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PRE-PRINT

# Research infrastructures with European Research Infrastructure Consortium (ERIC) status: re-visiting the case of ERICs and intellectual property rights in the European Research Area

Journal Article

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Lorna Ryan<sup>1</sup> City, University of London

Abstract

*Research Infrastructures (RI) with the legal status ‘European Research Infrastructure Consortium’ (ERIC) attract significant public funding and are identified as essential to the effective operation of the European Research Area (ERA). In January 2023, the number of RIs with ERIC legal status stood at 25, with further RIs at different stages in the application process for ERIC status. ERICs are designated as research infrastructures of ‘pan European relevance’. They operate in accordance with Council Regulation 723/2009, Community Legal Framework for a European Research Infrastructure Consortium. Among other features, an ERIC is required to include ‘basic principles’ of an intellectual property rights (IPRs) policy in its Statutes. How ERICs have addressed this requirement was the subject of preliminary assessments relating to 10, and then 20 ERICs, presented in 2019. This present article revisits the matter of IPR and ERICs, including the additional five ERICs established to January 2023. A number of developments prompted this re-examination, including the policy developments from 2020 to 2022 relating to the European Research Area, to the expected function of RI within the ERA and to the developments in EU industrial policy, as well as to the European data strategy as it relates to IP. The policy mosaic is fast changing but the renewed focus on the socio-economic impact of public investments, on access to data and on the wider goals of internationalisation of research collaborations highlight particular issues that affect ERICs and other pan-European RIs. A further relevant development includes the commitment in the new European Research Area (ERA) Policy Agenda of 2020 to revise the EU guidance on intellectual property (ERA Policy Action 7). This has been operationalised by the establishment of a European Commission Community of Practice (CoP) in developing a Code of Practice for the smart use of intellectual property. This article suggests that ERICs constitute an interest group within such an IP Community of Practice and the current IPR challenges addressed by ERICs merit exploration.*

Introduction

Council Regulation Community Legal Framework for a European Research Infrastructure Consortium (ERIC)<sup>1</sup> was introduced in June 2009.<sup>2</sup> SHARE—the Survey of Health Ageing and Retirement in Europe—a social science research infrastructure, was the first research infrastructure (RI) established as an ERIC in March 2011. Since that time, to December 2022, a further 24 research infrastructures have been awarded ERIC status, the most recent Commission Implementing Decision issued in October 2022.<sup>3</sup> The level of investment by Member States—and Associated Countries—in research infrastructures with ERIC status is significant. The European Strategy Forum on Research Infrastructures (ESFRI), a body with a mandate from the European Council to ‘support a coherent and strategy-led approach to policy

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<sup>1</sup> The views expressed are those of the author alone.

making on research infrastructures in Europe' (ESFRI 2021), reports that ERICs, with some other European-level RIs, are in receipt of investment funding in the region of EUR20 billion.<sup>4</sup> This level of funding underscores statements that ERICs are 'of European importance'.<sup>5</sup>

The ERIC Regulation was introduced to respond to the challenges experienced by projects seeking to develop cross-national arrangements by formulating a workable legal agreement under which states could agree to collectively fund and implement research infrastructures of 'pan-European relevance'. It is one in a suite of legal instruments introduced to support the European Research Area (ERA), based on art.187 of the Treaty on the Functioning of the European Union (TFEU). The ambitions underpinning the Regulation 723/2009 are set out in the First Progress Report on the application of the ERIC Regulation:

"The ERIC Regulation of 2009 sought to respond to the European political ambition of creating the European Research Area to enable tackling current challenges (e.g. internationalisation of research; achievement of critical mass; development of distributed facilities; development of reference models). It also was to contribute to building an EU identity around flagship scientific facilities leading to the increase of the positive image of the European Union at international level by providing the international counterparts with a single legal entity to which they could become [a] member or to which cooperation and possible partnerships could be agreed."<sup>6</sup>

The Regulation defines 'research infrastructure' as "facilities, resources and related services that are used by the scientific community to conduct top-level research in their respective fields and covers major scientific equipment or sets of instruments, knowledge-based resources such as collections, archives or structures for scientific information; enabling Information and Communications Technology-based infrastructures such as Grid, computing, software and communication, or any other entity of a unique nature essential to achieve excellence in research. Such infrastructures may be 'single-sited' or 'distributed (an organized network of resources)'.<sup>7</sup> Other definitions used in relation to large scale RIs and ERICs include the definition used by European Union (EU) research and technological development (RTD) programmes; this definition adds the capacity to promote 'innovation' as a feature of RIs. An example from a national website for HORIZON Europe, the multi-annual RTD framework 2020–2027 refers to research infrastructures as

"facilities, resources and services that are used by the research communities to conduct research and foster innovation in their fields. They include: major scientific equipment (or sets of instruments); knowledge-based resources such as collections, archives or scientific data; e-infrastructures; and any other infrastructure of a unique nature essential to achieve excellence in research and innovation".<sup>8</sup>

The scope of expectations of, and for, research infrastructures, including those with ERIC status, steadily expand. In the Brno Declaration of 2022, the following vision for RIs is set out:

"RIs, by creating geographically well-balanced and excellence-based networks of knowledge hubs, have a huge potential to help bridge the research gap and close the innovation divide between macro-regions. They can increase the competences of communities to resolve their local and regional urgent social, health, environmental and economic needs, as well as to contribute to responding to the grand societal challenges of the macro-regional and even global relevance and impact (2022)".<sup>9</sup>

This vision recalls Geiger's remarks following European Commission pronouncements set out in A single market in intellectual property rights<sup>10</sup> that intellectual property (IP) law, or "more generally the law of intangibles, will therefore inevitably play an essential role in the future, since it will have the delicate function of being the main factor for development and the guarantee for the survival of the competitiveness

of the European economy”.<sup>11</sup> RIs are similarly placed. Recital 9 to the Regulation refers to how “Research infrastructures should help to safeguard the scientific excellence of Community research and the competitiveness of the Community’s economy...To achieve this they should be effectively open to the European research community at large, in accordance with the rules established in their Statutes.”

The ERIC Regulation provides that intellectual property is addressed, albeit without elaboration, in its Recital: art.10 of this Regulation requires that the Statutes of an ERIC shall contain a number of articles which set out, inter alia, the intellectual property rights policy.<sup>12</sup> This article is one of a number requiring European Commission approval prior to any amendment, indicative of its status as an essential element of the Statutes.<sup>13</sup> Further, this essential status may be interpreted as relevant to the role of IPRs in attaining key goals of the EU, namely, strategic autonomy and technological non-dependence.

This article is structured in six sections; following this introductory section, the policy context within which ERICs, at different stages in their life-cycle is outlined.<sup>14</sup> A summary of the main findings of the preliminary study of IPRs and ERICs follows. Revisiting my preliminary study of IPRs and ERIC, selected features of the five new ERICs established between 2019 and 2022 are presented in the next section. The following section summarises some key findings from a recent study undertaken by the ERICs as part of efforts to identify best practices in ERICs.<sup>15</sup> Re-examination of the Statutes and the websites of the composite group of ERICs (n = 25), together with a consideration of the increased focus on socio-economic impact of RIs in relation to IP, are then presented. The next section considers outstanding issues and identifies possible areas for further research, before moving to concluding remarks.

#### The policy context

This section presents an overview, necessarily abridged, of the relevant policy context within which ERICs operate. This context includes the recent updates to the EU’s Industrial Strategy<sup>16</sup> and the Action Plan for Intellectual Property;<sup>17</sup> the launch of the ‘new’ ERA in 2020<sup>18</sup> and developments in EU data governance, for example, the EU Data Act 2022. The open science agenda of the ERA is also relevant and the tension between the public facing interest and private rights is enduring. While the idea of an RI ‘ecosystem’ is advanced in the policy literature,<sup>19</sup> this should not be seen as a sealed system but is rather interactive with and constrained by the wider legal framework, created, inter alia, by the TFEU.

In 2000, the European Commission Communication Towards a European Research Area, launched the concept of the European Research Area. This was followed by key policy statements,<sup>20</sup> a Green Paper in 2007;<sup>21</sup> partnership reinforcement in the ERA in 2012<sup>22</sup> and completion of the ERA, the last achieved as part of the Innovation Union (IU) Flagship of the Europe 2020 Strategy and reported in the ERA Progress Report of 2014.<sup>23</sup>

The release of the European Commission Communication, A new ERA for Research and Innovation in 2020 was followed in November 2021 by the adoption by the Council of conclusions on the governance structure for the European Research Area (ERA) and the ‘Pact for research and innovation in Europe’. The conclusions set out priorities and establish a governance framework for the ERA, including a policy agenda for 2022–2024.<sup>24</sup> These actions seek to complete the “deep reform”<sup>25</sup> of the ERA.

