



Ministerie van Onderwijs, Cultuur en  
Wetenschap

## ESFRI Roadmap 2021 Infoday NL

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*Ministry OCW*  
*Research & Science Policy*



# Programme

- Welcome
- ESFRI Roadmap update: scope, landscape analysis, procedure and time line
- Monitoring of ESFRI projects on the Roadmap
- Coffee break
- Maturity of the new proposals: science aspects
- Maturity of the new proposals: implementation aspects
- Preliminary information on the procedure for the update of the National Roadmap 2020 (Alice Dijkstra, NWO)
- Network drinks



# MANDATE ESFRI

- In 2002 established as forum to discuss strategic issue concerning research infrastructures (Chair: Hans Chang)
- Mandate by Council of EU (Research Ministers) to set up a Roadmap for the construction and development of the next generation of pan-European research infrastructures
- First Roadmap 2006
- Updates in 2008, 2010, 2016, 2018
- In 2016 decided to remove Projects after 10 years if not implemented; those that were became Landmarks



# WHO IS WHO IN ESFRI NL

ESFRI delegates:

- Hans van Duijn (Chair of Permanent Committee Large-scale Scientific Research Infrastructures)
- Jeannette Ridder-Numan (Ministry OCW)

Members Strategy Working Group (SWG) ESFRI:

- Alice Dijkstra (Secretary Permanent Committee Large-scale Scientific Research Infrastructures and member SWG SCI)
- For each SWG there are Dutch members

National Contact Point Research Infrastructures:

- Saske Hoving (RVO)



# ESFRI Roadmap update: scope, landscape analysis, procedure and time line

All documents are available on:

<https://www.esfri.eu/esfri-roadmap-2021>

All presentations of ESFRI Infoday:

<https://www.esfri.eu/esfri-events/roadmap-2021-infoday>

# ROADMAP 2021 UPDATE

- landscape of RIs in Europe and globally;
- gaps in the European RI ecosystem;
- new pan-European RI Projects;
- synergies with regional, national, European and international RI and strategies for optimal use;
- links between and integration of RIs;
- e-Infrastructure needs and integration of RI in open e-networks;
- continuous upgrade (if necessary), long-term sustainability and end of life perspectives;
- innovation potential and socio-economic benefit analysis;
- global opportunities and science diplomacy aspects – where appropriate.



# ROADMAP 2021 UPDATE

In order to realise the Roadmap 2021, ESFRI will:

- update the *Landscape Analysis*;
- monitor all *Projects 2010* and *Projects 2016*;
- evaluate *New Proposals* and decide upon *new Projects 2021*;
- monitor and evaluate the effectiveness and efficiency of its methods and procedures, including definitions and models

Methodology used is based on the previous Roadmap 2018

Considering the lessons learnt

- Iteration with the ESFRI Forum
- Feedback from the ESFRI WGs and the RIs community





# LANDSCAPE ANALYSIS

The *Landscape Analysis* is a key ingredient of the Roadmap 2021:

- overview of the European RI ecosystem by identifying the main RIs operating transnational access in Europe, in all fields of research,
- major new or ongoing projects,
- outlook to the global landscape of relevance.

The *Landscape Analysis* is a reference document and does NOT imply a prioritisation by ESFRI nor any national financial and political commitments.

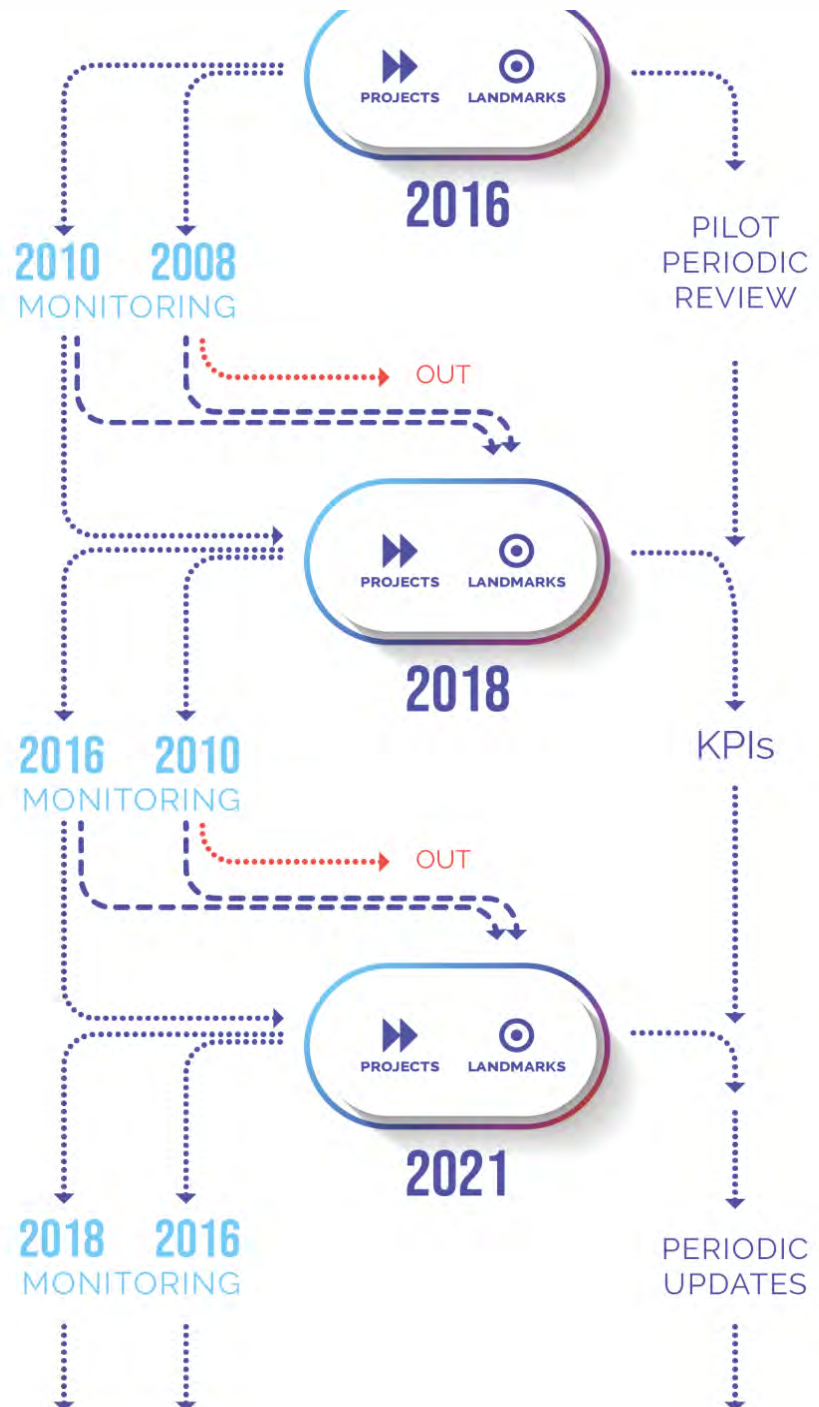
Thorough knowledge of the RI Landscape and its dynamics is a prerequisite for developing optimal strategies in the field of RI in European research.

