StR ESFRI

Exchange of Experience Workshop
Making effective use of Horizon 2020 Preparatory Phase Funding

Report

9th March 2016

Science Park,

Amsterdam

CONTENTS

INTRODUCTION

Since the first European Roadmap for Research Infrastructures was developed in 2006 by the European Strategy Forum for Research Infrastructures (ESFRI), the Forum has continuously worked on identifying new (or upgrades of) research infrastructures (RIs) of strategic interest for Europe. As a result of the 2006 Roadmap and its updates in 2008 and 2010 as well as the 2015-2016 roadmapping exercise, the ESFRI Roadmap 2016 includes 29 ESFRI Landmarks (RIs which have progressed well, either in the implementation phase or have already been implemented) and 21 ESFRI Projects (RIs in preparatory or pre-implementation phase).

StR-ESFRI - a project funded by the EU under H2020 to support the work of ESFRI - intends to provide a platform for exchange of experiences and best practices between RIs on the ESFRI Roadmap, in all stages of development. This platform will be organised as a series of exchange of experience (EoE) workshops assisted by a dedicated online forum through the StR-ESFRI website.

Exchange of Experience workshop on Preparatory Phase

As agreed at the ESFRI Forum level, ESFRI Projects have 10 years to be implemented. Otherwise they are removed from the ESFRI Roadmap and need to reapply. To assist ESFRI Projects in implementation, the European Commission provides support under Horizon 2020 through dedicated Preparatory Phases, which are crucial steps in successful implementation of RIs on the ESFRI Roadmap. Due to this, it is of outmost importance to use this EU funding as effectively as possible, focusing on the key aspects of implementation of a particular RI.

As the ESFRI Roadmap 2016 includes a number of ESFRI Projects which are currently benefiting or will soon benefit from Preparatory Phase funding under Horizon 2020, StR-ESFRI proposed to focus the 1st Exchange of Experience workshop on how to make the most effective use of this funding, as a crucial step in the implementation of an ESFRI RI and transfer experiences from projects who have successfully gone through this phase in the past.

Objective of the workshop

The objective of the workshop on 9th March 2016, in Amsterdam, The Netherlands was to provide a platform for effective, high-level interaction (exchange of experiences), coordination and networking between ESFRI Projects and selected ESFRI Landmarks, on the one hand, and the European Commission, ESFRI Working Group on Implementation (IG) and ESFRI Strategy Working Groups (SWG) on the other hand.

The workshop thus mobilises substantial combined expertise (best practise) in setting up pan-European RIs with the aim to:
- present the new concept of Preparatory Phase projects;
- discuss how to identify and overcome the main bottlenecks in RI implementation and how to effectively use EU funding to that end;
- inform the current ESFRI strategy on assessment of implementation and the objectives of the forthcoming roadmap updates.

Target group

The workshop was mainly aimed at scientific leaders and managers of ESFRI Projects and Emerging Projects listed on the 2016 ESFRI Roadmap currently implementing or preparing for a Preparatory Phase under Horizon 2020. Representatives of selected ESFRI Landmarks were also invited to discuss their experiences with such projects.

Organisational aspects

The workshop was organised by StR-ESFRI, in close cooperation with ESFRI and the European Commission (EC). It took place on 9th March 2016 at NIKHEF in the Science Park of Amsterdam, the

Netherlands. The location was chosen with view to the NL Presidency and the ESFRI Roadmap Launch event 2016 the day after. It was organised within 4 months by Work Package Leader 4, DLR, after the decision has been taken by the ESFRI Executive Board on 6th December 2015.

The author of this report, Beate Warneck (WP Leader 4), was summarising the outcome of the workshop discussion with the support of project coordinators, Strategic Working Group- and ESFRI-Members as well as the European Commission and I take the opportunity to thank all involved persons for their feedback. All presentations are available on the StR-ESFRI webpage under www.esfri.eu. The following chapters provide a profound analysis of the different challenges that projects were faced in the past.

SUMMARY

The workshop to **Exchange Experiences on the Preparatory Phase of research infrastructure projects** was attended by more than 70 participants representing the target group such as scientific leaders and managers of ESFRI- and Projects, listed on the 2016 ESFRI Roadmap currently implementing or preparing for a Preparatory Phase under Horizon 2020. Other participants were representatives of selected ESFRI Landmarks[1], National Ministries, the European Commission, national managing authorities, and ESFRI members, multipliers of the scientific community and other ERA stakeholders or policy makers in order to exchange their views and experiences with the relevant target group. According to a survey which was conducted after the end of the workshop it turned out, that 99% of the participants were very satisfied/satisfied with the content and the workshop quality. The common view expressed that the discussions and presentations of speakers helped to find answers regarding main challenges the ESFRI projects are currently faced with. A sensitive issue about exchange of experiences is still the implementation of contact points or communication platforms to get promptly relevant information on challenges they are faced. This document will therefore help to summarize some main thematic issues of interest to the community.

The first session of the workshop was dedicated to the *ESFRI roadmap process*, and *links with national RI roadmaps* followed by an explanation about *Smart Specialisation Strategies* presented by the ESFRI Vice-Chair Giorgio Rossi. Thereafter *lessons learnt from ESFRI evaluation and assessments of implementation were* presented by David Bohmert, the former Chair of the ESFRI working group of Implementation. Paul Tuinder from the European Commission introduced the *Preparatory Phase funding under Horizon 2020*. Each presentation is shortly summarized in the following chapters.

The second part of the workshop was dedicated to panels about three main issues a) Governance, b) Funding and c) Legal issues. This part started with respectively three short keynote speeches of Landmark projects to stimulate discussions on each topic.

The outcomes of the workshop can be summarised as follows:

a) <u>**General:**</u>

- Exchange of experience workshops (EoE) are very useful and help new projects to avoid making the same mistakes than coordinators of previous of RIS or start from scratch, rather build on top of previous experiences. This will save time and money for the future roadmap processes.

- EoE Workshops have to be prepared well in advance to stimulate discussions and to structure the outcome and thus makes it easier to compare different case studies.

- Guidelines, contact persons or any other communication platform would be suitable helping coordinators in the different state of development to successfully solve emerging challenges.

- Despite the workshop structure in three main pillars of discussion (Governances, Funding and Legal issues) it should be noted that all issues are linked closely together and some week points may also affect others, as demonstrated below.

b) Governance:

- Keep the governance simple as possible and as robust as needed (weak management may result in project failure) to minimize project management overhead. Carefully define the role of scientific, managerial or lawyer responsibilities and respect competences of others.

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[1] Def. ESFRI Landmarks: RIs that were implemented or started implementation under the ESFRI Roadmap and are now established as major elements of competitiveness of the European Research Area. (see ESFRI Roadmap 2016)

- Carefully define business models (for the central facility) in a very early stage, giving emphasis to the financial contribution from the host countries and other countries related to the services of the central facility. This requires a clear agreement about what services the infrastructure should offer and a clear definition of its target group.

- Be aware that negotiations may take longer time than expected and thus ensure that processes and mechanisms are in place to operate effectively during the interim phase.

c) Funding:

- Engage closely and establish effective links with funders and member states from an early stage; these will avoid financial shortage.

- Governance and funding are inherently connected. Funding failure might result as a consequence of managerial and organizational failure. Lack of reliable funding strategy for RIS implies reduced access to tangible and intangible investments.

- As for any enterprises, RIs need to have clear processes for financial sourcing (well-balanced cash and in-kind contribution), management and control mechanisms.

- In case of using structural funds, it is essential to have a coordinated approach between different managing authorities and share expertise among:

  a) these management authorities to understand the project as a whole and also the interdependencies of different national and European funding programs

  b) the nodes of distributed RIs planning to make use of the structural funds.

- Excellency in science (services) must be brought in accordance with cohesion arguments and funding restrictions of the structural funds (SF) shall not put burdens on the competitive character of the research infrastructure.

- Switch from the construction to the operational phase (SF) is connected with change (partially competitive funding) of mindset also in financial terms.

d) Legal Issues:

1) General for all legal entities:

- Negotiate service agreements with each service provider

- Don't underestimate the amount of work, and time for individual legal commitments and framework contracts with multiple partners, and involve legal services and expertise.

- Require informal feedback from the European Commission at an early stage.

- Take also other legal status into consideration than the "ERIC".

2) ERIC entity:

- Keep close contact with the national Ministries as early as possible in case an ERIC will be established and carefully study the ERIC template and its guidelines!

- A proof of principle of operational demand is needed for the ministerial signature in case of an ERIC status. Institutional support will be useful.

- Definitively involve the finance ministries at an early stage to make sure they will allow tax exemptions.

- Ensure a clear perspective of getting long-term funding.

ESFRI Roadmap process, links with national RI roadmaps and Smart Specialisation Strategies

Giorgio Rossi, ESFRI Vice-Chair

In his statement Giorgio Rossi, *ESFRI Vice-Chair,* referred to the new **ESFRI Roadmap** 2016, which was published on 10th of March. He mentioned that the roadmap identifies new pan-European Research Infrastructures (RIs) or major up-grades to existing ones, meeting the long-term needs of Europe's research communities across all scientific areas. The role of ESFRI in this context is to provide help and best practice, but Member States (MS) and Associated Countries (AC) must be the major source of funding. The roadmap exercise thus requires major financial investment (~20 b€) and long term commitment for operation (~2 b€/year) by national governments. The new ESFRI Roadmap consists of 21 ESFRI Projects with a high degree of maturity - including 6 new Projects - and 29 ESFRI Landmarks - RIs that reached the implementation phase by the end of 2015.

In his presentation Giorgio Rossi explained thereafter the **methodology** undertaken for the roadmap update and the new approach for selection. *"The ESFRI Roadmap 2016 adopts a more focused, strategic approach and identifies a limited number of research infrastructures which offer particularly high added value for the European Research Area. The ESFRI Projects included in the Roadmap represent a portfolio of options in all domains allowing the European MS and AC to develop a sustainable policy of competitiveness in science and innovation."*[2] This presumes a high degree of project maturity and their compliance with the basic requirements of the evaluation process such as the definition of RIs and their open access policy, indicators of their pan-European relevance, a minimum of 3 Governmental/EIROs support but also others. The successful development of the 2016 roadmap contains some useful lessons like communication of rules and criteria, fixed lifetime on roadmap and an open and transparent procedure for future road-mapping activities.

Giorgio Rossi alerted the importance of the **Landscape Analysis** which was carried out by the ESFRI working groups (SWGs + IG)[3] in the different scientific fields identified by ESFRI. *"The Landscape Analysis improves our understanding of the general features of the RIs ecosystem, the complementarities and synergies of national and international undertakings, and identifies gaps and future trends"*, he said. As it is a very complex and lengthy process, it guarantees that important existing undertakings at national/regional, European and global level are not overlooked and identifies areas of weakness (gaps) as well as areas where opportunities are present for rationalization, complementarity, and replacement. A prerequisite of successful analysis would therefore be well balanced SWGs and IG composition and experts that work independently on science and innovation issues while the experts of IG investigate the maturity of RIs. Cross cutting issues and interconnections as he demonstrated alongside the health and food sector may however not be underestimated. An international peer review is also relevant to merge critical questions and hearings of projects which should lead in a harmonization conference including all SWGs and IG.