Other relevant developments include the relaunched industrial strategy (A new Industrial Strategy for Europe in 2020) and its 2021 update.<sup>26</sup> The priorities of the Action Plan for Intellectual Property (2020) included promoting effective use and deployment of IP.<sup>27</sup> The new ERA Policy Agenda, annexed to the Council conclusions on the ERA governance, sets out 20 concrete ERA actions for the period 2022–2024 to contribute to the priority areas defined in the Pact for Research and Innovation; one of which is ERA Policy Goal 7 (building on the A New ERA action—Update and develop guiding principles for knowledge

valorisation and a code of practice for the smart. use of intellectual property).

Further and casting the policy net wider, the Communication setting out the EU's data strategy, A European Strategy for Data was published in 2020.<sup>28</sup> This was followed by the EU Data Act 2022, a regulation.<sup>29</sup> The commitments in the ERA Policy Agenda include an evaluation of the IPR framework with a view to further enhance data access and use. This commitment addresses the targeted actions set out for both intellectual property<sup>30</sup> and research infrastructures.<sup>31</sup> For the former, the Commission notes that the 2008 Commission Recommendation on the Management of Intellectual Property in Knowledge Transfer Activities will be refreshed and codes of practice to provide guidance produced.<sup>32</sup> The Community of Practice to develop a Code of Practice on the smart use of IP was established by the European Commission in response and as a way to engage key stakeholders in the process of developing the Code. The categorisation of ERICs—and other RIs of pan-European Relevance—as a specific interest group within the broad stakeholder grouping and as an object within the Code of Practice is suggested to highlight how such a Code could be productively applied by the ERIC community in further developing a harmonised approach to intellectual property management.

On 21 November 2022, the Council of the EU released Recommendation on the Guiding Principles for Knowledge Valorisation in which the concept of 'knowledge valorisation' is described as

"a paradigm shift, ringing in new aspects that will maximise the value of existing and future R& I and of knowledge assets, including tacit knowledge...with particular emphasis on the use, re-use and cross-fertilisation of knowledge among different sectors for the benefit of society. As such, it is a broader concept than dissemination".<sup>33</sup>

More directly, it is defined as a 'process of creating social and economic value from knowledge by linking different areas and sectors and by transforming data, know-how and results into sustainable products and services'.<sup>34</sup> Intellectual Property is central to this process of knowledge valorisation, although direct discussion about IP and rights arising do not feature in the Recommendations. ERICs have been identified as catalysts of innovation.<sup>35</sup> The 2022 Council Recommendation on Knowledge Valorisation refers to how

"The R&I ecosystem has profoundly changed since Recommendation 2008/416/EC, which was mainly aimed at public research organisations. An update is needed, to focus on the maximising the value of all knowledge assets, generated by different types of actors in a dynamic R&I ecosystem".<sup>36</sup>

Notably, it defines 'intellectual assets' as referring to any results, services or products generated by any R&I activities, such as patents, copyrights, trade marks, publications, data, know-how, prototypes, processes, practices, technologies, inventions. Widening the scope from a narrow focus on management and protection of IP rights will, it is intended, also broaden what are termed 'value creation opportunities'.

The European Commission's Action Plan on Intellectual Property states

"Intellectual property rights (IPRs), i.e. patents, trade marks, designs, copyright and neighbouring rights, geographical indications and plant variety rights, as well as trade secret protection rules, help entrepreneurs and companies valorise their intangible assets. In today's economy, industrial products and processes increasingly rely on intangibles protected by IPRs, and sound intellectual property (IP) management has become part and parcel of any successful business strategy. Industries that make intensive use of IP play an essential role in the EU economy and offer valuable and sustainable jobs to society. IPR-intensive industries currently account for almost 45% of Europe's GDP and directly contribute to the creation of almost 30% of all jobs .... Many of Europe's industrial ecosystems cannot

thrive without effective IP protection and effective tools to trade intangible assets”.<sup>37</sup>

The development of the Code of Conduct for the smart use of IP situates this initiative explicitly in terms of the EU’s goal of strategic autonomy:

”Translating Europe’s scientific leadership into relevant and sustainable products, services, processes and solutions that support the wellbeing of citizens, economic prosperity, the quality of policymaking and strategic autonomy is the aim of the European valorisation policy”.<sup>38</sup>

A further reference point for considering the cross-cutting policy priorities relating to research infrastructures in Europe is the European Charter for Access to Research Infrastructures, published in 2016,<sup>39</sup> noting that this is also to be reviewed. It states that

”Research infrastructures, including e-infrastructures, are at the core of the knowledge triangle of research, education and innovation, and therefore play a vital role in the advancement of knowledge and technology and their exploitation ... Stronger interaction and cooperation between Research Infrastructures, Users and providers from industry and public services builds bridges between the public, commercial and Research Infrastructure worlds. Dedicated initiatives can help increase knowledge and technology transfer from science to industry”.<sup>40</sup>

The Charter notes that research Infrastructures “must comply with national and international law and agreements, particularly, but not only, in areas such as intellectual property rights ... when designing rules and conditions for access to and use of Research Infrastructures”.<sup>41</sup> Considering the regulatory framework, the Charter proposes that ‘Access to any given Research Infrastructure should be regulated by a framework ... The regulatory framework should cover, at the least, access, *intellectual property rights*, data protection, confidentiality, liability and possible fees; such ‘access to Research Infrastructures may be limited, amongst others, by factors such as privacy and confidentiality; commercial sensitivity and *intellectual property rights*; ethical considerations in accordance with applicable laws and regulations’.<sup>42</sup>

Clarity about intellectual property rights is important to ensure that access to RIs, and use of their outputs, is optimised. The Open Science policy concern foregrounds the value of IP and management of IP assets in developing a shared system for innovation.

### *Intellectual property and ERICs*

How ERICs (single-sited, multi-sited and distributed), address intellectual property rights has been subject to relatively scant consideration, excepting Yu et al 2017, **Ryan**, 2019<sup>43</sup>). IPRs and biobanking has a rich literature, see for example, Verlinden et al 2015<sup>44</sup>). The wider debates about the merits or otherwise of intellectual property rights are not addressed here. Rather, intellectual property, related rights and their protection is assumed to be an important element of a wider business strategy<sup>45</sup> and an accepted part of EU research policy.

The ERIC Regulation provides for the periodic review of its application. To date, there have been two European Commission Reports on the application of the Regulation, in 2014 and 2018, with the third report due at time of writing. The Commission tasked an Expert Group with reviewing the ERIC Regulation and it reported in 2021. IP issues are raised in these reports but in a general manner.

In 2014, the conclusions of the European Commission (EC) in its 1st progress report on the application of the ERIC Regulation, identifies the question of economic-versus non-economic activities as a ‘pending

issue' and recommended that it

"should be further clarified by the Commission services as there are increasing demands for 'innovative' and 'socioeconomic' impact of the activities of the research infrastructure justifying the investment made by the members. This question should be addressed in the context of the 'smart. specialisation' as concerns possible support by regional funds and state aid (for construction of parts of the facilities of an ERIC). It includes other subjects *such as the way in which ERICs can develop spin-offs, technology transfers and receive revenues from services that are developed while complying with the requirement of having only limited economic activities and without putting into danger their ERIC status.*"<sup>46</sup>

Four years later, the second progress report reiterated this concern:

"The question of economic-versus non-economic activities remains also to be further clarified as there are increasing demands for 'innovative' and 'socio-economic' impacts of the activities of the research infrastructures justifying the investments to be made by the members".<sup>47</sup>

This recommendation raises issues as to the definition of research infrastructures—as noted above, the EU Horizon 2020 definition extends a definition beyond that used in Regulation 723/2009 to include a reference that RIs 'foster innovation' thereby foregrounding economic, rather than scientific, considerations and drawing attention to the provisions of the Regulation relating to economic activity.<sup>48</sup>

The European Commission Expert Group on the ERIC Regulation (EGERIC) in its Assessment on the Implementation of the ERIC Regulation referred to consideration of the extent of implemented IP policies (including IT services/spin-off/incubators). Its review sets out key issues in considering IPRs and ERICS:

"The technological development, innovation and knowledge transfer are indicated in their missions in 75% of the ERICs statutes...[H]owever, the effective implementation of these policies requires **257** dedicated resources and this may conflict with the limit of net income provided by these activities and the focus of available resources what are directed by the contributing members mainly to the basic RI activity. ... Assessing how much the net returns of IP policies could be made more effective needs to take into account the limited openness of the overall innovation market of the EU...".<sup>49</sup>

Noting that the members of the ERIC Forum show a definite interest in implementing IP policies, it concludes that

"The focus of members contributions to the ERICs core activities in their establishment and operation may conflict with the need to dedicate part of the resources to outreach and technology transfer activities. For the nodes of distributed ERICs, activities developed within the ERIC may conflict with those 'owned' by the hosting institutions".<sup>50</sup>

The principal task of an ERIC is non-economic; this may raise issues as

"for ERICs, the investment of resources in TT [technology transfer] activities may be perceived as unjustified if compared to the income generated... It is recommended that these activities are supported by dedicated funding by members or by the EC to guide a more integrated approach. Initiatives to cluster the ERICs to achieve economies of scale and sharing resources should be supported while developing multidisciplinary responses to external requirements".<sup>51</sup>

The Expert Group thus draws attention to the frequently overlooked implementation conditions in ERICs.

