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REPORT FROM THE COMMISSION TO THE COUNCIL AND THE EUROPEAN PARLIAMENT

Third Report on the Application of Council Regulation (EC) No 723/2009 of 25 June 2009 on the Community legal framework for a European Research Infrastructure Consortium (ERIC)

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In its conclusions of 26 November 2021, the Council underlined the integrating and structuring role of research infrastructures (RIs) in the European knowledge and innovation ecosystem, endorsed the latest ESFRI Roadmap, welcomed the assessment of the European Research Infrastructure Consortium (ERIC) legal framework and reiterated its invitation to the Commission to submit the next ERIC implementation report. The 2 December 2022 Council conclusions reaffirmed the relevance of the ERIC Framework to allow for the setting up of RI operating entities, acknowledged the progress made with the ERICs established since its entry into force, and invited the Commission to propose an initiative on the possible evolution of the Framework.

This third report on the implementation of the ERIC Regulation provides an overview of the state of play of the ERICs, identifies key opportunities for the ERICs to provide social and economic benefits to Europe and its citizens and discusses remaining challenges and potential solutions for an effective financing and operation of the ERICs.

The ERIC Regulation addresses one of the major difficulties for establishing new European RIs, i.e. the lack of an adequate legal framework agreed by all Member States allowing the creation of a partnership with members from different countries. It simplifies the procedure for setting up an international legal entity with the scope of establishing and operating a RI, minimising negotiations among governments and prioritising investments to respond to key challenges. It allows for a flexible internal governance structure and for the members to define, in the Statutes, their rights and obligations, the bodies and their competences and other internal arrangements as required by the specific type and scope of each RI.

Since the last ERIC report in 2018, the number of ERICs has been accelerating with 26 established to date and at least another seven ERIC applications in the pipeline, some of them already at a mature phase. When considering the ERICs with an existence of five years or more, their cumulative membership has increased by 70% when compared to the number of founding members, confirming the attractiveness of the ERIC legal framework to research facilities and Member States. On average, each ERIC includes 14 members, representing half of the EU Member States, while some cover already most of the Union. The total investments in the ERICs to date is estimated at around EUR 9 billion. The success of the ERICs has led to the formulation of comparable frameworks such as the European Digital Infrastructure Consortium (EDIC) and the European Chips Infrastructure Consortium (ECIC).

Within the European landscape of RIs, the ERICs are playing an increasingly important role in supporting ground-breaking research and innovation, addressing societal challenges, and helping Europe collaborate and compete globally. Their further development should enable linking the

broader RI network and increasing the accessibility of their services in line with the priorities of the new ERA. For this to be achieved a number of issues should be further optimised.

The further development of RIs including ERICs should continue to align with the EU's wider policy objectives. The long-term funding frameworks of ERICs need to build on effective synergies among all possible funding sources at EU, national and regional level. Further effort is needed to strengthen the access programmes of the ERICs and the availability of their services. Country members of ERICs should address the lack of career perspectives of ERICs staff through harmonisation of employment conditions. A better definition of the ERIC activities would help applying the VAT exemption and facilitate transnational investments. Further guidance on economic activities of ERICs and on state aid rules should be provided to enhance the broader impact of ERICs and therefore their sustainability.

ERICs have the potential to become the legal instrument of choice for further developing globally integrated RI activities, provided that the participation of third countries in the ERICs is properly facilitated, to overcome the current legal and operational obstacles. This would allow a better use of RIs across continents, enabling the sharing of capacities, knowledge resources and services among international partners.

The further evolution of the ERIC Framework should address these areas requiring further optimisation or harmonisation.

1. INTRODUCTION

Europe's scientific excellence is supported by globally competitive research infrastructures (RIs) developed and maintained by the EU Member States and the Union. With this support, RIs have become a backbone of the European Research Area (ERA) and have contributed to the way science is nowadays performed in Europe, with an emphasis on collaboration, inclusiveness and open access. Like public infrastructures such as transportation systems, RIs tend to be very capital intensive and, at the same time, vital to the economic development and prosperity of regions.

RIs development in Europe profits from a well-established EU policy framework relying on strategic priority setting ensured by the European Strategy Forum on Research Infrastructures (ESFRI)[1] and a common legal framework for a European Research Infrastructure Consortium (ERIC), underpinned by dedicated funding under the EU R&I Framework Programme.

The ERIC Regulation[2] was adopted in 2009 to facilitate the establishment and the operation of large European Research Infrastructures among EU Member States and associated countries. It has been a highly successful mechanism to initiate and integrate many RIs at European level, aligning national investments and research priorities, pooling resources and expertise. The 26 already established ERICs represent a capital investment estimated at around EUR 9 billion. Among the 41 RIs already implemented through the ESFRI Roadmap, the 'ESFRI Landmarks', 60% have been set up as an ERIC. The membership of most ERICs grew substantially in the years

[1] www.esfri.eu
[2] OJ L 206, 8.8.2009, p. 1. See also Annex 1.

following their establishment. Currently the ERICs have on average 14 members, which means they include half of the EU countries. Their attractiveness as an effective vehicle for international scientific collaboration is also growing among the associated countries, some of which have already transposed the ERIC Regulation into national law (e.g. Norway), and among Europe's international partners.

This third report on the implementation of the ERIC Regulation reflects the increasing strategic importance of the ERICs in the European landscape of research infrastructures and takes into account the recent EU priorities. The report provides an overview of the state of play of the ERICs, identifies key opportunities for the ERICs to advance the frontier of science and to provide social and economic benefits to Europe and its citizens. It also discusses remaining challenges and potential solutions for an effective financing and operation of the ERICs. Important input to the report was provided by the Commission expert group[3] that prepared an assessment of the implementation of the Regulation based also on contributions from a broad range of stakeholders, including ESFRI and the ERIC Forum[4]. Finally, the report seizes an opportunity to engage with EU Member States on how to further capitalise on the ERIC Regulation and strengthen its European added value, and on potential needs for optimising or harmonising some areas of the framework.

2. ENABLING THE POOLING OF ADVANCED RESEARCH RESOURCES AND EXPERTISE

European research infrastructures are a key pillar of the ERA and one of its most successful achievements to date.

Over the last 20 years, within the framework of ESFRI and its roadmap process, national governments have worked in close partnership with the European Commission and the scientific community to catalyse the development of pan-European research infrastructures and to foster collaboration and networking among them.