Finally, Giorgio Rossi explained dependences of the ESFRI roadmap and the **national Roadmap** exercises of MS and AC. He agreed that parallel processing with mergers and harmonisation would be in fact time consuming but would also be compatible with 2/3 years' cycles and with ten years' engagement of RI projects and also be possible for national roadmap processes. The same applies for the roadmap dynamics, the monitoring of Roadmap projects and the assessment at critical stages as well as the periodic review of Landmarks, he said. In paying heed of timing and synchronisation with ESIF[4] and the smart specialisation strategies respecting synergies and providing a methodological exchange would help for future successful road-mapping activities.

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[2] Source: http://www.esfri.eu/esfri_roadmap2016/roadmap-2016.php
[3] Strategic Working Groups (SWG) + Implementation Group (IG) of ESFRI
[4] European Structural and Investment Fund

Lessons learnt from ESFRI evaluation and Assessment of Implementation

David Bohmert, former Chair of the ESFRI WG on Implementation; ESFRI Delegate

David Bohmert, former Chair of the Implementation Working Group and Swiss ESFRI Delegate, reported from his experiences with the (support to move towards) implementation of RIs and provided lessons learned for the (new) ESFRI Projects and future road-mapping activities.

He explained that the rationale for the assessment of RIs is to assess to what degree the Projects fulfil minimal key requirements for the different phases of the RI lifecycle and to identify concrete recommendations to support the Projects to overcome bottlenecks and to move towards implementation. David Bohmert explained that the 10 years 'rule also safeguards the credibility of the ESFRI methodology and contributes to the ERA Roadmap 2015 – 2020 (Priority 2B) and should foster to "make optimal use of public investments in research infrastructures". David Bohmert gave thereafter an overview of the results of the 2015 assessment on the dimensions stakeholder commitment, user strategy & and access policy, preparatory work, planning, governance & management, HR policy, finance and risks. The lessons learned within the different criteria can be summarised as following:

a) User Strategy & Access Policy

David Bohmert shortly summarised some important elements of the European Charter for Access to RIs, published in early 2016. Hence the Assess policy of a RI should define the access in terms of access units. It should state the specific access mode and clarify the conditions for access, while describing the processes and interactions involved. It should also elaborate on the support measures facilitating the access, if existing. An essential point of lessons learnt from the RIs user strategy and access policy is that the scientific case (operation) of RIs should be linked to implementation (management, administration and facilities). A well-defined user strategy and access policy is a prerequisite and basis for the development of RIs business plans. In addition, they are essential for data and IPR policies as well as for the Data Management Plan (DMP). David Bohmert explained that these issues would be the key to progress towards full implementation. Distributed RIs present a special case since they need to demonstrate a common access policy and provide for a single point of access for all users.

b) Governance & Management

David Bohmert pointed out that before setting up the governance structure and a functional management team, it is essential to identify and agree upon measurable and credible Key Performance Indicators (KIPs) and to define the governance with clear responsibilities and reporting lines, including supervisory body and any other boards. It is also important to achieve a good division and balance of power between the scientific, operational and strategic management and between the central hub and the national nodes in case of distributed RIs. The governance and management structure should be defined from the grand design to details and they must be compliant with the envisaged legal entity. David Bohmert alerted to avoid misunderstandings about perceived disadvantages of an ERIC and advantages of a private legal entity but to well trade them off each other. And he finally alerted to safeguard the financial stability of the individual RI through commitments at governmental level at an early stage.

c) Funding

David Bohmert explained that most projects fail to meet financial maturity because of a lack of clear link to stakeholder commitments. Sometimes Projects are close to implementation, but are not be to move on as involved countries do not take their final decisions on funding – particularly with regards to the central hubs. He underlined the interconnection between stakeholder commitment, governance and management, as well as funding issues.

d) Stakeholder commitments

David Bohmert explained that there are interdependences between the level of stakeholder commitments (governmental or institutional) and the legal commitment (unilateral, multilateral). As distributed pan-European RIs are strong instruments, stakeholder commitment may be investments in a) national or b) regional RIs of strategic importance. Stakeholder commitments are secured if investments in distributed RIs are coordinated and in line with the common strategy amongst their stakeholders. Experiences demonstrated also that countries cooperate in investments to avoid duplication of efforts and investments and to build pan-European RIs that are far beyond what single countries can reach on their own.

e) Integration

(Some) distributed RIs hesitate to grant strong influence to the central hub resulting in a (too) lean central hubs without substantial coordinating powers actually raising doubts about the level of integration of national nodes and about the true added value of being a RI rather than a research cooperation network. A distributed RI should thus provide its central hub with substantial coordinating powers (such as common access policy, harmonised and coherent IPR and data policies; adequate central resources; procurement and upgrading of technological infrastructure; human resources policy allowing staff exchange and secondments).

In summarising the main topics, David Bohmert stated that ESFRI has committed to support European RIs. Different players have to be addressed based on constitute task lists which will be followed up and monitored. The monitoring will occur periodically (every 2 to 3 years), it will include generic and specific elements and it will also be done with a more targeted approach. It will also involve closer interaction between ESFRI Projects, IG, SWGs and e-IRG. And finally, the monitoring will result in new conclusions and recommendations to be followed up and determining the status on the Roadmap.

Preparatory phase and ESFRI

In order to explain the interconnection between ESFRI and the Preparatory phase, David Bohmert said that ESFRI has developed and applied a lifecycle model applied for the 2016 ESFRI roadmap update. This approach will be further refined and extended to a complete economic analysis. Consistency in methodology and terminology will be persuaded at the international level. David Bohmert clarified that this concerned two separated processes. Both however follow the lifecycle approach based on UK gateway process and AEG matrix, i.e. heaving minimal key requirements to face in the lifecycle of RI. The processes are consistent and coherent with Horizon 2020. The preparatory phase is devoted to the refinement of the technical design, development of governance, definition of legal status and financial sustainability, leading to start of implementation. ESFRI demands a firm agreement by stakeholders to proceed to adoption of legal status engaging substantial funding for implementing RIs.

ESFRI Landmarks and ESFRI Projects

David Bohmert presented the definition of **ESFRI Landmarks**. He explained that these would be RIs that are under implementation or they are already implemented (under the ESFRI roadmap) and are now established as reference pillars of the competitiveness of ERA. ESFRI landmarks, he explained, would need continuous support for successful operation and upgrade in line with optimal management and a maximum return on investment policy. They are prioritised for regional, national and European (e.g. ESIF) funding and might access special financing under Horizon 2020, e.g. as support for implementation. They also may receive ad hoc targeted and specific (confidential and non-monetary) support to move towards full implementation.

ESFRI projects in contrast were assessed for scientific excellence and maturity and included in order to gain special attention and support to carry out their path towards implementation. They can be at different stages of their preparation according to date of inclusion and they can stay maximally ten years on the ESFRI roadmap. They are likewise prioritised for regional, national and European (e.g.

EFIS) funding and may access special financing under Horizon 2020, e.g. in the context of the Preparatory Phase funding scheme. They also may receive ad hoc targeted and specific (confidential and non-monetary) support to move towards full implementation.

In ending his presentation, David Bohmert stressed the importance of a RI evaluation and the assessment of the implementation of RIs, which should be based on trust. Prerequisites thereof is to communicate and explain clear rules and the development of a precise communication strategy including adequate and well organized communication channels and platforms such as speeches, presence at conferences and meetings, and online information that would be easily reached by scientists and stakeholders.

Preparatory Phase funding under Horizon 2020
Paul Tuinder, European Commission

In the following presentation, Paul Tuinder of the European Commission, intensified the reflection on the preparatory phase and an early phase support under the Work Programme 2016-2017 of Horizon 2020. He presented the different budgets lines available for Coordination and Support Actions (CSA) as well as for Research and Innovation Actions (RIA) and the requirements. It became clear that projects requesting a CSA would need a complete final technical design underlying cost baseline and a detailed financial planning. The budget estimation would be necessary for funding agencies to establish their own medium and long-term financial planning. The CSA would only allow project participation in case legal and financial agreements (including site, governance internal rules, financing) would be finalised (e.g. through a Memorandum of Understanding). The impact would be that funding bodies are able to take funding decisions and to conclude legal agreements necessary for the construction of new RIs. Paul Tuinder explained that for RIAs the necessary preconditions would be that a project demonstrates the availability of its scientific, technical and conceptual work e.g. such as:

- Architecture and engineering plans for the construction are drafted and prototypes would be created.
- Plans are available to coherently integrate the new infrastructure into the European Landscape of related facilities and budget estimation for the construction and operation would be available.
- The proposal could provide plans for a governance structure as well clear procedures and criteria to choose the infrastructure site.
- There would be a planning of research services to be provided at international level.

The impact in this case would be that policy bodies at the national, European and international level have a sound decision basis to establish long-range plans and roadmaps for new RI of pan-European or global interest. Paul Tuinder underlined that the evaluation of proposals would correspond to other RI calls under Horizon 2020. There would be a strong involvement of the Commission, ESFRI and other relevant stakeholders in monitoring the progress and in supporting when projects have to overcome obstacles. The emphasis would lay on deliverables which should be well planned in time and of a quality that will allow the projects to move forward to construction or to an increased maturity suitable for being eligible for being proposed for the ESFRI roadmap. And finally, the PP should also include plans for a transition phase (including formal basis and estimated budgets) between the end of the PP and the establishment of the relevant RI.

In the following chapters ESFRI Landmark Projects discuss some challenges they were confronted with on their ways to implementation and they provide useful recommendations in order to help projects not to make the same mistakes and starting from scratch.