The SWGs draft the Landscape Analysis broadening the view of ESFRI beyond the RIs in its Roadmap.





# ESFRI ROADMAP DYNAMICS



# ESFRI PROJECTS

DIGIT

ENE

ENV

H&F

PSE

SCI

EU-SOLARIS

MYRRHA

WindSanner

AnaEE

ISBE

MIRRI

2010

ACTRIS

DANUBIUS-RI

EMPHASIS

EST

KM3NeT 2.0

E-RIHS

2016

IFMIF-DONES

DiSSCo

eLTER

EU-IBISBA

METROFOOD-RI

EHRI

2018



# ESFRI LANDMARKS

DIGIT

ENE

ENV

H&F

PSE

SCI

PRACE

JHR

EMSO ERIC

EURO-ARGO ERIC

IAGOS

ICOS ERIC

LifeWatch ERIC

BBMRI ERIC

EATRIS ERIC

ECRIN ERIC

ELIXIR

INFRAFRONTIER

INSTRUCT ERIC

ELI

ELT

ESS ERIC

European XFEL

FAIR

ILL

SKA

SPIRAL2

CESSDA ERIC

CLARIN ERIC

DARIAH ERIC

ESS ERIC

SHARE ERIC

2006

ECCSEL ERIC

EISCAT\_3D

EPOS ERIC

EMBRC ERIC

ERINHA

EU-OPENSOURCE ERIC

Euro-BioImaging

CTA

EMFL

2008

ESRF EBS

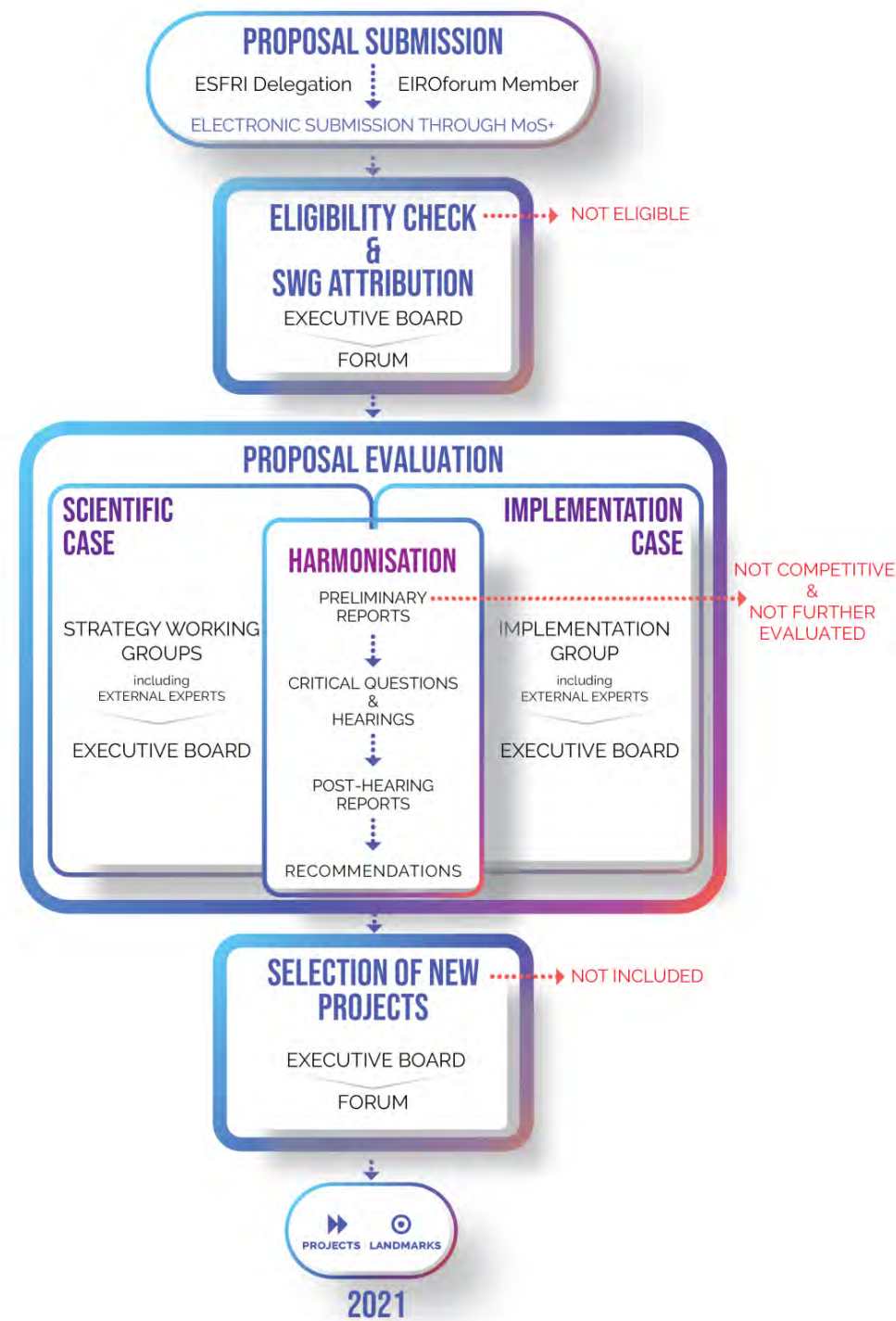
HL-LHC

2016





# SUBMISSION AND EVALUATION OF NEW PROPOSALS



WHERE WE ARE  
25 SEPTEMBER 2019 - 5 MAY 2020

## PROPOSAL SUBMISSION

ESFRI Delegation



EIROforum Member

ELECTRONIC SUBMISSION THROUGH MoS+



# WHAT WE HAVE TO DO

## PRELIMINARY WORK TOWARDS MAY 2020

- READ THE GUIDE & THE QUESTIONNAIRE <https://www.esfri.eu/esfri-roadmap-2021>
- INTERACT WITH MEMBER DELEGATES OF LEAD COUNTRY
- CHECK THE FULFILLMENT OF ELIGIBILITY CRITERIA
- CHECK THE COMPLIANCE WITH MINIMAL KEY REQUIREMENTS
- FILL IN THE QUESTIONNAIRE OFFLINE
- FILL IN THE QUESTIONNAIRE ONLINE (MoS+)



# ESFRI DELEGATES

## NATIONAL PROCEDURES

Interaction with (lead) country member delegates at different steps:

- ✦ Proof of Political Support from LEAD and PROSPECTIVE MEMBERS COUNTRIES