ESFRI has enabled a strategic response to how a European research infrastructure ecosystem can most effectively support scientific progress and innovation across the Union, including helping to achieve Europe's wider policy goals and the UN sustainable development goals. In December 2021 ESFRI published the sixth edition of its Roadmap[5], which has become one of the most poignant deliverables of the ERA with its 41 implemented research infrastructures and 22 ongoing projects, mobilising over EUR 24 billion worth of investments.

These joint investments have also been instrumental in reaffirming the Union-level target of investing 3% of the Union GDP in R&D: they promote national investments where EU priorities meet national and regional strategies.

The developments have deeply transformed the availability of state-of-the-art facilities for scientists and innovators, reinforcing Europe's strong research performance, by pooling research resources and expertise and providing researchers with access to the specialised equipment, technologies and resources they need to facilitate scientific discovery, improve research outcomes, and drive innovation.

[3] EC expert group report: *Assessment on the implementation of the ERIC Regulation*
[4] https://www.eric-forum.eu/
[5] ESFRI Roadmap 2021

Responding to new emphases on environmental, social and economic goals, the new ERA envisions stronger contributions of research and innovation activities to Europe's wider policy objectives behind the Green Deal, the digital transformation, a competitive and strong economic base, and a significant contribution to tackle global challenges. Priorities in the European RIs landscape have evolved along these objectives and, in addition, are seeking to further support the efforts towards EU sovereignty in critical and emerging technologies, including those relevant to the fair[6] green and digital transition.

To reinforce developments along Europe's wider policy objectives requires new, strategic joint efforts by the research infrastructures themselves, among which an effective operation and leadership of ERICs has an essential role to play.

The further development of research infrastructures, including ERICs, should continue to align with the EU's wider policy objectives, including addressing the fair twin transitions, contributing to the 3% target for R&D investments, and supporting EU competitiveness.

2.1. Research infrastructure policy context

The development of Europe's research infrastructures over the past few years has been shaped by a number of strategic documents.

The ESFRI White Paper 'Making Science Happen'[7], published in 2020 as a contribution to the development of the new ERA, proposed a vision for a consolidated European ecosystem of research infrastructures underpinning the ERA, offering cross-disciplinary, integrated and harmonised services enabling their users both to pursue the greatest of scientific challenges and generate new knowledge, as well as to maximise their impact on the most pressing of global societal challenges and the everyday life of European citizens.

Implementing such a robust ecosystem requires maintaining an absolute edge globally in the capabilities of RIs in Europe, accelerating their development and exploitation as knowledge and innovation hubs, strengthening their role in education and training, as well as better exploiting their data science and data engineering expertise and increasing data sharing and use. The ESFRI Roadmap 2021[8] elaborated further on how this can be achieved.

The 'Pact for Research and Innovation in Europe'[9] underlined that RIs are the backbone of a well-functioning research and innovation system and recognised that the current landscape of RIs in Europe is one of major achievements of the ERA, stressing the need to further support its development and broader impact in line with the ESFRI White Paper. In particular, a priority action under the current ERA Policy Agenda[10] aims to strengthen the sustainability, accessibility and resilience of RIs in the ERA as an important element of further deepening the internal market for knowledge in the EU.

Advancing the European RI ecosystem has also been high on the agenda of consecutive Council Presidencies. In particular, the December 2022 Competitiveness Council issued conclusions on

[6] See Council Recommendation 9107/22 on "Ensuring a fair transition towards climate neutrality", 7 June 2022
[7] ESFRI White Paper | www.esfri.eu
[8] ESFRI Roadmap 2021
[9] European research area (europa.eu)
[10] See ERA Policy Agenda, ibidem.

Research Infrastructures[11], addressing the different dimensions of the ecosystem and its role for European research and innovation, economic and social development, as well as addressing the Union's political priorities.

2.2. The state of implementation of the ERIC Regulation – key achievements

The ERIC Regulation addresses one of the major difficulties that was identified for establishing new European RIs, i.e. the lack of an adequate legal framework agreed by all Member States allowing the creation of a partnership with members from different countries. It simplifies the procedure for setting up an international legal entity with the scope of establishing and operating a RI, minimising negotiations among governments. It allows for a flexible internal governance structure and for the members to define, in the statutes, their rights and obligations, the bodies and their competences and other internal arrangements as required by the specific type and scope of each RI.

26 ERICs have already been set up[12] and several more are under preparation, covering a broad range of scientific fields and operating different types of RIs, single-sited, multi-sited and distributed.

The majority of the ERICs that have been established until now operate distributed RIs and in several cases allow for multiple technique, multimodal and multidisciplinary approaches, confirming the appropriateness of the ERIC legal structure to implement a wide range of collaborative frameworks. This approach has been recognised as successful and comparable frameworks are now being considered by the Commission and the Council in other fields such as for digital infrastructures[13], semiconductors[14] and European defence[15].

The list of established ERICs is provided in Annex II. All EU Member States are members of at least one ERIC and ten of them host the statutory seat of an ERIC. Nine associated countries[16] are members of an ERIC and, in the case of Norway and UK, also host the statutory seat of an ERIC. Two intergovernmental organisations are members of an ERIC. It is worth noting that the membership of the ERICs is increasing with time. Overall, the cumulative membership (including observers) to all existing ERICs amounts to 357 members and observers of which only 232 are founding ones. This represents an overall increase of 54% compared to the founding ones. When considering the ERICs with an existence of five years or more, this increase amounts to 70%, confirming the attractiveness of the ERIC legal framework.

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[11] Competitiveness Council conclusions on Research Infrastructures, 2 December 2022

[12] Status as of April 2023

[13] European Digital Infrastructure Consortium (EDIC) in Proposal for a DECISION OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL establishing the 2030 Policy Programme "Path to the Digital Decade" COM/2021/574

[14] European Chips Infrastructure Consortium ('ECIC') in Proposal for a REGULATION OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL establishing a framework of measures for strengthening Europe's semiconductor ecosystem (Chips Act) COM/2022/46

[15] COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS Commission contribution to European defence COM(2022) 60

[16] Article 2 of the ERIC Regulation: 'associated country' means a third country which is party to an international agreement with the Community, under the terms or on the basis of which it makes a financial contribution to all or part of the Community research, technological development and demonstration programmes.