1st Panel on Governance

**Moderator:** Odd Ivar Eriksen, Chair of the ESFRI WG on Implementation

Speaker	_Richard Schilizzi, former Director, SKA_
RI Acronym	SKA
Scientific field	Radio Astronomy
Roadmap entry	2006
RI Legal Status	UK Company Limited by Guarantee
Main Challenges you were faced with:	
a) Governance	- The SKA was and is a very large global (distributed) project with no dominant partner. There were multiple stakeholders at institute, funding agency, and government level. - In the Preparatory Phase, the SKA had a tri-partite governance structure: 1) the SKA Science and Engineering Committee (SSEC) representing the institutes with a mandate to steer the science and engineering development of the project; 2) the Agencies SKA Group (ASG) and later the SKA Founding Board, comprising representatives from the funding agencies and government departments of the participating countries. It was established to monitor progress in the project and lead the governance, funding and procurement work packages in the Preparatory Phase; and 3) the Prep. SKA Board overseeing the Preparatory Phase and reporting to the EC. The SKA project entered the Preparatory Phase with the SSEC and ASG already active and gained the PrepSKA Board in addition. The multiple governance strands were probably unavoidable at this stage of the project. However, it led to an overlap in responsibilities and considerable extra reporting work for the central SKA project office. Establishment of the SKA Organisation (SKAO) as a legal entity, governed by the SKA Board, at the end of the Preparatory Phase in Dec 2011 simplified the structure and has provided clear lines of responsibility within the project. - The PrepSKA Governance Work Package considered three options for the long-term governance of the project and recommended a national legal entity as best initial option. - SKA is now pursuing an Inter-Governmental Organisation as the long-term solution for governance of the RI; a decision directly traceable to the important work undertaken in the Preparatory Phase project and subsequently in the GO-SKA project.
b) Funding	SKA is a major project requiring significant capital and ongoing operational investment, starting with a substantial deployment of

	resources being required in the initial design phase. Different funding models, cycles and prior investment histories for the participating institutes/countries created tensions in the project during the Preparatory Phase.
	• To resolve this, the central SKA project office led a global working group to produce a Project Execution Plan setting out the strategies for carrying out the Pre-Construction Phase, the work to be done and resources required to complete the Preparatory Phase and to carry out the Pre-Construction Phase, potential partnerships to carry out the work, and the governance principles for the legal entity forming the SKA Organisation in this phase. The goal of this Plan was to provide the Funding Agencies and Governments in the SKA Group with the appropriate information to allow them to assess the scope and feasibility of the work proposed and, in some cases, facilitate the funding for the Pre-Construction Phase
	• This was followed by a Business Plan which was used as the basis for negotiations in the Founding Board and later the SKA Board for the funding in the Pre-Construction Phase.
	• Subsequently, the SKA Board has built on this preparatory work, supported through the PrepSKA project, to develop a set of funding model principles that now form the basis for the negotiation of participation shares in the construction phase of the project.
c) Legal issues	Following the decision to create a national legal entity for the SKA Organisation in the Pre-Construction Phase, the project engaged a law firm to provide an analysis of the options in the countries which were potential hosts for the location of the SKAO HQ. The subsequent creation of a Company limited by guarantee in the UK was not marked by any significant challenges.
Recommendations	
	Keep the governance in the Preparatory Phase as simple as possible to minimise project management overhead. There are likely to be many other challenges in focussing the scientific and engineering effort to achieve a costed project by the end of the Preparatory Phase.

Panellist	*Werner Kutsch, Director General, ICOS-ERIC*
RI Acronym	ICOS
Scientific field	Environment
Roadmap entry	2006
RI Legal status	ERIC since November 2015
RI type: single sited/distributed	Distributed

Main challenges you were faced with:	
a) Governance	• Developing the structure of a distributed infrastructure has been an iterative process that lasted several years. The final structure was very different from the first ideas. Initial suggestions were mainly coming out of the scientific community and had at a certain point to face a "reality test" when legal and managerial viewpoints became stronger. Given the strong egos of scientists, this phase of the journey was not easy. • It took some time for governmental stakeholders to become familiar with the ESFRI ideals. This had two main consequences: i) their role as deciding body ("interim stakeholder committee" or "pre-General Assembly") was unclear in the beginning, ii) the national viewpoint was sometimes outperforming the overall European one. • Defining data life cycle and data policy needed a thorough balancing of diverging interests (see below).
b) Funding	• The ESFRI model of national funding is extremely challenging. National funding decisions have not been coordinated and consequently were stretched over more than 5 years. • Funding perspectives are very different between countries. Some countries understand the need of long-term commitments for infrastructures; some treat their contributions as normal research projects with new proposal writing every 3 years. • The idea of VAT exemption for ERICs has not found its way into national and local tax authorities.
c) Legal issues	• Intellectual property rights and data licensing issues are complex in a distributed Research Infrastructure. ICOS data are going through at least 3 different hands. Each contributor has to be attributed. This requires a modern data citation system, since "manual" attribution is impossible in times of big data.

Recommendation	
a) Governance	- The final structure of the RI should be outlined and thoroughly discussed in the very beginning of the preparatory phase. For distributed infrastructures this includes early discussions about future host country of the ERIC (or other legal forms) and the distribution of Central Facilities among countries. - The business model for the Central Facilities (CF) should be developed in a very early stage. A mix of national funding of the host country of a CF (host country contribution) and contributions from other countries related to the services of the CF (country contributions) was agreed to be a very good model. - Try to avoid too many double or triple roles. Scientists should solve the scientific problems, managers do the management tasks and lawyers provide legal solutions. All should bring their viewpoint to respective working groups and discuss but also accept the competence of others.
b) Funding	I have no real recommendation – I can only say: Good Luck!
c) Legal issues	A legal working group with attendance of lawyers from involved institutions and countries has been extremely helpful.

Panellist	*Andrew Smith, External Relations Manager, ELIXIR*
RI Acronym	ELIXIR
Scientific field	Life sciences
Roadmap entry	2006
RI Legal status	Under implementation, ELIXIR Consortium Agreement came into effect in December 2013
RI type: single sited/distributed	Distributed, virtual

Main challenges you were faced with:	
a) Governance	- Developing and negotiating the ECA took time and required input from many sources, scientists, ministry representatives and legal experts in Member States. - Member states follow their own ratification processes, which in some cases has been swift (i.e. signature of head of Research Council) to in some countries requiring ratification by parliament and taking far longer. Thus, countries have joined at different times. In early stages this has been a challenge in ensuring that late-joining countries can still participate effectively when their ratification processes were still on-going - Ensuring that the ECA provides a robust framework, yet at the same time allows for an effective and rapid implementation of a joint scientific programme, which includes tendering and commissioning of services, is a challenging act to balance. - Establishing the governance bodies (i.e. ELIXIR Board, Heads of Nodes committee, Scientific Advisory Board, ethics board) which requires major secretarial support that needs to be costed in to the coordination activities of the coordinating entity. - The Interim Phase of the RI – the period between the end of the Prep Phase and the start of the permanent operational phase – is a critical time. Ensuring that processes and mechanisms are in place to operate effectively during the interim phase, i.e., an Interim Board, independent Chair, is something that needs to begin preparation during the Preparatory Phase of the project.

Recommendations:	
	RIs are constructed so that they can serve the needs of particular user communities of scientists. First and foremost, the RI needs to respond to the needs of those users. This requires close interaction with those communities across Europe and having a clear agreement about what services the infrastructure should offer. The Preparatory Phase should be used to build a strong business case, and for this, the scientists leading the project should engage closely the funders and member states from an early stage. Without close engagement with funders - to understand their requirements, preferences for legal models and ultimately their ability to invest – the RI risks losing traction when the Prep Phase ends and the Interim phase begins. ELIXIR was able to secure investment from Member States in its Interim Phase, which allowed for the recruitment of a Director and Hub secretariat staff. This in turn, allowed us to progress effectively towards the ratification of the ECA and at the same time fund some early pilot actions to test the scientific concept of ELIXIR. The Prep Phase should therefore have a plan for how the RI will transition effectively through its Interim Phase and into its operational phase once the respective legal agreements are signed.

2nd Panel on Funding

Moderator: Hans Chang, Royal Netherlands Academy of Arts and Sciences

Panellist	Dr. Antonella Calvia Goetz – EIB Advisor Former Chair of the High-Level Expert Group on assessing the research infrastructures on the ESFRI
RI Acronym	
Scientific field	All
Roadmap entry	Overview on ESFRI Research Infrastructures
RI Legal status	Diverse
RI type: single sited/distributed	Mainly Distributed

Main challenges you were faced with:	
a) **Governance**	<u>Leadership</u>. In the transition from the Preparatory Phase (PP) to the Approval and Implementation Phases, many RIs' teams face a sort of "valley of death" in terms of funding needs. There are different leadership challenges mainly linked to the need to build up the necessary capabilities in terms of managerial and communication skills, scientific know-how as well as HR organisation to enable the development from a research programme to a more structured undertaking capable to attract long terms funding. In this stage, the "founder(s)" should identify the team leaders, who could champion the different domains required for building up successful science and business cases and attract sufficient shareholders' financial support, both via grants or loan instruments. However, often this team or shared leadership approach does not emerge, due to personality and cultural differences or dis-alignment of objectives. To foster this shared responsibility, leaders should work on a Business Plan under some form of coaching right at the beginning of the PP, in a way to foster the team to present a convincing value-proposition on the services to be offered both to public and private funders. <u>Organisation</u>. A lack of a proper organisation might result in potential weaknesses or even conflicts inside the teams, with the consequence that the organisation lacks the ability to manage efficiently the financial resources and processes necessary to progress efficiently in defining the Business Plan. Often, RIs rely on consultants and these resources are not committed long-term in-house. <u>Roadmap</u>. Few teams have a clear roadmap on how to manage these challenges and find adequate solutions to deliver on the designed work-packages. Indeed, teams do not define a roadmap for funding, or often the so-called "funding strategy" is based on lobbying for political support, rather than defining a clear investment proposition, via the BP, which the investors could agree and endorse. <u>Fair-playing</u>. A major consequence is that not all players receive equal treatment. There is a tendency for "political alliances", which go to the detriment of the long-term results of the business and science cases and fair treatment of all partners and third parties. In this

	potentially political game, the most junior researchers might be penalised. This is because, they are the ones with no fixed contracts in the research organisations and in case of uncertainty on the funding, and they are the first to be laid off.
b) Funding	Overall, these challenges could affect long term funding both via misallocation of grants and via missed opportunities for potential contracts with the private sector, even when there are well-identified market needs. Too many projects do not establish effective links with funding agencies early enough. This means that funding commitments are often missing even at a late stage in the Preparatory Phase, therefore teams have no incentives to work efficiently towards reaching established goals. These teams by not delivering on the expected results could reduce their credibility or might not use some funds correctly, therefore putting in jeopardy long-term sustainability. Funding failures might result as a consequence of managerial and organisational failures. This is because funding for public research undertakings, as for other entities, will depend on the ability to offer sufficient operational guarantees that the funds are going to be used properly. Weak governance for innovation funding reduces the ability of some RIs to enter private-public partnerships in a sustainable way. Private partners and third parties in general will not engage with undertakings, that are badly managed or present organisational deficiencies. They will not risk their funds to be lost. RIs cannot aspire to attract significant funds, if the HR chart is not credible and the financial management and control structures of the RI are not adequate. However, the funding community has its own responsibility, as it does not set monitoring indicators right at the outset of the funding processes via grants to ensure that the funds are spent more efficiently. **In summary, governance and funding are inherently connected. Lack of a trusted funding strategy for RIs implies reduced access to tangible and intangible investments.**
c) Legal issues	The impact of these challenges in legal term will be to slow down the agreements on the best legal formal. Disputes might occur more frequently.
Recommendation	
	For many years, the ESFRI community, also following up the recommendations of the High Expert Group, is concerned about the managerial and financial maturity of RIs. RAMINI initiatives were oriented at forming a new class of managers and set up good processes for financial maturity. At the time of the launch of the new ESFRI roadmap, it would be useful to establish some guidelines on best practice for fostering financial maturity and setting the required responsibilities necessary for managing funding requests and allocations adequately. Some ideas could be the following. • Stricter rules on funding RIs by setting Key Performance Indicators in the funding proposals, to be measured during the PP Phase. • Establishment of an Executive Management during the PP Phase

	to foster team leadership and install a "balance and check" mind-set. This should require defining decision power lines for management of funds, in a way to ensure higher financial accountability.
	• Definition of the Business Plan goals in the funding proposal at the PP and adoption bi-annually of a new Business Plan by the governing bodies.
	• An indicative Template for the Business Plan is provided, at request. However, too few projects teams seem to understand the meaning or purpose of a BP. Better guidance and even training could be provided by the Commission. Use of experts should be encouraged.
	• Higher follow up on the deliverables by the funding bodies.
	• Definition of the minimum financial criteria for the job description of co-ordinators or managers of RIs to attract financial competent managers and stimulate a search for best in the class financial managers.
	• Compulsory financial training for managers and a defined career development programme.
	• Definition of funding priorities and routine assessment for the execution of these priorities amongst all partners participating in the funding mechanism via financial control and audit mechanisms, also relying on specialised committees, as relevant.
	• Periodic assessment of the managerial competences of RIs managers, via evaluations and 360-degree assessment.
	• In case, weaknesses are identified, clear processes for addressing these weaknesses before they impact the functioning of the RI.
	• **In summary, as for any enterprises, RIs need to have clear processes for financial sourcing, management and control. The funding agencies should follow up the projects more carefully.**

Panellist	*Prof. Jan-Eric Litton* *Director General BBMRI-ERIC*
RI Acronym	BBMRI-ERIC
Scientific field	Biobanking and Biomolecular resources
Roadmap entry	2006
RI Legal status	ERIC, 17 member states + International organisation (IARC)
RI type: single sited/distributed	Distributed

Main challenges you were faced with:	
a) Governance	Difficult to set up an international organisation under the present ERIC regulation.
b) Funding	Core budget from the Member states is small compared to other infrastructure in non-medical science.
c) Legal issues	The present General Data Protection Regulation will not help cross-border biobanking and building the ERA

Recommendation	
	Start the work during the Preparatory Phase day 1, not at the end as we did.