- ✦ Proof of Financial Commitment from LEAD COUNTRY
- ✦ Consolidate the proposal
- ✦ Finalise the proposal
- ✦ Submit the proposal (in NL through Dutch Roadmap Committee)

\*ESFRI WILL PUBLISH A TABLE WITH CONTACT PERSONS AND DEADLINES FOR NATIONAL PROCEDURES





# ELIGIBILITY CRITERIA PRELIMINARY CHECK

TO BE ELIGIBLE FOR EVALUATION, A PROPOSAL MUST PROVIDE:

- ✦ Proof of Political Support by LEAD and PROSPECTIVE MEMBERS COUNTRIES
- ✦ Proof of Financial Commitment by LEAD COUNTRY
- ✦ Proof of an inter-institutional and multi-lateral agreement by CORE PARTNERS



# POLITICAL SUPPORT

## PROOF OF EXPRESSION OF EoS

PROOF OF EXPRESSION OF POLITICAL SUPPORT (EoS)\* BY AT LEAST THREE MEMBER STATES OR ASSOCIATED COUNTRIES OR EIROforum Members:

- ✿ Lead Country/EIROforum Member
- ✿ At least two additional MS/AC or EIROforum Members

\*LETTERS SIGNED BY THE NATIONAL MINISTRIES OF MS/AC RESPONSIBLE FOR THE RI OR A COUNCIL RESOLUTION IN CASE OF EIROforum MEMBER



# FINANCIAL COMMITMENT

## PROOF OF EXPRESSION OF EoS

PROOF OF EXPRESSION OF FINANCIAL COMMITMENT (EoC)\* BY THE  
LEAD MEMBER STATE OR ASSOCIATED COUNTRY OR EIROforum  
Member:

LETTER SIGNED BY AN *AUTHORITY*\*\* FROM THE LEAD COUNTRY OR A  
COUNCIL RESOLUTION IN CASE OF EIROforum

\* \* Any legal entity from a MS, AC or third country that can take binding decisions to financially support the RI can submit an EoC. It may concern a regional or national government (agency), an umbrella organisation negotiating and redistributing funding on behalf of its members, a Research Funding Organisation (RFO) or a Research Performing Organisation (RPO).