The distributed ERICs involve nodes and hubs operating within hundreds of universities and national (and some international) research institutions. These are long term institutional partnerships which are set to operate for decades to come, well beyond the limited time perspectives of the ongoing R&I Framework Programme or national programmes and initiatives.

3. CONTRIBUTION OF ERICS TO ADDRESSING EU PRIORITIES AND GLOBAL CHALLENGES

RIs is a priority area for joint action in the Union under the Pact for R&I in Europe, aiming to improve open access to RIs, better exploit and connect RIs, integrate them in the ERA, and exploit their potential in providing solutions to the global challenges committed to under the UN Agenda for Sustainable Development and the Paris Agreement.

In order to reach these objectives, RIs are needed to provide the foundations for ground-breaking research and innovation addressing global challenges like climate change and global health issues, and helping Europe collaborate and compete globally, including by exploiting the digital transition and technologies such as Artificial Intelligence (AI).

Within the European landscape of RIs, the ERICs are playing an increasingly important role in supporting R&I to better respond to these challenges. Their further development should enable to link more extensively the broader research infrastructure network and the new ERA.

3.1. Green transition

An increasing number of ERICs support R&I for the fair green transition, the mitigation of climate change and biodiversity loss. ECCSEL ERIC contributes to cost effective solutions for carbon capture utilisation and storage (CCUS), and hence to the lower carbon energy and industry sector. CERIC-ERIC is developing services in the field of energy storage and collaborates with the Clean Hydrogen Partnership. The construction of the European Spallation Source ERIC contributes to new and better materials for energy solutions as well as technologies reducing the carbon footprint of RIs. ESS ERIC provides robust data on behavioural patterns relevant to addressing climate change. ICOS ERIC data on carbon cycle and greenhouse gas budget supports policy on climate change and carbon-neutral Europe and is developing new concepts to observe cities' greenhouse gas emissions. Euro-Argo ERIC contributes to climate change applications e.g. under Copernicus, and to ocean health monitoring. LifeWatch ERIC provides e-Science research facilities to understand biodiversity and ecosystems functions and services. EMBRC-ERIC enables access to marine biodiversity across Europe. AnaEE-ERIC supports adaptation and mitigation strategies for the future of plants, soils, water and biodiversity. Some of these ERICs are also key players on the global scene, e.g. ICOS ERIC is a key contributor to the Global Carbon Project, and Euro-Argo ERIC is a key contributor to the international Argo programme.

As any RI, the ERICs are also faced with the urgent need of their own greening. The recent energy crisis has jeopardised the normal operation of many ERICs, notably the energy intensive ones, but not only. To fulfil the EU climate neutrality targets, and to address crises of resources (such as energy, water, and raw materials), a strategy and possible actions should be urgently discussed in view of a sustainable landscape of RIs. Greening investment needs of the ERICs should be identified and new funding mechanisms explored.

Distributed ERICs, perceived as less energy-intensive, have nevertheless the challenge of developing common strategies and synergies among the different nodes. This requires common

validated methodologies to assess the environmental footprint during the whole life cycle, identifying technology needs, and developing operating strategies including for access. As an example, co-location of facilities and development of joint services are being discussed. Digitalisation strengthening remote and virtual access, can be part of these strategies.

- *Resources should be prioritised to reinforce the capacities of ERICs in supporting R&I for the fair green transition, and the mitigation of climate change and biodiversity loss*.
- *The environmental footprint and resource efficiency of ERICs - present and future - should be considered across the entire RI lifecycle, including notably at the concept and design stages*.

3.2. Digital transition

Many ERICs are among the most advanced organisations when it comes to digitalisation, be it for their own operation, equipment and instrumentation, for the access and services they provide, as well as for the data and results they generate themselves. For example, in the field of environment, ERICs and other RIs are well advanced in digitising the whole data life cycles through automated instruments, calibration and data processing, AI-driven analytics, and archiving or through remote and virtual access.

The COVID-19 pandemic has greatly accelerated the development and use of virtual services and remote access. However, this has required major IT investments, new skills for ERICs staff as well as stronger support on site and further training to remote users. Virtual and remote access can be a particular challenge for new users and cause lost opportunities for networking and cooperation, in particular for early-career researchers.

The ERICs are fostering data-intensive science and are actively engaged in making their data FAIR (findable, accessible, interoperable and re-usable). As such, ERICs are important actors in contributing to deliver the European Open Science Cloud (EOSC). To this end, they participate either directly or through the representing entities of their members in many activities aimed at developing EOSC and at connecting to EOSC in different scientific domains. Many ERICs are also members of the EOSC Association.

Major ICT investments and development of relevant skills of ERICs staff are needed to foster the successful digital transition of/through the ERICs, including harnessing the potential of AI, and appropriate measures should be considered for new users, notably early-career researchers and industry.

3.3. Health challenges and crisis resilience

The ERICs in the field of life sciences have increased their research and service performance as well as their quality. Their workflows have improved and analyses have become more efficient. Integrated Standard Operation Procedures (SOP) have been established, data have become better accessible and are being standardised. As a result, the ERICs are better equipped to support research addressing the broad range of health challenges, ranging from beating cancer and combatting infectious diseases to understanding and treating rare diseases. A result of this intensive capacity building over recent years is that the ERICs play an important role in meeting the objectives of the EU Mission on Cancer, proving access to services and data, enabling cutting edge research and innovation for better understanding and treatment of cancer. They are also instrumental in developing, within the EOSC, a gateway to diverse types of cancer research data,

available across the EU, making them accessible through a single entry point[17] The ERICs have also developed effective collaborations with the Cancer Mission Board and the Innovative Health Initiative Joint Undertaking.

ERICs, like other RIs, demonstrated a very substantial capacity to respond to the emergency represented by COVID-19 pandemic, by rapidly revising and adapting their access programme operations and delivering their services, including fast-track, ad hoc new services to support research related to COVID-19. The ERICs were engaged in the whole pipeline of vaccine (e.g. EATRIS ERIC) and therapeutics development (e.g. EU-OPENSCREEN ERIC and Instruct-ERIC), for the research on diagnostic tools and the analysis of the direct and indirect impact of the crisis. Likewise, research data on the COVID-19 disease has been readily made available in the public domain, thereby helping our clinical understanding of its effects, and informing the development of treatments and tracking new variants of the virus through genomic sequencing and coordinated data-sharing efforts. Infrastructures such as BBMRI-ERIC played an important role in mobilising public data infrastructure to enable research data-sharing via the European COVID-19 Data Platform[18]

The COVID-19 pandemics demonstrated that ERICs are an essential element of building up crisis resilience in the EU. At the same time, the resilience of the ERICs themselves has been severely tested by the pandemic. Taking into account the variety of ERICs, several lessons can be drawn for increasing their preparedness for future crises. In particular, at organisational level, it is important to build up capacity to quickly adapt access models and use RIs in innovative ways as well as to strengthen the coordination among different nodes of the ERICs and across them. At policy level, like research in general, RIs are not considered in national crisis management plans and this makes their operation and use of their unique capacities more difficult.