A further relevant-to-ERICs issue that raises IP concerns is what are termed ‘legacy arrangements’, that is, the background of individual projects that is used by the ERIC, as well as the provisions for Intellectual Property Rights in the Hosting Institution Agreements between ERICs, and for the most part, universities. This point is often neglected—the statutes of the various ERICs present planned ‘ways of operating’ but in general do not address the thorny matter of asset transfer(s) between the research infrastructure pre-ERIC and the ERIC, with its own legal personality, on establishment.

#### Revisiting ERICs and intellectual property

The identification and management of intellectual property and related rights are important activities of an RI and are recognised as such in the Regulation; any proposed change to the provisions to IP policy categorised as an amendment to an essential element of the Statutes.<sup>52</sup> How ERICs address matters of intellectual property was the focus of a preliminary study of 20 ERICs, the results of which were presented in 2019.<sup>53</sup> This study acknowledges the detailed work undertaken by Yu et al<sup>54</sup> in respect of the European Spallation Source ERIC and did not seek to replicate the comprehensive analysis presented. Rather, the aim was to provide a general overview of how ERICs addressed IP and rights arising. The impetus to the initial exercise was to consider how the balance between the grant of public rights and the public-regarding interest addressed in ERICs. This is an enduring tension and achieving the balance is a continuous effort. The approach adopted to explore this question, in 2019, and for the updated results presented in this article, is to use only publicly available documents to explore this topic. This included a review of the articles in the Statutes and, if available, the dedicated policies relating to IP as a first step. Following this, a further step was to examine the websites of ERICs with a view to identifying IPR ‘traces’, i.e. copyright notices etc. that were taken as proxy indicators of an IPR ‘sensitivity’. Admittedly limited in scope, this preliminary study nevertheless generated findings that indicated the importance of IPRs to ERICs.

Noting the requirement that ERICs have both an IPR and a data policy, and cognisant of the increasing focus on data governance and use within the EU, including the efforts to develop a European data commons, most directly for ERICs via the European Open Science Cloud (EOSC) initiative,<sup>55</sup> attention is directed to how ERICs respond to these requirements, a balance between open science and economic value creation through the exercise of monopoly rights.

The same approach was adopted for the revisit exercise, with the same limitations acknowledged. It is justified as descriptive exploration of the arrangements in place is a necessary first step in developing a wider understanding of how, within a particular group of entities, intellectual property and its management is addressed.

#### ERICs survey of IPRs

Research infrastructures with ERIC status constitute a diverse grouping; they vary according to structure (single sited, distributed, virtual) and area of research, that is, scientific domain. These domains are categorised by ESFRI and include data, computing and digital research infrastructures (DIGIT); energy; environment; health and food; physical sciences and engineering; and social and cultural innovation.<sup>56</sup> ERICs from each of these domains, excepting DIGIT, participate in the ERIC Forum involving RIs with ERIC status and other pan-European RIs. The ERIC Forum received funding from the EU under the H2020 RTD programme to operate a policy support initiative. This initiative, the ERIC Forum Implementation Project, was carried out over a four-year period (2019–2022).<sup>57</sup> One part of the project focused on the identification of best practices in a range of areas, including intellectual property. The findings from the project are publicly available and are drawn upon to sketch a broad outline of key issues affecting ERICs.<sup>58</sup>

The survey of ERICs undertaken by the ERIC Forum indicates that an increasing number of ERICs are

publishing Rules of Procedure (RoP), including provisions for IPR management as well as dedicated policies, for example, the European Spallation Source ERIC's IP Policy.<sup>59</sup> 17 ERICs participated in the survey undertaken in 2020; the survey aimed to gather baseline information about ERICs and IPR management. Of the 17 ERICs surveyed, a number reported the following IPRs claimed: patents (n = 4); copyright (n = 3); design right (n = 3) database right (n = 4); trade mark (n = 6). A general category 'other' included uses of creative commons licences and software standards. In general, most ERICs do not involve expert input to support IPR management; two of 17 ERICs reported that they had dedicated staff members for IP matters. The Statutes of an ERIC are expected to be further elaborated in implementing rules, as appropriate. Four of the 17 ERICs reported they had dedicated intellectual property rights policies: European Spallation Source ERIC, INSTRUCT ERIC, EMBRC ERIC and EMSO ERIC. However, the absence of a dedicated policy on IPR does not mean that ERICs are not, and have not, directly engaged with IPR; for example, the Data Policy of EPOS ERIC contains specific provisions relating to the management of IP. In addition, ERICs have elaborated the provisions set out in their Statutes through the development of implementation rules or 'Rules of Procedure' guiding their practices; for example, EU OPENSOURCE, EMBRC ERIC.<sup>60</sup>

#### *Trade mark registration*

One IPR management practice that has markedly increased in use amongst ERICs is trade mark registration. At least six ERICs have registered a trade mark: European Spallation Source ERIC, EPOS ERIC, Instruct ERIC,<sup>61</sup> EMSO ERIC, BBRMI ERIC and EATRIS ERIC. The benefits of registration were noted by ERICs:

"All ERICs should file for TM protection and protect their rights. It's a matter of identity and protection of international reputation." (EMSO ERIC.)<sup>62</sup>

"Because companies register their mark and EPOS has been using the logo for 10 years. The community know it well and EPOS is that mark. As soon as they see it, they can understand what is being talked about. And [it is] not only the team that will use the logo but it will be used by 14 different countries, 1000 institutions. It is not just a legal image but a means where[by] a community can recognize the work done in 10 or more years" (EPOS ERIC).<sup>63</sup>

However, while INSTRUCT ERIC has guidance on use of its mark, only BBRMI ERIC displays the designating trade mark registration icon (®) by its name.

#### IP in the ERIC Statutes—update from 2019

Five RIs were granted ERIC status in the period from February 2019 to January 2023. These ERICs are (1) Euro Bioimaging, October 2019; (2) ELI ERIC, February 2022; (3) AnaEE ERIC, July 2022; (4) Mirri ERIC July, 2022; and (5) EU Solaris ERIC, October, 2022. The scientific domains represented include physical science and engineering; health and food; environment; and energy.

The Statutes and website of each were examined for the purpose of checking adherence to and/or divergent from those ERICs established between 2011–2019. The changing context, the growing maturing and learning from those ERICs in operation and the transfer of such learning to these new ERICs, meant that there was some expectation that the policies would be elaborated to a greater extent than previously.

The following sections are consistent with the approach to the analysis of the statutes in the preliminary study. As noted, art.10 of the Regulation requires that the Statutes of an ERIC shall contain a number of articles which set out, inter alia, the intellectual property rights policy. For the purpose of this preliminary

exploration of the treatment of IPRs, the relevant articles (on IPR and data policy) were extracted from the (publicly available) Statutes of ERICs. These articles were reviewed to assess how intellectual property rights were to be addressed.

Arising from the first review, three specific categories or themes emerged from the inductive coding exercise carried out; firstly, the definition of intellectual property used; secondly, the identification of specific intellectual property rights; and (iii) the applicable law and jurisdiction identified.

The updated review aimed to check whether this same tripartite approach held or whether there was a discernible shift between those ERICs established in the period to January 2019 and those established after that time, to January 2023.

*Revisit (i): Definitions of ‘intellectual property’ and ‘intellectual property right’*

While a feature of the articles on IP in ERICs established in the 2011–2019 period was the reference to the World Intellectual Property Organization (WIPO) definition of IP, only one of the five (Eli ERIC) refers to the WIPO definition in its article. It is noteworthy that the articles are detailed elaborations of the approach to IP within the different ERICs (EU-Solaris ERIC, MIRRI ERIC, AnaEE ERIC, Eli ERIC and Eurobioimaging ERIC).