# RI CONSORTIUM

## PROOF OF MoU

PROOF OF AN INTER-INSTITUTIONAL AND MULTI-LATERAL  
AGREEMENT (MoU)\* BY THE CORE PARTNERS OF THE RI  
CONSORTIUM

✦ Coordinator

✦ Participants

**\*MoU SIGNED BY THE CORE PARTNERS\*\***

**\* \* Research institutions and other entities which are partners of the RI Consortium**



# ONLINE QUESTIONNAIRE

## ESFRI MONITORING SYSTEM



FILL IN THE ONLINE QUESTIONNAIRE THROUGH MoS+ FROM JANUARY 2020

- ❖ LEAD ESFRI Delegates/EIROforum Members request a New Proposal Account
- ❖ LEAD ESFRI Delegation/EIROforum and the Proposal Coordinator internally agree on having an informal deadline until which the Proposal Coordinator can fill in the online Questionnaire
- ❖ Proposal Coordinator fills in the online Questionnaire\*
- ❖ LEAD ESFRI Delegates/EIROforum Members finalise the submission

DEADLINE for ESFRI: 5 MAY 2020

\* Possibility to stop and resume



# SCIENTIFIC CASE

Six reference scientific domains represented by the following SWGs:

- ENE SWG - Energy
- ENV SWG - Environment
- H&F SWG - Health & Food
- PSE SWG - Physical Sciences & Engineering
- SCI SWG - Social & Cultural Innovation
- DIGIT SWG - Data, Computing and Digital Research Infrastructures

The SWGs evaluate the **SCIENTIFIC CASE** along five dimensions:

- scientific excellence
- pan-European relevance
- socio-economic impact
- user strategy and access policy
- e-needs

When evaluating the **SCIENTIFIC CASE**, the SWGs take the dimensions of the **IMPLEMENTATION CASE** into account.

# IMPLEMENTATION CASE

The Implementation Group (IG) evaluates the **IMPLEMENTATION CASE** along five dimensions:

- stakeholder commitment
- preparatory work and planning
- governance, management & human resources
- finances
- risks

When evaluating the **IMPLEMENTATION CASE**, the IG takes the dimensions of the **SCIENTIFIC CASE** into account.



# MINIMAL KEY REQUIREMENTS

ESFRI applies minimal key requirements on all the considered dimensions and along the RI life cycle.

For the **SCIENTIFIC CASE**, these are described in ANNEX II and for the **IMPLEMENTATION CASE** in ANNEX III of the Public Roadmap 2021 Guide

These minimal key requirements serve as the basis for the scoring in the evaluations.

Meeting minimal key requirements is necessary, but not sufficient to be automatically listed in the Roadmap.





# TIMELINE

## NEW PROPOSALS

STEPS	DATE (RANGE)
INFODAY	25 September 2019
Open Call for proposals	25 September 2019
SUBMISSION OF PROPOSALS	5 May 2020
CRITICAL QUESTIONS & INVITATION TO HEARINGS	October 2020
HEARINGS	November – December 2020
ESFRI FORUM DECISION	June-September 2021
ESFRI ROADMAP Launch	October-November 2021





## DUTCH TIMELINE

STEPS	DATE
NL INFODAY	15 OCTOBER 2019
SUBMISSION OF QUESTIONNAIRE TO PC-GWI*	14 FEBRUARY 2020
ADVICE PC-GWI TO OCW	FEBRUARY – MARCH
MINISTER SIGNS LETTER (SUPPORT OF LEADING)	APRIL
SUBMISSION TO ESFRI VIA ESFRI MOS+	1-2 MAY

\*Important additions (e.g., extra support letters) may be added later

# QUESTIONNAIRE

Questionnaire consists in 3 parts:

- **PART A: GENERAL INFORMATION**

- General data: name, type of RI, timeline, costs, description, etc.
  - Political support, financial commitment, research infrastructure consortium
- > used for the eligibility check by the EB and – if selected – for the public description of the Project in the Roadmap 2021.

- **PART B: SCIENTIFIC CASE**

- **PART C: IMPLEMENTATION CASE**

-> used by the SWG(s) and IG to assess the proposal.



# ELIGIBILITY CRITERIA

- **provide proof of political support**  
-> i.e. Expression of political Support (EoS) **by the LEAD country and at least two additional MS and AC** signed by the national ministries responsible for RI – in case of an **EIROforum Member provide a Council resolution**;
- **provide proof of financial commitment**  
-> i.e. Expression of Commitment (EoC) to financially contribute to the Preparation and Implementation Phases **by an authority from the LEAD country** – in case of an **EIROforum Member the financial commitment should be explained in the Council resolution**);
- **provide proof of an inter-institutional and multi-lateral agreement**  
-> e.g. a Memorandum of Understanding (MoU) signed by the core partners – being research institutions – formally involved in the consortium.



# LAST STEPS TO ESFRI ROADMAP

- The IG assesses maturity of each proposal, harmonizes the conclusions with the SWG and presents the conclusions and recommendations to the EB.
- The EB presents the result to the ESFRI Plenary Forum.
- The Plenary Forum discusses the status, the conclusions and the recommendations per proposal and will decide upon new Projects to be included in the Roadmap 2021.
- Projects are RI's in their preparation phase, which have been selected for the **excellence of their scientific case** and for their **maturity**, according to a sound expectation that the Project will reach the **implementation** phase **within the ten-year term**.



# SUBMISSION

- MOS+ : improved electronic submission system
  - Online submission form available in January 2020
  - Request for an account through the lead country Delegation / EIROForum Member
  - Coordinator fills in the form
- > possibility to resume
- Preliminary submission to the lead country delegation/EIROForum Member
- > if updates are necessary, it is still possible to edit the questionnaire
- Final validation by lead country delegation / EIROForum Member



# AFTER SUBMISSION

- Eligibility check and attribution to SWG(s) by ESFRI(-EB)
- Evaluation by SWGs and IG with the support of external experts
- Validation of political support by relevant delegations in MOS+





# SPECIAL ATTENTION!

- National procedures for granting political support / financial commitment
  - > ESFRI will publish a table with the contact persons and deadlines related to these national procedures
- Read the guide carefully & answer the questions with the related minimal key requirements in mind
  - > new proposals will be evaluated along the minimal key requirements for “preparation” (= column 2)