To address health challenges and strengthen crisis resilience, ERICs should develop access management plans that include a crisis access mode, as part of national crisis management plans.

3.4. Technology development, innovation and education

Industrial cooperation is an important factor that strengthens the long-term sustainability of RIs and contributes to the broadening and diversification of their user base. It also enables functional synergies between research and industrial policies. Moreover, through the optimisation of their use or possible spin offs, infrastructures can support SMEs either for technology development or in the uptake of innovative solutions, typically at significantly lower costs than through commercial services.

ERICs and the facilities forming their national nodes can also play an important role in promoting the development of local or regional ecosystems integrating RIs, technology infrastructures, incubation facilities and industrial users, opening new opportunities for hosting projects with industry, in particular SMEs with which interactions by RIs are usually local.

[17] BBMRI-ERIC, EATRIS ERIC, ECRIN-ERIC, EMBRC ERIC, EU-OPENSCREEN ERIC, Euro-BioImaging ERIC and Instruct-ERIC are all part of the EOSC4Cancer project. The project aims at making data on cancer genomics, imaging, medical, clinical, as well as socio-economics aspects fully accessible, enhancing existing federated and interoperable systems for securely identifying, sharing, processing and reusing FAIR cancer data across borders.
[18] COVID-19 Data Portal - accelerating scientific research through data (covid19dataportal.org)

However, as service provision by ERICs to industry is still both limited and fragmented at European and national level, their innovation potential remains underexploited. Building visibility among industrial users and forming lasting partnerships requires significant investment of resources, time and personnel. Only some ERICs can afford to have an established industrial cooperation / liaison office, with dedicated staff. Their role is not only to communicate with industry but more importantly to elaborate the offer to such users, which typically have different service needs than scientific users. This is particularly important for RIs where the offer to industry is a complex one, e.g., competence plus access to the instrumentation. In such cases, the ERIC also provides specific training, consulting services and advice. Industry usually opts for proprietary access against a fee, which does not comply with the excellence-based open access rules. This needs to be reconciled with the primary objective of the ERICs to support scientific excellence and with the limited economic activity principle.

The impact of an interconnected ecosystems around ERICs is visible also in the field of education and human resource development. They attract experienced researchers and engineers and, therefore, act as platforms for skills and knowledge transfer to society and the economy. They also play an important role in training of researchers and fostering science literacy, contributing to skills development and increasing the attractiveness of research career paths.

Preserving the primary objective of scientific excellence, the role of ERICs in local, regional and national innovation ecosystems, their use by industry and public authorities, and their capacity to transfer skills and knowledge to society should be further promoted.

4. MAKING FULL USE OF THE ERIC REGULATION

The overarching challenges of ERICs lie in their scientific, financial and operational sustainability. Scientific sustainability is the capability to provide state-of-the-art research services and data as well as the capacity to continuously develop and upgrade the offer. Financial sustainability is achieved when the funding model of the ERIC ensures a sufficient level of financial resources to maintain all its functions, without disruptions, at least in the medium term, also leaving space for its further development. Operational sustainability is linked to maintaining adequate human resources as well as continuous provision of necessary components that can ensure the effective use of the scientific potential of the organisation and its smooth operation.

4.1. Leveraging joint investments

The funding models for most distributed ERICs ensure only the funding of coordination costs, and the commitments of the participating members are in most cases only for the expenditure linked to the central node. The funding for the operation of the distributed nodes comes from different budgets, often the institutional budgets of the universities and institutions hosting the nodes. This results in a short-term funding perspective limited to coordination, which impedes many of the joint activities often foreseen in the statutes of ERICs, such as coordination of research and innovation agendas, joint procurement, joint projects between nodes in different countries, as well as coordinated training and hiring of personnel. Such activities are therefore usually carried out through ad hoc, externally funded projects, often awarded at EU level. This creates substantial funding uncertainty for the further development and operation of the ERICs, limiting also their resilience and capacity to react to specific needs.

One important bottleneck that continues to prevent many ERICs from reaching their full potential is the lack of sustainable funding for their access programmes, which are usually not funded as part of the regular operational budget. Instead, access is to a large extent dependent on ad hoc project funding. This is an essential challenge that needs to be overcome in order to fully benefit from the investments made in the ERICs and to ensure that researchers in Europe and beyond have access to the best RIs.

At the same time, in order to maintain their global competitiveness, ERICs need constant investments in upgrading their scientific capacity, development of new and improved services as well as optimising their operations. Substantial funding is needed, for example in greening of the ERICs, data management in compliance with FAIR principles, and development of new technologies, which are seldom planned in the member countries' longer-term commitments.

ERICs' investment needs must be properly identified and recognised, and long-term funding frameworks must be developed, building on effective synergies among all possible funding sources at EU, national and regional level.

4.2. Optimising operations

The first ERICs have now several years of operational experience and are becoming mature organisations aware of their strengths, challenges and bottlenecks. Their functioning is undergoing constant improvement, but a number of issues need further consideration in order to ensure operational sustainability.

Human resources

Despite ERICs being legal entities created under EU law, their human resources are essentially managed in the national context, i.e. the legal framework of each country of operation. In result, members of ERIC personnel are hired under different employment conditions, creating significant administrative burden for ERIC headquarters. This also significantly affects the ERICs capacity to attract scientific, technical as well as support staff (administrative, legal, communication, data experts, etc.) at European level, and similarly limits the opportunities of staff at ERICs to embrace a European career. It severely hinders the mobility of staff within a distributed ERIC. Such mobility within and among ERICs, as well as with other European RIs, would highly facilitate the training and long-life learning of (often) rare and highly specialised staff. The fragmentation of the pension schemes is also a significant challenge. This can be to some extent addressed by the RESAVER[19] pension scheme, however only a limited number of ERICs are offering this possibility to their staff members.

