EGI-InSPIRE

EGI.eu Transition Plan to ERIC

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Abstract

This deliverable describes a Digital Research Infrastructure ERIC that focuses on the delivery of ICT services needed for the transnational coordination of e-Science resources for different research communities within ERA and a potential transition plan that outlines the necessary steps to move forward to such an entity that can be supported by EGI.eu on behalf of the EGI Community.

II. DELIVERY SLIP

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III. DOCUMENT LOG

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IV. APPLICATION AREA

This document is a formal deliverable for the European Commission, applicable to all members of the EGI-InSPIRE project, beneficiaries and Joint Research Unit members, as well as its collaborating projects.

V. DOCUMENT AMENDMENT PROCEDURE

Amendments, comments and suggestions should be sent to the authors. The procedures documented in the EGI-InSPIRE "Document Management Procedure" will be followed:
https://wiki.egi.eu/wiki/Procedures

VI. TERMINOLOGY

A complete project glossary is provided at the following page: http://www.egi.eu/about/glossary/.

VII. PROJECT SUMMARY

To support science and innovation, a lasting operational model for e-Science is needed − both for coordinating the infrastructure and for delivering integrated services that cross national borders.

The EGI-InSPIRE project will support the transition from a project-based system to a sustainable pan-European e-Infrastructure, by supporting 'grids' of high-performance computing (HPC) and high-throughput computing (HTC) resources. EGI-InSPIRE will also be ideally placed to integrate new Distributed Computing Infrastructures (DCIs) such as clouds, supercomputing networks and desktop grids, to benefit user communities within the European Research Area.

EGI-InSPIRE will collect user requirements and provide support for the current and potential new user communities, for example within the ESFRI projects. Additional support will also be given to the current heavy users of the infrastructure, such as high energy physics, computational chemistry and life sciences, as they move their critical services and tools from a centralised support model to one driven by their own individual communities.

The objectives of the project are:

1. The continued operation and expansion of today's production infrastructure by transitioning to a governance model and operational infrastructure that can be increasingly sustained outside of specific project funding.
2. The continued support of researchers within Europe and their international collaborators that are using the current production infrastructure.
3. The support for current heavy users of the infrastructure in earth science, astronomy and astrophysics, fusion, computational chemistry and materials science technology, life sciences and high energy physics as they move to sustainable support models for their own communities.
4. Interfaces that expand access to new user communities including new potential heavy users of the infrastructure from the ESFRI projects.
5. Mechanisms to integrate existing infrastructure providers in Europe and around the world into the production infrastructure, so as to provide transparent access to all authorised users.
6. Establish processes and procedures to allow the integration of new DCI technologies (e.g. clouds, volunteer desktop grids) and heterogeneous resources (e.g. HTC and HPC) into a seamless production infrastructure as they mature and demonstrate value to the EGI community.

The EGI community is a federation of independent national and community resource providers, whose resources support specific research communities and international collaborators both within Europe and worldwide. EGI.eu, coordinator of EGI-InSPIRE, brings together partner institutions established within the community to provide a set of essential human and technical services that enable secure integrated access to distributed resources on behalf of the community.

The production infrastructure supports Virtual Research Communities (VRCs) − structured international user communities − that are grouped into specific research domains. VRCs are formally represented within EGI at both a technical and strategic level.

VIII. EXECUTIVE SUMMARY

The vision of the proposed Digital Research Infrastructure ERIC (DRI ERIC) is to provide the sustainable long-term integrated operation of a single uniform market of transnational ICT services needed by researchers in the digital European Research Area (ERA) to collaborate seamlessly across disciplines and across borders. The DRI ERIC will provide the European wide governance and funding structure that can sustain through national and domain representation the services needed by the various research communities to access large scale computing, storage, networking and data resources across Europe. This allows scientists from all fields of research to make the most out of the latest ICT for the benefit of their applied research activities.

The principles of subsidiarity in the organisation of the ERIC will be maintained: national funders would continue to fund national e-infrastructure. Services used by one particular type of researcher would continue to be technically specified by those researchers through individual Service Councils. The ERIC would focus on two technical aspects: the sustainable transnational uniform integration of the services coming from different national resource providers and the provision of services needed to support collaborative e-Research in the digital ERA. Therefore, the DRI ERIC will focus on a lightweight coordination role in that the majority of the resources it delivers to its consuming communities will be delivered through the national resources that remain under local control. The ERIC will have a central European hub (which is responsible for the integrated service delivery through the provision of coordinated services) and distributed national spokes (which coordinate the local national facilities) each of which will retain their own legal personality. A peer review process for the allocation of resources to support excellent science using resources will be operated using either centrally purchased resources or those contributed from national providers to supplement resources allocated through individual national peer review processes. The purchase and technical operation of any physical resources located in the national resource centres would continue to be fully funded by the members of the ERIC through their own local funding models.

The routine coordination activity of the ERIC will be funded partly by its members and the consumers of the coordination services it provides for its research communities. Additional funds for additional innovation or support actions co-funded with the EC may be available through Horizon 2020 project to the ERIC and its members. The ERIC's Business Model around additional income generation will be developed in the later advanced stages of the negotiation process between the ERIC's members. The operation of the services will be driven by the consumers of these services (drawn from various types of community, national and project based actors) through Service Councils (SCs) within the DRI ERIC. Those contributing to the cost of supporting the services they consume will be able to have input into how they are delivered. This would allow the DRI ERIC to act as an 'umbrella' organisation potentially including different e-Infrastructures and services serving many different research communities requiring transnational ICT services across Europe

The core functions provided by the DRI ERIC will include management and administration, strategy and policy, outreach, technical consultancy, operations and resource allocation. The domain specific services needed by different research communities are managed by the individual SCs and delivered through their respective operations units. Organisationally, these operation units are funded through the DRI ERIC and are able to draw upon its core functional units to support their work. These operational units ultimately should be fully integrated into the DRI ERIC, however a transitional mode of operation could see existing e-Infrastructure operations remaining as separate legal entities governed and financed directly through the DRI ERIC.

The governance of the DRI ERIC is undertaken by the full members in the Assembly (the senior decision-making and supervisory authority of the ERIC) which sets the overall strategy, policies, approves budgets and appoints the Director and members of Scientific Advisory Board, while the consumers of the services (majority of the current participant and associated participants in the EGI Council) alongside members sit in the SCs where they are able to 'buy-in' to the use of the service and its technical definition and operation. The members and observers of the Assembly will be represented in each SC which with the consumers of the services provided by that SC will define the technical specification and operation of these services by the relevant operations unit. It is expected that when compared to the current EGI Council that a smaller number of members of the DRI ERIC will engage as members, but that they will commit at a higher multi-year financial level.

Participation in each SC is determined by the Assembly and may be open to service consumers beyond those that are already members or observers of the DRI Assembly. However, these consumers may have to pay the designated participation fee decided by the Assembly in order to have a vote in the relevant SC on the service policy and to propose policies for consideration by the Assembly. Possible SCs include those relating to Core Services, High Throughput Resource Providers, High Performance Resource Providers, Collaborative Data Infrastructure Providers, Open Data Infrastructure, Networking Infrastructure and Cloud Infrastructure.

Sustainability of the DRI ERIC has been improved over stand-alone generic e-Infrastructure and research infrastructures *just* providing ICT services in four ways:
• It provides a variety of core generic services that can be delivered consistently for all research communities across the *whole* of the digital ERA.
• It provides integrated technical management across both core and sets of domain specific services that can be delivered to individual research communities to enable their use of national and domain specific resources in the digital ERA.
• Integration of these operational functions within a single organisation will allow consistent service delivery, one stop location for training, consultancy and dissemination and economic benefits by eliminating duplicate functions.
• Governance of European e-Infrastructure for the benefit of all stakeholders within the ERA can be driven by representatives of the member states and cooperating EIROs working with in a single organisation.

A timeline for the establishment of the DRI ERIC is provided. The first part of the timeline is under the direct control of the EGI Council and relates to the establishment of a mandate for EGI.eu to support the e-Infrastructure and research infrastructure community in the preparation of the DRI ERIC application. The second part of the timeline relates to preparation of the DRI ERIC application working with those national representatives and research communities that wish to be involved.

Evolving EGI into the DRI ERIC as a clearly technology and research community neutral European organisation capable of delivering transnational ICT and other services needed to support e-Research within the digital ERA will place it in a position to not only continue to serve its current community of researchers, but to engage with other research communities to host and the complete range of transnational services needed to support their research work. Such a change would provide a significant organisation evolution with a tighter more committed membership as to what has been achieved with EGI.eu and to support research communities across Europe and around the world needing integrated services across HTC, HPC, Data, Network and Cloud technologies.

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1 INTRODUCTION

The purpose of this deliverable is to provide to the EGI Council a proposal as to how the EGI community and possibly other research infrastructures that need to coordinate similar transnational ICT services could benefit from the ERIC (European Research Infrastructure Consortium) legal framework to sustainably support the transnational service delivery and coordination necessary to deliver both common and domain specific services needed by research communities within the digital European Research Area (ERA).

In this deliverable the Digital Research Infrastructure ERIC (DRI ERIC) refers to the name of the ERIC based organisation. This interim name was selected as it is seen as technology and research community neutral and will be able to attract and incorporate other research communities and service activities.

A dedicated DRI ERIC Working Group comprising EGI.eu staff and representatives from the EGI Council (Polish, Dutch, UK, Swedish, Czech and Italian NGIs) have developed and reviewed the deliverable through two telecons in preparation for discussion by the EGI Council at its workshop in Prague in September 2012. Following the discussions at the workshop, feedback from the EGI Council Survey and further telecons the current deliverable was produced. If endorsed by the EGI Council at its November 2012 meeting, EGI.eu will continue to support the discussions and further development of the preparatory phase which includes necessary ERIC Statutes, Scientific and Technical case as described in Appendix A and B, and coordinate the engagement with government bodies through the NGIs.

Section 2 deals with the reasons for setting up a DRI ERIC examining the establishment and operation of EGI.eu. An overview of the Community legal framework for an ERIC is described in the next section. A number of prerequisites needed before formally applying for ERIC status are described in Section 2.4. Section 2.5 describes EGI evolvement from the formation towards the Horizon 2020.

Section 3 starts by defining the DRI ERIC's scope and then the organisational responsibilities that are foreseen as its core functions and possible domain specific functions are described in Section 3.2. The membership model is also explained in Section 3.3 followed by a description of the ERIC's proposed Governance Model in Section 3.4. The differences between the draft ERIC Statutes and the EGI.eu Statutes are described in Section 3.5. Key operational differences that will be embedded in the DRI ERIC with relation to EGI.eu are explained in Section 3.6. Benefits of the ERIC are described in Section 3.7 while the overall potential impact of the DRI ERIC described through a SWOT analysis that is provided in Section 3.8.

Section 4 explains what is needed to comply with the ERIC step-by-step procedure for preparing an ERIC application followed by Section 4.2 whish summarises key issues for discussion by the community. In Section 4.3 a timeline is given, together with the list of yes/no decision points including the explanation on when do they need to be made and by whom. Finally, Section 4.4 estimates preparation effort and foreseen costs from both an EGI.eu and NGI perspective.

The deliverable concludes by summarising the overall document and providing concluding remarks. Appendix A provides a complete draft of the DRI ERIC draft Statutes, Appendix B describes scientific and technical description of the DRI ERIC while in Appendix C, a template for expression of interest to parties interested in establishing DRI ERIC is provided.

2 WHY SET UP AN ERIC?

2.1 *The Establishment of EGI.eu*

During EGI Design Study project analysis of legal frameworks applicable for EGI.eu took place[1]. Some of the important characteristics that were identified being needed in the legal entity for EGI.eu were:

- A legal structure that allows both public and private organisations to be members
- A legal structure that allows membership of entities established in non-EU member States
- An autonomous legal entity
- A not-profit organisation
- Limited liability of its members
- Fast creation or accession of new members
- Seat to be located within EU member State

Some of the existing types of legal structures used for research organisations in Europe and the short-listed options for the EGI legal framework were: Dutch Stichting (Foundation), French Société Civile, the English Company Limited by Guarantee, and the not fully developed European Commission's concept of European Research Infrastructure (ERI) only later to be developed into the ERIC legal framework. The final decision adopted by the MoU based EGI Council (an interim body that bridged the EGI_DS Policy Board and the eventual statutes based EGI Council) was to become the Dutch Stichting (Foundation) since this legal option fulfilled all the requirements identified by the EGI Design Study project with the seat of the organisation in the Netherlands (EU member state).