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## Monitoring of ESFRI projects on the Roadmap 2021

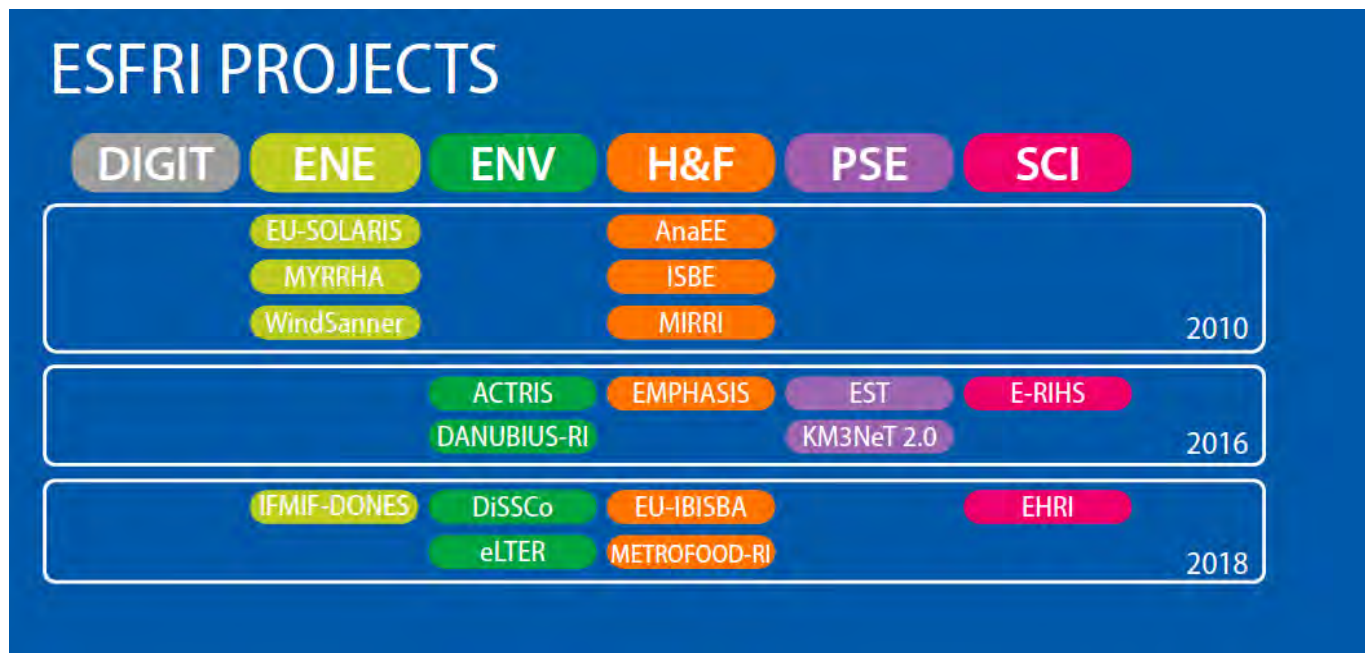
Saske Hoving  
*RVO*



## Monitoring of ESFRI projects on the Roadmap 2021

2010 Projects will be assessed with the aim to obtain Landmark status

2016 Projects will be assessed in order to identify their progress towards implementation





## Basis of the procedure of monitoring

### 2010 Projects:

- will not appear as Projects in the Roadmap 2021
- if successfully reached the implementation they may become Landmarks
- re-apply as a new proposal clearly overcoming the bottlenecks that prevented its implementation

### 2016 Projects:

- will be monitored against their initial evaluation when entering the roadmap

### 2018 Projects:

- will not be monitored



## Monitoring procedure

Strategy Report on Research Infrastructures

# ROADMAP 2021

## Project Monitoring Questionnaire

25<sup>th</sup> September 2019

[https://www.esfri.eu/sites/default/files/ESFRI\\_Roadmap2021\\_Projects\\_Submission\\_Questionnaire\\_Public.pdf](https://www.esfri.eu/sites/default/files/ESFRI_Roadmap2021_Projects_Submission_Questionnaire_Public.pdf)





# Project Monitoring Questionnaire

## PART A: GENERAL INFORMATION

is used to verify information on political support, including the inclusion in national RI roadmaps, the financial commitment and the estimated costs as well as general information for public description in the Roadmap 2021.

## PART B: SCIENTIFIC CASE

is used by the Strategic Working Groups (SWGs) to monitor the scientific case of the Project.

