors, and use the RIs to contribute to regional development, improving the regions competitive edge, and solving particular bottlenecks for their S3 priority sectors. Indeed, regional funding is particularly useful for concrete, tangible projects with industry and government that deliver new products or services specifically tailored for the local needs.

RIs are important both for the progress of European excellence in Science and Innovation as well as for the development of the Regional and Innovation Strategies for Smart Specialization-RIS³, as catalysts of economic growth, high-quality

⁶ Carlsson, S. A. (2003). “Knowledge managing and knowledge management systems in inter-organizational networks”. *Knowledge and Process Management*, 10, pp. 194-206.

⁷ González-Aranda J.M., Sánchez-Gimeno B., Ballester F., Migueis R., Basset A., Escacena-Ortega D. (2014), “Making a joint use of EU-FUNDS: Opportunities and challenges associated to European Research Infrastructures”. ATAS proceedings “Renaissance of the region of Southern Europe” 20th APDR Congress. July 2014. ISBN 978-989-8780-01-0.

employment and trans-national cooperation. In order to enhance their regional contribution, regional funding could allow companies that are based in the region to use the funds to access to RIs outside of the region, giving therefore access to knowledge and resources that are not available at a local level. Furthermore, ensuring that regional projects integrate an "international dimension" has proven essential to regional development and insertion. Allowing ERICs form beyond the region to be eligible for funding, to support the "international dimension" can contribute to building bridges and enhancing the international network of the region, while providing expertise and resources of the highest level.

Consequently, it is essential for RIs to perform a periodical assessment of the impact of international cooperation processes related to the development of RIs, focusing on a multilevel and trans-regional analysis of the returns of investments for the regional economies, which can either be expressed through tangible- (explicit: e.g., employment creation) or non-tangible indicators (tacit: e.g., how to build the back-bone environmental & ICT researchers communities of practice in a complementary way)⁸ In essence, this is related to the assessment of the mobilization of the socio economics activity, supported by the huge "social capital" potential⁹ of the involved Europe regions.

Finally, effective and frequent dialogue between ERICs and regional representatives is essential. The participation and involvement of regional representatives in RI governance should be envisioned, as it helps to ensure better coordination between local and RI strategies. Regions and RIs should engage as early as possible in the establishment of the RIs to ensure they meet local needs and expectations, and maintain open two-way dialogue through the consolidation of the ERIC and into its operational life.

II.IV - ERC funding scheme

The European Research Council grants

The European Research Council (ERC) funding scheme is a key, excellence-based instrument that researchers in all fields of science and humanities can use to finance their research. In Horizon 2020 its budget was €13 billion and this budget could rise within Horizon Europe.

The ERC offers 5 different grant schemes, in particular:

- Starting Grants – aiming to support early career researchers (2-7 years after PhD) to start working independently to realise their potential as a research leader;
- Consolidator Grants – targeting scientists with research experience of 7-12 years after the PhD and wanting to consolidate their experience;
- Advanced Grants – supporting leading Principal Researchers to pursue ground-breaking and high-risk projects;
- Synergy Grants – supporting a group of 2-4 Principal Investigators to work together to tackle ambitious research problems;

⁸ González-Aranda J.M., Rodríguez-Clemente R., Lozano S. (2008). "A Case Study of Communities of Practice and ICT Tools in Knowledge Management on International Cooperation in Science and Technology Research". WEBIST (2) 2008: ISBN 978-989-8111-27-2, pp. 415-422.

⁹ Pasimeni, P., Boisard A.S., Arvanitis R., González-Aranda J.M., Rodríguez-Clemente R. (2007). "Towards a Euro-Mediterranean Innovation Space (EMIS): Ideas for Research and Policy Making". Contributed paper for the 2007 Conference on Corporate R&D (CONCORD) R&D in the economy.

- Proof of Concept – reserved to ERC grant-holders who want to explore the commercial or societal potential of their work and bridge the gap between research and first stage of marketable innovation.