The established not-for-profit foundation, called EGI.eu, coordinates and manages the European Grid Infrastructure (EGI) federation on behalf of its participants: National Grid Initiatives (NGIs) and European International Research Organisations (EIROs). The organisation's budget is provided by the participation fees paid annually by EGI.eu's participants and associate participants defined in the EGI.eu Statutes. In addition, EGI.eu's receives financial contributions from the European Commission through its participation in various FP7 projects, including its coordination role in the EGI-InSPIRE and e-ScienceTalk projects, and its role as a project partner in others (e.g. Biovel, ENVRI, e-Fiscal, BioMedBridges and Helix Nebula).

EGI.eu has limited liability since each of the participants and associated participants is fully liable only for their own activities within the organisation. Being a legal entity, EGI.eu can recruit its own personnel. Since the creation of EGI.eu did not require any formal government level agreement, establishing the organisation was relatively fast and without any major delays. In addition, EGI.eu participants and associated participants through the EGI Council have full autonomy and flexibility define all the organisational, governance and decision-making provisions within the statutes without approval of some external entity (e.g. national governments, the EC).

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[1] EGI_DS Deliverable D4.1Preliminary work - Design Study of the EGI Legal and Organisational Options and EGI_DS Deliverable D4.2 Options Analysis - Design Study of the EGI Legal and Organisational Options http://web.eu-egi.eu/documents/public

2.2 The Operation of EGI.eu

The objective of the EGI.eu is to create and maintain a pan-European grid infrastructure in collaboration with NGIs in order to guarantee its long-term availability for performing research and innovation activities. "The foundation seeks to attain said objectives by amongst others:
- coordinating grid activities between European NGIs
- coordinating and participating in grid projects
- encouraging proposals for grid projects
- supporting and facilitating initiatives in the field of grids
- or all which is connected or which could be conducive to the above, in the widest sense of the word."[2]

Therefore, in order to reach these objectives the services provided by EGI.eu to the wider EGI community are:
- Overseeing the operations of EGI to guarantee the integration of resources from providers around Europe into a seamless and secure e-Infrastructure.
- Coordinating the support provided to EGI's user communities.
- Working with technology providers to source high-quality and innovative software solutions to answer user requirements.
- Representing the EGI federation in the wider Distributed Computing Infrastructures (DCI) community through coordination and participation in collaborative projects.
- Coordinating the external services provided by partners in the community.
- Steering the evolution of EGI's policy and strategy development.
- Organising EGI's flagship events and publicising community news and achievements.

EGI.eu is governed by the EGI Council, which is responsible for defining the strategic direction of the EGI community. The EGI Council acts as the main decision-making and supervisory authority of EGI.eu. The EGI Council consists of one representative from each participant and associate participant - the National Grid Infrastructures (NGIs) and European Intergovernmental Research Organisations (EIROs). Its terms of reference[3] and the statutes[4] are publicly available. The same chairperson elected by the EGI Council chairs the EGI Council and EGI.eu Executive Board. The EGI Council meets at least twice a year to approve the budget for the next year and the accounts and auditor's report from the previous year. The EGI Council's voting power is distributed according to the member's financial contributions and an ordinary majority normally adopts the decisions, unless specified in the statutes, then a qualified majority vote is needed.

The EGI Council delegates oversight of the day-to-day running of EGI.eu to the Executive Board, currently comprising seven members. It has full autonomy in defining its own procedures and decision-making processes (contained within its own Terms of Reference) and consequently approved by the EGI Council. The EGI.eu Executive Board is responsible for the management of the organisation especially with budget adoption, the adoption and amendment of policies and activity plans, the employment of the personnel and the accountants, the application for bankruptcy and for a moratorium on payments of the foundation, etc. The EGI.eu Executive Board devolves day to day financial and organisational responsibility to the EGI.eu Director, who is supported by a staff of ~24

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[2] https://documents.egi.eu/document/18

[3] https://documents.egi.eu/document/152

[4] https://documents.egi.eu/document/18

people based at the EGI.eu headquarters in Amsterdam. EGI.eu's work is supported by the equivalent of another 22 full-time workers spread across many organisations around Europe.

2.3   An Introduction to the ERIC

In 2009, the Council of the European Union adopted regulation no. 723/2009 titled "Community legal framework for a European Research Infrastructure Consortium (ERIC)".[5] This regulation is enabling the creation of a number of ERICs in order to facilitate growing number of pan-national research infrastructures of European relevance. ERIC is defined as a legal framework based on Article 171 of the EC Treaty that is designed to facilitate the joint establishment and operation of European research infrastructures.

By adopting the ERIC Regulation, the EC recognised the relevance of research infrastructures in the ERA as drivers of innovation and research excellence. According to the EC, an ERIC, a legal entity recognised in all EU Member States, is an easy-to-use legal framework providing: 1) flexibility to adapt to the specific requirements of research infrastructures; 2) privileges typically available to intergovernmental organisations, such as VAT and custom duties exemption as well as the possibility of adopting its own procurement procedures; 3) and a faster and more cost-efficient process than creating an international organisation.

As of June 2012, two organisations have become ERIC: CLARIN (Common Language Resources and Technology Infrastructure) and SHARE (Survey of Health, Ageing and Retirement in Europe). Three more organisations have submitted the application and are awaiting response from the EC. They are ESS (European Social Survey), EURO-ARGO (Global Ocean Observing Infrastructure) and ECRIN (European Clinical Research Infrastructures Network).

2.4   ERIC Prerequisites

In order to setup an ERIC organisation, a number of prerequisites for formal application to the European Commission are required. These are:

1   The Statutes
The ERIC statutes need to be in accordance with Article 10 of ERIC Regulation.

2   The technical and scientific description of the ERIC
ERIC document states that when the formal application is submitted a technical and scientific description of at least 10 pages is to be included, which should contain links to websites for further explanation.

3   The declaration by the host Member State recognizing the ERIC as an international body/organisation in the sense of the VAT and excise duty directives as of its setting up
As one of the prerequisites for the setup of an ERIC is declaring the EU Member State or Associated Member State that will host the ERIC. The host Member State declaration[6] is required under Article 5(1)(d) of the ERIC Regulation: declaration recognising the body that is to be set up as an international body in the sense of Articles 143(g) and 151(1)(b) of Directive 2006/112/EC and as

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[5] http://ec.europa.eu/research/infrastructures/pdf/eric_en.pdf
[6] Third requirement is fulfilled by the agreement between the members of the ERIC on the limits and conditions of the tax exemptions.

international organisation in the sense of the second indent of Article 23(1) of Directive 92/12/EEC. No specific format for the declaration is foreseen. In order to get the declaration from the host Member State, effective communication and lobbying with the host government and with the responsible Ministry will be necessary.[7] This is explained more in detail in section 4.4 Estimated Effort and Cost.

4 The agreement between the members of the ERIC on the limits and conditions of the tax exemptions

This declaration (with declaration #3) completes the three conditions needed for the ERIC to operate under its own VAT and excise duties if these have been negotiated with the member states involved. The limits and conditions of the exemption may be defined in the ERIC statutes or they may instead be part of separate agreement among the ERIC members or in an agreement with the host Member State. A separate agreement will include provisions on what is required in order to benefit from exemption (e.g. recording and recovery of the tax paid) and will also define the exact scope, stipulating that only purchases made for official use benefit from exemption and excluding certain purchases (minor purchases or purchases of certain items) or certain taxes from the exemption. However, having a separate agreement between ERIC members will also potentially lead to a lengthy and complex negotiation process between ERIC members.

5 The recognition of the legal personality and the privileges of the ERIC by associated countries or third countries, if applicable

This is only necessary if one or more ERIC members are not from EU Member States. Since the effects of the exemption provided under the VAT Directive derive from EU Law and the exemption only applies if the host State of the ERIC is an EU Member State. When goods or services supplied to an ERIC are procured in associate and third countries, a tax exemption will depend on the treatment agreed and granted bilaterally by associate or third country in the ERIC. Therefore, all associated and third countries that want to become ERIC members must recognise the ERIC as an international organisation and ensure that it is given the same treatment as that provided by ERIC EU Member States.

2.5 Evolving EGI for Horizon 2020 and beyond

Since the formation of EGI (through its predecessors in 2001) the need and provision of transnational ICT services to support research related computing and data, has changed dramatically and increased in importance across numerous scientific disciplines. EGI has focused on delivering one particular set of transnational ICT and related services (the EGI Global Tasks) to one particular group of consumers (resource providers and their associated research communities).

The establishment of EGI.eu to provide a governance mechanism for the EGI community and a legal entity to sustainably deliver coordination services needed by its members has identified a number of issues:

- EGI is seen to be explicitly tied to a single technology (Grid) and a single research community (High Energy Physics). Although this impression is incorrect the opportunity for EGI is to use its network of national and local resource providers to focus on the delivery of transnational ICT coordination services to any consuming research community. Nothing would make a stronger declaration of this than a new mandate, a new organisation that is technologically agnostic with a revised governance structure.

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[7] For example, in Dutch case Ministry for Education, Culture and Science is responsible.

- The future focus of national resource providers (the primary stakeholders of EGI) in the digital ERA needs to be on the delivery of integrated ICT services that are distributed across Europe and provide a single uniform market to different research communities that consume them. Such integrated uniform transnational delivery across Europe needs to be coordinated through appropriate governance and funding structures so that all the countries and research communities that consume them can contribute to their uptake at a European level when they fall outside a national service provision remit.

- While there is a common core of functional services needed by any transnational e-Infrastructure (e.g. authentication, accounting, monitoring) there are also common coordination services (e.g. events, marketing, promotion) and community specific services (e.g. HTC, HPC, networking, data storage) that need to be delivered to the needs of the consuming communities. The balance between core and specific services need to be balanced in any governance and service deliver model.

- EGI.eu Governance Model was developed to manage decision making among 38 participants. However, it has led to a large number of participants possessing a small number of votes that are not always fully engaged with the topics under discussion. This has on occasion produced confusion, uncertainties and delays in regard to deciding EGI policies. The EGI.eu Executive Board was established to ensure more timely advice could be provided to the Director and the activities of EGI.eu reviewed in detail to avoid every issue being brought to a large EGI Council. In addition to the issues around the different levels of influence given to small and large counties, there is no clear representation of the research communities benefiting from these services in the current governance model.

- The EGI Design Study examined a number of different legal frameworks[8] and selected the Dutch Stichting (Foundation). Since then the ERIC legal framework has been established as an option for transnational research infrastructures that is recognised by both national governments and the European Commission. Adopting the ERIC model provides an opportunity to address some governance issues with a tighter and more committed membership, and to establish a new brand with a new mission that reaches beyond the services and research communities that EGI has worked within the past to be clearly open to new research communities that need different services.

Providing a clearly technology and research community neutral European organisation capable of delivering transnational ICT and other services needed to support collaborative e-Research within the digital ERA would provide a driving force for integration at a European level between different research communities, research infrastructures and the currently fragmented delivery of e-Infrastructures. Integration of existing e-Infrastructures and the ability to provision further generic and domain specific ICT services needed to fully benefit from the resources within the digital ERA.

Such an approach improves the sustainability of integrated e-Infrastructure operations in four ways:
- It provides a variety of core generic services that can be delivered consistently for all research communities across the *whole* of the digital ERA.
- It provides sets of domain specific services that can be delivered to individual research communities to enable their use of national and domain specific resources in the digital ERA.

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[8] EGI_DS Deliverable D4.1Preliminary work - Design Study of the EGI Legal and Organisational Options and EGI_DS Deliverable D4.2 Options Analysis - Design Study of the EGI Legal and Organisational Options http://web.eu-egi.eu/documents/public

- Integration of these operational functions within a single organisation will allow consistent service delivery, one stop location for training, consultancy and dissemination and economic benefits by eliminating duplicate functions.
- Governance of European e-Infrastructure for the benefit of all stakeholders within the ERA can be driven by representatives of the member states and cooperating EIROs working with in a single organisation.

More details of this this new remit is provided in Annex B.

3 DIGITAL RESEARCH INFRASTRUCTURE ERIC – A PROPOSAL

3.1 Scope

In the case of a transnational distributed infrastructure, the ERIC framework is an appropriate legal form if the infrastructure is sufficiently coordinated to qualify as an "organised network of resources". The DRI ERIC will be an infrastructure with a central hub, which is responsible for the integrated service delivery through the provision of coordinated services from distributed national facilities, each of which will retain their own legal personality. According to the ERIC Regulation, in the case of a distributed infrastructure, the responsibilities for the operation of the infrastructure may however be distributed between the central hub and the individual nodes in an agreed and coordinated way.

The scope of the DRI ERIC is defined from the experiences gained with the EGI model over the last two years, the feedback from the national resource provider that currently comprise the EGI Council on their interest in ERIC[9], and the positioning of a European-wide service delivery organisation for the digital ERA.