Panellist	*Prof. Carlo Rizzuto, Director General*
RI Acronym	ELI (Extreme Light Infrastructure)
Scientific field	Laser Science
Roadmap entry (year)	2006
RI Legal status	**Implementation phase:** ELI Delivery Consortium, an International Association under Belgian Law (AISBL) **+** three independent legal entities in the Czech Republic, Hungary and Romania. **Operation:** European Research Infrastructure Consortium (ERIC)
RI type: single sited/distributed	Distributed infrastructures (three ELI facilities located in the Czech Republic, Hungary and Romania, location of fourth pillar to be decided at a later stage)

Main challenges you were faced with:	
	N.B. in the following we refer to the preparatory and implementation phase, while new aspects are now being approached in the transition from construction to operation (e.g. the longer-term sustainability and funding issues)

a) Governance	The implementation of ELI as distributed infrastructure was not anticipated. It came late in the Preparatory Phase, which means that the working groups on legal and governance had little time to thoroughly define a governance model for the implementation phase.
	By the end of the Preparatory Phase, little was known of what the governance model for the ELI-DC should be and of how decision-making and accountability would be balanced between the European and the local levels This had two main consequences:
	• Difficulty to organise strong coordination and cooperation between the ELI pillars
	• Loss of momentum in the structuring of the project at the European level and lack of framework for the international scientific community involved in the project.
b) Funding	ELI pioneered the use of structural funds (at such scale). Due to the lack of prior experience, it was difficult to anticipate the challenges of this type of funding during the Preparatory Phase.
	The main challenges experienced at a later stage are:
	• The application for structural funds is subject to rules and standards that are normally used for "traditional infrastructure" investment projects and not fully adapted to projects like Research Infrastructures that bear more uncertainty in terms of their economic outcomes and future performance
	• The rules and the timing of the operational programmes in the three hosting countries were not harmonised, which had a negative impact on the capacity of the three ELI pillars to coordinate their efforts and get organised as a single effort at the European level.
	• Due to the late start within the programming period, the three sites had to negotiate particular arrangements ("phasing") with the European Commission to be able to use structural funds over two programming periods. This procedure was still in its infancy when ELI negotiated it.
c) Legal issues	Due to the combination of the governance and funding issues described above, the legal structuring of the project as a single entity at the European level experienced a significant delay. The ELI Delivery Consortium was established only in April 2013, i.e., over 2 years after the end of the Preparatory Phase. This also implied delaying the negotiations and preparation of the future ELI-ERIC, which is presently being speeded-up.
Recommendations:	
	• Having sufficient maturity in the scientific and technical definition of the project is a necessary requirement to allow informed decision-making on the implementation of the Research Infrastructure. If both the work on the definition of the project and the negotiations on the conditions of

	implementation have to be defined in parallel increases the complexity in developing the project.
	• It is essential to clearly define during the Preparatory Phase the governance model that will be in place right at the beginning of the implementation phase. Ideally, the governance and management structures that are to manage implementation should be established and in place already during the Preparatory Phase to ensure a smooth transition.
	• In the case of a distributed infrastructure, what is even more important is to define how the local nodes/pillars and Partner Facilities should interact and how the balance between the local and European levels is reached and managed. The level of integration of the sites (and how this translates into the governance model in terms of decision-making for example) is an essential element to be decided upon.
	• In the case of a research infrastructure considering using structural funds:
	o It is wise to have a coordinated approach which can reach and involve different local managing authorities. The objective is:
	1. To make sure the managing authorities understand the project as a whole and how the socio-economic relevance of the particular node they may fund is connected to the rest
	2. To try to have some level of harmonization and synchronization between these operational programmes
	3. To foster cooperation, communication and exchange of experience among the managing authorities (this would allow the staff of the managing authorities to learn more about Research Infrastructures, and be able to manage their specificities).
	o It is equally wise to mutualize expertise as much as possible among the nodes of a distributed RI planning to make use of structural funds. Setting up a unique task force during the Preparatory Phase to assist the nodes in the application process and in their relations with the managing authorities is strongly recommended.

3rd Panel on Legal issues

Moderator: Paul Tuinder, European Commission

Panellist	*Susan Daenke, Coordinator, INSTRUCT*
RI Acronym	Instruct
Scientific field	Structural Biology
Roadmap entry	2006
RI Legal status	Privately owned subsidiary company, registered in England and Wales
RI type: single sited/distributed	Distributed
main challenges you were faced with:	
a) Governance	A robust but simple governance structure Instruct has: • Council (main strategic body – funders); • Scientific Advisory Board (external scientific experts – advise Council on strategy); • Executive Committee (operational body – Instruct Centre leads, Chair is Instruct Director); • Committees appointed by the Council or subcommittees of the Executive Committee to oversee specific areas (Access, Training, Ethics, Business Working Group, Data Management, IP) • Instruct Hub is the administrative/coordinating Centre (finances, website, access operations, secretariat, implementation of training and all other services, meetings, reporting)
b) Funding	How to fund Instruct operations: • Instruct has operated since 2011 with an annual flat cash contribution to the Hub by each partner country (€50Kpa) • In some cases, this contribution has been split between institutions in one country to make up the full amount • At the start of the interim operational phase (2012), UOXF provided legal help, start-up funds, one salaried staff post and free premises for 1 year. • Access to the instrumentation and staff time at Instruct Centres is an in-kind contribution by the partner country. Instruct pays limited costs to the access user to cover travel, accommodation and consumables for their project, but this is capped (in most cases, this is less than would be offered through an I3 access network project) • With Instruct-ERIC status, the financial model changes to double

	our annual cash income. Instruct-ERIC will also allow 3 new Members to join Instruct.
c) Legal issues	- Finding a legal form that allows independence and the ability to apply for funding: - at the time of initial setup, there was no experience of ERIC in the host country (UK), so Instruct had to establish under a different legal form - Established a subsidiary limited company (wholly owned by the University of Oxford) to be the legal personality of Instruct for an initial period of set up, with a consortium agreement (ICA) linking the membership of all other partners with the company. - The company (Instruct Academic Services Limited) has a governing Board with 5 Directors. - The ICA was negotiated with partner institutions rather than at Ministerial level. - Instruct has now submitted Step 1 Instruct-ERIC application with 12 founding members - Instruct has public liability indemnity, (currently underwritten by UOXF) but this will change with ERIC status
Recommendation	
	- Initial take-up of infrastructure services will be slow – plan a communications and outreach programme that promotes awareness – at all levels from Ministries to student users; - Make sure you have clear guidelines for all operational services and reporting – and someone to implement these; - You will need proof of principle of operational demand before Ministries will sign up. Institutional support allowed the pilot phase to provide the proof of concept; - Ministries need a clear business case, and may not be prepared to commit for long time-periods depending on their national budget review period; - Negotiate service agreements with each service provider – at 'nodes' (each will be bespoke) – expect it to take time to establish common practices and procedures; - Don't underestimate the amount of work required to do all of this, or the number of people. Have a Hub that can take it!

Panellist	*Jacques Demotes, Director General, ECRIN*
RI Acronym	ECRIN
Scientific field	Clinical trials
Roadmap entry	2006
RI Legal status	ERIC
RI type: single sited/distributed	Distributed

main challenges you were faced with:	
a) Governance	No major issue, lengthy negotiations of the Statutes due to minor details. ERIC statutes perfectly in line with our mission. ECRIN involved the Ministries in its preparatory phase ("project development board") to avoid negotiations only driven by scientists Difference between the set of countries involved in the PP, and the ones who eventually signed the MoU (divergent interest for large vs. small countries, and for western vs. central Europe).
b) Funding	Stratification of contributions making a difference between large and smaller countries (GDP, GDP per capita, population size, scientific activity, countries providing infrastructure vs. countries using infrastructure)
c) Legal issues	Partnership and contracting with the scientific partners who provide the local services (and not only with the governments) requires framework contracts, with multiple partners and multiple configurations Having the contact person is each country as ECRIN staff is critical, this requires to employ them directly through secondment

Difficulties in implementing the ERIC statutes in the host country (no category for such entity). |

Recommendations:	
	Organise a forum where at least some of these problems could be discussed with multiple RIs and multiple national ministry delegates.

Panellist	*Andrea Oepen, Head of European Relations, SHARE*
RI Acronym	SHARE-ERIC
Scientific field	Social Sciences
Roadmap entry	2006
RI Legal status	ERIC
RI type: single sited/distributed	distributed

Main challenges you were faced with:

a) **Governance**	The partly already existing governance structure of the SHARE consortium needed to be professionalized and adapted to the growing number of acceding countries. On this basis, a transition to the ERIC model could be reached.
b) **Funding**	EC funding during the preparatory phase helped a lot to prepare governance-, finance- and organisational structures and even more. It also helped partly to develop the SHARE survey waves. Problems with funding occurred later, when SHARE was considered as "implemented" and funding should be provided only by the SHARE-ERIC members. This does not work very well as many countries have no stable funding line to provide the operational costs of ESFRI SSH projects. Some countries (e.g. Greece) have no funding because of financial crisis etc. For the SHARE study, which is seeking to provide scientific data of an uninterrupted cross-national comparison between many European countries over years, this is a huge scientific damage.
c) **Legal issues**	• The ERIC statutes needed to be developed without having any template. • SHARE was the first ERIC at all, so there was no procedure in place in the involved Ministries. • In the beginning, there was no willingness of the German Finance Ministry to accept the VAT exemption of ERICs. This forced SHARE to set up its statutory seat provisionally in Tilburg, the Netherlands. • Though the process of the setting up of SHARE-ERIC was very much delayed because of the need to choose a temporary seat, only a few countries were immediately able to sign the statutes. So, SHARE-ERIC had only a few founding members, the others signed initially only a MoU, which therefore needed to be prepared at the last moment.