The article on intellectual property rights in the Statutes of the most recently established ERIC, EU Solaris ERIC, is elaborate and precise; it further addresses IPR in its Legal Notice. For the purpose of illustration only, this article is contrasted with EPOS ERIC, an ERIC established in the period before February 2019. EPOS ERIC has a developed Data Policy in which IPRs are also addressed.<sup>64</sup>

Table 1

EPOS ERIC (2015)	EU SOLARIS ERIC (2022)
<p>Article 18 Data policy and intellectual property rights policy</p> <ol style="list-style-type: none"> <li>1. ICOS RI data, as well as intellectual property rights and other knowledge that is related to the ICOS RI data and produced and developed within the ICOS RI, shall belong to the entity or to the person who has generated it. The use of ICOS RI data shall be granted to ICOS ERIC by the data providers in accordance with the</li> </ol>	<p>10. Intellectual Property Rights policy</p> <ol style="list-style-type: none"> <li>1. Any and all Intellectual Property Rights (hereinafter ‘IPR’), which are created, obtained or developed by EU-SOLARIS ERIC shall vest in and be owned absolutely by EU-SOLARIS ERIC. Nevertheless, limited Data Proprietary periods can be awarded to users.</li> <li>2. Without prejudice to the conditions established in the contracts entered into between EU-SOLARIS ERIC and Members or Observers, all of the IPR created, arising, obtained or developed by the staff of a Member or Observer shall belong to that Member or</li> </ol>

<p>conditions defined in the ICOS data policy document.</p> <p>2. ICOS ERIC shall adopt common principles and rules in order to ensure access to the scientific knowledge of the ICOS RI. Data providers and authors shall be acknowledged in an appropriate manner.</p>	<p>Observer.</p> <p>3. With respect to questions of IPR, the relations between the Members and Observers of EU-SOLARIS ERIC shall be governed by the respective national legislation of Members and Observers and by international agreements to which the Members and Observers are parties.</p> <p>4. The provisions of these Statutes and the internal regulations shall be without prejudice to the background IPR owned by Members and Observers.</p> <p>5. The Members of EU-SOLARIS ERIC shall agree and approve, through the General Assembly, the EU-SOLARIS' IPR policy and regulations, under proposal of the Managing Director and having consulted the STC and the BNN. The IPR regulation shall determine the rules of EU-SOLARIS ERIC relating to the identification, protection, management and maintenance of IPR of EU-SOLARIS ERIC, including access to those rights.</p> <p>6. The BNN may recommend to the Managing Director agreements with the national infrastructure centres and consortiums with regard to the research infrastructure of EU-SOLARIS ERIC, in order to guarantee that such entities, and third parties, have access to the scientific knowledge of EU-SOLARIS ERIC research infrastructure.</p>
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As the ERIC application process matures, with more information about ERIC implementation available, it is to be expected that the provisions of the Statutes are further detailed. This is indicated by the illustrative example.

*Revisit (ii): Nature of the intellectual property right*

The provisions of the Statutes of the five ‘new’ ERICs do not distinguish between different rights; ‘any and all’ IPRs (EU Solaris ERIC); ‘all IPRs’ (AnaEE ERIC). Yet, in practice, as noted, there are a range of rights claimed relating to patents, copyright, trade marks. An oblique reference to the nature of IPR covered relates to data produced delimits the range IPRs is found in the relevant article of MIRRI ERIC’s Statutes:

10.3 “The Intellectual Property Rights of data, results and other knowledge produced and developed within the activities of MIRRI-ERIC shall belong to the entity/ies that has/have generated it.”<sup>65</sup>

This is further elaborated in the following sub-clauses:

10.4 “The Intellectual Property Rights generated by users as a result of access to resources or scientific installations of MIRRI-ERIC shall be negotiated, aiming at a fair use by both the user and MIRRI-ERIC or the Partner concerned, taking into account their respective input.”

5. “MIRRI-ERIC shall provide guidance to researchers to ensure that research undertaken using material and data made accessible through MIRRI-ERIC is undertaken within a framework that recognizes the rights of data owners and privacy of individuals.”

The distinction between ‘data’ and ‘results’ is of note and indicative of a more explicit approach to IPR than previously displayed in the articles on IP policy.

#### *Revisit (iii): Jurisdiction and applicable law*

A feature of the articles in ERICs from 2011 to 2019 was the explicit reference to the definition of ‘intellectual property’ in the Convention Establishing the World Intellectual Property Organization (WIPO), 1967.<sup>66</sup> This feature was largely absent from the five ‘new’ ERICs; only Eli ERIC’s art.9, *Intellectual Property Rights Policy*, makes reference to it: “The term ‘Intellectual Property’ shall be understood in accordance with Article 2 of the Convention Establishing the World Intellectual Property Organization signed on 14 July 1967.”<sup>67</sup>

Issues arising from conflict of laws were not included in the Statutes, of note given the internationalisation agenda of a number of ERICs. This is consistent with earlier lack of attention to this matter. Mirri ERIC refers to the ‘relevant laws, regulations and international agreements of the Members’ (10.1). The complexity of international activities was noted in 2010, when an Expert Group on Scientific Data presented a report that included a vision for 2030. It is instructive that this vision included a summary recommendation that ‘legal issues are worked out so that they encourage, and not impede, global data sharing’.<sup>68</sup>

Engagement with issues arising from international IP remains unelaborated/referenced in the Statutes.

#### *Revisit (iv): Claiming rights—empirical evidence (enforcement and websites)*

As reported in the preliminary study to January 2019, there is no reference to enforcement in the articles relating to intellectual property in the Statutes of five new ERICs.<sup>69</sup> The general absence of discussion on enforcement extends to the availability of legal fees as a cost category in ERICs’ budgets that will enable the enforcement of rights.

In the original preliminary study, one way, acknowledged as limited, of identifying even minimal engagement with IPRs was a review of the websites of the ERICs. Websites may be seen as ‘public facing’

and thus as sites in which key issues are evident.

Each of the five new ERICs was checked and all of the websites of existing ERICs were rechecked. Together with the identification of best practices in management of IPRs in ERICs, as identified by the ERIC Forum in 2022, there is evidence of greater focus of attention on IPRs in ERICs.

In general, the review of the websites suggests significant development across the ERICs in terms of formal notification of the terms of use. In particular, it was routinely found that copyright is directly asserted in the website footer (the section of content at the bottom of a webpage). This typically contains inter alia the copyright notice, privacy notice, terms of use and other content such as logo and social media icons, for example, see the website footer of LifeWatch ERIC.<sup>70</sup>

Table 2. ERICs and Intellectual Property—Overview of IP (Websites of ERICs) is presented below. The website of each ERIC was viewed for (a) copyright notices; (b) other legal notices. Where possible (if a search function was available); a search of each website (‘intellectual property’, ‘IPR’ was also made). This exercise updates the initial exercise carried out in 2019. Its purpose is to illustrate, at a glance, the experience of a user of each site and it is, of course, limited in nature and scope (it does not explore for example, the details of agreements, but is indicative. Note that some ERICs do not make their Rules of Procedure publicly available and so these are not cited here.

In summary, addressing the issue of intellectual property rights through data policies and terms of use, is in alignment with the mission of ERICs—provision of access to large scale datasets as a resource for scientific exploitation is a key element. The confounding element is perhaps, as noted by the EC, the focus on socio-economic impact. This is considered separately below.