The status of personnel working for the ERICs should be harmonised to the maximum possible extent between different countries and with the status of other personnel working for the EU, like for example in Joint Undertakings, in order to promote EU wide mobility and career perspectives. On a voluntary basis, countries that are members of ERICs could take benefit from the flexibility of the ERIC Regulation and include relevant provisions in the statutes of the ERICs to facilitate such harmonisation. Further alignment with a Joint Undertakings approach could be considered for appropriate cases with potential to attract high political support.

[19] Retirement Savings Vehicle for European Research Institutions. Web site RESAVER Home | RESAVER

Tax and procurement

An ERIC may benefit, under certain conditions and limits, from exemptions from VAT and excise duties on its purchases, and it may adopt its own procurement rules. This contributes to the attractiveness of the legal framework and is an incentive for a country to invest in a RI located in another country. It is a stimulus to joint development of prototype procurement and industrial returns by the technology intensive RIs such as in physics, space, and astronomy.

However, the exemptions are limited, typically restricted to goods and services wholly paid and procured by the ERIC.[20] For distributed ERICs, the benefit is therefore very often limited to its central coordination and, to limit complex administrative procedures, to purchases in the hosting country.

A better understanding of the underlying facts by tax authorities along with a better description of the activities bound to the scope of the ERIC would facilitate the implementation of the application of the exemptions.

The Commission Communication on the Commission contribution to European defence [21] exploring accordingly a legal framework inspired by the ERIC one, could be an opportunity to further clarify the role of VAT exemption in joint investments in ERICs.

Economic activities

Under certain conditions, an ERIC can have limited economic activities by offering goods and/or services on a given market. Such activities can positively address the increasing demands for 'innovative' and 'socio-economic' impacts and therefore enhance the ERIC sustainability. However, only a limited number of ERICs have such activities on a regular basis. Uncertainty on the real meaning of "limited economic activities" as well as on compliance with state aid rules and conditions for VAT exemptions are likely at stake. This question should also be addressed, among others, in the context of 'smart specialisation' as concerns possible support by regional funds (e.g. for construction and later use of parts of the facilities of an ERIC). It also includes other aspects such as how ERICs can develop (and then participate in) spin-offs, technology transfers and receive revenues from services, without weakening their ERIC status.

Operational synergies

Most ERICs, notably the distributed ones, have light central offices with limited staff resources and budget for integration. In this context, ERIC managers and their governance (General Assemblies) have difficulties to implement cost-effective approaches such as the setting-up or the procurement of joint internal services between different ERICs (e.g., acquiring joint legal or tax advice, or setting up joint back-office capabilities, or supporting joint meetings of the government representatives of different ERICs).

[20] The VAT Committee recommended, according to its almost unanimous view, that "VAT exemption shall only be possible if goods or services supplied to a representing entity are acquired by that entity in the name and on behalf of the ERIC", Working Paper No 828 Final (20/10/2014)

[21] COM(2022) 60: "The Commission will explore enabling a possible Value Added Tax (VAT) waiver to support the joint procurement and joint ownership of defence capabilities that are developed in a collaborative way within the EU. […]. The establishment of a legal framework inspired by the European Research Infrastructure Consortium that would benefit from a VAT waiver on equipment that Member States consortia would buy and own, could be considered in this context."

Furthermore, more detailed scientific, operational, and financial reporting are needed to facilitate the development of joint external services by relevant groups of different ERICs. Knowledge of real costs would for instance help a smoother aggregation of ERICs resources towards a more synergic response to scientific and societal challenges. It would also show a clearer way for evaluating the possible EU support to first implementation of services notably those addressing EU priorities. Catalogues of available RI services at ERICs should be further developed.

- *Country members of ERICs should address the lack of career perspectives of ERICs staff through harmonisation of employment conditions e.g., by appropriate principles in the ERICs statutes.*
- *A better definition of the ERIC activities would help the application of the VAT exemption and facilitate transnational investments.*
- *Further and specific guidance on the meaning of 'limited economic activities' in the context of state aid rules should be provided for a consistent implementation, to enhance the broader impact of ERICs and therefore their sustainability.*
- *ERICs governance and EU support should promote operational synergies among ERICs and with other relevant RIs.*
- *The further evolution of the ERIC Framework should address these areas requiring further optimisation or harmonisation.*

4.3. Streamlining the governance of ERICs

The 26 ERICs are reaching and integrating resources across all of Europe by involving all EU Member States and nine associated countries. They require significant funding and in-kind contributions and, therefore, major commitment and investment with the expectation that the return is larger than individual national investments. The ERICs act also as drivers for further investment, e.g., through synergies with structural funds and participation in competitive project funding. In this context, they are continuously monitored and stimulated through international evaluation methods, competition and collaboration which takes place in all ERICs, with international access to selected users being based on excellence.

The Commission expert group assessing the implementation of the ERIC Regulation highlighted that an 'ERIC system' is emerging with a role of structuring and integrating research activities and resources. However, it also identified clear issues for this 'ERIC system' to become a real 'institutional backbone' of the ERA[22].

Coordination and monitoring

To address the missing registry or observatory function and therefore the lack of detailed knowledge of all the components of the ERIC system, an EU-funded action has been launched to support the coordination and monitoring of the ERICs. The more in-depth knowledge of the ERICs, notably the distributed ones, will facilitate their systemic governance, at individual and

[22] "The lack of detailed knowledge and visibility of all the components of the ERIC system (in particular the distributed ERICs) limits governing and implementing its structuring effect and full potential to become a real 'institutional backbone' for the ERA. The recognition of the legal personality and capability of the ERICs and of their sites of operation as national research institutions in the MS should be implemented to structure and integrate the national resources. Issues in the implementation of the Regulation's fiscal provisions and time-limited project funding decrease possible synergies between different funding sources."

cluster level, bringing more visibility and understanding on implementation challenges and how to address them. It should facilitate the recognition of the ERICs in the national landscape and the search of alternative to time-limited project funding. It should also trigger harmonised reporting and feed the monitoring process of ESFRI.

ERIC Forum

The ERIC Forum organises the ERICs and ERICs-to-be in a network with the objective to ensure a joint representation and to support integrating and coordination activities, thus developing a systems approach. The Forum has also set-up clusters allowing for a faster and stronger collaboration within more homogenous disciplinary fields, while helping multidisciplinary actions between clusters. The ERICs are now in the learning process of joining their forces to tackle emerging and grand societal challenges on a global scale. For that purpose, they increasingly address interoperability requirements, including for their evolution and instrumentation. The ERIC Forum is also developing its capacity for analysis in support to the RI policy.