All the grant awards can be used by researchers to finance access to Research Infrastructures. This may be especially beneficial to awardees of Starting and Consolidator grants, as these researchers may still be lacking key instrumentation or technical expertise to solve their ambitious research questions. Access to ERICs can also be key for the success of the other grant-holders, who may need to go beyond the expertise gathered over the years, crossing boundaries into interdisciplinary research.

ERICs and ERC funding

Currently Research Infrastructures – especially ERICs – have little visibility within the research community. As a consequence, ERC grant-holders may not be aware of the opportunities Research Infrastructures can offer to them, missing the chance to exploit their research’s full potential. The European Charter for Access to Research Infrastructures¹⁰ states: *“just as public infrastructures are key to civil society, Research Infrastructures are the backbone of scientific communities”*. More can be done to increase RIs’ visibility as enablers of excellent research, especially when the policy and funding instruments allowing access to Research Infrastructures are already in place.

Recommendations

Greater visibility of RIs and their positive impact can help strengthen the proposals that are submitted to the ERC. Greater efforts must be made to simplify and distil the presentation of RIs, focusing on the domains covered by RIs rather than technical details. Promotional material for whole domains have already been produced in the cluster projects CORBEL (Life Science) and ENVRI+ (Environmental Science), which could be distributed to ERC applicants. In addition, examples of ERCs using RIs should be compiled and a limited number of success stories promoted to demonstrate our ability to support high-level science. Finally, due to the significant equipment budgets available to ERC grantees, RIs should focus on promoting their unique and rare facilities and service, particularly the distributed RIs, which cannot simply be purchased for their own laboratory as these are likely to be more attractive to the applicants.

Starting and Consolidator Grants for younger applicants usually provide fewer opportunities and lower equipment budgets than the Advanced Grants. Therefore, grantees from these schemes, could greatly benefit from access and support from the ERICs. Furthermore, the following platforms could be highly successful in promoting RI impact:

- The ERC Website;
- The ERC Work Programmes;
- The ERC Model Grant Agreement.

A joint effort by the ERIC Forum and the ERC could be developed, to promote stronger cooperation between the ERC and RIs. Both ERC and RIs represent excellence in science and their alliance would be synergic, ensuring ERC grantees have access to highly qualified and operational RIs. Extensive use of ERIC services by ERC grantees would contribute to expanding ERICs’ potential, while engraining the practice of RI use at all levels of investigators careers.

¹⁰ https://ec.europa.eu/research/infrastructures/pdf/2016_charterforaccessto-ris.pdf

This joint effort would be beneficial to all partners involved: the Research Infrastructures will be used more extensively by the research community and supported in fulfilling their potential; the ERC grant-holders may have more opportunities to realise their scientific project, benefitting their career, the advancement of knowledge and ultimately society at large; and the funders will see the impact of their investments – in both excellent research and Research Infrastructures – being maximised.

II.V - H2020 or Private Public Partnership (PPP) cooperation programmes

Horizon 2020 and the Private-Public and Public-Public Partnerships

Horizon 2020 is the biggest EU research and innovation programme yet, with nearly €80 billion of funding available over seven years (2014 to 2020) – in addition to the private and national public investment that these funds attracts. It is the financial instrument for the implementation of the Innovation Union, a Europe 2020 flagship initiative aimed at securing Europe's global competitiveness. It is seen as a mean to drive economic growth and create jobs. Its goal is to ensure that Europe produces world-class science and technology, removes barriers to innovation and makes it easier for the public and private sectors to work together in delivering solutions to big challenges faced by our society. By coupling research and innovation, Horizon 2020 has helped to achieve this with its emphasis on excellent science, industrial leadership and tackling societal challenges.

Although certain structural changes are foreseen, the objective of the next EU research & innovation investment programme (Horizon Europe- 2021-2027 with a proposed budget of € 100 billion) is to strengthen the EU's scientific and technological bases and the European Research Area (ERA), to boost Europe's innovation capacity, competitiveness and labour, to deliver on citizens' priorities and sustain our socioeconomic model and values.