Table 2: ERICs and Intellectual Property—Overview of IP (Websites of ERICs)<sup>71</sup>

ERIC Details		
1. EU SOLARIS ERIC	<a href="https://www.eu-solaris.eu">https://www.eu-solaris.eu</a>	
	© in website footer.	
	IPR addressed within the Legal Notice: Legal notice—EU-Solaris	
2. MIRRI ERIC	<a href="https://www.mirri.org">https://www.mirri.org</a>	
	IPR addressed within Terms of Use (Section VIII Intellectual and Industrial Property): <a href="https://www.mirri.org/wp-content/uploads/2022/03/MIRRI_CWE_TermsConditions_of_Use.pdf">https://www.mirri.org/wp-content/uploads/2022/03/MIRRI_CWE_TermsConditions_of_Use.pdf</a>	
3. AnaEE ERIC	<a href="https://www.anaee.eu">https://www.anaee.eu</a>	
	The legal notice includes a statement on training activities, see <a href="https://www.anaee.eu/legal-notice">https://www.anaee.eu/legal-notice</a>	
4. Eli ERIC	<a href="https://eli-laser.eu">https://eli-laser.eu</a>	
	IPR addressed within Terms of Access Policy- 20220603_Science_Call_TCA_Final (1).docx (eli-laser.eu)	

5. EPOS ERIC	<a href="https://www.epos-ip.org/glossary/eric">https://www.epos-ip.org/glossary/eric</a>
	Creative Commons: CC BY-SA 4.0 International License
6. EU OPENSOURCE ERIC	<a href="https://www.eu-openscreen.eu">https://www.eu-openscreen.eu</a>
	Copyright of website included in its legal policy statement
7. EMBRC ERIC	<a href="https://www.embrc.eu">https://www.embrc.eu</a>
	No details
8. INSTRUCT ERIC	<a href="http://www.instruct-eric.eu/contents/terms">www.instruct-eric.eu/contents/terms</a>
	Copyright attributed to host institution, University of Oxford © 2022
	Terms of Use specifies in section 6 arrangements for IP.
9. CESSDA ERIC	<a href="http://www.cessda.eu">http://www.cessda.eu</a>
	Copyright; acceptable use policy includes requirement to 'respect IP and confidentiality arrangements', see <a href="https://www.cessda.eu/Acceptable-Use-Policy">https://www.cessda.eu/Acceptable-Use-Policy</a> ; Data Access Policy (2016)
10. ECCSEL ERIC	<a href="http://www.eccsel.org">www.eccsel.org</a>
	Data management policy (2000, p.4) on data ownership
	<a href="https://eccsel.org/aboutresources/policies/">https://eccsel.org/aboutresources/policies/</a>
11. LifeWatch ERIC	<a href="https://www.lifewatch.eu">https://www.lifewatch.eu</a>
	Terms and Conditions and Acceptable Use policies in website footer. Terms and conditions—LifeWatch ERIC
12. EMSO ERIC	<a href="http://www.emso.eu">www.emso.eu</a>
	<a href="https://www.emso.eu/terms-of-use">https://www.emso.eu/terms-of-use</a> ['coming soon', January 2023]
13. ICOS ERIC	<a href="https://www.icos-ri.eu">https://www.icos-ri.eu</a>
	Creative common Attribution 4.0 International licence
	<a href="https://www.icos-cp.eu/data-services/about-data-portal/data-license">https://www.icos-cp.eu/data-services/about-data-portal/data-license</a>
14. European Spallation Source ERIC	<a href="https://europeanspallationsource.se/">https://europeanspallationsource.se/</a>
	Copyright
15. JIVE ERIC	<a href="http://www.jive.nl">www.jive.nl</a>
	Copyright

16. Euro Bioimaging ERIC	<a href="https://www.eurobioimaging.eu">https://www.eurobioimaging.eu</a>
	<a href="https://www.eurobioimaging.eu/content/terms-and-conditions">https://www.eurobioimaging.eu/content/terms-and-conditions</a> , details on submissions to the site addressed
17. DARIAH ERIC	<a href="https://www.dariah.eu">https://www.dariah.eu</a>
	Creative commons attribution (CC BY) licence
18. C-ERIC ERIC	<a href="https://www.ceric-eric.eu">https://www.ceric-eric.eu</a>
	Copyright
19. Euro AGRO ERIC	<a href="https://www.euro-argo.eu">https://www.euro-argo.eu</a>
	Legal notice: <a href="https://en.ifremer.fr/Mentions-legales">https://en.ifremer.fr/Mentions-legales</a>
20. ECRIN ERIC	<a href="https://www.ecrin.org">https://www.ecrin.org</a>
	Copyright -ECRIN—European Clinical Research Infrastructure Network 2022
21. BBMRI ERIC	<a href="http://www.bbmri-eric.eu">www.bbmri-eric.eu</a>
	Legal notice and privacy notice: <a href="https://www.bbmri-eric.eu/legalnotice/">https://www.bbmri-eric.eu/legalnotice/</a>
	Registered design right and copyright: (© BBMRI-ERIC®)
22. ESS ERIC	<a href="http://www.europeansocialsurvey.org">www.europeansocialsurvey.org</a>
	Copyright, privacy and disclaimer regarding use of its data sets
23. EATRIS ERIC	<a href="https://www.eatris.eu">https://www.eatris.eu</a>
	Copyright
24. CLARIN ERIC	<a href="https://www.clarin.eu">https://www.clarin.eu</a>
	Terms of Use: <a href="https://www.clarin.eu/content/terms-use-and-disclaimer">https://www.clarin.eu/content/terms-use-and-disclaimer</a>
	CC-BY SA Licence; Creative Commons License Attribution 2.0
25. SHARE ERIC	<a href="http://www.share-project.org/organisation">www.share-project.org/organisation</a>
	copyright SHARE ERIC; copyright notice and disclaimer <a href="http://www.share-project.org/footer/copyright-notice-and-disclaimer.html">http://www.share-project.org/footer/copyright-notice-and-disclaimer.html</a>

For AnaEE ERIC, the legal notice included details of training activities on IPRs: “Platform managers will be trained in industry policy, with particular emphasis on Intellectual Property Rights policy.”

ELI ERIC extensively addresses intellectual property within its Terms of Access Policy, including defining background and foreground. The IP Policy elaborated from art.9 of its Statutes has, at January

2023, yet to be formally adopted.

INSTRUCT ERIC's website is operated by the University of Oxford, UK on behalf of the INSTRUCT ERIC consortium and copyright is asserted by the university. Notwithstanding this fact, the Terms of Use provide details of arrangements for IP in a dedicated section ('Intellectual Property').

In addition, a separate INSTRUCT ERICs IPR Policy (2020) sets out principles, definitions and approaches to the IPR management.<sup>72</sup> This separate listing of IPRs is a feature of ERICs shared by a number of ERICs, INSTRUCT ERIC and EPOS ERIC as examples.

*Socio-economic impact and ERICs IP policies: Commercial concerns*

As noted above, Yu et al note in their study of the European Spallation Source ERIC, that '[a]ctions such as creating spin-offs, engaging in technology transfers and mandating licensing revenue from technologies developed using ERIC facilities potentially challenge the requirement of ERICs to pursue limited economic activities in order to preserve their ERIC status'.<sup>73</sup> This issue is one to which both the European Commission, in the 1st and 2nd Report on the Application of the ERIC Regulation in 2014 and 2018 respectively, and the Expert Group, in its 2022 report on the implementation of the ERIC Regulation, have drawn attention.

Within the Communication, A new ERA for research and innovation, the definition of the ERA is that it

"aims at building a common scientific and technological area for the EU. Creating a single market for research and innovation fostering free movement of researchers, scientific knowledge and innovation and encouraging a more competitive European industry".<sup>74</sup>

The diagnosis of the problems affecting the EU include 'translating R&I results into the economy':

"Although Europe is a world leader in some high-tech sectors, such as green technology, with the growing importance and diffusion of ICT, efforts need to be channelled toward strengthening industrial innovation, technology transfer and fostering the uptake of R&I solutions and the diffusion of innovation through knowledge transfer and public-private cooperation".<sup>75</sup>

IP, and the management of IPRs, is central to such efforts. While ERICs have been established in response to the 'central role of world-class scientific research infrastructures for the attainment of the Community's RTD objectives as set out in Article 163 of the Treaty' (Recital 5), ERICs exist, in the first instance, 'for' the scientific community. However, the recital (point 8) to the Regulation states that

"An ERIC...should have as its principal task the establishment and operation of a research infrastructure on a non-economic basis and should devote most of its resources to this principal task. In order to promote innovation and knowledge and technology transfer, the ERIC should be allowed to carry out some limited economic activities".<sup>76</sup>

The economic activities of ERICs directly raise matters of IPR and generation of an economic returns—it directs the focus of attention from the protection of IP to its exploitation. While IP is central to value creation, the exploitation of IP to extract revenue has not been at the forefront of discussions about ERICs.

As Cornish et al note, the purpose of IPRs is to protection 'applications of ideas and information that are of commercial value'. Commercialisation in turn is defined by the EU IPR Helpdesk as 'the process of turning products and services into a commercially viable value. Concerning intellectual property...this

term can be more specifically defined as bring IP to the market in view of future profits and business growth'.<sup>77</sup>

The tension between commercial exploitation and open science is routinely noted; for example, the remarks of the European Commission in its Communication A single market in intellectual property rights:

”Care should be taken to ensure that the right balance between the protection of rights and access, i.e. to develop fair regimes rewarding and incentivizing inventors and creators whilst ensuring the circulation and dissemination of goods and services, the exercise of other fundamental rights and the promotion and preservation of linguistic diversity....”.<sup>78</sup>

This matter may not be so straightforward for the ERICs—as the European Commission Reports on the application of the ERIC Regulation have pointed out.