Strengthening access programmes and streamlining access policies

The ERIC Regulation requires that effective access is granted to the European research community. Accordingly, the ERIC statutes must contain, as essential elements, the basic principles covering its access policy for users and ensuring compliance with the Regulation. As such, ERICs are key enablers of open science and promoters of transnational access. Although the ERICs are very diverse in scope, size, type and in the profile of their users, common approaches and trends within ERICs (when distributed) and among ERICs (and other European research infrastructures) can be identified, notably within thematic clusters. More visible and streamlined access policies will strengthen the integrating and coordinating roles of ERICs.
Lack of permanent, sustainable funding for access programmes limits the development of many ERICs and undermines the achievement of their full potential. To address this challenge, new collaboration models between the European and national level as well as among the ERICs could be considered. Accessibility to RIs is part of the ERA Policy Agenda, and ERICs and the ERIC Forum are invited to contribute to related developments, including the revision of the Charter of Access to Research Infrastructures and the discussions shaping the future EU support to access.

The governance of the ERICs should be streamlined through the coordination and monitoring of the many components of the ERICs (including the distributed ones), the full recognition of the ERICs in the national (funding) landscape as well as coherent and effective access policies and funding models. The role of the ERIC Forum, building on its experience, should be strengthened in its capacity to identify best practices and propose common approach e.g., to the ERIC governing bodies as well as European and national funders.

4.4. Strengthening the international outreach

The ERICs have an increasingly significant international dimension, which is enhanced by globally interconnected networks benefiting from exchanging experiences and good practices. These enrich their outputs from sharing access to their scientific services, data and information.

ERICs constitute a new legal model for structuring international RI collaborations. In this sense, their development is an important reference for international bodies concerned with research infrastructure cooperations such as the OECD's Global Science Forum and the G7's Group of Senior Officials on Global Research Infrastructures (GSO).

The role of ERICs in the global RI ecosystem has also been recognised during the International Conference on Research Infrastructures (ICRI)[23], where concrete examples of their global outreach and impact were highlighted. For example, the facility operated by JIV-ERIC has been instrumental in allowing a set of radio astronomical observatories distributed between Africa, Europe and Asia to operate as a single and unique antenna of global size to observe black holes, including the one powering our galaxy, giving all of us a clearer idea of our position in the universe. Other examples are in observing our earth's environment. Euro-Argo ERIC serves as the EU contribution to the global-ocean ARGO initiative. EMSO ERIC, covering the deep-sea observatories, is linked to international partners in the US, Canada, Australia and Japan. ICOS ERIC, the CO_2 observation infrastructure, supplies data to the UN Framework Convention on Climate Change, and EPOS ERIC is increasingly covering the behaviour of the solid earth in terms of plate tectonics and earthquakes.

By initiating and participating in networking, clustering and integration of RI facilities at international level, ERICs are an essential part of the European contribution to building an integrated, optimised and financially sustainable global RI ecosystem, in line with the goals set by the Brno Declaration.[24] Recently, two memoranda of understanding were signed: Instruct-ERIC and National Centre for Research in Energy and Materials, Brasil, and Euro-BioImaging ERIC and Institut Pasteur de Montevideo, Uruguay. This process could be strengthened to identify further common priorities for international cooperation, as well as adequate tools and opportunities to align resources and increase interoperability, leading to more effective sharing of scientific data and services.

ERICs have the potential to become the legal instrument of choice for further developing globally integrated RI activities, provided that the participation of third countries in the ERICs is properly facilitated in order to overcome the current legal and operational obstacles. This would allow a better use of research infrastructures across continents, enabling the sharing of capacities, knowledge resources and services among international partners.

4.5. Assessing socio-economic impacts

Given the relatively large and long-term investments, assessments of the targeted and actual performance and impacts of the ERICs are important. Impact assessment is based on what they should deliver within four broad objectives: creation of scientific knowledge, contribution to addressing societal challenges, contribution to economic development and innovation, and contribution to policy making.

Agreement is needed on the specific objectives and dimensions of impact, as well as on who would be affected, the methodology selected, and the indicators identified.

The outcomes from a dedicated policy brief prepared by the ERIC Forum[25] reveal that some ERICs have already produced impact assessments, however using various methodologies, with different indicators and types of targeted outcomes. However, these have often been punctual exercises. Structural integration of impact analysis into the management culture of an ERIC requires dedicated personnel and funding and a robust monitoring system. Continuous guidance and

[23] https://www.icri2022.cz/
[24] Brno Declaration on Fostering a Global Ecosystem of RIs | www.esfri.eu
[25] ERIC Forum Policy Brief_2022 (eric-forum.eu)

support for the ERICs would be beneficial to strengthen their broader impacts as well as to further develop the impact assessment methodology and increase its coherence across the ERICs.

Conducting regular impact assessments is an important part of demonstrating the long-term value of ERICs. To follow up the ERIC impacts over time in a coherent way, the assessment needs to become a permanent activity of an ERIC, with dedicated human and financial resources as well as properly developed in-house expertise.

5. CONCLUSIONS

With 26 ERICs set-up since 2011, the ERIC Regulation has become a legal instrument of choice for a large proportion of common European initiatives in the field of research infrastructures. In particular, it provided an effective implementation tool for the research infrastructure projects prioritised by the ESFRI Roadmap. By putting in place a new type of research organisation it clearly impacted the European R&I landscape helping to structure and integrate research activities and resources within the ERA.

However, even though the ERIC does provide increased legal certainty and financial stability, as for many pan-European RIs, the scientific, financial, and operational sustainability of the ERICs remains a challenge. In particular, further effort is needed to strengthen the access programmes of the ERICs and the availability of their services. The funding available to ERICs is also still too fragmented and inconsistent, with limited synergies among the different potential funding sources. A more robust framework is also needed for the implementation of the benefits granted by the ERIC Regulation or the VAT and Excise Duty Directives, such as VAT exemptions and special procurement rules. The scope of allowed economic activities of ERICs also requires further clarification in the context of state aid rules. A number of operational challenges still remain, such as the diversity of employment conditions for ERIC staff, membership conditions or recognition of the ERIC status in national legal systems.