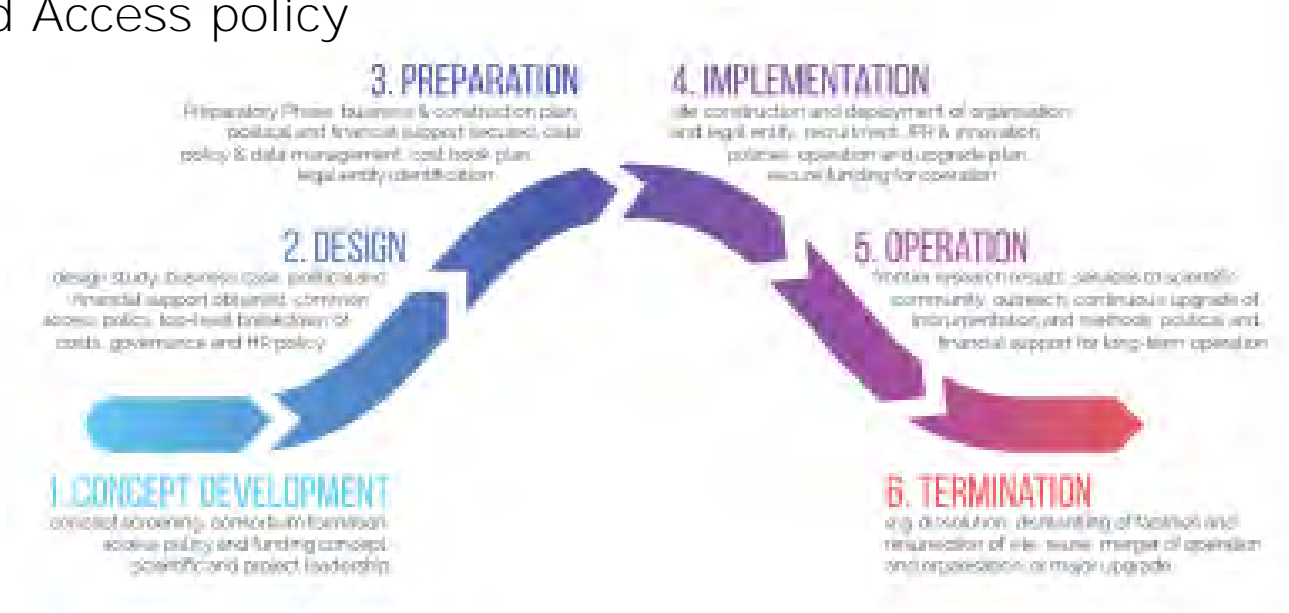
## PART C: IMPLEMENTATION CASE

is used by the Implementation Group (IG) to monitor the implementation of the Project.



# Monitoring of Scientific Case

- Scientific Excellence
- Pan-European Relevance
- Socio-Economic Impact
- User Strategy and Access policy
- E-Needs







# Monitoring of Implementation Case

- Stakeholder Commitment
- Preparatory Work & Planning
- Governance, Management and Human Resources Policy
- Finances
- Risks



# Procedure of Monitoring 2010 Projects

## 2010 Projects

STEPS	DATE (RANGE)
INFODAY	25 September 2019
CUSTOMIZED QUESTIONNAIRE SENT TO THE PROJECTS	January 2020
SUBMISSION OF QUESTIONNAIRE	June 2020
CRITICAL QUESTIONS & INVITATION TO HEARINGS	January 2021
HEARINGS	February - March 2021
ESFRI FORUM DECISION	June 2021
ESFRI ROADMAP Launch	October-November 2021



# Procedure of Monitoring 2016 Projects

## 2016 Projects

STEPS	DATE (RANGE)
INFODAY	25 September 2019
CUSTOMIZED QUESTIONNAIRE SENT TO THE PROJECTS	November 2019
SUBMISSION OF QUESTIONNAIRE	February 2020
ESFRI FORUM DECISION	June 2020
ESFRI ROADMAP Launch	October-November 2021



## A look forward: periodic update of ESFRI Landmarks

- ESFRI conducted a pilot review process with volunteering Landmarks. The lessons learned will be taken into account for future Landmark review processes
- ESFRI currently develops a methodology to monitor the performance of ESFRI Landmarks
- Methodology is based on KPI and narratives
- The KPI system will be presented to the ESFRI Forum in December 2019 for approval
- It is expected to start in 2020/2021

Coffee break





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## Maturity of the new proposals: science aspects

Jeannette Ridder-Numan  
*Min OCW*



# PRINCIPLES

All evaluations must comply with the following four principles:

- **INDEPENDENCE**: involved persons carry out the evaluations in a personal capacity and they represent neither their employer nor their country.
- **IMPARTIALITY**: persons must treat all proposals, Projects and Landmarks equally and evaluate them impartially on their merits, irrespective of their origin or the identity of the applicants and coordinators.
- **OBJECTIVITY**: involved persons evaluate each proposal or questionnaire as submitted; meaning on its own merit, not its potential if certain changes were to be made.
- **ACCURACY**: involved persons make their judgment solely against the formal evaluation criteria and the relevant ESFRI documentation.

ESFRI checks any **CoI** with all SWG and IG Members and with all external experts, which must declare **non-conflict of interest and confidentiality** on the proposals, Projects or Landmarks they are evaluating. Strict rules for confidentiality apply.





# SCORING

- **VERY HIGH** = key requirements are outstandingly met
- **HIGH** = key requirements are comprehensively met
- **MEDIUM** = key requirements are partly met, but the proposal/Project/Landmark shows weaknesses with regard to specific requirements. Enhancing the RI's future success requires (significant) changes to (specific parts of) the proposal/plans.
- **LOW** = key requirements are insufficiently met and the evidence for future success of the RI is not convincing

In order to be considered as a **Project**, a proposal must meet the key requirements for the **Preparation Phase** and score a grading of at least 'High' for both the **SCIENTIFIC CASE** and the **IMPLEMENTATION CASE**.

In order to be considered as a **Landmark**, a Project must meet the key requirements for at least **Implementation Phase** and score a grading of at least 'High' for both the **SCIENTIFIC CASE** and the **IMPLEMENTATION CASE**.

The status of each RI on the Roadmap is a strategic decision of the Plenary Forum that takes into account the outcomes of the evaluations.