In summary, the review of the relevant articles suggests that, in general, the protection of IP in ERICs is defensive.

Revenue generation from results is rarely referenced the Statutes, exceptions including ECRIN ERIC and EU OPENSREEN ERIC:

”Income generated by intellectual property produced by EU-OPENSREEN ERIC shall be used for the operations of EU-OPENSREEN ERIC up to a threshold laid down in the Rules of Procedure. The use of income above this threshold shall be subject to a decision of the Assembly of Members (art. 25.3)”.<sup>79</sup>

ECRIN ERIC specifies that ‘ECRIN-ERIC may own appropriate Intellectual Property Rights whenever the ECRIN-ERIC contribution covers the innovation process’ (art.12.2) and further that ‘Income generated by Intellectual Property produced by ECRIN-ERIC shall be used for the operations of the ERIC’ (art.12.3). Notably ECRIN ERIC situates the generation of IPR as within the ‘innovation process’ (art.12). EU OPENSREEN ERIC similarly specifies that ‘EU-OPENSREEN ERIC may own intellectual property whenever EU-OPENSREEN ERIC contribution covers the innovation process (art.25.2). While the specific arrangements relating to contracts are referred to by a number of ERICs, e.g. BBRMI, JIV ERIC, ESS ERIC, C-ERIC ERIC. Otherwise, there are references to contracts and benefit sharing agreements (e.g. BBMRI ERIC; SHARE ERIC: ‘With respect to questions of Intellectual Property, the relations between the Contracting Parties will be governed by the national legislation of the Contracting Parties’ (art.11.3).

Outstanding issues and further research

One conclusion, not novel but worthy of attention, concerns the interaction of policies. In general, this matter is considered in relation to ensuring that contracts include IPR arrangements. However, the interaction of policy provisions is of particular note in respect of IPR and enabling access as part of a wider dissemination strategy and is linked to the wider policy objective of open science.

It is of note that within the statutes of EU SOLARIS ERIC, the most recently established ERIC (October 2022) IP is addressed not only in its discrete policy section—as required by the Regulation 723/2009, art.10—but is also raised in the cognate dissemination policy:

”Without prejudice to potential Intellectual Property Rights, EU-SOLARIS ERIC shall ensure that its

users make available to the public the results of the research carried out at the ERIC infrastructures and that they do so via EU-SOLARIS ERIC, in accordance with European and national grant terms and conditions. This will not apply to R & D activities carried out by the Research Centres when using their own infrastructures out of the scope of the ERIC.”<sup>80</sup>

The focus on open science is of interest in terms of the developments relating to data ownership as set out in the European Data Strategy and related European Data Act in which there a general shift from ownership to access. The balance of rights of IP holders with the aim of developing a robust data economy is explored in detail by Zobili and Corrado.<sup>81</sup>

The general exhortation and position of the European Commission is to make the data as open as possible and as closed as necessary.<sup>82</sup> This does not obviate the challenges of managing this tension. Some ERICs used creative commons licences as a way to address this challenge.

A further outstanding matter relates to the provenance of ERICs: most have evolved from operations as projects located within universities (and, for distributed ERICs, pan-European projects with separate arrangements); the EGERIC Report on the Implementation of the ERIC Regulation recognises this feature—the Host Institution of ERICs is often a University. The EGERIC noted this issue, remarking that for nodes of distributed ERICs, the activities developed within the ERIC may conflict with those “owned” by the hosting institutions.<sup>83</sup>

Finally, and repeating a finding of the earlier study, the allocation of resources for IPR management is not clearly identified in the ERICs budgets; there is little consideration of enforcement—and the related costs of enforcement, resulting in what are effectively meaningless claims, that is claims that are unlikely to be enforced. In general, the ERIC approach to IP is defensive, rather than focused on exploitation for its commercial value. This finding is unsurprising given the primary function of ERICs.

#### *Further research*

A comparison, for the purposes of indicating possible common approaches to IPR, within the overall ‘RI ecosystem’, as per the Brno Declaration, 2022<sup>84</sup> between selected national RIs, ERICs and other RIs on the ESFRI Roadmap, for example, the high performance computing RI, PRACE, and the large RIs that are members of EIROforum, such as the European Space Agency (ESA),<sup>85</sup> or the nuclear fusion IGO, ITER<sup>86</sup> could be undertaken. The latter, members of EIROforum, have dedicated information available to commercial and other users, perhaps indicative of the importance of this stream of revenue.

As ERICs move through the research infrastructure lifecycle,<sup>87</sup> challenges of IPR will be managed differently.

Detailed case studies of individual ERICs, drawn from different domains and representing the different structure (single sited, multi-site, distributed) would be productive in illustrating how ERICs address the tension between open science and what is termed ‘value exploitation’ IPR.

#### *Conclusion*

The designation ‘ERIC’ is a legal status created by the EU in the first decade of the 21st century. Suggestively, and noting the point made by Zobili and Corrado apropos the time-sensitive applicability of Database Directive,<sup>88</sup> the approach to intellectual property has to be considered within a wider, changing, context of the policy objectives of the EU, including the increasing requirement for socio-economic impacts to be achieved for initiatives in receipt of public funding, while at the same time, the creation of

an EU data commons.

There are grounds to identify ERICs as a grouping that should occupy a particular place within a Community of Practice and attention directed to the particular issues that ERICs *qua* ERICs grapple with. The importance of IPRs and addressing them at the different stages of development and/or operation, and periodically updating policies, was recognised by ERICs.<sup>89</sup>

ERICs are maturing and as they move through their life-cycles, the volume of assets, and their potential, mean that IPRs, are, if not protected, vulnerable. As recipients of public funds, ERICs should derive benefits/rewards from their activities. As a particular interest group within an IP CoP, whether formally constituted or not, the need for ERICs to be identified as such will direct attention to the particular needs of ERICs.

The available evidence indicates that ERICs are increasingly addressing IP and that this engagement is meaningful, that is, beyond a statement in the required Statutes. An enduring feature of the approach to IPRs in ERICs relates to enforcement. As a practical matter, resources for ensuring effective enforcement are non-existent in the budgets of ERICs. The words of the Council in its Recommendations on the guiding principles for knowledge valorisation are apposite in conclusion:

”Efficient management of intellectual assets is crucial for knowledge valorisation ... Sensible use of research results to create socio-economic benefits will also add to the overall value and importance of scientific research for society.”<sup>90</sup>

A key principle in research and innovation policy is to “ensure that publicly funded R&I activities consider the broadest possible societal use and valorisation of intellectual assets generated by R&I activities while taking into account sovereignty issues and involving all ecosystem actors”.<sup>91</sup> The future plans for the development of research infrastructures globally, through establishing distributed international research infrastructures, will similarly require direct engagement with the IPR dimension of RI management activities. Direct engagement with ERICs and their particular features, their provenance et cetera, through the designation of ERICs as a special interest group in the Community of Practice for the smart use of IP will ensure that the Code of Practice will be fit for purpose for ERICs as a particular group of ERA actors.

## Footnotes

1 Regulation 723/2009 [amended December 2014], Regulation 1261/2013 amending Regulation 723/2009 concerning the Community legal framework for a European Research Infrastructures Consortium (ERIC) [2009] OJ L206/1.

2 Regulation 723/2009 [2009] OJ L206/1.

3 Decision 2022/2297 setting up the European Solar Research Infrastructure for Concentrated Solar Power (EU-SOLARIS ERIC) [2022] OJ L304/78, available at: <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32022D2297&from=EN>.

European Commission, “ERIC Landscape: Active European Research Infrastructure Consortia (ERICs)”, available at: [https://research-and-innovation.ec.europa.eu/strategy/strategy-2020-2024/our-digital-future/european-research-infrastructures/eric/eric-landscape\\_en](https://research-and-innovation.ec.europa.eu/strategy/strategy-2020-2024/our-digital-future/european-research-infrastructures/eric/eric-landscape_en) [Accessed 4 January 2023].