- The DRI ERIC will focus on a lightweight coordination role[10] (i.e. not purchasing and operating all of the equipment used in the ERIC) in that the majority of the resources it delivers to its consuming communities will be delivered through the federation of national resources that remain under local control.
- The DRI ERIC will operate a peer review process for the allocation of resources to support excellent science using resources either purchased centrally or contributed from national providers to supplement the national resources allocated through individual national peer review processes.
- The DRI ERIC will deliver services directly, or through partnerships with third-parties or by procurement to its consuming communities as the need requires.
- The DRI ERIC will recover the cost of the services that it delivers to its members and associated parties, and will be allowed to carry out limited economic activities (up to 10-20% of its overall income) by charging fees to other external organisations that consume its services.
- A central procurement and purchasing model primarily for services that will be operated by the DRI ERIC and allocated by peer review to support excellent science will allow the ERA to benefit from the aggregation of demand across research communities it supports and tax exemptions for services (such as cloud services, externally hosted hardware resources, etc.) that it purchases and delivers to its membership.
- The purchasing and technical operation of any physical resources located in the national resource centres are fully funded by the DRI ERIC members through their own local funding models.
- The routine coordination activity of the DRI ERIC will be funded partly by its members and the consumers of the coordination services it provides for its research communities.

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[9] According to the EGI Council Survey taken at Technical Forum in Prague the overwhelming majority of NGIs/EIROs are in favour (92%) of expanding the scope of EGI in order to be more technologically agnostic.

[10] According to the EGI Council Survey NGI/EIRO understanding and preference about the ERIC model, May 2011, most of the responding NGIs (82%) prefer to have a lightweight DRI ERIC within the ERIC model against the heavyweight DRI ERIC model option. Following this, On question whether a central purchasing model for hardware would be beneficial if only the designated resource centres in member countries could host the equipment 10 NGIs (55.6%) stated that Central purchasing would not be beneficial, 5 NGIs (27.8%) stated Central purchasing would be beneficial, while 3 NGIs (16,7%) don't know (EGI Council Survey From EGI.eu to ERIC, June 2012).

Additional funds for additional innovation or support actions co-funded with the EC may be available through Horizon 2020. DRI ERIC's Business Model around income generation will be developed in the later advanced stages of the negotiation process between potential members.

- The management of the DRI ERIC will be governed through its members through an Assembly of members and observers, and a Director who undertakes the day-to-day management of the ERIC to its established objectives.
- The operation of the services will be driven by the consumers of these services (drawn from various types of community, national and project based actors) through Service Councils within the DRI ERIC. Those contributing to the cost of supporting the services they consume will be able to have input into how they are governed. This would allow the ERIC to act as an 'umbrella' organisation potentially including different e-Infrastructures serving many different research communities requiring transnational ICT services across Europe

3.2 Organisational Responsibilities

To support the scope of the proposed DRI ERIC developed earlier, an outline of the organisation's responsibilities is provided to further define the detail of the tasks undertaken.

3.2.1 Core Functions

These activities support the development of policy by the DRI ERIC and its implementation both within the DRI ERIC and its members. Key activities include:

- Management and Administration: Coordinating the technical and non-technical work of the staff within the DRI ERIC including financial administration of the DRI ERIC's budget including the collection of income from its members and expenditure on its staff and consumables, and legal administration to support any tendering and procurement of services.
- Strategy and Policy: Supporting the development of strategies and policy for the DRI ERIC (in the Assembly and Service Councils) and liaison with other European bodies involved in the ERA, supporting members in their outreach to national bodies, and with the supported research communities.
- Outreach: Marketing, communications and event management professionals that can support the other teams and supported service areas within the DRI ERIC to provide targeted outreach to specific groups within the ERA such as researchers, resource providers, policy makers, technology providers, etc. through brochures, leaflets, events, and other means.
- Technical Consultancy: Assisting research communities in the use of the services provided by the DRI ERIC through general technical training and individual technical consultancy. The team would on behalf of the community work to identify technical solutions that could be deployed to meet requirements and where further innovation is needed to provide workable solutions.
- Operations: Coordination and operation of the core technical services common across all research communities being run by the DRI ERIC on behalf of its members. These services could include both technical coordination and support.
- Resource Allocation: Support of an open transparent allocation process driven by peer review to demonstrate the excellent science being undertaken by the different types of resources purchased centrally or pledged by national providers into a central resource allocation pool.

3.2.2 Domain Specific Services

Different sets of services are needed by different research communities. Within the DRI ERIC these services are managed by the individual Service Councils and delivered through their respective

operations units. Organisationally, these operation units are funded through the ERIC and are able to draw upon its core functional units to support their work. These operational units ultimately should be fully integrated into the ERIC, however a transitional mode of operation could see existing e-Infrastructure operations remaining as separate legal entities governed and financed directly through the DRI ERIC.

3.3 Membership

The ERIC regulation allows for a multi-tiered membership scheme. However, it only provides a place for members with voting rights or observers with non-voting rights with no possibility of having junior or associated voting members.[11]

The following entities may become members of an ERIC:
- Member States of the European Union
- Associated countries[12]
- Third countries other than associated countries[13]
- Inter-governmental organisations.

The ERIC model only allows for representatives of these voting members who have signed up to the ERIC to be able to govern the ERIC. It should be noted that:

> "Any Member State, associated country or third country may be represented by one or more public entities, including regions or private entities with a public service mission, as regards the exercise of specified rights and the discharge of specified obligations as a member of the ERIC (Article 9.4 of the ERIC Regulation)".[14]

All other representation roles that might be allowed for under the Statutes would have to be non-voting observers in term of the governance model. Therefore, the categories of participants and associated participants used in EGI.eu membership model would become obsolete.

As a legal entity, the ERIC can make partnership agreements with various partners but these partners cannot be part of the governance of the ERIC itself, which can only be undertaken by its full members.

Given the need for the direct involvement and endorsement of government representatives for ERIC membership, it is foreseeable that most of the current EGI.eu participants and associate participants that pay a participation fee and vote, will not be able to become members and participate in the organisation's governance resulting in a two-tier model. This is described in Figure 1 where the full members (in the DRI ERIC Assembly) set policy and appoint the Director, while the consumers of the services (the current participant and associated participants in the EGI Council) sit in the Service Councils. It is expected that when compared to the current EGI Council that a smaller number of

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[11] According to the EGI Council Survey taken at Technical Forum in Prague, the majority (87%) of the NGIs/EIROs do not feel there is an alternative to a multi-tier model.
[12] 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.
[13] Third country means a State that is not a Member State of the European Union.
[14] http://ec.europa.eu/research/infrastructures/pdf/eric_en.pdf

members of the DRI ERIC will engage as members as that only a small number of EGI's current participants would be able to secure governmental endorsement, but that they will commit at a higher multi-year financial level.

This model recognises the reality that fewer full DRI ERIC members could lead to a potential erosion of the collaborative spirit that currently exists in EGI. To mitigate this issue the governance of the organisation has been separated from the technical specification and operation of the services delivered to a particular research community. It is expected that these EGI.eu participants and associate participants who are not full DRI ERIC members will instead be able to participate as observers (in terms of governance of the organisation) or just participate fully as consumers in defining the specification of the services delivered to them. Therefore, by introducing two-tier membership as well as Service Council potential impact of erosion of collaborative activity will be minimised.

Table 1 presents differences between DRI ERIC members, observers and consumers. In terms of payment scheme, members will commit to multi-year fee, observers will pay an annual fee and consumers as invoiced. While, members will be voting on all governance and policy issues and approve service changes, observers and consumers will only be able to vote for technical specification and operation of the services. Together with members and they will be able to propose policies to the Assembly for decision. An important distinction between members and consumers is not only in the payment scheme but also in service and resource providing. Detailed right and responsibilities of members, observers and consumers are described in Article 6, 7 and 8 of Digital Research Infrastructure ERIC Draft Statutes in Appendix A.

Table 1 General rights and responsibilities of DRI ERIC members, observers and consumers

	All	DRI ERIC Assembly			Service Councils	
	Payment Scheme	**Present**	**Voting on all governance and policy issues**	**Approve service charges**	**Technical specification and operation of the services**	**Propose policies to Assembly**
Members	Multi-Year Fee commitment	✓	✓	✓	✓	✓
Observers	Annual Fee	✓	✗	✗	✓	✓
Consumers	As invoiced	✗	✗	✗	✓	✓

Even if NGIs are not able to become members of the DRI ERIC directly, they may be able to still represent the needs of their country's researchers. The current NGIs will each need to be reconfirmed as the officially appointed representative of their government. Therefore, another positive consequence of the new ERIC membership arrangement is a potentially closer relationship between the NGI as and their government as the national representative in the ERIC.

The ERIC Regulation states that at least three EU Member States must be members and that EU Member States shall jointly hold the majority of the voting rights in the Assembly.[15] In addition,

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[15] The European Commission is preparing a modification to the ERIC Regulation in order to put Associated countries on the same footing as the EU Member states in terms of voting rights.

members and observers rights and obligations are defined in draft of the Statues since this is requested by the ERIC regulation.

3.4 Governance Model

According to the ERIC Regulation, the ERIC governance model (see Figure 1) should include at least:

- An assembly of members as the body having full decision-making powers, including the adoption of the budget.
- A director or a board of directors, appointed by the assembly of members, as the executive body and legal representative of the ERIC.

It is obvious that the governance model of EGI.eu and the EGI Community through the EGI Council and that of the DRI ERIC will have certain differences. The **DRI ERIC Assembly** will serve as the assembly of members (with observers), while the **Service Councils** will allow the consumers of the services delivered by the ERIC to define the technical specification and operation of these services while not being able to participate in the governance of the organisation. The relevant technical or community representatives of the members and observers of the Assembly will be member of all the Service Councils.

Possible Service Councils include those relating to:

- Core Services: Representatives from all consuming communities that specify the core technical services such as authentication, authentication, accounting and persistent data identifiers used to integrate usage of different resource types.
- High Throughput Resource Providers: Resource providers we use the operational services provided to integrate individual national resource centres into a uniform consistent set of services for international use.
- High Performance Resource Providers: Resource providers we use the operational services provided to integrate individual the top-tier HPC centres into a federated resource.
- Collaborative Data Infrastructure Providers: National or domain specific resource providers who use a set of centrally provided services to integrate their resources.
- Open Data Infrastructure: Provision of a European service (either directly or by federating national providers) to ensure open access to publications and their supporting data and methods to provide open reproducible digital science.
- Networking Infrastructure: Operation of the networking services needed to integrate the networks run by individual National Research and Education Network providers.
- Cloud Infrastructure: Operation of the coordinating services needed to integrate different public and commercial cloud infrastructures being used to support scientific computing.

The representatives on these separate Service Councils will be expert from the community that directly consumes these services (network, researchers, resource providers, etc.). Participation by members and observers in the Assembly in these Service Councils will be assured. Participation by other representatives will be dependent on the procedure specified by the Assembly and may include the payment of additional fees.

Figure 1 Digital Research Infrastructure ERIC Governance Model
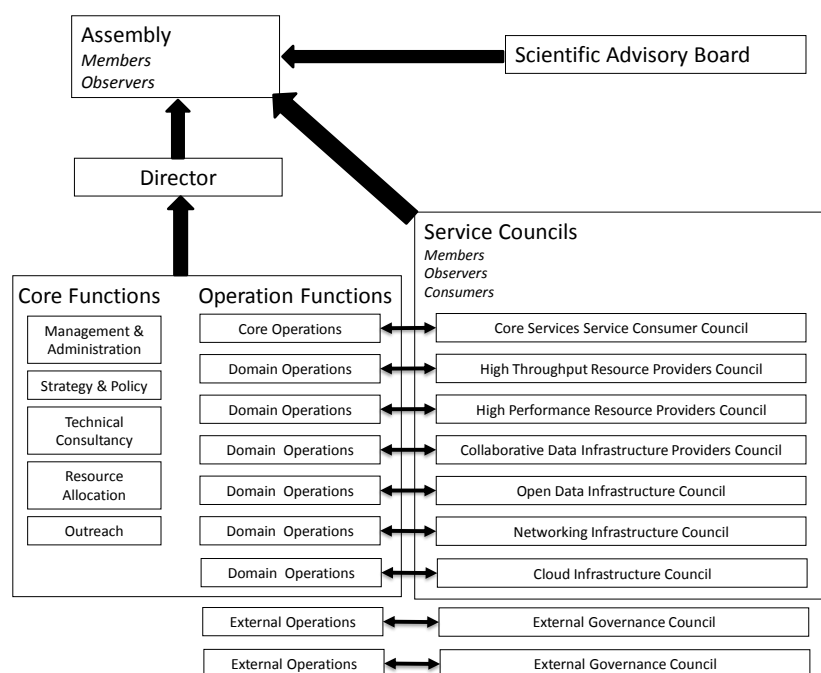
3.4.1 Digital Research Infrastructure ERIC Assembly

The **Assembly** is the main decision-making body responsible for defining DRI ERIC's overall strategy, acting as the senior decision-making and supervisory authority of the ERIC, as required by the ERIC regulation. If the size of the Assembly is small it will also able to take on the roles previously undertaken by the EGI.eu Executive Board. However, if the size grows an executive body could be established by the Assembly to support the work of the organisation. The DRI ERIC Assembly's responsibilities are explicitly listed in the draft Statutes:

- Approve appointment, suspension and dismissal of the Director.
- Establish executive or non-executive groups as required to support work of the organisation
- Decide on strategies for the construction and exploitation of DRI ERIC.
- Approve the work programme and annual budget of DRI ERIC.
- Confirm participation fees and composition of the individual Service Councils.
- Decide at least every five years on the principles for calculating the annual fee for each member, and on the amount of the annual fee of which the principles.
- Approve annual reports and accounts of DRI ERIC.
- Approve each member's or observer's contribution to the DRI ERIC.
- Approve accession of new members in the DRI ERIC Assembly and participation in the relevant Service Councils.
- Appoint members to the Scientific Advisory Board that advises the Assembly on its scientific priorities.
- Members can vote and participate in both open and closed Assembly sessions and all Service Councils.
- Observers can participate in both open and closed Assembly sessions and all Service Councils but have no opportunity to vote in adopting decisions.
- Adoption and amendment of policies and activity plans for any year or a series of years.