Recommendations:	
	• Early and close contact to the national Ministries. The ERIC as legal structure is now better known as it was when SHARE-ERIC was set up in 2011. Nevertheless, depending also on the scientific domain, the responsible persons in the Ministries might be confronted with the ERIC for the first time. Furthermore, often different units /ministries are involved in the process (e.g. because of the VAT exemption). Be aware of this complexity.

• There must be a clear perspective of getting funding on a long-term basis.

• Making use of the Templates for the ERIC statutes provided the EC, because this will speed up the later process. As the ERIC regulation offers a lot of flexibility, particularities of each project can be added to the template without problems.

• Getting also informal feedback by the EC in an early stage. |

Participant Feedbacks:

Contact Person	Dr. Hans-Jörg Isemer and Dr. Jana Friedrich representing Helmholtz-Zentrum Geesthacht Zentrum für Material- und Küstenforschung GmbH
RI Acronym	DANUBIUS
Scientific field	Environment
Roadmap entry (year)	2016
RI Legal status	ERIC in preparation
RI type: single sited/distributed	distributed
Main issues of concern in the view of the future Preparatory Phase:	
	HZG is a newcomer to ESFRI, it is our interest to learn about as many as possible knowledge on how to contribute to and use the ESFRI status, in all terms mentioned below.
a) Governance	
b) Funding	The ESFRI documents state, that funding synergies with regional and structural funds in Europe shall be used. Which are smart ways and possibilities for a German research entity such as HZG to benefit from the above-mentioned funding possibilities?
c) Legal issues	What are benefits and possible obstacles for us as a German research entity to join an ERIC?
Others	Examples of best practise on how to make optimal use of the ESFRI roadmap status for our research infrastructure would be most welcome.

Contact Person	Tanja Ninkovic, Euro-BioImaging Project officer, Ninkovic@embl.de
RI Acronym	EuBI
Scientific field	Biological and medical imaging
Roadmap entry (year)	2010
RI Legal status	ERIC, to be submitted by the Hub in the coming few months
RI type: single sited/distributed	Distributed

Main issues of concern in the view of the future Preparatory Phase:	
	Our recommendation from experience: Euro-BioImaging established the Interim Board close to the end of the PrepPhase I. Interim Board included official representatives of future member states, both representatives from funders and scientific community. Existence of such Board was very important for timely preparation of governance, funding and legal statutes. It allowed us to focus efforts in the PrepPhase II on finalisation of these issues and on practical preparation of operation.
a) Governance	In PrepPhase II: Euro-BioImaging will be governed by the 3-parties Hub. Governance approved on 9 March 2016. No issues of concern were expected here.
b) Funding	In PrepPhase II: In our experience the challenge for each RI is to find the right contribution model that is adopted by all participating countries. Euro-BioImaging will go for Mixed cost model (GDP+Flat Rate), and this one was accepted on 9 March 2016. The challenge we see in relation to funding will be to find sustainable funding sources that will allow users to pay access fees at the Nodes. Euro-BioImaging is working with funders in member states on development of new funding mechanisms or adjustment of existing ones in order to increase available funding that can be used to cover costs of access to external facilities.
c) Legal issues	Euro-BioImaging has been working on its legal issues and statutes since the end of the PrepPhase I (almost two years before the start of the PrepPhase II). In our experience, establishment of a working group of legal advisors from different member states who will prepare the statutes was very useful. This made it easier for the Interim Board (described above) to discuss and adopt proposed sections of the statutes.

Contact Person	Søren Knudsen, sknu@dtu.dk; Nikola Vasiljević, niva@dtu.dk
RI Acronym	WindScanner.eu
Scientific field	Energy
Roadmap entry	2010 (published 2011); Ended PP project in Autumn 2015
RI Legal status	No legal entity established.
RI type: single sited/distributed	Mobile, distributed RI

Main issues of concern in the view of the future Preparatory Phase:

a) Governance	You could formalize that partners involved in PP projects can only be part of the project if a relevant national ministry/research council has committed to engage in an "interim/preliminary General Assembly" or similar. This should of course not imply any commitment regarding funding, but a commitment to engage as a potential future funder and signatory of i.e. an ERIC meaning the willingness to comment on draft documents and deliverables of the PP project. Including participating in a yearly status meeting with all MS-representatives around the table.
b) Funding	Being a small RI in the ESFRI family we have run in to the problem of being below threshold (budget-wise) for "ESFRI-funding"/being considered in national roadmaps in big countries, specifically Germany and Spain. Additionally, there is very little money available in Southern European countries.
c) Legal issues	The ERIC model is attractive and there is now much more help to get and awareness about it also at national level. In the PP project draft statutes for a WindScanner.eu ERIC have been developed and the revised ERIC template was quite suitable. However, the real discussions about the details will only arise, once financial commitments are made.
Other questions	
a) exchange of experience	Typically, a fully functional RI consists of instrumentation, miscellaneous equipment and an information system (e-Science / data platforms, etc.) that encapsulates them. We do at this stage have infrastructures that are in different phases of development. To lift standards, but also to be more efficient in developing an infrastructure it is necessary to establish an interexchange of experience and knowledge among the infrastructure operators/developers. In this way, others can alleviate mistakes one made during the development. It is not necessary that each developer of an RI reinvent a wheel, but to use already accumulated know-how. More regular workshops and conferences regarding RI are necessary to boost quality of existing and future coming RIs. Also, on a yearly base a special issue of an open-access scientific journal of choice with the collection of articles about developments and applications of different RIs could be established. This would bring more impact and awareness of operational, developing and envisioned RIs
b) operational readiness levels	Establishing operational readiness levels for RIs would allow more transparent comparison among them, and also provide a developing track for RIs.

Contact Person	Prof. Ulrich Schurr, Forschungszentrum Jülich, IBG-2: Plant Sciences, 52425 Jülich; u.schurr@fz-juelich.de
RI Acronym	EMPHASIS
Scientific field	Plant Sciences and interdisciplinary connections to engineering and sensor technology
Roadmap entry (year)	2016
RI Legal status	Not yet established
RI type: single sited/distributed	distributed

Main issues of concern in the view of the future Preparatory Phase:	
a) Governance	Multi-country governance and development of government during the expansion and maturation of the community
b) Funding	• Funding of centralised hub • Funding of development of RI in different partner countries/ research organisations • Access (national and trans-national)
c) Legal issues	Development of a suitable legal entity
Other questions	• Maturation and expansion of partners • Non-European partners

Contact Person	JOSE JOAQUIN HERNANDEZ BRITO
RI Acronym	MARINERG-I
Scientific field	MARINE ENERGY
Roadmap entry (year)	Pending-2018
RI Legal status	PREPARATORY PHASE
RI type: single sited/distributed	distributed

Main issues of concern in the view of the future Preparatory Phase:	
a) Governance	Convergence of several groups into a common strategic plans, coordination of activities among nodes, implementation of the same role in different countries, exchange of knowledge, mobility of the personal, common management systems of personnel
b) Funding	Business plans, long term national support, access to competitive funding, valorisation of services provided, access policies (e.g. industry, administration, academia)
c) Legal issues	Legislation in place, regulations, taxes.

Contact Person	Sanna Sorvari, Finnish Meteorological Institute
RI Acronym	ACTRIS
Scientific field	Atmospheric research, Environmental/Earth System
Roadmap entry	2016
RI Legal status	-
RI type: single sited/distributed	Distributed
Main issues of concern in the view of the future Preparatory Phase:	• Streamlining the national roadmap/funding decisions • Finding of contributors /PPP partners with required skills and expertise (persons with needed science background but also knowledge on establishing organisations and on service provision)
a) Governance	• Finding the right balance in the governance structure (bodies) for stakeholders, RI managers and reps from science/user communities • How to establish a most suitable governance structure for highly distributed RI
b) Funding	• Finding the most suitable funding model with various access modes (shifting from TNA based access to RI access modes) • Private sector service provision (how to include into funding model) • Sustainability of funding • How to maintain the agility and needed flexibility in the funding model and budgets for future developments • How to include common e-infrastructure service provisions to budgets
c) Legal issues	Contractual agreements between the national/multinational level operations and ERIC
Other questions	• The future of implementation support for projects during the transition phase from PPP to operations • Changing the landscape: towards common e-infrastructure service (how to benefit the most from the latest developments) • Finding the best instruments for international collaboration (opening to the world).

Contact Person	Dr. Hervé Raoul - Coordinator Diana Stepanyan – Deputy Coordinator/Policy affairs
RI Acronym	ERINHA
Scientific field	Biological and Medical Sciences
Roadmap entry (year)	2008
RI Legal status	Under finalization (the agreed legal status - Non-profit association, with the possibility to move to ERIC status on later stage)
RI type: single sited/distributed	Distributed infrastructure

Main issues of concern in the view of the future Preparatory Phase:	
	All challenges during the Preparatory phase are interconnected and can't be addressed independently. Since January 2016 the ERINHA project has entered their second preparatory phases, which will last 18 months. During this phase the main challenges have to be addressed to be able to reach the status of "under implementation" by 2018
a) Governance	The governance issues are strictly linked to the legal ones as well as to funding issues. • As far as governance management is concerned one of the main concerns was the national partners' insistence on preserving national autonomy. In order to reach the status of functioning infrastructure and not just partners' collaboration a balance is essential between national autonomy and the need to coordinate activities. A final consensus and shared view were crucial to be achieved to guarantee the open access to the facilities through the Central Coordination Unit, and, at the same time, respecting facilities national autonomy. • The status of the executive body - Central Coordination Unit – couldn't be finalized earlier as it's linked to the choice of the Hosting country of the RI.
b) Funding	As only a European Research Infrastructures Preparatory Phases project can be financed in the framework of the European Commission financial support, it becomes crucial to ensure the sustainability of the future RI by obtaining financial commitments from involved Member States. • One of the main issues of the ERINHA first preparatory phase was the lack of the firm stakeholder engagement and financial commitment. The involved partners were not able to ensure the political and financial commitments. It was mainly conditioned by the fact that political decision-making bodies were not represented in the framework of the project governing structures, as well as by other aspects of the project (governance model, legal status of the future RI) • The authorities of Member States with BLS-4 facilities have already made huge investments for their BSL-4 facilities, and there

	was a need to clarify the added-value of ERINHA in order to ensure their political and financial involvement.
	• The challenge regarding the stakeholder engagement and financial commitment is tightly connected to the business plan and financial strategy elaboration of the future RI. In order to have a realistic and clear vision of the future distributed RI functioning a professional business plan which highlights all financial aspects is needed. Given the specificity of ERINHA's field of activity: BSL-4 laboratories working with highly pathogenic agents as well as functioning mechanisms of partner BSL-4 laboratories which differ, it was difficult to have access to all requested information in order to work out a professional business plan (e.g. access costs).
c) Legal issues	• Long discussions were needed to agree on the preferred legal structure for the future governance body – the non-profit association status. A comprehensive analysis of potential legal statuses has been done, taking into account different national legal statuses that could be suitable for ERINHA, as well as their limitations. In case of some other discussed legal structures (e.g. ERIC), the partners were concerned about their autonomy in decision-making vs national authorities. • The issue on the finalization of the RI's legal status is highly related to the choice of the Hosting country for the Central Coordination Unit, which also means to obtain financial commitments from the Hosting country and from other involved stakeholders.