- 4 The work of ESFRI, which has mobilised close to €20 billion in investments, has been recognised as one of the major achievements of ERA, ESFRI, “Roadmap 2021”, available at: <https://roadmap2021.esfri.eu> [Accessed 12 February 2023], p.3.
- 5 European Commission, Report on the application of Regulation 723/2009 on the Community legal framework for a European Research Infrastructure Consortium COM(2014) 460 final, p.3.
- 6 European Commission, First Progress Report on the Application of Council Regulation 723/2009 on the Community Legal Framework for a European Research Infrastructure Consortium (ERIC) 2014 COM(2014) 460 final, pp.2, 3.
- 7 Regulation 723/2009: ‘Article 2 Definitions’; it is notable that ‘research infrastructure’ is variously defined in European Commission texts; for example, in its multi-annual funding programme, H2020, RIs are defined as Research infrastructures are facilities, resources and services that are used by the research communities to conduct research and foster innovation in their fields. Where relevant, they may be used beyond research, e.g. for education or public services. They include: major scientific equipment (or sets of instruments); knowledge-based resources such as collections, archives or scientific data; e-infrastructures, such as data and computing systems and communication networks; and any other infrastructure of a unique nature essential to achieve excellence in research and innovation. Such infrastructures may be ‘single-sited’, ‘virtual’ or ‘distributed’: European Commission, “Horizon 2020 Work Programme 2014–2015”, available at: [http://ec.europa.eu/research/participants/data/ref/h2020/wp/2014\\_2015/main/h2020-wp1415-infrastructures\\_en.pdf](http://ec.europa.eu/research/participants/data/ref/h2020/wp/2014_2015/main/h2020-wp1415-infrastructures_en.pdf).
- 8 Horizon Europe, “Research Infrastructures”, available at: <https://horizoneurope.ie/excellent-science/research-infrastructures> [Accessed 4 January 2023] (emphasis added). This followed from Horizon 2020 (2014–2020): Horizon 2020 will endow Europe with world-class research infrastructures that are accessible to all researchers in Europe and fully exploiting their potential for scientific advancement and innovation. Three types of activity will be supported to enable excellent science in Europe, available at: <http://www.ec.europa.eu/programmes/horizon2020/en/area/research-infrastructures> [Accessed 4 January 2023].
- 9 Czech Presidency of the EU, “Brno Declaration on Fostering a Global Ecosystem of Research Infrastructures” (October 2022), available at: <https://www.icri2022.cz/post/brno-declaration-on-fostering-a-global-ecosystem-of-research-infrastructures>).
- 10 “Innovation not only helps the European economy to flourish. It is indispensable to address the big challenges that humankind is facing in the 21st century: ensuring food security, containing climate change, dealing with demographic change and improving citizens’ health. It also has an essential role to play in the quality of daily life by fostering cultural diversity”: Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions, “A Single Market for Intellectual Property Rights Boosting creativity and innovation to provide economic growth, high quality jobs and first class products and services in Europe” COM(2011) 287:3.

- 11 *C. Geiger (ed.), Constructing European Intellectual Property (Cheltenham: Edward Elgar Publishing, 2013), p.xxi.*
- 12 Of note is the fact that while ERICs are required to include in their Statutes the data policy, this is not subject to the same requirements as the intellectual property rights policy. Rather, this can be amended without express permission prior to the amendment being sought from the European Commission.
- 13 Regulation 723/2009 art.11.1.
- 14 See *European Union, Council Conclusions Research Infrastructures (2022)*, p.7 for a description of the seven phases of an RI lifecycle.
- 15 “Best Practices Guidance Document on Contracting, Insurance and Intellectual Property for ERICs”, Deliverable 3.6 for the ERIC Forum Implementation Project, GA 823798 (2022), available at: [https://www.eric-forum.eu/wp-content/uploads/ERIC-Forum\\_D3.6-IP\\_Insurance\\_Contracting.pdf](https://www.eric-forum.eu/wp-content/uploads/ERIC-Forum_D3.6-IP_Insurance_Contracting.pdf) [Accessed 20 December 2022]. ERIC Forum Implementation Project, GA 823798, H2020.
- 16 European Commission, A New Industrial Strategy for Europe COM(2020) 102; European Commission, Updating the 2020 New Industrial Strategy: Building a stronger single market for Europe’s recovery COM(2021) 350.
- 17 European Commission, Action Plan on Intellectual Property 2020.
- 18 European Commission, A New ERA for Research and Innovation COM(2020) 628.
- 19 For instance, ESFRI, “Roadmap 2021”.
- 20 European Commission, The European Research Area: New Perspectives (2008).
- 21 European Commission, The European Research Area: New Perspectives (2007).
- 22 European Commission, A reinforced European Research Area partnership for Excellence and Growth COM(2012) 392.
- 23 European Commission, European Research Area: Progress Report 2014 COM(2014) 575.
- 24 European Commission, European Research Area Policy Agenda: Overview of Actions for the period 2022–2024 (2021).
- 25 European Council, “European Research Area”, available at: <https://www.consilium.europa.eu/en/policies/european-research-area/> [Accessed 22 December 2022].
- 26 European Commission, Updating the 2020 New Industrial Strategy: Building a stronger Single Market for Europe’s recovery COM(2021) 350.

- 27 European Commission, Communication Making the most of the EU's innovative potential: An intellectual property action plan to support the EU's recovery COM(2020) 760, available at: <https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX:52020DC0760>.
- 28 European Commission, A European Strategy for Data COM(2020) 66.
- 29 Regulation 2022/868 on European data governance and amending Regulation 2018/1724 (Data Governance Act) [2021] OJ L152/1.
- 30 *European Commission, European Research Area Policy Agenda: Overview of Actions for the period 2022–2024 (2021)*, p.10.
- 31 *European Commission, European Research Area Policy Agenda: Overview of Actions for the period 2022–2024 (2021)*, p.11.
- 32 *European Commission, European Research Area Policy Agenda: Overview of Actions for the period 2022–2024 (2021)*, p.11.
- 33 Recommendation 2022/2415 on the guiding principles for knowledge valorisation [2022] OJ 317/141, p.9.
- 34 Recommendation 2022/2415 on the guiding principles for knowledge valorisation [2022] OJ 317/141.
- 35 *ESFRI, Inspiring Excellence: Research Infrastructures and the Europe 2020 Strategy (2011)*, p.2.
- 36 Recommendation 2022/2415 on the guiding principles for knowledge valorisation [2022] OJ 317/141.
- 37 European Commission, Communication Making the most of the EU's innovative potential, p.1.
- 38 European Commission, Code of Practice for the smart use of intellectual property, available at: [https://research-and-innovation.ec.europa.eu/research-area/industrial-research-and-innovation/eu-valorisation-policy/knowledge-valorisation-platform/code-practice-smart-use-intellectual-property\\_en](https://research-and-innovation.ec.europa.eu/research-area/industrial-research-and-innovation/eu-valorisation-policy/knowledge-valorisation-platform/code-practice-smart-use-intellectual-property_en) [Accessed 5 January 2023].
- 39 European Commission, European Charter for Access to Research Infrastructures Principles and Guidelines for Access and Related Services (2016), available at: [https://ec.europa.eu/research/infrastructures/pdf/2016\\_charterforaccessto-ris.pdf](https://ec.europa.eu/research/infrastructures/pdf/2016_charterforaccessto-ris.pdf) [Accessed 2 December 2021].
- 40 European Commission, European Charter for Access to Research Infrastructures (2016), p.6.
- 41 European Commission, European Charter for Access to Research Infrastructures (2016), p.10.
- 42 *European Commission, European Charter for Access to Research Infrastructures (2016)*,

p.13 (emphasis added).