- Employment conditions of the personnel employed by the organisation.
- Appointment of the (registered) accountant.
- Application for bankruptcy and for a moratorium on payments of the organisation.
- Termination of the employment of a substantial number of employees simultaneously or within a short period of time.
- Contracting of monetary loans in excess of a limit determined by the Assembly.
- Litigation, not being debt collections or actions in summary proceedings.
- Decide on termination Assembly membership and participation in the Service Councils.
- Decide on the dissolution of the DRI ERIC.

The Assembly also makes decisions on the fees paid by the Assembly members and the consumers in the Service Councils. Therefore, the participation in the Service Councils which defines the technical specification and operation of the consumed services is only available to those communities that contribute to the cost of delivering those services through the ERIC. Therefore, the creation of the Service Councils allows the organisations that can benefit from the delivered services to be expanded without the overhead of full ERIC membership, but with no participation in the governance of the organisation.

The Director is responsible for the operation and management of the DRIERIC in accordance with the statutes and the policies set by the Assembly. Next to the day-to-day management duties, the Director is the legal representative of the ERIC and responsible for implementation of the Assembly's decisions. The Director together with staff prepares the documents (budget, strategy plans etc.) for adoption by the Assembly.

Scientific Advisory Board is composed of at least seven eminent, independent (with respect to the governance of the ERIC) and experienced scientists who will oversee the work of the scientific review boards allocating the DRI ERIC's resources to scientific projects and ensure the openness of the review process and the excellence of the science being undertaken. It will be assisted in its work by the staff of the ERIC and will report at least annually to the Assembly.

3.4.2 Service Councils

The main role of the Service Councils (SCs) will be to define the technical specification and operation of the services that are managed through each SC through the relevant operations unit. Participation in each SC is determined by the Assembly and may be open to service consumers beyond those that are already members or observers of the Assembly. However, these consumers may have to pay the designated participation fee decided by the Assembly in order to have a vote on the service policy and to propose policies for consideration by the Assembly. Responsibilities of the SC are to:

- Define the technical specification and operation of the services that they consume and run by the corresponding operations unit.
- Propose policies to be approved by the Assembly.
- Provide input to the Assembly through solicited and unsolicited advice on strategic issues, including but not limited to vision, new initiatives, work plans and quality assurance.
- Observers can participate in open Assembly sessions for general discussions but have no voting rights.

Each SC will define its decision making process through its own terms of reference which need to be approved from the Assembly.

The articles in the draft DRI ERIC Statutes explain the role and responsibilities of the SC model. Each SC is composed of the representatives from the DRI ERIC's members and observers and any national, community and project participants as allowed by its terms of reference and approved by the DRI ERIC Assembly. SCs will be composed of representatives from the ERA who consume the operated services. Thus, the individual SCs will provide a forum for discussing the technical needs and the delivery of services needed by a particular group of consumers. In order to encompass national, community and project representation of consumers who are willing to join a SC, the Assembly can consider their application.

3.5 Statutes

An ERIC's Statutes must include elements required by the European Council regulation no. 723/2009 titled "Community legal framework for a European Research Infrastructure Consortium (ERIC)". Therefore, a complete form of the draft DRI ERIC Statutes is available in Appendix A. However, it is important to note that these Statutes are provided as a basis for further discussion and are not presented here for approval. It is expected that the discussion on Statutes will be on going as the interim ERIC Assembly is formed as described in Section 4.3

The DRI ERIC Statutes are organised into Chapters in order to group a larger number of Articles with common themes together. These are: General Provisions, Membership, Governance, Finance, Policies, Reporting to the European Commission and Duration, Dissolution, Amendments, Dispute, Set Up, and Provisions. Terms of reference and polices will also need to be established for the new governance bodies. Those developed for EGI may be used as a starting point.

Just in terms of size, the EGI.eu Statutes has 6 pages and 15 Articles while the proposed DRI ERIC Statutes draft has 16 pages and 32 articles. This is due to ERIC requirements prescribed in the ERIC Regulation. According to Article 10 of these regulations, the Statutes of an ERIC organization shall contain at least the following:

> "(a) a list of members, observers and, where applicable, of entities representing members and the conditions of and the procedure for changes in membership and representation in compliance with Article 9;
> (b) the tasks and activities of the ERIC;
> (c) the statutory seat in compliance with Article 8(1);
> (d) the name of the ERIC in compliance with Article 8(2);
> (e) the duration, and the procedure for the winding-up in compliance with Article 16;
> (f) the liability regime, in compliance with Article 14(2);
> (g) the basic principles covering:
>> (i) the access policy for users;
>> (ii) the scientific evaluation policy;
>> (iii) the dissemination policy;
>> (iv) the intellectual property rights policy;
>> (v) the employment policy, including equal opportunities;
>> (vi) the procurement policy respecting the principles of transparency, non-discrimination and competition;
>> (vii) a decommissioning, if relevant;
>> (viii) the data policy;
> (h) the rights and obligations of the members, including the obligation to make contributions to a balanced budget and voting rights;

(i) the bodies of the ERIC, their roles and responsibilities and the manner in which they are constituted and in which they decide, including upon the amendment of the Statutes, in compliance with Articles 11 and 12;

(j) the identification of the working language(s);

(k) references to rules implementing the Statutes.

The Statutes shall be publicly available on the website of the ERIC and at its statutory seat."[16]

Following this, any change to key elements of the statutes must pass through the same procedure as the initial set up of the ERIC itself that will not include some of the elements needed for ERIC setup, such as advice from the expert panel or an opinion from the ERIC Committee. However, it will require explicit approval by the Commission. Such key elements are clearly identified and are the:

- Tasks and activities of the ERIC.
- Statutory seat in compliance with Article 8(1).
- Name of the ERIC in compliance with Article 8(2).
- Duration and the procedure for the winding up in compliance with Article 16.
- Liability regime, in compliance with Article 14(2).
- Basic principles covering: the access policy for users, the scientific evaluation policy, the dissemination policy, the intellectual property rights policy, the employment policy, including equal opportunities, the procurement policy respecting the principles of transparency, non-discrimination and competition.

Any changes to the above elements would require the EC's approval reducing the flexibility and independence currently provided by the Stichting model. In addition, the formal decision of the European Commission to establish an ERIC includes the approved statutes (e.g. see the decision for CLARIN[17]).

3.6 Comparison with EGI.eu

In comparing the proposed DRI ERIC with EGI.eu the following significant differences and similarities are noted:

- The governance of the DRI ERIC is undertaken by just the full members in the Assembly. An executive group formed by the DRI ERIC Assembly could be established to directly supervise the organisation but this is dependent on the number of members. The ambition of DRI ERIC would be to have representation from across Europe, and potentially beyond, leading to a large Assembly (~30 members) and the need to establish an executive body to supervise the work of the Director on behalf of the full Assembly.
- The current EGI Council participants would at least be represented in the SCs defining the policy for the services that are currently EGI Global Tasks for which they would be able to define technical policy related to these services as delivered by the DRI ERIC. Members of the SC (who are not EGI Council members) would have to pay a fee determined by the Assembly to access these services. For EGI related services the SC could be considered a hybrid of some aspects of the EGI Council and the Operations Management Board. NB: If the DRI ERIC provides services for distinct consumers (e.g. e-government, data or cloud) then there may be multiple SCs.

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[16] http://ec.europa.eu/research/infrastructures/pdf/eric_en.pdf

[17] http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2012:064:0013:0028:EN:PDF

- The services that would fall under the remit of the SC would be similar to the scope of the current Operational EGI Global Tasks.
- The services provided by the DRI ERIC to all of its consumers in the SC would consist of general HQ activities (e.g. communication, promotion, policy, community development & support, product management and organisation management) similar in scope of the current non-Operational EGI Global Tasks.
- The DRI ERIC Assembly would proportion the cost of delivering the general HQ costs across all consuming service communities (which they would underwrite on a multi-year basis) vs. the cost of delivering the services to the consuming communities which would proportion to each consuming community represented by a SC and potentially within each consumer in each community.

3.7 Potential Benefits of an Digital Research Infrastructure ERIC

This section addresses some of the potential benefits of the DRI ERIC that could solve some of the issues EGI and other e-Infrastructures are facing and together improve their long-term sustainability.

- **Financial Sustainability Prospects**

In terms of financial sustainability, an ERIC as a legal entity seems eligible to apply for EC project funds, but no plans are currently known to provide beneficial status, dedicated calls, etc. to ERICs in Horizon 2020. For the time being there are certain general plans for flow of funds from the European Commission to an ERIC. There are new developments about ERIC status within The European Commission's 2012 Policy Communication on the ERA:

> "Investment is required beyond the means of individual countries - pooling of regional, national and European Union funds is thus necessary, particularly for ERIC RIs, including distributed facilities requiring the participation of as many countries as possible with world class national and regional capacity.
> The Commission commits to support through Horizon 2020 the access to RIs as well as the on-going overall integration of EU RIs particularly those awarded ERIC status." [18]

Therefore, it seems that ERICs are foreseen to have some sort of preferential (possibly dedicated) funding opportunities in Horizon 2020, however details and confirmation of this is not currently available. Additional funds are available for Research Infrastructures in Horizon 2020 and ERIC status would represent an endorsement of this RI status for the e-Infrastructures and other services critical for the digital ERA. In addition, Horizon 2020 is still not finalised so changes regarding ERIC funding by the new Research Framework Programme with introduction of special line of support are still possible. However, an ERIC will be funded primarily from Member States' contributions.

According to the Community Legal Framework for ERIC Regulation[19], ERICs qualify for funding in accordance with Title VI of the Financial Regulation of the European Communities and under the Cohesion Policy. However, it is not clear how realistic it is to qualify and effectively use these grants for direct EC financial contributions, as so far, it seems that no ERIC organisation has managed to use this financial instrument.

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[18] http://ec.europa.eu/research/era/pdf/ere-communication/era-communication_en.pdf
[19] http://ec.europa.eu/research/infrastructures/pdf/council_regulation_eric.pdf

Finally, becoming an ERIC will increase international recognition and visibility (further described below) that would improve the long-term sustainability of the services required by EGI community's through legally binding commitments from DRI ERIC member states. Thus, becoming an ERIC would be an important factor in accessing national funding since an ERIC is anchored (high) within the national funding bodies. This can give an important boost to emerging e-Infrastructure and services within the digital ERA such as EGI, EUDAT, OpenAIRE and the European provision of cloud computing within the Member States. It will appear to be much easier to get the DRI ERIC on the national roadmap for research infrastructure and as such get sustainable funding if it provides integrated access across different forms of e-Infrastructures. It is important to make the distinction between partnerships between institutions from different countries, which is the case for EGI.eu, projects such as OpenAIRE and EUDAT, and true partnership between countries (funding bodies, policy makers), which will be the case for DRI ERIC. However, the long-term financial commitment that an ERIC membership represents (however low the financial commitments in the case of EGI) could potentially have a negative impact on a Members State's willingness and interest in joining the DRI ERIC. It is expected that although the number of members in the DRI ERIC might decrease from those participating in the EGI Council, the higher national profile would allow those members to access more funds for both their national activities and their contribution to European activities.