The EU has identified six clusters 'Global Challenges and Industrial Competitiveness' that can have a real impact benefitting citizens: 1) Health 2) Culture, Creativity, and Inclusive Society 3) Civil security for society 4) Digital, Industry and Space 5) Climate, energy and mobility 6) Food, bioeconomy, natural resources, agriculture and environment. Horizon Europe will also research and innovation missions, that will focus on key areas, and will link activities across different disciplines and different types of research and innovation. Five mission areas have been defined: Cancer; Soil Health and Food; Climate Neutral and Smart Cities; Healthy oceans, seas, coastal and inland waters; Adaptation to climate change, including societal transformation. The Missions will strive to include citizen participation, and contribute to a better and broader understanding of the importance of investing in R&I.

The H2020 programme also encompassed several public-private and public-public partnerships initiatives are also part of. The public-private partnerships are: 1) Innovative Medicines Initiative 2 (IMI2), 2) Fuel Cells and Hydrogen 2 (FCH), 3) Clean Sky 2, 4) Bio-Based Industries, 5) Electronic Components and Systems for European Leadership (ECSEL), 6) Shift2Rail, 7) Single European Sky Air Traffic, 8) Management Research (SESAR). The public-public partnerships are: 1) Eurostars-2 (supporting research-performing small and medium-sized enterprises), 2) European Metrology Programme for Innovation and Research (EMPIR), 3) European and Developing Countries Clinical Trials Partnership (EDCTP2), 4) Active and Assisted Living Research and Development Programme (AAL). Many of these will transcend into Horizon Europe, evolving to integrate lessons learned.

ERICs and the H2020

ERICs, like any other legal entity, are eligible for H2020 funding and can apply to H2020 calls either as coordinators, beneficiaries or third parties. Depending on the calls, the RIs can be the coordinators and develop their own capacity, services, collaborate with other RIs on common objectives and **common** development or be the instrument used by the scientific community to set-up its own research programme and strengthen the proposal.

Certain calls have begun to encourage the use of ERICs, however the description of the RIs in the calls is usually limited to their name and lack key information about the services that could be of interest for a given call.

Due to the EU commission financial rules, the distributed RIs (depending on their specific organisation and the link between the hub and national nodes) can face administrative challenges when there is implication in the project of an ERIC's headquarters (coordination/core team) simultaneously with one or more of its national nodes providing services in multiple countries. This can also have an impact on the ERICs' visibility.

Recommendations

ERICs were created as European Research Area (ERA) instruments supporting cross-border and multinational research in Europe, to boost scientific excellence, and the services and resources provided by ERICs are open to all European research communities. Optimal use of the ERICs through Horizon Europe-funded projects would maximize their impact on the ERA's objectives of integrating and unlocking Europe's scientific potential. Safeguarding their eligibility and participation in European funded projects is therefore essential.

Increased visibility of ERICs through Horizon Europe calls, could significantly boost their use by the scientific community. Similar actions to those implemented with the ERC could be adopted for Horizon Europe calls, fostering the uptake of ERIC services....

Financial rules that are better adapted to ERICs and to the distributed nature of many of them, would also stimulate uptake. The recognition of all national nodes of an ERIC as part of a single entity, would lighten the administrative load and would enhance visibility of ERICs, contributing to their recognition and hence stimulating further uptake. The ERIC Forum could help strengthen the dialogue with the EU commission, increasing the visibility of the ERICs and ensuring their optimal use.

Also, a more efficient and cost-effective implementation of RI services could be achieved, in a context of heightened "inter-division/department cooperation" within Horizon Europe. Establishing clear and continuous dialogue among divisions, to ensure funding calls build synergies and complementarities, and duplications or contradictions are avoided, would warrant the best allocation of funding. This could streamline use of ERIC services, by avoiding the allocation of funds to initiatives that intend to develop redundant networks or services.

II.VI - H2020 TransNational Access scheme / Access without direct payment

Trans-national access and funding

Trans-national access to research infrastructures enables scientists from various countries in Europe and beyond to use technological resources and expertise to advance their projects with equipment and personnel from specialised research sites/ laboratories/ observatories across the EU.

Trans-national access (TNA) schemes under H2020 through INFRADEV and INFRAIA calls, have proven to be highly suitable to provide necessary funds for user projects in research infrastructures.