# The SWGs evaluate the SCIENTIFIC CASE along five dimensions:

- scientific excellence
- pan-European relevance
- socio-economic impact
- user strategy and access policy
- e-needs



## ANNEX II: LIST OF MINIMAL KEY REQUIREMENTS FOR SCIENTIFIC CASE

The following table contains the **minimal key requirements** to a phase in the life cycle of RI on the five dimensions of the scientific case:

	PHASE				
	DESIGN	PREPARATION*	IMPLEMENTATION**	OPERATION	TERMINATION
SCIENTIFIC EXCELLENCE	<ul style="list-style-type: none"> <li>– long term science programme defined</li> <li>– scientific community well-established</li> <li>– scientific leadership described</li> <li>– cutting edge science and technology outlined</li> </ul>	<ul style="list-style-type: none"> <li>– scientific vision and mission outlined</li> <li>– (multidisciplinary) scientific new frontier outlined</li> <li>– scientific leadership recruited</li> <li>– science concept tested and found feasible</li> <li>– services for the scientific community described</li> <li>– technical maturity and feasibility tested and achieved</li> <li>– cutting edge science and technology described</li> <li>– availability of scientific human resources proven</li> </ul>	<ul style="list-style-type: none"> <li>– vision, mission and identity fully defined</li> <li>– multidisciplinary scientific new frontier established</li> <li>– scientific leadership consolidated</li> <li>– services delivered to scientific community</li> <li>– cutting edge science and technology fully defined</li> </ul>	<ul style="list-style-type: none"> <li>– vision, mission and identity consolidated</li> <li>– leading RI landscape and multidisciplinary scientific new frontier achieved</li> <li>– scientific leadership and impact visible at global level</li> <li>– continuous upgrade planned and undertaken - if relevant</li> <li>– cutting edge science and technology consolidated</li> </ul>	–
PAN-EUROPEAN RELEVANCE	<ul style="list-style-type: none"> <li>– pan-European approach for scientific area outlined</li> <li>– targeted user community is pan-European</li> <li>– national/international facilities with complementary or synergistic potential</li> </ul>	<ul style="list-style-type: none"> <li>– positioning in the RI landscape defined</li> <li>– case for European added value defined</li> <li>– research capacity and current/potential geographical distribution defined</li> <li>– links to relevant RI and other large pan-European programmes identified</li> </ul>	<ul style="list-style-type: none"> <li>– positioning in the RI landscape fully described</li> <li>– case studies or other evidence of emerging European-added value achieved</li> <li>– research capacity and geographical distribution consolidated</li> <li>– joint strategies, common services with relevant RI and other large pan-European programmes being implemented</li> </ul>	<ul style="list-style-type: none"> <li>– European added value consistently being delivered</li> <li>– research capacity and geographical distribution consolidated/expanding</li> <li>– common services with relevant RI and other large pan-EU programmes in place</li> </ul>	–



SOCIO-ECONOMIC IMPACT	<ul style="list-style-type: none"> <li>– relevance to societal challenges identified and potential economic impact predicted including innovation aspects</li> </ul>	<ul style="list-style-type: none"> <li>– case for impact made:, supporting innovation,, other types of benefits such as services for society, cultural aspects and attraction of business, industry and public services etc.</li> </ul>	<ul style="list-style-type: none"> <li>– socio-economic impact cases emerging</li> <li>– capacity building impact proven</li> <li>– contributing to tackling the societal challenges</li> <li>– innovation oriented activities agreed</li> <li>– ability to develop an open innovation culture established</li> </ul>	<ul style="list-style-type: none"> <li>– impact demonstrated consistently</li> <li>– new communities involved</li> <li>– innovation oriented activities operational</li> <li>– private users involved</li> <li>– policies on key societal challenges, e.g. climate change, influenced</li> </ul>	<ul style="list-style-type: none"> <li>–</li> </ul>
USER STRATEGY & ACCESS POLICY	<ul style="list-style-type: none"> <li>– Vision about user community</li> <li>– Access modes described</li> </ul>	<ul style="list-style-type: none"> <li>– Identified user categories</li> <li>– survey executed demonstrating expected user community and description of it in terms of origin and size</li> <li>– Identified services based on a clear identification of user demands and needs</li> <li>– Single entry point for users outlined</li> </ul>	<ul style="list-style-type: none"> <li>– user community in terms of origin and size consolidated</li> <li>– Mechanism of exchange/engagement with users</li> <li>– Accommodation of user needs/feedbacks</li> <li>– Catalogue of initial services for users</li> <li>– User strategy consolidated (including training aspects)</li> <li>– <b>common</b> access policy –excellent driven access taken into account / transparent process, international research programmes, etc.</li> <li>– organisational structure and procedure for regulating access – including single entry point for users - decided and approved</li> </ul>	<p><b>Common</b> Access management plan including:</p> <ul style="list-style-type: none"> <li>– Solid mechanism of exchange with users</li> <li>– Established catalogue of services for users</li> <li>– <b>operational</b> single entry point for access established</li> <li>– Assistance to users for the entire process (from the proposal till after the access)</li> <li>– IPR policies fully established</li> <li>– dissemination programmes in place, including innovation actions</li> </ul>	<ul style="list-style-type: none"> <li>– deployed IPR beyond decommissioning</li> </ul>
E-NEEDS	<ul style="list-style-type: none"> <li>– vision on e-infrastructure requirements, including access policy and security measures ready</li> <li>– interfacing with communication networks or distributed calculation or HPC/HTC</li> </ul>	<ul style="list-style-type: none"> <li>– conceptual design of e-infrastructure ready</li> <li>– contributions of e-infrastructure resources at all levels (institutional, regional, national, international) described</li> <li>– access policy and Data Management Plan (DMP) outlined</li> <li>– compliance with FAIR principles</li> </ul>	<ul style="list-style-type: none"> <li>– technical design of e-infrastructure ready and approved</li> <li>– draft operational planning for e-infrastructure service delivery</li> <li>– agreements with parties delivering core e-infrastructure services (<b>Central Hub</b>) drafted</li> <li>– access policy and DMP approved, including plan for sustainability of data</li> <li>– security policy defined and approved</li> <li>– implementing FAIR</li> </ul>	<ul style="list-style-type: none"> <li>– operational plan ready and approved</li> <li>– agreements with service provisioning parties signed</li> <li>– DMP implemented and security policy deployed</li> <li>– Operational application of FAIR</li> </ul>	<ul style="list-style-type: none"> <li>– deployed sustainability of data beyond decommissioning</li> </ul>

Texts in blue only apply to single-site RI.