- **International recognition and visibility through ERIC branding**

An ERIC organisation will have a status of a legal person *sui generis*. This means that the DRI ERIC will derive its legal personality directly from the European Union law, in particular Regulation (EC) No 723/2009 (ERIC Regulation) and it will neither be an organisation pursuant to international law, nor a public or private legal person pursuant to national law. This would make the DRI ERIC into a truly European organisation as a recognised world-class research infrastructure by the EC and EU member states and associated and third countries. As such the DRI ERIC will have a much greater political visibility within Europe and around the world enabling it to collaborate with other ERICs in Europe and with equivalent organisations around the world. Governance of European e-Infrastructure for the benefit of all stakeholders within the ERA can be driven by representatives of the member states and cooperating EIROs working with in a single organisation. In addition, the DRI ERIC will have stronger influence on the EC policy development regarding research infrastructures and e-Infrastructures[20]. Having national research activities as part of the DRI ERIC would help increase their visibility nationally and internationally within Europe and beyond.

- **Sustainable Engagement with Research Infrastructures and Communities**

Sustainability can be achieved through establishing an open ICT ecosystem that can attract research infrastructures and research communities from across the whole digital ERA.

Belonging to the same ERIC "club" could lead to improved collaboration; for example, some of the ESFRI projects plan to become an ERIC. The DRI ERIC would be open for other ESFRI projects and research infrastructures that were solely interested in coming together to provide integrate national ICT services within Europe. Instead of establishing their own ERIC's for this sole purpose, they could cooperate with the DRI ERIC and its federation of national ICT resource providers and local resource centres and leverage greater economies of scale and efficiencies.

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[20] According to EGI Council Survey From EGI.eu to ERIC taken in June 2012, 10 NGIs (55,6%) think that ERIC would allow the community to gain freater international recognition while 4 NGIs (22,2%) are of opposite opinion. 2 NGIs (11,1%) answered with maybe while also 2 NGIs (11,1%) don't know the answer to the question.

The DRI ERIC will provide a variety of core generic services that can be delivered consistently for all research communities across the *whole* of the digital ERA. It will provide sets of domain specific services that can be delivered to individual research communities to enable their use of national and domain specific resources in the digital ERA. Integration of these operational functions within a single organisation will allow consistent service delivery, one stop location for training, consultancy and dissemination and economic benefits by eliminating duplicate functions.

- **Central tax-free purchasing mechanism**

In the wake of virtualisation and increasing cloud adoption within the wider research community, and keeping in mind the possibility of tax exemptions, it would be possible to establish community-based procurement mechanisms for purchasing cloud services, distributed hardware resources, etc. Therefore, the DRI ERIC will potentially have more tax advantages for purchasing services that will be more relevant in following years (cloud services). However, any tax benefit would be dependent on the exemption given by the host country. One of the options is to ensure that the procurement and purchasing model includes distributed resource centres within each country that are clearly seen as part of the DRI ERIC.

- **Technology and research community neutral ERIC e-infrastructure**

Technology and research community neutral ERIC e-infrastructure will be capable of delivering transnational ICT and other services needed to support e-Research within the digital ERA. The DRI ERIC will provide a single uniform market for accessing distributed computing resources and connected data in Europe. In addition, it will reduce inefficient research spending and stimulate innovation across Europe by maximising the utilisation of transnational service. The DRI ERIC will provide effective use of resources and ensures the most effective return on Europe's e-infrastructure investments.

3.8 SWOT Analysis with EGI.eu

In order to fully understand the added value of becoming an ERIC and the overall impact, the DRI ERIC SWOT Analysis is provided.

Table 2 - SWOT Analysis for the DRI ERIC

Strengths	Weaknesses
• Technology and research community neutral ERIC e-infrastructure capable of delivering transnational ICT and other services needed to support e-Research within the digital ERA • Greater political visibility and membership in any ERIC 'club' and in the European Commission • Act as an umbrella transnational service delivery organisation for other research infrastructures • Improved communication with key European policy and decision makers • Greater international, European and national recognition and endorsement of its activities • Retain the autonomous legal entity achieved with EGI.eu	• Monitoring by and reporting to the European Commission could potentially restrict independent activity [21] • Governance and organisational limitations imposed by the ERIC framework • Potentially complex and lengthy negotiations with DRI ERIC Member States • Preparing an application will cost money, time and staff resources in EGI.eu and NGIs who wish to become ERIC members
Opportunities	Threats
• Increased prospect on achieving sustainability and financial stability • DRI ERIC services provided to more users and improved collaboration with other RIs (e.g. ESFRI) • Broadening the existing scope of EGI to provide a greater variety of technology neutral services to a greater number of research communities • Rebranding EGI from what it is currently perceived to be to what it actually needs to be to provide sustainable services to many research communities within the ERA	• Control imposed by the European Commission as an ERIC • Potential difficulties in delegating the responsibility from Member states to NGIs • EU and non-EU member states refuse an ERIC proposal for a DRI ERIC • Potential of losing some current members (NGIs) • Potential difficulties with rehiring the personnel and transfer of funds • Losing the community collaborative spirit and undermining collaborative nature of EGI's activity

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[21] Based on the experience of existing ERIC (SHARE, CLARIN), once the ERIC is set up the involvement of the Commission is minimal. For example, SHARE has not been burdened by bureaucratic control and they reported as required by the ERIC Regulation and where not asked any questions from the Commission side. Thus, one must be careful not to overrate the monitoring role of the Commission. However, the involvement of the Commission will increase should the ERIC receive e.g. Horizon 2020 funding but that is part of the Rules for Participation that will also apply if EGI.eu receives the funds.

4 APPLYING FOR THE DRI ERIC

4.1 Compliance with the ERIC Regulations

There are number of requirements prescribed in the ERIC regulation that need to be complied with in order for the ERIC to be submitted for approval. The formal application of the ERIC to be submitted to the EC is just the final step in a complex and long series of negotiations, coordination and agreements on how to establish and operate the new DRI ERIC.

The main requirements in this process including the steps after request submission are as follows:

1. At least three EU Member States, together with possible associated and third countries or intergovernmental organisations, agree to establish the ERIC.
2. The members agree on DRI ERIC statutes, governance model, tasks, financing, the seat of the ERIC, etc.
3. The host Member State issues the Declaration recognising the DRI ERIC as an international body/organisation in regard to the VAT and excise duty directives.
4. The agreement between the members of the DRI ERIC on the limits and conditions of the tax exemptions and, if applicable, associated and third countries recognise the legal personality and the privileges of the DRI ERIC.
5. The host state's Permanent Representation (or Mission) to the European Union on behalf of all future members of the DRI ERIC submit the application in electronic format for verification with the ERIC Regulation for all required documents (i.e. statutes, scientific and technical description and other specified in Section 2.3). At this stage, no signature is required, however, the accompanying documents of the application must be finalised and agreed by all applicants.
6. The European Commission, with the assistance of four or five independent experts, sends back the result of assessment to the applicants and, if applicable, with proposed necessary modifications to the documents. The host state's Permanent Representation (or Mission) to the European Union, on behalf of all future members, submits the application in electronic format to the EC with final versions of all accompanying documents of the application.
7. The European Commission will ask for the opinion of the ERIC Committee, composed of representatives of all EU Member States and prepare the formal decision by the European Commission to accept the DRI ERIC or reject the request. Either the positive or negative decision to establish an ERIC will be published in the Official Journal of the European Union. Decisions taken by the EC to establish the DRI ERIC is also subject to the parliamentary control of the European Parliament.

4.2 Open Issues

The open issues that remain following the EGI Council Workshop in Prague for discussion by the EGI Council in November and the interim DRI ERIC Assembly are:

• Agree that the hosting location will be in Amsterdam as the Dutch government seems to be willing to host the DRI ERIC.
• The working title of the ERIC will be the DRI ERIC.
• What clear advantages membership in DRI ERIC brings to NGIs? This is necessary to clarify in order to motivate NGIs efforts for ask their government approval and not only opt for becoming observer.

- What are the critical policy principles needed to be addressed and defined in the DRI ERIC Statutes? There is a need to identify and develop policy principles that are seen are seen as critical and sensitive to the potential members of the DRI ERIC before any submission.
- Initiate a dialogue with the other relevant European research infrastructures that may also consider moving towards an ERIC, in particular with EUDAT, HelixNebula, TERENA, potentially with the operational services of PRACE, and other ESFRI projects focusing on just the delivery of transnational ICT systems (e.g. European Plate Observing System - EPOS).

4.3 Proposed Timeline

There are certain steps and decisions that need to be taken along the way towards becoming an ERIC. Every step and action that needs to be fulfilled will act as trigger criteria, which then activates the next step in the road. Therefore, the each of the steps defined in Table 3 are necessary to reach in order to establish the DRI ERIC.

The timeline splits into two distinct parts. The first part under the direct control of the EGI Council is the establishment of a mandate for EGI.eu to work with the NGIs and EIROs within EGI, and other members of the e-Infrastructure and research infrastructure community, to facilitate the establishment of a the DRI ERIC application. The second part of the timeline relates to preparation of the DRI ERIC application working with those national representatives and research communities that wish to be involved. Following the endorsement of the EGI Council of this deliverable, feedback on the ERIC process will be sought from ERIC CLARIN and others to refine this timeline.

Table 3 DRI ERIC Timeline

Timeline[22]	Action	Description	Responsible
November 2012 – March 2013	**Developing the DRI ERIC Scientific and Technical Description, Governance and Business Model**	Establishment of working groups that will work on: • DRI ERIC Scientific and Technical Description (see draft Appendix B) • DRI ERIC Statutes (see draft Appendix A) • DRI ERIC Business Model and draft budget and other areas as required These will be open across the e-Infrastructure community but it is expected that the participants will be seeking Expressions of Interest (EoI) from their national ERIC contact points.	Selected DRI ERIC Working Groups
November 2012 – January 2013	**Explore willingness for NGI/EIRO to become DRI ERIC members**	Each NGI/ERIO will establish who their national contact point[23] is within their government and informally understand their degree of interest and any concerns that can be fed back into the WGs discussions[24].	EGI Council Participants
November	**Gathering Expressions of**	Those NGIs/EIROs and other organisations	EGI Council

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[22] The timeline is approximation based on assumption that there will be no major delays during transition and application process.

[23] http://ec.europa.eu/research/infrastructures/pdf/list_national_contact_points_eric.pdf#view=fit&pagemode=none

[24] According to EGI Council Survey from EGI.eu to ERIC from June 2012, number of NGIs needed to form a critical mass to move towards ERIC, varies from 5 to all 35 current EGI.eu participants. Most of the NGIs think that most of NGIs should become DRI ERIC members.

2012 – March 2013	**Interest (EoI) from EGI's current participants and other bodies to potentially become founding members of the DRI ERIC**	who provide an EoI (see template in Appendix C) who will form an interim DRI Assembly that will start to work together towards completing the work needed to prepare an application for the DRI ERIC.	Participants and other interested parties
March 2013	**Review by the interim DRI ERIC Assembly (defined by those presenting EoIs) of working group activities**	The interim DRI ERIC Assembly will review the work of the working groups and review the progress towards the DRI ERIC Application.	Interim DRI ERIC Assembly
April 2013	**Decision as to EGI.eu's continued engagement based on the progress to date**	The EGI Council will make a decision on the continued involvement of EGI.eu in the DRI ERIC working groups and the facilitation of this process based on the work done and the community's engagement based on the collected EoIs.	The EGI Council
March2013 – September 2013	**NGI/EIROs providing EoI develop ERIC application material**	The Interim DRI ERIC Working Groups will continue with *just* those bodies providing an EoI to develop the statutes, scientific and technical description, business plan and other documentation to their agreement.	Interim DRI ERIC EoI members
March2013 – September 2013	**Discussion between the Interim DRI ERIC members on the limits and conditions of the tax exemptions**	Define the limits and conditions of the tax exemptions that the members of the EoI DRI ERIC wish to obtain and that the tax authorities are willing to provide.	Interim DRI ERIC EoI members
March2013 – September 2013	**Interim DRI ERIC members identifies their national representative entity**	Each of the DRI ERIC EoI Member States identities the officially appointed representative of their government.	Interim DRI ERIC EoI members
September 2013	**EGI Council asked to endorse DRI ERIC Application by EoI members**	EGI Council will endorse the submission of the DRI ERIC application as the next phase in EGI's evolution.	EGI Council
October 2013	**The host Member State issues the Declaration recognising the ERIC as an international body / organisation**	As explained in Section 4.1	The DRI ERIC host Member State
December 2013	**The host state, on behalf of all future members of the ERIC, submits the application in electronic format to the EC**	As explained in Section 4.1	The DRI ERIC host Member State
March 2014	**The Commission sends back assessment of SRI ERIC application**	The Commission will aim at keeping the assessment process as short as possible (estimate is 3 months).	The European Commission
April 2014	**The host state submits the revised request signed by all applicants with final version of all documents**	As explained in Section 4.1	The DRI ERIC host Member State

	needed for application.	