- 43 H. Yu, J.B. Wested and T. Minssen, “Innovation and intellectual property policies in European Research Infrastructure Consortia—Part. 1: The Case of the European Spallation Source ERIC” (2017) 12(5) J.I.P.L. & P. 448, available at: <https://doi.org/10.1093/jiplp/jpx081>; L. Ryan, “Balancing Rights in the European Research Area: The Case of ERICs” (2019) 41 E.I.P.R. 218–227.
- 44 M. Verlinden, T. Minssen and I. Huys, “IPRS in biobanking-risks and opportunities for translational research” (2015) I.P.Q. 107.
- 45 M. Smith and F. Hansen, “Managing intellectual property: A strategic point of view” (2002) 3(4) Journal of Intellectual Capital 366–374.
- 46 European Commission, First Report on the Application of the ERIC Regulation COM(2014) 460 final, p.8 (emphasis added).
- 47 European Commission, Second Report on the Application of the ERIC Regulation COM(2018) 523 final, p.8, available at: <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52018DC0523&from=en>.
- 48 Article 3.1 of Regulation 723/2009 provides that: “The principal task of an ERIC shall be to establish and operate a research infrastructure”. Article 3.2 provides: “An ERIC shall pursue its principal task on a non-economic basis. However, it may carry out limited economic activities, provided that they are closely related to its principal task and that they do not jeopardise the achievement thereof”.
- 49 European Commission, Assessment on the implementation of the ERIC Regulation, Independent Expert Report (2021), available at: <https://data.europa.eu/doi/10.2777/747211>.
- 50 European Commission, Assessment on the implementation of the ERIC Regulation, Independent Expert Report (2021).
- 51 European Commission, Assessment on the implementation of the ERIC Regulation, Independent Expert Report (2021), p.34.
- 52 This is notwithstanding the claim by the EC that “After the establishment of an ERIC, the European Commission services have a limited role in the ERIC activities that are governed and steered by the ERIC within the boundary conditions of the ERIC Regulation, the Statutes and Implementing Rules adopted for the ERIC” (European Commission, First Report on the Application of the ERIC Regulation COM(2014) 460 final, p.7). The European Commission services can only act in specified circumstances.
- 53 Ryan, “Balancing Rights in the European Research Area: The Case of ERICs” (2019) 41 E.I.P.R. 218–227.
- 54 Yu, Wested and Minssen, “Innovation and intellectual property policies in European Research Infrastructure Consortia—Part. 1: The Case of the European Spallation Source ERIC” (2017) 12(5) J.I.P.L. & P. 448.

- 55 European Open Science Cloud (EOSC), available at: <https://eosc-portal.eu/>.
- 56 These domains are also referred to as ‘clusters’, see ERIC Forum, “The ERIC landscape—The ERIC landscape is presented by clusters”, available at: <https://www.eric-forum.eu/the-eric-landscape/> [Accessed 20 December 2022].
- 57 ERIC Forum Implementation Project, GA 823798.
- 58 See ERIC Forum, “The ERIC landscape—The ERIC landscape is presented by clusters”.
- 59 Yu, Wested and Minssen, “Innovation and intellectual property policies in European Research Infrastructure Consortia—Part. 1: The Case of the European Spallation Source ERIC” (2017) 12(5) J.I.P.L. & P. 448.
- 60 A table providing an overview of approaches—specific policy, addressed within Rules of Procedure or in data policy amongst ERICs is presented in **Ryan**, 2021:16-17.
- 61 See EUIPO, “INSTRUCT ERICs registration”, available at: <https://euipo.europa.eu/eSearch/#basic/1+1+1+1/100+100+100+100/INSTRUCT>.
- 62 Cited in **Ryan**, “Best Practices Guidance Document on Contracting, Insurance and Intellectual Property for ERICs”, Deliverable 3.6 for the ERIC Forum Implementation Project, GA 823798 (2022).
- 63 Cited in **Ryan**, “Best Practices Guidance Document on Contracting, Insurance and Intellectual Property for ERICs”, Deliverable 3.6 for the ERIC Forum Implementation Project, GA 823798 (2022).
- 64 Data Policy: [https://www.epos-eu.org/sites/default/files/2020-12/EPOS%20DATA%20POLICY\\_July2018.pdf](https://www.epos-eu.org/sites/default/files/2020-12/EPOS%20DATA%20POLICY_July2018.pdf).
- 65 *MIRRI, The Statutes of the Microbial Resource Research Infrastructure MIRRI – a European Research Infrastructure Consortium MIRRI-ERIC* (2015), [https://prephase.mirri.org/fileadmin/mirri/media/Dokumente/generalDocs/MIRRI-ERIC\\_Statutes\\_V4\\_0.pdf#:~:text=The%2016%20Partners%20and%2029%20Collaborating%20Parties%20of,for%20the%20governance%20and%20management%20of%20the%20MIRRI-ERIC](https://prephase.mirri.org/fileadmin/mirri/media/Dokumente/generalDocs/MIRRI-ERIC_Statutes_V4_0.pdf#:~:text=The%2016%20Partners%20and%2029%20Collaborating%20Parties%20of,for%20the%20governance%20and%20management%20of%20the%20MIRRI-ERIC) [accessed 31.03.2023].
- 66 Although as noted it is included in the article on IPR policy in the Statutes of ELI ERIC (art.9.1).
- 67 ELI ERIC, Statutes of the Extreme Light Infrastructure ERIC [2021] OJ C230/1, [https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv:OJ.C\\_.2021.230.01.0001.01.ENG](https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv:OJ.C_.2021.230.01.0001.01.ENG) [Accessed 31.03.2023].
- 68 High level Expert Group on Scientific Data, “Riding the wave: How Europe can gain from the rising tide of scientific data” (October 2010), p.34, available at: <https://ec.europa.eu/eurostat/cros/system/files/riding%20the%20wave.pdf> [Accessed 4

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- 70 The LifeWatch ERIC, “Resources & Services”, available at: <https://www.lifewatch.eu/> [Accessed 4 January 2022].
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- 72 Instruct-ERIC Policies, available at: <https://instruct-eric.org/policies> [Accessed 10 January 2023].
- 73 Yu, Wested and Minssen, “Innovation and intellectual property policies in European Research Infrastructure Consortia—Part. 1: The Case of the European Spallation Source ERIC” (2017) 12(5) J.I.P.L. & P. 448.
- 74 European Commission, A New ERA for Research and Innovation COM(2020) 628, p.1.
- 75 European Commission, A New ERA for Research and Innovation COM(2020) 628, p.2.
- 76 Regulation 723/2009 Recital Point 8.
- 77 European Commission, “IP Guides”, available at: [https://intellectual-property-helpdesk.ec.europa.eu/regional-helpdesks/european-ip-helpdesk/ip-guides\\_en](https://intellectual-property-helpdesk.ec.europa.eu/regional-helpdesks/european-ip-helpdesk/ip-guides_en).
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- 79 EU OpenScreen ERIC: <https://www.eu-openscreen.eu>.
- 80 EU SOLARIS ERIC art.9, Dissemination Policy (2022) (emphasis added).
- 81 L. Zoboldi and M. Corrado, “The evolution of IPRs in the EU data economy: a critical reading of the Data Act proposal” (2023) 45 E.I.P.R. 4–14.
- 82 See E. Barbarossa, S. Grande and J.-P. Trialles, “IPR, Technology Transfer and Open Science: challenges and Opportunities” (Luxembourg: Publications Office of the European Union, 2017), p.6.
- 83 *European Commission, Directorate-General for Research and Innovation, Assessment on the implementation of the Eric Regulation, Publications Office of the European Union (2021), p.34, <https://data.europa.eu/doi/10.2777/7472>.*
- 84 Czech Presidency of the EU, “Brno Declaration on Fostering a Global Ecosystem of Research Infrastructures” (October 2022).
- 85 European Space Agency, “Intellectual Property”, available at:

<https://commercialisation.esa.int/intellectual-property/#:~:text=ESA%E2%80%99s%20intellectual%20property%20portfolio%20is%20available%20to%20European,uses%20a%20different%20licensing%20model%20and%20requests%20royalties> [Accessed 6 January 2023].

- 86 iter.org, “Intellectual Property”, available at: <https://www.iter.org/intellectualproperty> [Accessed 6 January 2023].
- 87 Council Conclusions Research Infrastructures, December 2022, sets out the different phases of the RI life-cycle “including the phases of concept development, design, preparation, implementation, construction, operation, major upgrades, reorientation, decommissioning, and termination” (p.7).
- 88 That is, it was ‘enacted in a pre-digital setting; noting technological developments including a proliferation of data produced by the internet of things’, Zoboli and Corrado comment that ‘[t]his called into question the applicability of the Database Directive, that may no longer be aligned with the technological developments of the last two decades’: Zoboldi and Corrado, “The evolution of IPRs in the EU data economy: a critical reading of the Data Act proposal” (2023) 45 E.I.P.R. 4–5.
- 89 As suggested by findings in **Ryan**, “Best Practices Guidance Document on Contracting, Insurance and Intellectual Property for ERICs”, Deliverable 3.6 for the ERIC Forum Implementation Project, GA 823798 (2022): Advice for ERICs in preparation or newly established included the following: “Do not delay discussion, drafting and conclusion of your IPR policy. You need to do it at the beginning as the organisation has different issues at different stages. The IPR policy should include a review period.”
- 90 European Commission, Proposal for a Recommendation on the guiding principles for knowledge valorisation COM(2022) 391 final, p.10, p.11.
- 91 European Commission, Proposal for a Recommendation on the guiding principles for knowledge valorisation COM(2022) 391 final, p.19.