Action should be taken to further strengthen the ERICs as research organisations and increase their impact, including for example gathering in-depth information about all components of the 'ERIC system' and activities bound to each ERIC, developing operational synergies including via joint internal or external services, fostering the fair green and digital transition, and strengthening crisis resilience.

A number of areas require further optimisation or harmonisation. This is notably the case for addressing ERICs staff career perspectives at EU level, opening further opportunities for innovation, better recognition of ERICs in national research landscapes, including access to national research funding, as well as facilitating the engagement with international partners.

The development of the new ERA Policy Agenda, supported by the work of ESFRI and the involvement of stakeholders can provide an effective framework to discuss the way forward.

ANNEX I - THE ERIC REGULATION: BACKGROUND AND DEVELOPMENT

The ERIC Regulation provides a common legal framework, based on Article 187 of the Treaty on the Functioning of the European Union (TFEU), complementing national and intergovernmental legal and regulatory schemes for establishing transnational research infrastructures.

It was adopted in 2009 with the scope to facilitate the establishment and the operation of large European research infrastructures among several Member States and associated countries as well as intergovernmental organisations, by providing a new legal instrument, the European Research Infrastructure Consortium (ERIC).

The ERICs are set-up by the Commission upon a proposal by at least three EU Member States and associated countries. A management committee (the ERIC Committee) oversees the implementation case by case, while the Commission may further intervene in case an ERIC does not fulfil its scope. The Commission also provides reports submitted to Council and the European Parliament in accordance with Article 19 of the ERIC Regulation.

The ERIC Regulation was amended in December 2013[26] to better reflect the contributions of associated countries in the ERIC, included as a host, by putting those countries at an equivalent level as Member States in the governing bodies of the ERIC in terms of voting rights.

The first report on the application of the ERIC Regulation was adopted by the Commission on 14 July 2014[27] and submitted to the Council and the European Parliament as well as to the Committee of Regions and the European Economic and Social Committee.

The second report was adopted by the Commission on 6 July 2018[28] following the invitation of the Council in its conclusions of 5 December 2014.

In its conclusions of 19 November 2021, the Council "UNDERLINES the integrating and structuring role of research infrastructures at all levels, including e-infrastructures, in the European knowledge and innovation ecosystem, ENDORSES the ESFRI Roadmap adopted in 2021, WELCOMES the ongoing assessment of the European Research Infrastructure Consortium (ERIC) legal framework and REITERATES its invitation to the Commission to submit the next ERIC implementation report by 2022."

An ERIC is considered as an international body or organisation in the sense of the directives on value-added tax (VAT) and on excise duties. The ERIC and its members may thus benefit from an exemption from VAT and excise duties for the purchase of goods and services used for the ERICs institutional activities, if members so agree. Being also considered an international organisation within the meaning of the directive on public procurement, an ERIC may adopt its own procurement rules.

[26] OJ L 326, 6.12.2013, p.1.
[27] COM(2014) 460 final
[28] COM(2018) 523 final

Annex II - List of established ERICs and their increase over time.

At the time of writing of the first report on the application of the ERIC Regulation, seven ERICs were established. These are:

- SHARE-ERIC (Survey of Health, Aging and Retirement in Europe)[29], now hosted by Germany,
- CLARIN-ERIC (Common Language Resources and Technology Infrastructure)[30], hosted by the Netherlands,
- EATRIS ERIC (European Advanced Translational Research Infrastructure in Medicine)[31], hosted by the Netherlands,
- ESS ERIC (European Social Survey)[32], hosted by the United Kingdom,
- BBMRI-ERIC (Biobanking and Biomolecular Resources Research Infrastructure)[33], hosted by Austria,
- ECRIN-ERIC (European Clinical Research Infrastructure Network)[34], hosted by France, and
- Euro-Argo ERIC[35], hosted by France.

By the time of the second report ten additional ERICs were established. These are:

- CERIC-ERIC[36] (Central European Research Infrastructure Consortium), hosted by Italy,
- DARIAH ERIC[37] (Digital Research Infrastructure for the Arts and Humanities), hosted by France,
- JIV-ERIC[38] (Joint Institute for Very Long Baseline Interferometry), hosted by the Netherlands,
- the ESS European Spallation Source ERIC[39], hosted by Sweden,
- ICOS-ERIC[40] (Integrated Carbon Observation System), hosted by Finland,
- EMSO ERIC[41] (European Multidisciplinary Seafloor and Water Column Observatory), hosted by Italy,
- LifeWatch ERIC[42] (e-Science and Technology European Infrastructure for Biodiversity and Ecosystem Research), hosted by Spain,
- CESSDA ERIC[43] (Consortium of European Social Science Data Archives), hosted by Norway,

[29] OJ L 71, 18.3.2011, p. 20.
[30] OJ L 64, 3.3.2012, p. 13.
[31] OJ L 298, 8.11.2013, p. 38.
[32] OJ L 320, 30.11.2013, p. 44.
[33] OJ L 320, 30.11.2013, p. 63.
[34] OJ L 324, 5.12.2013, p. 8.
[35] OJ L 136, 9.5.2014, p.35.
[36] OJ L 184, 25.6.2014, p. 49.
[37] OJ L 239, 12.8.2014, p. 64.
[38] OJ L 363, 18.12.2014, p.156.
[39] OJ L 225, 28.8.2015, p. 16.
[40] OJ L 303, 20.11.2015, p. 19.
[41] OJ L 268, 1.10.2016, p. 113.
[42] OJ L 76, 22.3.2017, p. 35
[43] OJ L 149, 13.6.2017, p. 85

- ECCSEL ERIC[44] (European Carbon Dioxide Capture and Storage Laboratory, hosted by Norway, and
- Instruct-ERIC[45] (Integrated Structural Biology), hosted by the UK.

Since then, nine additional ERICs have been established. These are:

- EMBRC ERIC[46] (European Marine Biological Resource Centre), hosted by France,
- EU-OPENSCREEN ERIC[47] (European Infrastructure of Open Screening Platforms for Chemical Biology), hosted by Germany,
- EPOS ERIC[48] (European Plate Observing System), hosted by Italy,
- Euro-BioImaging ERIC[49] (European Research Infrastructure for Imaging Technologies in Biological and Biomedical Sciences), hosted by Finland,
- ELI ERIC[50] (Extreme Light Infrastructure), hosted by the Czech Republic,
- AnaEE-ERIC[51](Analysis and Experimentation on Ecosystems), hosted by France,
- MIRRI-ERIC[52] (Microbial Resource Research Infrastructure), hosted by Portugal,
- EU-SOLARIS ERIC[53] (European Solar Research Infrastructure for Concentrated Solar Power), hosted by Spain, and
- ACTRIS ERIC[54] (Aerosol, Clouds and Trace Gases Research Infrastructure), hosted by Finland.