September 2014	**The EC formal decision on the DRI ERIC**	This decision is explained in more detail in Section 4.1, but is estimated that the approximately nine months is needed to receive the EC decision.[25]	The European Commission
January 2015	**Start of DRI ERIC Operation**	Transfer of staff and operational responsibilities from existing infrastructures to the new DRI ERIC commences.	

4.4 Estimated Effort and Cost

The process of becoming the DRI ERIC will require certain effort to be provided by stakeholders, thus, certain costs will occur.

There are three types of costs that may occur towards preparing the DRI ERIC proposal:

- Cost to EGI.eu

EGI.eu needs to engage in pre- and post-application efforts including defining statutes, preparing the application, and coordination of the whole process. This will require substantial effort in human resources (e.g. EGI.eu Director and support staff) as well as financial resources for travel and accommodation (e.g. coordination meetings; ministry visits).

- Cost to NGIs

Each EGI participant should make a decision on whether to become DRI ERIC member. The decision to try and join the DRI ERIC will lead to the NGI having to support costs related to lobbying for governmental support (e.g. time spent in communications; travel costs) and building support with other national research communities that could benefit from the DRI ERIC (e.g. data or cloud based resources).

- Cost for external consultancy

There is a potential need to pay external consultants (e.g. lawyers, legal experts) for a legal study on the DRI ERIC Statutes and other legal documents that are required for ERIC application. Therefore, while coordination and external consultancy costs can be covered by EGI.eu, the NGIs will need to cover costs occurred on the national level. Table 4 provides estimation of costs.

Table 4 Estimation of costs (actual and in kind) needed in preparation of the ERIC Proposal

Activity	PM / Costs (€)	Travel Costs	Total Costs (€)	Covered by
Coordination	6PM / €52,800 (€8800/PM)	€15.000 (€2,500xPM)	€67.800	EGI.eu
Local NGI Lobbying (15 NGIs)	15PM / €150.000 (1PM per NGI*avg. €10000/PM)	€15.000 (€1000xPM)	€165.000	~15 NGIs
Legal consultancy	€40.000	/	€40.000	EGI.eu
TOTAL	21PM / €242.800	€30.000	**€272.800**	

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[25] The EC wants that the benefits of the ERIC be felt in the European Research Area as quickly as possible, while at the same time ensuring that all steps of the process are duly respected.

5 CONCLUSIONS

This deliverable represents the most comprehensive review regarding ERIC matters in relation to EGI. It clearly describes ERIC prerequisites and provides a complete draft on two very important documents that are part of DRI ERIC application – the Statutes and the Technical and Scientific description. It also provides a list of potential sustainability benefits. The governance model is fully described together with a membership model that offers insights into key operational differences that will be embedded in the DRI ERIC. A SWOT analysis helped to fully understand the overall impact of the DRI ERIC. The information presented, allows for a clear understanding of what requirements are needed for applying for DRI ERIC, as well as steps, timelines and who is responsibility for them. Finally, a projection on estimated effort and costs is disclosed. All relevant analysis, descriptions and data provided in this document can ensure that the EGI Council is able to use it as a guiding document and plan that will assist them to make a strategically sound and informed decision on behalf of the EGI community.

Vision of the DRI ERIC is to become a universal e-infrastructure capable of hosting the complete range of distributed computing approaches required by the ERA. The DRI ERIC would deliver integrated services that would provide a single market across different research communities in the digital ERA. Integrated uniform transnational delivery across Europe needs to be supported through appropriate governance and funding structures. Such a legal framework can be provided through DRI ERIC.EGI.eu will, with the endorsement of the EGI Council, start discussions with the other relevant European e-Infrastructures that may also consider moving towards the DRI ERIC in particular with EUDAT, Helix Nebula, TERENA and PRACE to investigate possibility of creating common DRI ERIC.

The current opinion in the EGI Council is that the benefits for users in a future DRI ERIC must be clear, should have an expand scope beyond just grid computing to provide a range of transnational services to the digital ERA and secure the long-term financial future of any coordinating body. In addition, in order to increase its attractiveness to consuming research communities DRI ERIC should provide one-stop shop of ICT services for international research collaborations including user visible services such as technical training and support, and internal services including legal, financial and management. The scope of the DRI ERIC is described in detail within the scientific and technical description (Appendix B). The DRI ERIC could align with the sustainability goals and operational needs of EUDAT, Helix Nebula, potentially with operational services of PRACE and potentially with ESFRI projects.

The DRI ERIC application will take a lot of community focus over the next 12 to 24 months from other community activities. Also, the EGI Council does not wish to lose members from the community as a result of moving to an ERIC. These concerns can be monitored by the EGI Council through regular votes as the DRI ERIC application develops. However, if some of the potential benefits, such as secured long-term financial stability, international recognition and visibility through rebranding, strengthened collaboration with different range of research communities, become more obvious and having a real positive effect on EGI, than there is no doubt that investing the time, effort and resources required in an DRI ERIC will be of great interest to EGI.

To conclude, the DRI ERIC would host the complete range of transnational services needed by researchers in the digital ERA to collaborate with researchers from different disciplines in different countries to use the different nationally provided resources (HTC, HPC, Data, Network, Cloud and

others) in Europe and around the world they need for their research activities. DRI ERIC will deliver an integrated uniform single market of ICT services for its members and other service consumers in different research communities across the whole of the ERA. The DRI ERIC will provide European wide governance and funding structure that can sustain the services needed by the different research communities that it supports

The EGI Council endorsed the plan contained within this report on the 21st November 2012, and EGI.eu will now facilitate a discussion within both the EGI Community and with other e-Infrastructure providers and the emerging and established research infrastructures as to the possible future scope and governance of a Digital Research Infrastructure ERIC.

APPENDIX A: DIGITAL RESEARCH INFRASTRUCTURE ERIC DRAFT STATUTES

CHAPTER 1 GENERAL PROVISIONS

Article 1: Name, Statutory Seat, Location and Working Language

1. There shall be a European Research Infrastructure called the 'Digital Research Infrastructure ERIC, hereinafter referred to as 'DRI ERIC'.
2. DRI ERIC shall have the legal form of a European Research Infrastructure Consortium (ERIC) incorporated under the provision of Regulation (EC) No. 723/2009 and be named 'Digital Research Infrastructure ERIC'.
3. DRI ERIC shall be a distributed research infrastructure located in all DRI ERIC member countries, as well as in other countries where DRI ERIC has made agreements.
4. The DRI ERIC shall have its statutory seat in Amsterdam, the Netherlands (TBC).
5. The working language of DRI ERIC is English.

Article 2: Vision, Mission and Activities

1. The vision of DRI ERIC is to support the digital European Research Area through a pan-European research infrastructure based on an open federation of reliable services that provide uniform access to computational, storage and data resources.
2. The mission of the DRI ERIC is to connect researchers from all disciplines with the reliable and innovative ICT services they need to undertake their collaborative world-class and world-spanning research.
3. To this end the DRI ERIC shall undertake and coordinate a variety of activities, including but not limited to:
4. The DRI ERIC shall operate on a non-economic basis; in order to further promote innovation as well as transfer of knowledge and technology; limited economic activities may be carried out as long as they do not jeopardize the main activities.

CHAPTER 2 MEMBERSHIP

Article 3: Membership and Representing Entities

1. The following entities may become members or observers of the DRI ERIC Assembly with voting rights:
    (a) Member States;
    (b) Associated countries;
    (c) Third countries other than associated countries;
    (d) Intergovernmental organisations.
2. Conditions for admission of members and observers are specified in Article 4 of these statutes.
3. The DRI ERIC shall have at least three Member States as members.
4. Any member or observer may be represented by one public entity or one private entity with a public service mission, of its own choosing and appointed according to its own rules and procedures.
5. The current members, observers and their representing entities are listed in Annex 1. The members at the time of submission of the ERIC application shall be referred to as founding members.

Article 4: Admission of Members and Observers

1. The terms for admission of new members are the following:
    (a) applicants shall submit a written application to the DRI Assembly .

(b) the application shall describe how the applicant will contribute to the DRI ERICs vision, mission and activities described in Article 2 and how it will fulfil the obligations referred to in Article 6.

(c) the admission of new members shall require the approval of the DRI ERIC Assembly by a qualified majority as described in article 9.6.

2. Entities listed in Article 3 who are willing to contribute to the DRI ERIC, but are not yet in a position to join as members, may apply for observer status. The terms for admission of observers are the identical one to those for new members. Observer status is granted for a maximum of two years, but may be renewed following a DRI ERIC Assembly decision.

Article 5: Withdrawal of a member or an observer/Termination of membership or observer status

1. Within the first five years of the establishment of the DRI ERIC no member may withdraw unless the membership has been entered into for a specified shorter period.

2. After the first five years of the establishment of the DRI ERIC a member may withdraw at the end of a financial year, following a request 12 months prior to the withdrawal.

3. Observers may withdraw at the end of a financial year, following a request six months prior to the withdrawal.

4. Financial and other obligations must be fulfilled before a withdrawal will be accepted.

5. The DRI ERIC Assembly shall have the power to terminate the membership of a member or the observer status of an observer by qualified majority, if the following conditions are met:

(a) the member or observer is in serious breach of one or more of its obligations under these statutes.

(b) the member or observer has failed to rectify such breach within a period of six months.

6. The member or observer shall be given opportunity to contest the decision of termination and to present its defence to the DRI ERIC Assembly.

Article 6: Rights and Obligations of the Members

1. Rights of members shall include to:

(a) grant access to DRI ERIC and all its services.

(b) attend and vote at the DRI ERIC Assembly and thereby exercise influence.

(c) participate in the development of strategies and policies.

(d) cooperate closely with other countries in making resources, tools and services available to the researchers of the respective countries.

(e) let its research community participate in the selection of relevant standards and best practice recommendations.

(f) let its research community participate in events, such as summer schools, workshops, conferences and training courses, at preferential rates.

(g) use the DRI ERIC brand.

2. Each member shall:

(a) pay the multi-year fee as specified by the DRI ERIC Assembly

(b) appoint a representing entity as mentioned in Article 3.6 and always keep the Assembly informed about who the representing entity is.

(c) empower its representing entity with the full authority to vote on all issues raised during the Assembly and published in the agenda.

(d) provide agreed service(s).

(e) provide the necessary technical infrastructure to make access possible.

3. Members who have joined the DRI ERIC reserving the right to withdraw before the end of the first five years of the establishment of DRI ERIC shall pay a higher annual fee as specified by the DRI ERIC Assembly.
4. Contributions other than the annual fee to DIR ERIC may be provided by members individually or jointly in cooperation with other members, observers or third parties. Such contributions may be made in cash or in kind.
5. A member shall empower its representing entity or an entity representing the national consortium to carry out the obligations referred to in Article 6.2. DRI ERIC shall enter into an Agreement with that entity in order to lay down the conditions and specifications under which the obligation shall be fulfilled or the contribution shall be made.

Article 7: Rights and Obligations of the Observers
1. Rights of observers shall include to:
   (a) grant access to DRI ERIC and all its services.
   (b) attend the DRI ERIC Assembly without a voting right.
   (c) participate in DRI ERIC events, such as forums, workshops, conferences, training courses at preferential rates.
2. Each observer shall:
   (a) appoint a representing entity as mentioned in Article 3 and always keep the DRI ERIC Assembly informed about who the representing entity is.
   (b) pay the annual fee as specified by the DRI ERIC Assembly.
   (c) describe the contribution to the DRI ERIC mission, vision and activities as mentioned in Article 2.
3. Contributions other than the annual fee to DRI ERIC may be provided by observers individually or jointly in cooperation with other members, observers or third parties. Such contributions may be made in cash or in kind.
4. An observer shall empower its representing entity to carry out the obligations referred to in Article 7.2. DRI ERIC shall enter into an Observer Agreement with that entity in order to lay down the conditions and specifications under which the obligation shall be fulfilled or the contribution shall be made.

Article 8: Rights and Obligations of the Consumers
1. Rights of consumer shall include to:
   (a) use DRI ERIC services.
   (b) participate in DRI ERIC events, such as forums, workshops, conferences, training courses at preferential rates.
2. Each consumer shall:
   (a) appoint a representing entity as mentioned in Article 3 and always keep the DRI ERIC Assembly informed about who the representing entity is.
   (b) pay the fee as specified by the DRI ERIC Assembly.