Through the H2020 TNA schemes, access costs can be reimbursed on the basis of actual costs or unit costs¹¹ or a combination of both. These reimbursement possibilities are adapted to the large variety of project costs and to the diverse definitions of units of access of the institutes that make up the RIs, therefore enabling most research costs to be covered. Apart from the cost of research operations, travel, accommodation and subsistence costs are also eligible for reimbursement.

ERICS and TNA

ERICS support scientists at every step of project development and implementation. They help them find the right lab, node or observatory among carefully selected national partner sites. The costs of supporting projects are considerable, and vary amongst the ERICS. Some ERICS can cover the vast majority of their operational and service costs with member country fees, and are able to provide free access to most of their users. This is the case of INSTRUMENT. INSTRUMENT has provided access to... achieving... .However, if INSTRUMENT and other ERICS who provide free access, are to continue expanding their service base in a sustainable way, supplementary funding is crucial.

Other ERICS rely on TNA schemes to provide access to their services, as annual member country contributions cover operational expenses, but cannot fully cover services provided within projects. TNA funds complete and expand the level of support that the ERIC can provide, incrementing the ERIC's capacity to respond to the needs of the community of users, enhancing its sustainability. Users of JIVE's services must submit proposals for evaluation on scientific merit. If selected for support, users can benefit from TNA funding, allowing them to make use of the network and all of its capacity. This has allowed... . TNA has been crucial to these successes.

Lastly, ERICS in the process of consolidation, for whom member countries have not yet committed a common budget for the implementation of user projects often experience a financial bottleneck. They need to secure external funding in order to implement projects when only a fraction of their users have access to funding that could cover service costs. A TNA mechanism that could support this initial phase, would allow ERICS to reach their maximum potential more swiftly, providing projects stable access to high quality RIs.

Recommendations

The H2020 TNA schemes have been essential for certain ERICS to provide access to their services, and should be safeguarded. RIs can unfold their true potential if user project funds are made available in sufficient amounts and currently, the funding coming from H2020 TNA schemes is absolutely crucial for user project implementation at many ERICS. Full

¹¹ Commission Decision C(2013) 8199 of 10 December 2013 authorising the use of reimbursement on the basis of unit costs for actions involving trans-national access under the Research Infrastructures Part of the Horizon 2020 Framework Programme. Available at https://ec.europa.eu/research/participants/data/ref/h2020/other/legal/unit_costs/unit-costs_tna-infra_en.pdf

eligibility of ERICs for TNA schemes that cover cost of services and travel costs, would not only ensure the sustainability of current support, but would also create new opportunities for support, while allowing ERICs to achieve objectives of growth and expansion.

Adapting TNA schemes to support ERICs during their initial consolidation phase, would speed up investigators' access to high quality infrastructure, catalysing initial member country contributions accelerating the ERIC's maturity. This funding could then evolve for mature ERICs, providing them with a consistent and flexible budget that would allow them to cover basic operations expenses and to evaluate, select, and support projects demonstrating scientific merit. This would enhance ERICs' capacity to support a higher number of projects, and would allow them to play an active role in fostering and incentivising innovative and impactful research. This funding for the implementation of user projects could also contribute to overcoming the existing unequal North-South and East-West distribution of available national funding for RI access. It could also contribute to having a more balanced geographical distribution of applicants and a broader diversity of proposals.

With the aim of supporting the implementation of a maximum number of projects and thereby accelerating science within TNA proposals, some ERIC facilities only charge a fraction of their full access costs as TNA. In consequence, this approach introduces a certain bias when analysing RI access costs at the European Level. Further, RIs are competing on a European level for the same TNA-based calls.

II.VII - Short-term mobility and fellowships

Fellowships and mobility in ERICs

Since their creation ERICs have formed, and continue to form highly specialised research, administrative, and management staff through their day-to-day operations, through dedicated training and through coordinated efforts with existing world class institutions. ERICs have set up short term mobility and fellowship schemes to support both the user base and the staff running the ERIC. Both these schemes require a high economical commitment from the RIs and have received highly positive feedback from all stakeholders involved.