Contact Person	ILARIA NARDELLO
RI Acronym	EMBRC
Scientific field	Marine Biology and Marine Ecology
Roadmap entry	
RI Legal status	MoU, about to launch Step1 ERIC application
RI type: single sited/distributed	Distributed

Main issues of concern in the view of the future Preparatory Phase:	
a) Governance	We need to ensure the governance of the infrastructure at the Node level and in particular through a functional organization of the Committee of the Nodes, allowing the implementation of the EMBRC strategy, which is adopted at the General Assembly Level and administered by the Executive Director.
b) Funding	We are looking to promote the vision that scientific projects should be allowed to apply and receive specific funding to access one of the ESFRI RIs. This would promote reciprocal engagement between RIS and Scientific Users and favour sustainability. As a distributed infrastructure, we are also looking at establishing partnerships with the Regions, for smart co-development strategies.
c) Legal issues	• Our IPR policy is complicated by being a distributed infrastructure. We will soon debate these issues and how dependent our IPR policy is on the existing institutional policies. Perhaps the RI could promote the adoption of different policies strands when in relation to the use of RI's capacity? • Service level agreements will soon be contracted. SLA Models would be helpful.

Contact Persons	Giovanna Zappa (Coordinator); Claudia Zoani; Barbara Di Giovanni
RI Acronym	METROFOOD
Scientific field	Domain "Health & Food" - food quality & safety, metrology in food and nutrition. Broad multidisciplinary approach with different application fields: agro-food; sustainable development; food quality, safety, traceability and authenticity; environmental safety; human health. *Physical*-RI + *e*-RI.
Roadmap entry (year)	Proposed to ESFRI in 2016, not retained in the Roadmap, indicated in the Landscape Analysis as emerging efforts
RI Legal status	N/A
RI type: single sited/distributed	Distributed
Main issues of concern in the view of the future Preparatory Phase:	
a) Governance	In the proposal, we planned a *hub & nodes* model realised by organising all the Partners in National Nodes with a Centre for each partner. Now the partnership is enlarging and there is a growing request to become partner of METROFOOD. In order to optimize the governance, we are foreseeing the creation of external "expert centres" related to METROFOOD through a cooperation agreement. What about this approach? In your opinion, would it be appropriate to fix a limit to the number of new enrolments?
b) Funding	• What calls will be specifically dedicated to METROFOOD-RI? Will they be only CSA or also RIA actions? • METROFOOD will apply to INFRADEV-02 (Preparatory phase). Would it be possible to apply also to INFRADEV-04 (European Open Science Cloud for Research) considering that METROFOOD has also an important *e*-RI component? • How will funds be distributed? To each partner or to the coordinator that than will be responsible to distribute the funds among all partners? • METROFOOD-RI will offer also paid services (for example, METROFOOD will produce new Reference Materials to be then purchased). What would you foresee as the most effective strategies to foster Partners towards such activities?
c) Legal issues	• In the framework of the Preparatory Phase we plan to create the National Consortia and therefore the ERIC. Is this compatible with the METROFOOD emerging status? • In which way partners from Countries that haven't provided the Political Endorsement, could be involved in the ERIC?
Other questions	• What are the next steps for METROFOOD-RI? As "emerging", METROFOOD will have to apply for the INFRADEV-02 Call for the preparatory phase and then to re-submit for the 2018 ESFRI Roadmap? Also, the re-submission for the 2018 ESFRI Roadmap should be presented as a new-RI or as an upgrading of an existing RI? • For those calls that are not targeted to the RIs with an established ERIC (e.g. INFRADEV-02), or before the ERIC will be constituted,

who should participate as Partners? All the METROFOOD Partners? One Partner per Country (Node-Representative)?

- How binding is the METROFOOD proposal submitted to the 2016 ESFRI Roadmap (in terms of partnership, budget, and timelines) for the following phases (e.g. Preparatory Phase project - INFRADEV-02)?

Contact Person	Erko Stackebrandt
RI Acronym	MIRRI
Scientific field	Microbiology, Biology
Roadmap entry (year)	2010
RI Legal status	None yet
RI type: single sited/distributed	distributed
Main issues of concern in the view of the future Preparatory Phase:	
a) Governance	A governance structure has been semi-finalized but not yet discussed with and by national stakeholders as a stakeholder forum of MoU signatories has not yet been established
b) Funding	With MIRRI at the end of the extension period of the Preparatory Phase and without a legal structure (probably) before mid-2017, MIRRI has no secure funding and is not eligible for INFRADEV 3 call. Presently discussion in France and Germany are underway to finance at least a small secretariat to keep the momentum going
c) Legal issues	The informal stakeholder group did not object against an ERIC as the legal structure but Germany has its doubts though no alternatives have yet been proposed
Other questions	MIRRI has been looking for an option to apply for a Preparatory Phase 2 funding but is neither eligible for INFRADEV 1 nor INFRADEV 2 calls. What other calls with a later deadline could be an option? I have been recommended to participate in the workshop by the MIRRRI officer Constanza-Giulia Conte and Paul Tuinder, European Commission, DG Research & Innovation.

Contact Person	Richard Wade
RI Acronym	Member of the Assessment Expert Group for ESFRI Roadmap Projects. Evaluator for Roadmap and ERIC proposals.
Scientific field	Research Infrastructure funding, governance and operation.
Roadmap entry (year)	N/A
RI Legal status	N/A
RI type: single sited/distributed	N/A

Main issues of concern in the view of the future Preparatory Phase:	
	Below are my <u>personal observations</u> based on being involved in the evaluation and assessment of almost all projects on the ESFRI Roadmap.
a) Governance	By the time a project enters the Preparatory Phase it is essential that a governance structure is in place that can address the following issues: • effective management of resources and reporting, • engagement with stakeholders including users and funders, • proposed legal structure, • developing the partnership (e.g. by widening participation with new members) • gaining political and in-principle financial support. To achieve this, it is important that the governance structure has the right people with the right skills at the right level. The better engaged the project is with funding agencies, governments (both national and regional) the research community and end users, the better the chances of success. The temptation in setting up a scientific partnership with the aim of constructing a research infrastructure is to focus on the leading researchers and institutes in the field. This is necessary but far short of sufficient.
b) Funding	A dilemma that faces almost all RI projects is that while it is possible to get in-principle financial support at an early stage this support can be quite weak, ranging from being on a national roadmap through to a letter of support from a government ministry, which supports the aims of a project but falls short of any tangible commitment. It is rare for a government to make a firm funding commitment at the preparatory phase. In most cases this firm commitment does come materialize until the point at which a decision to start construction is needed or even beyond. A consequence of this is that projects need to work hard to strengthen and widen financial support while maintaining flexibility in terms of scope and schedule. Experience suggests that the sooner funding agencies and

	governments can be engaged, the better and it is important to understand that demanding long term financial commitment at too early a stage risks failing to bring funder along with the project.
c) Legal issues	The process of discussing and negotiating the statutes for an ERIC seem to be protracted and sometimes difficult. Each word of the statutes has to be discussed with the partners in the RI and then drafts have to be discussed with the Commission with any changes then having to go round the partners again. In addition, national decisions have to be taken on who signs the statutes in each country and this can involve further scrutiny of wording. My question would be whether there are significant material differences between the agreed statues of the approved ERICs. If not, then would it make sense to have standard statutes perhaps with a few options where existing ERICs have chosen slightly different rules on for example issues such as intellectual property rights? This would allow quick adoption of statutes once the ERIC legal form has been agreed.
Other questions	The development of a Business Case is a key part of achieving funding and establishing a legal structure. Experience in producing such a case is not widespread however and support is needed. Sharing best practice would help in this area, as would support from the Commission possibly with the use of external experts. It also seems clear to me that teams need more internal and external support in preparing cost benefit analysis and risk analysis.

Contact Person	Anne Gauthier: gauthier@nidi.nl
RI Acronym	GGP
Scientific field	Social Science
Roadmap entry (year)	Proposed to ESFRI in 2016, not retained in the Roadmap, indicated in the Landscape Analysis as emerging efforts
RI Legal status	Consortium of Independent Research Organisations
RI type: single sited/distributed	Distributed

Main issues of concern in the view of the future Preparatory Phase:	
	The GGP has been identified as an emerging community and we are keen to understand the consequences of this for future funding eligibility and how ESFRI would envision the progression of such RI's with relation to preparatory phase funding
a) Governance	The GGP central hub is based in the Netherlands but relies on a distributed team in France, the Netherlands and Germany. How can we fit this model with ESFRI expectations regarding centralization?
b) Funding	Our understanding is that emerging communities will be eligible to apply for up to 2 million euro for two years. • Is this correct? • Will there be further funding after this? • Are Emerging Community RI's still expected to pursue all activities in the call outline or just some?
c) Legal issues	What are other legal structures besides the ERIC which could be suitable for distributed projects?

Contact Person	Jean-Pierre Caminade, NCP coordinator and French representative at the Program Committee (in charge of voting the PP budgets) and supervisor of the legal structures to be implemented in the frame of the ESFRI projects.
RI Acronym	N/A
Scientific field	N/A
Roadmap entry (year)	N/A
RI Legal status	N/A
RI type: single sited/distributed	N/A

Main issues of concern in the view of the future Preparatory Phase:

a) Governance	Question about the position of the governmental representatives in the construction (administrative and physically concrete) of the new facility or group of facilities: How the governmental representatives will be associated to the monitoring of the PP?
b) Funding	Same question regarding the funding model and the budget's dimensioning parameters during: • the transition phase between the PP and the establishment of the sustainable legal structure • the budget's needs on full operation of the structure (including the funding key defining the contribution of each M-S)
c) Legal issues	The ESFRI project may choose a legal structure for ensuring its long-term viability; amongst several kinds of legal structures (ERIC, civil society, Foundation, international association, GEIE, etc.). What will be the main drivers for selecting the most appropriate legal structure?
Other questions	What are the recommendations to address to the new ESFRI projects regarding the process for identifying the hosting country of the legal structure?

Speaker Profiles

Name: Dr. Philippe Froissard
Organisation: European Commission
Function in respect to the workshop: Deputy
Head of Unit - Research Infrastructures DG
Research & Innovation

Philippe FROISSARD graduated in nuclear engineering in Grenoble (France) in 1988 and completed his PhD in nuclear physics in 1992. He worked on nuclear fusion research and particularly on radio frequency heating first at the JET Joint Undertaking in Oxfordshire (UK) and then at the Commissariat à l'Energie Atomique (CEA) in Cadarache until 1999. He joined the Directorate-General for Research in 2000 and has held since several positions in the Human Potential and International Cooperation Programmes. He is presently the Deputy Head of Research Infrastructures Unit, which supports the development, implementation and integration of Research Infrastructures of pan-European interest.