CHAPTER 4 GOVERNANCE
Article 9: Assembly; organisation and tasks
1. The Assembly is the body of the DRI ERIC with full decision-making powers. The Assembly is responsible for defining the DRI ERIC's overall strategy, acting as well as the senior decision-making and supervisory authority of ERIC.
2. The DRI ERIC Assembly consists of one representative of each Member. Representatives are

natural persons.

3. The DRI ERIC Assembly is the main decision-making body of the ERIC and is in particular responsible for:
    a. Approve appointment, suspension and dismissal of the Director.
    b. Decide on strategies for the construction and exploitation of the DRI ERIC
    c. Approve the work programme and annual budget of the DRI ERIC.
    d. Confirm participation fees and composition of the Service Councils.
    e. Decide at least every five years on the principles for calculating the annual fee for each member, and on the amount of the annual fee of which the principles.
    f. Approve annual reports and accounts of DRI ERIC.
    g. Approve each member's contribution to the DRI ERIC.
    h. Approve accession of new members in the DRI ERIC Assembly and participation in the Service Councils.
    i. Adoption and amendment of policies and activity plans for any year or a series of years.
    j. Employment conditions of the personnel employed by the organisation.
    k. Appointment of the (registered) accountant.
    l. Application for bankruptcy and for a moratorium on payments of the organisation.
    m. Termination of the employment of a substantial number of employees simultaneously or within a short period of time.
    n. Contracting of monetary loans in excess of a limit determined by the DRI ERIC Assembly, which limit may at all times be changed by the DRI ERIC Assembly within a fixed period.
    o. Litigation, not being debt collections or actions in summary proceedings.
    p. Establishing working groups (potentially containing members beyond the DRI ERIC Assembly) to develop policies for the adoption by the DRI ERIC Assembly.
    q. Decide on termination of DRI ERIC Assembly membership and participation in the Service Councils.
    r. Appointment of the members of the Scientific Advisory Board.
    s. Decide on the dissolution of the DRI ERIC.

4. In the performance of its duties, the DRI ERIC Assembly will be guided by the interest of the DRIERIC.

5. TheDRI ERIC Assembly will meet at least twice a year, first within six months after the expiry of any financial year in order to adopt the annual account on the past year and then in the second six months period in order to approve the budget for the following calendar year.

6. The DRI ERIC Assembly will furthermore meet whenever this will be deemed necessary by the chairperson, or by two representatives of Members or a Director.

7. The Director will timely provide the DRI ERIC Assembly with the information necessary for the execution of its duties.

8. The DRI ERIC Assembly or one or several of its members to be designated by it, will have access to all premises of the organisation and will hold the right to inspect all vouchers and accounting records of the organisation at any time. In this respect the DRI ERIC Assembly may call in the assistance of the (registered) accountant of the organisation, who shall be allowed to peruse the entire administrative records.

9. The DRI ERIC Assembly will be chaired by a chairperson, appointed by it from its members by simple majority of votes.

10. The convening notices for the meetings will furthermore be sent by the chairperson with due observance of a period of at least twenty-one calendar days, disregarding the date of the

convening notice and the day of the meeting. In urgent cases a shorter period will suffice such at the discretion of the chairperson.

Article 10: Assembly; the decision-making process
1. The voting rights of each Member are related to the financial contributions referred to in Article 6.
2. Unless specified otherwise in these statutes, the DRI ERIC Assembly will take decisions by an ordinary majority of the votes cast.
3. In case of an equality of votes, a new meeting will be convened within twenty-one calendar days. In case votes will be equally divided then, the proposal will have been rejected.
4. EU Member States shall jointly hold the majority of the voting rights in the DRI ERIC Assembly.
5. The DRI ERIC Assembly may only take valid decisions if the number members present or represented collectively hold a majority of the total voting rights.
6. A qualified majority vote requires a majority of at least two-thirds of the votes cast in a DRI ERIC Assembly meeting at which the number of members present or represented collectively hold at least two-thirds of the voting rights.
7. A member of the DRI ERIC Assembly may only have himself or herself represented by a deputy or a proxy through a written power of attorney.
8. The DRI ERIC Assembly may also take decisions without a meeting having been held, provided the opinion of the members of the DRI ERIC Assembly will have been sought in writing and none of the members of the DRI ERIC Assembly will oppose said manner of decision-taking.
9. The open meetings of the DRI ERIC Assembly can be attended by Members, Observers and Consumers and the Director. Closed meetings of the DRI ERIC Assembly can only be attended by Members, Observers and the Director unless the DRI ERIC Assembly express the wish to meet without the Director attending.
10. Minutes will be kept of the proceedings at the meetings, which will be signed as soon as possible by the chairperson of the meeting and also by the person who has kept the minutes. It will also be stated in the minutes, which members of the Assembly have attended the meeting.
11. The DRI ERIC Assembly Terms of Reference shall be established by the DRI ERIC Assembly.

Article 11: Legal Representation
1. The Director will represent the organisation.
2. The Director may also grant third parties, either jointly or individually, a power of attorney, permanent or otherwise, to represent the organisation within the restrictions laid down in that power of attorney.

Article 12: Director
1. The daily management of the organisation may be entrusted to the director.
2. The director is appointed, suspended and dismissed by the DRI ERIC Assembly.
3. The director carries out his or her tasks within the competences mandated to him or her by the DRI ERIC Assembly.

Article 13: Service Councils
1. The Service Councils (SCs) are composed of DRI ERIC Members, Observers and any other national, community and project type of members accepted by DRI ERIC Assembly.

2. The Service Councils shall in particular responsible for:
   a. Define the technical specification and operation of the services that that are managed through each SC through the relevant operations unit.
   b. Propose policies to be approved by the DRI ERIC Assembly.
   c. Provide input to the DRI ERIC Assembly through solicited and unsolicited advice on strategic issues, including but not limited to vision, new initiatives, work plans and quality assurance
   d. Participate only in open DRI ERIC Assembly sessions.
3. Members of the Service Councils will pay the designated participation fee as defined by the DRI ERIC Assembly.
4. It shall be the duty of each Member and Observer to appoint representatives to the Service Councils.
5. The Service Councils shall define its terms of reference for approval by the DRI ERIC Assembly.

Article 14: Scientific Advisory Board
1. Scientific Advisory Board will constitute an advisory board of at least seven eminent, independent (from the governance functions of the DRI ERIC) and experienced scientists to provide an external advising role for the benefit of the DRI ERIC.
2. The main task of the Scientific Advisory Board is to monitor the peer review processes established to allocate resources managed directly by the DRI ERIC and that they provide open and transparent access mechanisms that are enabling excellent science to be undertaken..
3. The Scientific Advisory Board shall define its terms of reference for approval by the DRI ERIC Assembly.

CHAPTER 4 FINANCE
Article 15: Capital
1. The capital of the DRI ERIC is formed by:
   (a) financial contributions paid by the Members, Observers and Consumers.
   (b) European and (governmental) subsidies.
   (c) other contributions and donations.
   (d) testamentary dispositions, bequests and gifts.
   (e) other revenues.
2. Testamentary dispositions may only be accepted with the benefit of inventory.

Article 16: Budgetary Principles
1. All items of revenue and expenditure of the DRI ERIC shall be included in estimates to be drawn up for each financial year and shall be shown in the budget.
2. The revenue and expenditures shown in the budget shall be in balance.
3. The members of the DRI ERIC shall ensure that the appropriations are used in accordance with the principles of sound financial management.
4. The budget shall be established and implemented and the accounts presented in compliance with the principle of transparency.
5. The DRI ERIC shall be subject to the requirements of the applicable law as regards the preparation, filing, auditing and publication of accounts.

Article 17: Annual Account

1. The financial year of the organisation shall coincide with the calendar year.
2. At the end of each financial year, the accounting records of the organisation will be balanced; within five (5) months after the end of the financial year Director will present to the DRI ERIC Assembly will compile the annual account, consisting of a balance sheet and a statement of income and expenditure with an explanatory memorandum.
3. The annual account of the organisation shall be audited by a (registered) accountant appointed by the DRI ERIC Assembly. The Accountant will report his or her findings to the DRI ERIC Assembly.
4. The DRI ERIC Assembly shall adopt the annual account. A decision to this end requires a qualified majority vote. The annual account shall be signed by the full DRI ERIC Assembly; in case one or several of them will be lacking, the reason thereof will be stated. The accounts of the DRI ERIC shall be accompanied by a report on budgetary and financial management of the financial year to the European Commission.

Article 18: Liability
1. DRI ERIC shall be liable for its debts.
2. The members are not jointly liable for the debts of DRI ERIC. The members' financial liability towards DRI ERIC's debts shall be limited to each individual member's annual contribution and agreed upon in the annual spending plans.
3. DRI ERIC shall take appropriate insurance to cover the risks specific to the construction and operation of the ERIC.

CHAPTER 5 POLICIES
Article 19: Policy principles and development
The Policy principles listed in the Statues will be developed in more detail through policy groups established by DRI ERIC Assembly. Such policies shall be internal to the DRI ERIC and may be modified with the approval of the DRI ERIC Assembly without the need for the amendment procedure foreseen under Article 29.

Article 20: Open Access Policy Principles
1. Where access for researchers in DRI ERIC member countries is concerned resources, data, tools and services offered by DRI ERIC shall be open to all employees and researchers in research institutions such as universities, research centres and research libraries, according to the authorisation of the service and content providers and through an authentication approved by DRI ERIC.
2. Where access for researchers in non-member countries is concerned, the research institution shall pay a subscription fee determined by the DRI ERIC Assembly to join the Service Councils, which will give access for all employees and students of the particular institution to DRI ERIC's resources, data, tools and services. It shall be a prerequisite that the users of DRI ERICs resources, data, tools and services are part of an authentication and authorisation system satisfying DRI ERIC's requirements and approved by DRI ERIC.
3. Access for other institutions, industry and similar types of specific users as well as individual researchers not belonging to an institution may be granted for a fee. It shall be a prerequisite that the users of DRI ERIC data, tools and services are part of an authentication and authorisation system satisfying DRI ERIC's requirements and approved by DRI ERIC.
4. Access for the general public shall be granted unless the services or resources are constrained by licensing conditions imposed by the owners.

5. Even if access is granted according to Article 20.1 to 20.4, some services and resources may be available against a fee if required by the owner.
6. With respect to non-proliferation issues related to distributed computing, the participants will take all necessary measures to comply with the framework set up by the European Union and additional domestic legislation regarding export controls of dual-use items (including software and technology) and technical assistance

Article 21: Scientific Evaluation Policy Principles (DELETED)

Article 22: Dissemination Policy Principles
1. DRI ERIC shall promote the DRI ERIC globally and encourage researchers to embark on new and innovative projects to use its services in their research activities.
2. DRI ERIC shall encourage researchers using its services to make their research results publicly available and to register their research results with the DRI ERIC.
3. DRI ERIC shall use a wide variety of channels to reach its target audiences in the research community, policy makers and the public.

Article 23: Intellectual Property Rights Policy Principles
1. In accordance with the objects of the present Statutes, the term 'Intellectual Property' will be understood according to Article 2 of the Convention Establishing the World Intellectual Property Organisation signed on 14 July 1967.
2. Intellectual property rights of results created directly by the staff of the DRI ERIC shall belong to DRI ERIC and shall be managed by the DRI ERIC Assembly.
3. Intellectual property rights of results created by the users of the services provided by the DRI ERIC shall not belong to the DRI ERIC or the service provider unless explicitly stated by the service or data provider's access conditions.
4. DRI ERIC shall provide guidance (including via website) to researchers to ensure that research undertaken using material made accessible through DRI ERIC shall be undertaken within a framework that recognizes the rights of data owners and privacy of individuals.
5. DRI ERIC shall ensure that users agree to the terms and conditions governing access and that suitable security arrangements are in place regarding internal storage and handling. DRI ERIC shall have in place well defined arrangements for investigating allegations of security breaches and confidentiality disclosures regarding research data.
6. With respect to questions of Intellectual Property, the relations between the Contracting Parties will be governed by the national legislation of the Contracting Parties.

Article 24: Procurement Policy Principles and Tax Exemption
1. The DRI ERIC shall treat procurement candidates and tenderers equally and in a non-discriminatory way, independent of whether or not they are based in the European Union. DRI ERIC procurement policy shall be based on the principles of transparency, non-discrimination and competition.
2. In general, procurement by the DRI ERIC shall be subject to Directive 2004/18/EC of the European Parliament and of the Council of 31 March 2004 on the coordination of procedures for the award of public works contracts, public supply contracts and public service contracts, with the thresholds amended by Commission Regulation (EC) No. 1422/2007 or any further amendments.