Facilitating user access to the technologies offered by the research infrastructures is key to enable their uptake by the European scientific community. This is especially important for those ERICs who offer physical access to technologies and whose key role resides in removing the bottlenecks represented by the scarcity of cutting-edge instruments that can be accessed by European researchers.

Staff exchange schemes aim to enable operational staff from research infrastructures to enhance their expertise in all areas including data management, service provision, innovation and ethics. Internship and fellowship schemes fund visits from a few days to months to RI facilities. They facilitate valuable collaborations between researchers across Europe and RI staff applying techniques that are not available in the fellow home institutions.

Funding models for ERIC staff and user training – challenges and opportunities

The funding of these schemes which are seen as a priority to the development and training of the user base and personnel and also to the technological development of the RIs, requires a considerable level of funding from different sources. For some ERICs this covered by the member countries contribution. Other sources of funding include Horizon 2020 projects such as CORBEL and other funding bodies, but these are limited and ad hoc opportunities. The level of funding isn't adequate for the needs of the community of users, and additional funds are needed if the initiatives are to be maintained and expanded.

Expanded funding capacity would extend the reach of both staff exchanges and fellowships to all new staff and new users' communities. A larger body of skilled personnel would allow ERICs to widen their service providing capacity, while guaranteeing quality. Also, training needs continue to grow as new methodologies and state-of-the-art technologies require extensive training. Extensive training which is time consuming for the most experienced members of each RI.

Funding needed by the fellows and users to benefit from the European RIs' training offers could cover:

- Travel plus subsistence of fellows
- Venue and catering
- Event preparation
- Staff time for the event, preparation and follow up

Recommendations

A new mechanism via which short-term mobility and fellowships could be financed within RIs could have great added value. This could be a co-funding model, where European funding (e.g. from Horizon Europe) is combined with national funding (e.g. coming directly from national funding authorities or collected at the level of the national RI members of a given RI). A mechanism similar to the one implemented in the Maria Skłodowska Curie Actions (with particular reference to the Individual Fellowships and Research and Innovation Staff Exchange programs), but adapted to Research Infrastructures could be envisaged.

The co-funding could be awarded to and managed by the ERICs/RIs directly. The program would have the following characteristics:

- It would support short-term visits (from 7 up to 90 days) and have a light application process
- It would be continuous, with no deadlines for applications and awards given throughout the year, making it a swift model
- Criteria for selection on scientific merit would be pre-established
- In the case of the user access visits it would provide funding for travel, accommodation, RI access fees and consumable costs during RI access
- In the case of staff exchange and training it would provide funding for travel, accommodation, and eventual training courses or conference fees, through a simple process for justification without prior application
- It could be in the order of ca. € 2.500 - 10.000 per fellowship

Furthermore, taking into account the level of expertise already available at the ERICs, which has been developed through years of organising, running and analysing short term mobility and fellowships and considering the level of investment

that the member states have incurred to set up ERICs and training their current staff; the ERIC-Forum could extend, and, harmonize of the training for users and personnel across ERICs.

The continuation of cluster project funding where a budget is allocated to the exchange between the different RIs within an area is fundamental. These projects open dialogue within clusters that create synergies and facilitate the adoption of harmonized practices, while helping to avoid redundancies. Projects such as XXXX and XXXX achieves. If the clustering is extended to inter-area initiatives to promote multidisciplinary collaboration, even more benefits could be reaped.

III. Recommendations and conclusions

Overarching recommendations *(still to be completed, during the seminar with the stakeholders)*

- Funding bodies should play a role in improving ERIC visibility
- Funding bodies should recognise and actively refer applicants to ERICs
- Funding bodies and ministries should encourage and provide incentives for the use of RIs
- ERICs should have full access to all funding mechanisms – full recognition of ERIC status at all national, regional levels
- Simplification of the involvement of RIs in Horizon funding, not treat them as universities or single sites organisations.
- All improvements will help to: optimize the use of member state contributions, improve overall coherence of ESFRI and of all programs, enable overall funding to be more efficient
- ERIC Forum will play an active role, it will strengthen communication with EU Commission to improve visibility of ERICs through all funding mechanisms