Name: Professor Giorgio Rossi
Organization: Università degli Studi of Milan
Function in respect to the workshop: Vice-Chair of
ESFRI, Chair of the Strategy Working Group "Physical
Science and Engineering" of ESFRI

Giorgio ROSSI is Professor of Physics at the Università degli Studi di Milano; he leads the APE group at IOM and Elettra performing research in surface and interface science and operating advanced beamlines and instrumentation open to users. He coordinates the Nano Foundries and Fine Analysis European infrastructure project since 2008. He is currently vice-president of ESFRI and Chair of the Physical Science and Engineering Strategy Work Group and also Member of the ESFRI Executive Board and Italian Delegate to the GSO of G8+5.

Name: David Bohmert
Organisation: Swiss National Science Foundation
Function in respect to the workshop: Former Chair of the "Implementation" Group of ESFRI

David BOHMERT combines the position of Secretary-General of the Conference of European Schools for Advanced Engineering Education and Research (CESAER) with his work at the Swiss National Science Foundation (SNSF) as Swiss ESFRI Delegate mandated by the State Secretariat for Education, Research and Innovation (SERI). He was Member of the ESFRI Implementation Group (IG) until 9 February 2014. He then was elected as Chair of the IG until 31st December 2015.

Name: Paul Tuinder
Organisation: European Commission
Function in respect to the workshop:
Commission representative of the ESFRI Implementation Group

Paul Tuinder has a master's degree in law. He is associate faculty of the International Space University (ISU) and since 1997 official of the European Commission. At the Commission he worked in the area of fusion energy - in particular ITER and the Broader Approach- and was seconded to the ITER International Organization as its Legal Advisor. Currently he is the legal officer responsible for the European Research Infrastructure Consortium (ERIC) and the Commission representative in the ESFRI Implementation Group. Before joining the Commission he lectured space and telecommunications law at the University of Leiden, the 'Institute of Social Studies (ISS)' in the Hague and at the University of Amsterdam. In 1991, he was appointed as Executive Secretary of the 'European Centre for Space Law (ECSL)', a research Centre operated under the auspices of the Legal Advisor of the European Space Agency

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Name: Odd Ivar Eriksen
Organisation: Research Council of Norway
Function in respect to the workshop:
Chair of the "Implementation" Group of ESFRI

Odd Ivar Erikson holds a Cand. Scient. Degree in Organic chemistry from University of Oslo. He worked as research scientist/Senior scientist in SINTEF for many years and later as Research Director for Organic synthesis and Vice President Research for SINTEF Applied Chemistry, an institute with 220 employees. He has experience with large research projects and planning, construction and operation of both analytical facilities and research laboratories with advanced scientific instrumentation. In the Research Council he has a position as Special Adviser in the Division for Science, working full time with research policies and strategies, funding of research infrastructures and Norway's participation in projects in ESFRI Roadmap. He is delegate to ESFRI and member of the programme committee for Research Infrastructures since 2008 and also member of the ERIC-committee. He is currently Chair of the "Implementation" Group of ESFRI and also Member of the ESFRI Executive Board.

Name: Prof. Richard Schilizzi
Organisation: Jodrell Bank Centre for Astrophysics - University of Manchester
Function in respect to the workshop: Former Director of the Square Kilometre Array Program Development Office

Richard Schilizzi is Professor of Astrophysics at the University of Manchester in the UK. He obtained his Ph.D. in Radio Astronomy from the University of Sydney in 1973. After a post-doctoral fellowship at Caltech, he joined the Netherlands Foundation for Research in Astronomy in 1976 and played a leading role in building the European VLBI Network (EVN) over the next decade. From 1991 to 2008, he held a concurrent position as Professor in Radio Astronomy at Leiden University. In 1993 he was appointed foundation Director of the Joint Institute for Very Long Baseline Interferometry in Europe (JIVE) and established JIVE as the central data processing and support institute for the EVN. In 2003 he became the first Director of the International Square Kilometre Array (SKA) Project. He led the SKA project for nine years from its early days as a research concept to the point where it had become a well-supported global project and a legal entity. At the end of 2011, he joined the University of Manchester to establish the SKA Group in the University and lead design work in signal transport for the SKA, a position he held for two years.

Name: Dr. habil. Werner L. Kutsch
Organisation: Integrated Carbon Observation System
Function in respect to the workshop: Director General (ICOS ERIC)

Werner Kutsch has been appointed as Director General of ICOS in March 2014 almost two years before the ERIC was officially established in November 2015. His task was to steer the ICOS community through the last and crucial months of its construction. Beside liaison with national stakeholders, this work comprised optimizing the internal data workflow between the different observational programs of ICOS, on developing the data platform of ICOS ('Carbon Portal'), legal work on contracting the distributed central facilities, and deepening the cooperation with other RIs.
He has a strong scientific background in ecosystem science with first experiences in organizing research cooperation from in the nationally founded Ecosystem Research Center at the University of Kiel. After a research stay in South Africa (2003/2004) he changed to the Max-Planck-Institute for Biogeochemistry, Jena, Germany in 2004. Since October 2009 he coordinated the national implementation of ICOS in Germany (ICOS-D). Since May 2015 he is also the coordinator of the H2020 project Environmental Research Infrastructures providing shared solutions for science and society (ENVRIplus) that clusters 21 environmental research infrastructures.

Name: Andrew Smith
Organisation: ELIXIR
Function in respect to the workshop:
External Relations Manager, ELIXIR Europe

Andrew Smith joined ELIXIR in 2011 during ELIXIR's Preparatory Phase. Andy manages ELIXIR's engagement with Member States, funders and policy-makers and the EU institutions. He is responsible for ELIXIR's communication activities. He is developing ELIXIR's industry strategy and runs the ELIXIR Innovation SME programme, a series of events aimed ensuring companies are aware of and can access the resources run by ELIXIR partners. Andy's background is in EU research programmes. Previously he worked in Brussels for the UK Research Office (UKRO), covering various research programme and policy fields, including FP7 National Contact Point helpdesks and supporting UK delegations to FP7 Programme Committees. Andy has previously held roles in regional government, focussing on EU Structural Funds, and on education programmes in Slovenia and the Czech Republic.

Name: Dr. Hans Chang
Organisation: KNAW
Function in respect to the workshop: ESFRI Delegate

Hans Chang retired as Director General of the Royal Netherlands Academy of Arts and Science (KNAW) in 2015. He still acts as an advisor on issues of national science policy with focus on large research infrastructures.

Hans Chang holds a PhD in physics (condensed matter, 1972) from the University of Amsterdam. He moved into affairs of national science policy as director at the Dutch Ministry for Education and Sciences. From 1985 - 2009 he was director of the Foundation for Fundamental Research on Matter (FOM). Starting July 2009 he joined the Royal Netherlands Academy of Arts and Sciences (KNAW).

Hans Chang was the inaugural chairman of the European Strategy Forum on Research Infrastructures (ESFRI) and vice-chairman of the OECD Global Science Forum. He chaired several national and international organizations and has been a member/chair of committee's advising governments on matters dealing with university research, large facilities and the Dutch delegate in several international scientific bodies (EUPRO, COST, etc.)

Name: Dr. Antonella Calvia-Goetz
Organisation: European Investment Bank
Function in respect to the workshop: Former Chair of a High Level Expert Group tasked with assessing 35 research infrastructures of the ESFRI Roadmap

Antonella Calvia-Goetz is an Advisor on funding innovation in the Projects Directorate of the European Investment Bank (EIB). Prior to this position, she worked as Advisor to the EIB Executive Board and DG-Enterprise at the European Commission in Brussels. At the start of her career, she was Risk Manager at American Express Europe in London. Dr. Calvia-Goetz is a recognized expert on European research infrastructures. In 2013 she chaired the High Level Expert Group of the ESFRI Roadmap. She collaborates with the Ministries of Higher Education and Research of many EU MS as expert and author of policy proposals for improving the governance of research funding in the EU. She also serves as a non-executive independent director of a leading private company in Benelux and she is a member of European Corporate Governance initiatives. Dr. Calvia-Goetz holds a Doctorate in Economics from Oxford University (UK) and a Master's degree in Business Studies and Economics from the University of Venice (Italy). She also earned a Certificate in Strategy and Innovation from the Sloan School of Management of the Massachusetts Institute of Technology (MIT) in the US.

Name: Prof. Jan-Eric Litton
Organisation: BBMRI-ERIC
Function in respect to the workshop: Director General, BBMRI-ERIC

Jan-Eric Litton is Professor of Biomedical Computing Technology at the Karolinska Institutet, Stockholm, Sweden. He was appointed BBMRI-ERIC's first Director General on 22 January 2014 in Graz, Austria. Prof. Litton acts as the chief executive officer and legal representative of BBMRI-ERIC and he is responsible to the Assembly of Members. Prof. Litton was Executive Director and head of BBMRI.se (Biobanking and Molecular Resource Infrastructure of Sweden). Litton was involved in many large EU project in medicine, including BiobankCloud – Scalable, Secure Storage of Biobank Data. Since 2012, Prof. Litton is part of the e-science initiative in Sweden from the Swedish government. Jan-Eric Litton has also made major contributions to the current knowledge in Positron Emission Tomography (PET) and was one of the first researchers showing receptor binding with PET technique. He did his post doc at The Research Medicine Department of Lawrence Berkeley Laboratory and Donner Laboratory of the University of California, USA, 1986–1987.

Name: Prof. Carlo Rizzuto
Organisation: CERIC-ERIC and ELI-DC
Function in respect to the workshop:
Chair of the ELI-DC AISBL General Assembly

Carlo Rizzuto, Executive Director ELI-DC AISBL; Chair of the General Assembly, CERIC-ERIC. Activities in Low Temperature and Solid State Physics, Criomedicine, Criogenics and Superconductivity, Materials Sciences, Sustainable Energy Technologies, as professor in the University of Genova and visiting fellow at Mc Gill University (Montreal), Imperial College (London), Universities of Lausanne, Zagreb and Santiago de Chile.
Other activities in Research Policy and Evaluation, Technology Transfer, evaluation and support of Spin-Off Companies from Research; in Istituto Nazionale di Fisica della Materia (INFM); Technology Transfer and Venture Capital firms ("ReteVentures" and "Quantica SgR"), Elettra-Sincrotrone Trieste, European Forum for Research Infrastructures (ESFRI) and European Research Facilities association (ERF); Expert Committees for Research Evaluation (CIVR), Research Policy (CEPR) of Italy and CODEST (EU)

Name: Dr. Susan Daenke
Organisation: Instruct
Function in respect to the workshop:
Panel Member – Legal Issues

Susan Daenke holds a PhD in immunology and was a Research Fellow at the University of Oxford until 2003. From 2003 she managed the large EC-funded collaborative grant SPINE, coordinated from the Division of Structural Biology at the University of Oxford. Subsequently she has managed a large portfolio of structural biology EU projects culminating in the setup of Instruct, one of the first Biomedical Sciences Research Infrastructures on the 2006 ESFRI Roadmap. Susan is the Instruct Hub Coordinator, overseeing all operational activities of Instruct, including interface with other RIs, networks and organisations and leading the Hub team. Susan still fulfils academic roles within the University of Oxford.