3. The Director shall be responsible for all DRI ERIC procurement. All tenders shall be publicised effectively on the DRI ERIC website and in the members' and observers' territories.
4. The decision to award procurement shall be publicised and include a full justification. The DRI ERIC Assembly shall adopt Implementing Rules defining all necessary details on exact procurement procedures and criteria.
5. Procurement by members and observers concerning DRI ERIC's activities shall be done in such a way that due consideration is given to DRI ERIC needs, technical requirements and specifications issued by the relevant bodies.
6. Tax exemptions based on Article 143(1)(g) and Article 151(1)(b) of Council Directive 2006/112/EC and in accordance with Articles 50 and 51 of Council Implementing Regulation (EU) No 282/2011 shall be limited to the value added tax for such goods and services which are for official use by DRI ERIC, exceed the value of EUR 250, and are wholly paid and procured by DRI ERIC. Procurement by individual members shall not benefit from these exemptions. No further limits shall apply.

Article 25: Data Policy Principles
1. Generally, DRI ERIC shall favour Open Source and Open Access principles, but existing licences shall be respected.
2. Use and collection of the DRI ERIC's data is subject to European and national laws of data privacy. Use of the data by users who are not subject to EU legislation shall be conditional on signing a declaration of data confidentiality according to the form provided by the European Commission.

Article 26: Employment Policy Principles
1. DRI ERIC shall be an equal opportunity employer. Employment contracts shall follow the national laws of the country in which the staff are employed.
2. DRI ERIC shall select the best candidate, regardless of background, nationality, religion or gender.
3. Persons employed by the organisation may not act as members of the DRI ERIC Assembly.
4. The Director appoints, suspends or dismisses all other people employed by the organisation (except his/herself) on behalf of the DRI ERIC Assembly.
5. The DRI ERIC Assembly determines the salary and arranges the other employment conditions.

CHAPTER 6 REPORTING TO THE EUROPEAN COMMISSION
Article 27: Reporting to the Commission
1. DRI ERIC shall produce an annual activity report, containing in particular the scientific, operational and financial aspects of its activities. The report shall be approved by the DRI ERIC Assembly and transmitted to the Commission and relevant public authorities within six (6) months from the end of the corresponding financial year. This report shall be made publicly available.
2. DRI ERIC shall inform the Commission of any circumstances which threaten to seriously jeopardise the achievement of DRI ERIC tasks or hinder the DRI ERIC from fulfilling requirements laid down in Regulation (EC) No 723/2009.

CHAPTER 7 DURATION, DISSOLUTION, AMENDMENTS, DISPUTES, SET UP PROVISIONS

Article 28: Duration and Dissolution of the Organisation

1. DRI ERIC is set up for an indefinite period of time.
2. The DRI ERIC Assembly will be competent to dissolve the organisation.
3. A motion, specifying the procedure and timeframe, if approved by the DRI ERIC Assembly by qualified majority, can dismiss the organisation.
4. The organisation will be liquidated by the DRI ERIC Assembly by qualified majority vote.
5. The organisation will continue to exist after its dissolution in so far as this will be necessary for the liquidation of its assets.
6. During the liquidation, the provisions of the present articles will continue to be effective as much as possible.
7. Any surplus balance of the dissolved organisation will be spent as much as possible in accordance with the objective of the organisation.
8. After the end of the liquidation, the accounting records and documents of the dissolved organisation will be kept for a period of seven (7) years by the youngest liquidator or by a third party to be designated by the liquidators.
9. The decision of liquidation may include the transfer of activities to another legal entity.
10. The European Commission shall be notified of any such decision within 10 days of it being made, pursuant with Article 16 of Regulation (EC) No 723/2009.

Article 29: Amendment of the Statutes

1. The Statutes may only be amended by a resolution of the DRI ERIC Assembly.
2. For this purpose the members of the DRI ERIC Assembly will be called to attend a meeting by the chairperson of the DRI Infrastructure ERIC Assembly within a period of at least twenty-one (21) calendar days, whilst the convening notice will state the proposed amendment of the articles.
3. A resolution for the amendment of the articles may only be adopted by a qualified majority vote as described in article 9.6.
4. Any amendment of the Statutes concerning the matters referred to in points (b) to (f) or in Article 10(g)(i) to (vi) of Regulation (EC) No 723/2009 shall be submitted to the Commission by the ERIC for approval. Such amendment shall not take effect before the decision granting approval has come into force. The Commission shall apply Articles 5(2) and 6, mutatis mutandis of Regulation (EC) No 723/2009. Any amendment of the Statutes other than that referred to in paragraph 1 shall be submitted to the Commission by the ERIC within 10 days after its adoption.

Article 30: Applicable Law

1. DRI ERIC shall be governed, by precedence by:
   (a) Union law, in particular Regulation (EC) No 723/2009.
   (b) the law of the Netherlands (TBC) in case of a matter not covered (or only partly covered) by Union law.
   (c) these statutes.

Article 31: Disputes

1. The Court of Justice of the European Union shall have jurisdiction over litigation among the members in relation to DRI ERIC, between members and DRI ERIC and over any litigation to which the Union is a party.

2. Union legislation on jurisdiction shall apply to disputes between the DRI ERIC and third parties. In cases not covered by Union legislation, the law of the Netherlands (TBC) shall determine the competent jurisdiction for the resolution of such disputes.

Article 32: Availability of Statutes

1. At any point in time the valid version of the statutes shall be publicly available at the DRI ERIC website and at the statutory seat.

APPENDIX B: SCIENTIFIC AND TECHNICAL DESCRIPTION OF THE DIGITAL RESEARCH INFRASTRUCTURE ERIC

Vision

The Digital Research Infrastructure ERIC vision is to provide the sustainable long-term operation of all the integrated transnational services needed by researchers in the digital European Research Area to collaborate seamlessly across disciplines and across borders.

Overview

The digital researcher is becoming increasingly dependent on different distributed technologies, frequently used within international collaborations to produce excellent world class science. Many of the physical resources to undertake this work are hosted by national research centres and funded by the relevant national funding bodies. The cost effectiveness of this national investment is assured by promoting its controlled and secure use within international collaborations at a European level through integrating transnational services. Such integrating transnational services and organisation have been developed or are being developed over the last decade and include capabilities such as networking, high-throughput and high-performance computing and data. To provide the integration called for within the European Research Area the integrated service delivery and sustainable governance of these services must be assured.

The Digital Research Infrastructure ERIC would therefore host the complete range of transnational services needed by researchers in the digital European Research Area to collaborate with researchers from different disciplines in different countries to use the different nationally provided resources (HTC, HPC, Data, Network, Cloud and others) in Europe and around the world they need for their research activities.

The principles of subsidiarity in the organisation of the ERIC would be maintained: national funders would continue to fund national e-infrastructure. Services used by one particular type of researcher would continue to be technically specified by those researchers. The ERIC would focus on two technical aspects:
- the sustainable transnational uniform integration of the services coming from different national resource providers,
- the provision of services needed to support collaborative e-Research in the digital European Research Area.

This would allow the DRI ERIC to deliver an integrated uniform single market of ICT services for its members and other service consumers in different research communities across the whole of the European Research Area. The DRI ERIC will provide European wide governance and funding structure that can sustain the services needed by the different research communities that it supports.

Technical Services for the Researcher

The technical services provided to the researcher are located at:
1. National resource centres affiliated to the DRI ERIC through its members or observers that provide services to different research communities which may include access large scale computing, storage and data resources across Europe.

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2. Services provided through the DRI ERIC for the direct use by particular research communities, or by the national resource centres to provide the integrated uniform service offering expected across Europe for a particular research community.
3. Services provided through the DRI ERIC for the use of researchers across all disciplines within the digital ERA.

Services in (1) and (2) are defined by the individual Service Councils (SCs) that are specific to particular research communities. Services in (2) and (3) are hosted by the DRI ERIC (either directly or through partnership). The partnerships may include subsidiary organisations that are directly funded through the DRI ERIC. Services in (3) are for the benefit of all research communities and could include core capabilities such as Authentication and Authorisation, Persistent Data Identifiers, File movement, Service Monitoring, Service Registry & Discovery, etc. Services in (1) and (2) will vary from one research community to another but could for particular communities include:

- High Throughput Computing: Service Operation, Workload management, batch job submission, accounting, etc.
- High Performance Computing: Service Operation, Batch job submission etc.
- Data: Data registries, meta-data browsers etc.
- Network: Operations Centres, performance monitoring etc.
- Cloud: Provisioning, billing, virtual machine image conversion etc.

Delivering Excellent Science
The DRI ERIC will identify the application, assessment and allocation process that will be implemented to support peer reviewed science on European level on resources pooled from the resource providers.

Consolidated Headquarters Functions
Integration and consolidation across different functions could produce economies of scale across:

- Management
- Representation at national and European levels
- Strategy and Policy
- Marketing
- Communications
- Events
- Administration
- Legal
- Procurement
- Technical Support
- Consultancy
- Technology Watch

ERIC Assessment Criteria
The scientific and technical case needs to demonstrate the following five conditions imposed in Article 4 of ERIC Regulation in order to be considered eligible for ERIC:

1. Necessary for European research programmes and projects

DRI ERIC connects researchers from all disciplines with the reliable and innovative transnational ICT services they need to undertake their collaborative world-class and world-spanning research through the exploration of new computing and data processing models that address scientific grand challenges facing society. Providing a digital infrastructure that is a foundation for European research

infrastructures is aligned with the EC's vision for Europe in 2020 and the establishment of the digital ERA and the generation of a substantial socio-economic impact for European society.

2. Open and effective access, in accordance with the rules established in its Statutes, is granted to the European research community

DRI ERIC establishes a single uniform market for accessing national distributed computing, data and storage resources across Europe. The integration of national resources, a proportion of which are available for international use, is supplemented by dedicated centrally purchased resources hosted at national resources centres. Both of which can be accessed following an open peer review process ensures the most effective return on Europe's e-Infrastructure investments to perform excellent science.

3. Added value in the development of the ERA and significant improvement in relevant S&T fields at international level

DRI ERIC provides improvement to individual researchers and research groups (national, European and international) who need to process, share and analyse large data sets generated from their research through the integrated delivery of different Digital Research Infrastructures. An integrated Digital Research Infrastructure provides added value to the development of the ERA by providing a single access point for all the e-Infrastructure needs of research infrastructures.

4. Contribution to mobility of knowledge and researchers within the ERA and increases the use of intellectual potential throughout Europe

The DRI ERIC will provide training and consultancy on the leading edge services and technologies that it operates enabling faster scientific results and avenues of multi-disciplinary research than otherwise possible. This will develop the education and skills of the human capital in the applied research community on services that are deployed uniformly across Europe enable the movement of knowledge within both people and applications across Europe.

5. Contribution to the dissemination and optimisation of the results of the activities in Community research, technological development and demonstration.

DRI ERIC will promote the scientific results from the researchers supported through the peer reviewed use of the resources under its direct management and those contributed by its national partners, alongside the innovation and development work undertaken by its resource providers to deliver a world-class Digital Research Infrastructure needed to support world-leading science.

Summary
The DRI ERIC will allow scientists from all fields of research to use an integrated Digital Research Infrastructure comprising the latest integrated technologies and resources for the benefit of their applied research activities. The use of dedicated resource purchased and managed by the DRI ERIC and integrated with federated national resources (a proportion of which will be contributed to the ERIC), will be allocated through an open peer review process to ensure the support of excellent science. Common services such as authentication, authorisation and accounting will enable the integration of different e-Infrastructure technologies that will lower the technical barriers to collaboration between researchers from different fields of science.

APPENDIX C: TEMPLATE EXPRESSION OF INTEREST

To:
Interim Digital Research Infrastructure ERIC Office
c/o EGI.eu
140 Science Park
Amsterdam
Netherlands

<<DATE>>

Dear Facilitator

As the national contact point for <<COUNTRY>> we are submitting our Expression of Interest joining the Digital Research Infrastructure ERIC discussions.

While we make no commitment to join the Digital Research Infrastructure ERIC if an application is submitted we will faithfully engage in the discussions that take place in the community which will be undertaken through our designated representatives:
- <<Individual 1>>
- << Individual 2>>
- …

We accept that the exact scope of the Digital Research Infrastructure ERIC is one of the areas of discussion and we are interested in seeing the transnational services needed to support digital researchers and their supporting infrastructures in [delete/add to the following as appropriate]:
- Networking
- High Throughput Computing
- Data
- High Performance Computing
- Cloud Computing
- …

<<Any further comments>>

Yours sincerely,

Signature: Stamp:
Name and position in capital:
Place: Date (DD/MM/YYYY)