[44] OJ L 149, 13.6.2017, p. 91
[45] OJ L 173, 6.7.2017, p. 47
[46] OJ L 51, 23.2.2018, p. 17
[47] OJ L 82, 26.3.2018, p. 8
[48] OJ L 288, 16.11.2018, p. 10
[49] OJ L 285, 6.11.2019, p. 9
[50] OJ L 212, 15.6.2021, p. 3
[51] OJ L 43, 24.2.2022, p. 73
[52] OJ L 186, 13.7.2022, p. 14
[53] OJ L 304, 24.11.2022, p. 78
[54] OJ L 115, 3.5.2023, p. 15

Annex III – ERIC Membership

Overview of ERIC Membership (as of April 2023)

ERIC / Membership (Host - Member - Observer)	Total	AT	BA	BE	BG	CH	CY	CZ	DE	DK	EE	EL	ES	FI	FR	HR	HU	IE	IL	IS	IT	LT	LU	LV	ME	MK	MT	NL	NO	PL	PT	RO	RS	SE	SI	SK	TR	UK	QA	ZA	(IO) CIHEAM	(IO) EMBL	(IO) WHO/IARC
Total	**357**	**10**	**1**	**16**	**12**	**11**	**7**	**17**	**15**	**11**	**4**	**12**	**16**	**12**	**20**	**7**	**11**	**7**	**5**	**4**	**23**	**5**	**2**	**8**	**1**	**1**	**2**	**16**	**16**	**13**	**15**	**4**	**4**	**14**	**11**	**4**	**1**	**13**	**1**	**1**	**1**	**2**	**1**
ACTRIS ERIC	16	x		x	x	x	x	x	x	x			x	x	x						x								x	x		x		x				x					
AnaEE-ERIC	8			x	x			x		x				x	x						x																				x		
BBMRI-ERIC	24	x		x	x	x	x	x	x		x	x	x	x			x				x	x	x				x	x	x	x				x	x		x		x			x
CERIC-ERIC	9	x						x								x	x				x									x		x	x		x							
CESSDA ERIC	23	x		x		x		x	x	x		x		x	x	x	x	x		x	x					x		x	x		x		x	x	x	x		x				
CLARIN ERIC	25	x		x	x	x	x	x	x	x	x	x		x		x	x			x	x	x		x				x	x	x	x			x	x			x		x		
DARIAH ERIC	21	x	x	x	x	x	x	x	x	x		x			x	x		x			x		x				x	x		x		x			x							
EATRIS ERIC	14				x			x					x	x	x	x						x		x	x				x	x		x			x	x							
ECCSEL ERIC	5														x						x								x	x									x				
ECRIN-ERIC	12					x		x	x				x		x		x	x			x									x	x	x					x						
ELI ERIC	6				x			x	x								x				x	x																					
EMBRC ERIC	10			x								x	x		x				x		x									x		x			x				x				
EMSO ERIC	9											x	x		x			x			x									x		x	x						x				
EPOS ERIC	17	x		x		x			x	x		x			x					x	x							x	x	x	x	x		x	x			x				
ESS ERIC	29	x		x	x	x	x	x	x		x		x	x	x	x	x	x	x	x	x	x		x	x			x	x	x	x		x	x	x	x		x				
EU-OPENSCREEN ERIC	10							x	x	x			x	x										x					x	x	x			x								
Euro-Argo ERIC	12				x				x			x	x	x	x			x			x							x	x	x								x				
Euro-BioImaging ERIC	18	x		x	x			x		x				x	x		x		x		x							x	x	x	x			x	x			x			x	
Eur. Spall. Source ERIC	15			x		x		x	x	x	x		x		x		x				x							x	x	x			x					x				
EU-SOLARIS ERIC	5						x		x				x		x																x												
ICOS ERIC	16			x		x		x	x	x		x	x	x	x		x	x			x							x	x					x				x					
Instruct-ERIC	16			x				x		x	x	x	x	x	x				x		x	x		x				x			x					x		x			x		
JIV-ERIC	7												x		x						x			x				x						x				x					
LifeWatch ERIC	8			x	x							x	x								x							x			x				x								
MIRRI-ERIC	5			x									x		x									x							x												
SHARE-ERIC	17	x		x	x	x	x	x	x			x			x	x	x		x		x							x		x				x	x								

Evolution of membership

ERIC	Founders	All	Year setup	Duration	New Mb	Growth
ACTRIS ERIC	16	16	2023	NA	NA	NA
AnaEE-ERIC	8	8	2022	1	0	0%
BBMRI-ERIC	13	24	2013	10	11	85%
CERIC-ERIC	6	9	2014	9	3	50%
CESSDA ERIC	15	23	2017	6	8	53%
CLARIN ERIC	8	25	2012	11	17	213%
DARIAH ERIC	15	21	2014	9	6	40%
EATRIS ERIC	4	14	2013	10	10	250%
ECCSEL ERIC	5	5	2017	6	0	0%
ECRIN-ERIC	5	12	2013	10	7	140%
ELI ERIC	6	6	2021	2	0	0%
EMBRC ERIC	9	10	2018	5	1	11%
EMSO ERIC	8	9	2016	7	1	13%
EPOS ERIC	10	17	2018	5	7	70%
ESS ERIC	14	29	2013	10	15	107%
EU-OPENSCREEN ERIC	7	10	2018	5	3	43%
Euro-Argo ERIC	8	12	2014	9	4	50%
Euro-BioImaging ERIC	16	18	2019	4	2	13%
European Spallation Source ERIC	13	15	2015	8	2	15%
EU-SOLARIS ERIC	5	5	2022	1	0	0%
ICOS ERIC	9	16	2015	8	7	78%
Instruct-ERIC	11	16	2017	6	5	45%
JIV-ERIC	4	7	2014	9	3	75%
LifeWatch ERIC	6	8	2017	6	2	33%
MIRRI-ERIC	5	5	2022	1	0	0%
SHARE-ERIC	6	17	2011	12	11	183%
Grand Total	**232**	**357**		**NA**	**125**	**54%**