Name: Prof. Jacques Demotes
Organisation: European Clinical RI Network
Function in respect to the workshop: Director General
ECRIN-ERIC

Jacques Demotes-Mainard, MD-PhD-MBA, is neurologist and professor of Cell Biology. Worked as a clinical neurologist and a basic neuroscientist, then as Director of the Bordeaux clinical investigation centre. Since 2004, coordinated the FP6 and FP7 ECRIN projects, and became in 2014 Director of the Paris-based ECRIN-ERIC, the ESFRI-roadmap research infrastructure supporting multinational clinical trials in Europe. Also advisor at the Biology and Health research department of the French Ministry of Higher Education and Research. Chaired the working group having drafted the 2012 OECD Council Recommendation on the Governance of Clinical Trials.

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Name: Andrea Oepen
Organisation: SHARE-ERIC/Max-Planck Society
Function in respect to the workshop: Head of European Relations and International Management of SHARE-ERIC

Andrea Oepen is a lawyer (focus on European law) and a Research Manager. After her second state exam she started her career at the Max-Planck-Institute for Plasma Physics in Garching, at last as Head of Internal Audit. From 2010 to 2013 she worked for the Federal Ministry for Education and Research in Bonn, first in the area of large-scale facilities, and finally she was in the strategy office of the former ESFRI Chair. Besides her policy-related work for ESFRI she was in charge of supporting the implementation of the legal form of an ERIC in Germany as well as giving consulting assistance to ESFRI projects. She was appointed as German member in the ERIC Committee. In late 2013 she started her current work as Head of European Relations for SHARE-ERIC (hosted at MPI for Social Law and Social Policy)

Name: Beate Warneck
Organisation: German Aerospace Centre (DLR); Project Management Agency
Function in respect to the workshop: Coordinator of work-package 4 (exchange of experience) of Str-ESFRI

Beate WARNECK is a Senior Economist with 18 years of working experience in international relations, business development and marketing in national and international organisations (German Aerospace Center, BMBF, European Commission, ACEA, DeBeLux, John Holt Ltd.). She is responsible for project management and policy development and supports the Federal Ministry of Education and Research (BMBF) in issues concerning the Framework Programme and Horizon 2020. Beate Warneck was seconded (2005-2008) to the European Commission in Brussels /department of Research Infrastructures where she worked in the ESFRI Secretariat as National Expert (END). She was a member in several international management boards and steering committees in order to support the development of the first European Roadmap for RIs in 2006, its follow up in 2010, and the Community legal framework for a European Research Infrastructure Consortium (ERIC).

1st Exchange of Experience Workshop
Making effective use of Horizon 2020 Preparatory Phase funding

9th March 2016, from 14:00h to 18:00h
Science Park 123, 1098 XG Amsterdam, the Netherlands
Agenda

13:00	**Registration**
14:00	**Welcome** *Philippe Froissard, Deputy Head of Unit for Research Infrastructures,* *DG Research and Innovation, European Commission*
	INTRODUCTIONS
14:05	**ESFRI Roadmap process, links with national RI roadmaps and Smart Specialisation Strategies** *Giorgio Rossi, ESFRI Vice-Chair*
14:20	**Lessons learnt from ESFRI evaluation and Assessment of Implementation** *David Bohmert, former Chair of the ESFRI WG on Implementation; ESFRI Delegate*
14:45	**Preparatory Phase funding under Horizon 2020** *Paul Tuinder, European Commission*
	PANELS
15:00	**1st Panel on Governance** *Moderator: Odd Ivar Eriksen, Chair of the ESFRI WG on Implementation* *Richard Schilizzi, former Director, SKA* *Werner Kutsch, Director General, ICOS-ERIC* *Andrew Smith, External Relations Manager, ELIXIR*
15:45	**Coffee break**
16:00	**2nd Panel on Funding** *Moderator: Hans Chang, Royal Netherlands Academy of Arts and Sciences* *Antonella Calvia-Götz, EIB* *Jan-Eric Litton, Director General, BBMRI-ERIC* *Carlo Rizzuto, Chair of the ELI-DC AISBL General Assembly*

16:45	**3rd Panel on Legal issues** *Moderator:* *Paul Tuinder, European Commission* *Susan Daenke, Coordinator, INSTRUCT* *Jacques Demotes, Director General, ECRIN* *Andrea Oepen, Head of European Relations, SHARE*	
17:30	**Final Q&A, summary and wrap-up** *Giorgio Rossi, ESFRI Vice-Chair*	
18:00	**End of workshop**	
	Social Event (1,2)	

1) **Visit to the Amsterdam Museum by private busses including reception and private guided tour at the museum.**

2) **Dinner invitation to the Brasserie Harkema, Nes 67 • 1012 KD • Amsterdam, phone 020 428 2222, e-mail info@brasserieharkema.nl**

Quality feedback of workshop

Corresponding to the StR-ESFRI project policy to evaluate activities perused by project partners, a matrix is made available to measure and evaluate the quality of the workshops about exchange of experiences and best practice. The following figure (see below) demonstrates different categories of the overall satisfaction rate of workshop participants, which were collected through feedback sheets. Categories were indicated with: (-2) completely unsatisfied, (-1) not satisfied; (0) no opinion; (1) satisfied; and (2) very satisfied.

While the quality of the workshop content met the expectations of workshop participants, less satisfaction was expressed for the time provided for discussion, equally for the "get together". The latter was a bit surprising, as the workshop itself allowed breaks for coffee followed by a common visit to the museum including transportation and thereafter a dinner invitation for participants.

We will nevertheless pay more attention in future regarding the length of the workshop and we will perhaps consider organising a two-day workshop which will also allow more time for discussion in general but also in groups regarding specifics of single-sited and distributed infrastructures. We definitely have to think about a platform to provide a contact for more information. And last but not least, we will think about issues for emerging projects which needs enough time for exchange of experiences despite the ambiguity of their project status.

ESFRI European Strategy Forum on Research Infrastructures

ESFRI, the European Strategy Forum on Research Infrastructures, is a strategic instrument to develop the scientific integration of Europe and to strengthen its international outreach. The competitive and open access to high quality Research Infrastructures supports and benchmarks the quality of the activities of European scientists, and attracts the best researchers from around the world.

The mandate of ESFRI is to support a coherent and strategy-led approach to policy-making on research infrastructures in Europe, and to facilitate multilateral initiatives leading to the better use and development of research infrastructures, at EU and international level. ESFRI will thus address the existing challenges and has to deal with the follow-up of the implementation of already on-going ESFRI projects after a comprehensive assessment, as well as with the prioritization of the infrastructure projects listed in the ESFRI roadmap.

ESFRI's delegates are nominated by the Research Ministers of the Member States and Associate Countries, and include a representative of the Commission, working together to develop a joint vision and a common strategy. This strategy aims at overcoming the limits due to fragmentation of individual policies and provides Europe with the most up-to-date Research Infrastructures, responding to the rapidly evolving Science frontiers, advancing also the knowledge-based technologies and their extended use.

Created in 2002 by the Member States and the European Commission, ESFRI has become an increasingly important Forum to advise Ministries and Funding Agencies on strategic issues of research infrastructures. With the setting up of the first Roadmap for pan-European research infrastructures ESFRI has been a major contributor to the realisation of the European Research Area.

The ESFRI roadmap is an ongoing process. First published in 2006, with 35 projects, it was updated in 2008 bringing the number of RIs of pan-European relevance to 44. The ESFRI Roadmap 2010 was focused on projects dealing with energy, food and biology. Having identified 48 projects of new research infrastructures (or major upgrade on existing ones) so far, ESFRI more concentrated on their implementation. The Roadmap 2016 consists of 21 ESFRI Projects with a high degree of maturity - including 6 new Projects - and 29 ESFRI Landmarks - RIs that reached the implementation phase by the end of 2015. The ESFRI Roadmap 2016 was launched on 10 March 2016, in Amsterdam.

The European roadmap process has also stimulated the preparation of national roadmaps in many of the Member States and the Associated Countries contributing to an overview on major developments in the European Union. It fosters coordination, helps to avoid duplications and further develops complementarities of national investments.

The ongoing task of ESFRI will be to help the projects on the ESFRI roadmap to move towards implementation. This is in line with the commitment in the Europe 2010 Flagship Initiative - Innovation Union and the Digital Agenda, which states that by 2015, Member States together with the Commission should have completed or launched the construction of 60% of the priority European Research Infrastructures currently identified by ESFRI. However, to keep Europe at the rapidly evolving forefront of science and technology, and increase the capacity to meet the needs of the EU and World scientific community, much remains to be done: ESFRI looks forward to the challenging times ahead.

Further information and contact details:

ESFRI Secretariat, DG R&I, European Commission; ESFRI@ec.europa.eu;
www.ec.europa.eu/research/esfri

StR-ESFRI / Project content and objectives:

StR-ESFRI is a project funded under H2020. It aims - as its name already says - to **S**upport and **t**o **r**einforce the **E**uropean **S**trategy **F**orum for **R**esearch **I**nfrastructures (ESFRI) under the guidance of its Chair, providing additional resources, tools and expertise in performing its activities and supporting its structures. STR ESFRI strengthens the current ESFRI secretariat that is performed by the European Commission with additional resources and tools.

The project render high quality support to critical ESFRI activities such as to exchange experiences and best practice among RI- coordinators, the development of the new ESFRI roadmap, the organization of the international peer-review of science and managerial aspects of ESFRI infrastructures for a) the selection of new projects and b) for the assessment of currently running projects. StR-ESFRI builds on the experience of the prior CoPoRI project, facilitating and monitoring the exchange of practices through appropriate workshops and reports and realizes an effective communication and dissemination activity through web-instruments and publications.

StR-ESFRI/ activities:

- Assist the ESFRI Chair in all ESFRI-related activities, and ensures that he/she has the necessary information and preparation for of all ESFRI business.
- Support the new ESFRI Roadmap process, organizing its smooth execution and accomplishment.
- Disseminates and exploits ESFRI-related outputs to the European and global Research Infrastructures area and liaises with key stakeholders (policy makers, funding bodies or advisory groups), including the e-Infrastructure Reflection Group (e-IRG)1 and the Research Data Alliance (RDA)2.
- Identifies best practices and facilitates/ monitors the exchange of experiences among ESFRI projects, through appropriate means such as expert groups and workshops.

The above objectives are in line with ESFRI's new mandate which adequately addresses the existing challenges in the field of research infrastructures, towards a reinforced European research area partnership for excellence and growth. The new mandate calls for a reinforced ESFRI, strengthened with all the appropriate resources, tools and expertise to cope with the existing and upcoming challenges and to meet some of the commitments of the ERA Communication and the Innovation Union initiative.

StR-ESFRI / involved project partners:

StR-ESFRI is led by the institute of the ESFRI Chair (Science and Technology Facilities Council, STFC) and the project members include experienced entities from different European Countries such as Italy (Università degli Studi di Milano, UMIL), Greece (Research and Innovation Center in Information, Communication and Knowledge Technologies ATHENA, ATHENA RC) and Germany (German Aerospace Center, DLR) with strong involvement in ESFRI and its activities.

Contact for more information:
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