Texts in green only apply to distributed RI.

\* Proposals that meet the minimal key requirements for the 'preparation' phase may be considered as Projects.

\*\* Projects that meet the minimal key requirements for the 'implementation' phase may be considered as Landmarks.



# EVALUATION BY SWG

- External experts (2-5 with relevant reports)
- Evaluation group inside the SWG (subgroup of 3-5 people, with a “rapporteur”), taking into account technical profile and Col/Confidentiality
- Coordination with the different SWG for multidisciplinary RI and horizontal aspects (i.e. data policy)
- Independent evaluation by Implementation Group, with very strong coordination and harmonization meetings in the different steps
- Final evaluation report (Scientific and Implementation) to ESFRI-EB



# PREVIOUS EXPERIENCE

- Established communication between the nodes is very important for distributed RI
- Wide impact of the RI's, in addition to the excellence of science
- Refer to competitiveness-complementarity with existing RI
- **We have a parallel evaluation system (Scientific and Implementation), and work independently, but we will collaborate and harmonize. A harmonized proposition will be submit to ESFRI-EB.**







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## Maturity of the new proposals: implementation aspects

Jeannette Ridder-Numan  
*Min OCW*

# IMPLEMENTATION GROUP

The Implementation Group is the ESFRI instrument to analyse the implementation aspects of existing and new Research Infrastructures to the Roadmap.

The role of the IG is to:

- **assess the implementation case of new proposals for an ESFRI roadmap update;**
- assess the implementation of ESFRI Projects (2010+2016);
- contribute to the periodic review of ESFRI Landmarks;
- propose conclusions, recommendations and decisions on the status for new proposals, ESFRI Projects and ESFRI Landmarks to the Executive Board and the Plenary Forum;
- offer targeted and specific support to ESFRI Projects to move towards implementation and to ESFRI Landmarks;
- contribute to the further development of the methodology for ESFRI roadmap updates;
- Collaborate closely with the SWGs on all aspects.




# The IG assesses maturity along five dimensions

1. Stakeholder commitment
2. Preparatory work & planning
3. Governance, management & human resources
4. Finances
5. Risks



## ANNEX III: LIST OF MINIMAL KEY REQUIREMENTS FOR THE IMPLEMENTATION CASE

The following table contains the **minimal key requirements** to a phase in the life cycle of RI on the five dimensions of the evaluation of the implementation case:



	PHASE				
	DESIGN	PREPARATION*	IMPLEMENTATION	OPERATION	TERMINATION
STAKEHOLDER COMMITMENT	<ul style="list-style-type: none"> <li>– institutional Letters of Intent (LoI) signed</li> <li>– formal agreement amongst partners for design study agreed upon (e.g. Consortium Agreement)</li> </ul>	<ul style="list-style-type: none"> <li>– political support provided by a satisfactory number of prospective members</li> <li>– satisfactory inter-institutional and multi-lateral agreement, e.g. a Memorandum of Understanding (MoU) signed by all core partners - being research institutions - formally involved in the consortium</li> <li>– clear strategy about how to gather necessary commitments at institutional and governmental level</li> </ul>	<ul style="list-style-type: none"> <li>– RI included in all relevant national RI roadmaps or similar political documents</li> <li>– commitment of a) MS and AC and b) core institutes and partners secured through signed legally binding document (e.g. statutes)</li> <li>– role and funding of Central office (Central Hub) agreed in legally binding document (e.g. statutes)</li> </ul>	<ul style="list-style-type: none"> <li>– budget to financially support operation and use for at least five years by all countries involved agreed</li> <li>– break-down of budget of nodes and relative resources with respect to their (potential) double accounting as national RI and nodes of international RI</li> </ul>	<ul style="list-style-type: none"> <li>– institutional, political and financial commitment on major upgrade/decommission/merger obtained</li> </ul>
PREPARATORY WORK & PLANNING	<ul style="list-style-type: none"> <li>– concept screening successfully completed and described in a conceptual design</li> <li>– overall project plan for design study with major milestones and deliverables approved</li> </ul>	<ul style="list-style-type: none"> <li>– design/feasibility study successfully completed</li> <li>– clear business case developed</li> <li>– clear strategy about how to tackle technological and construction issues</li> <li>– detailed plan for preparation and implementation agreed, including relevant investment decisions</li> <li>– overall plan for operation and decommission defined</li> </ul>	<ul style="list-style-type: none"> <li>– preparatory phase successfully completed</li> <li>– sound and reviewed business plan agreed</li> <li>– all investment decisions for implementation have been effectively taken and those for operation are clearly planned</li> <li>– communication programmes are in place</li> <li>– decision on site taken</li> <li>– building licence obtained</li> <li>– procurement strategy clearly identified and procurement task force in place</li> <li>– tenders and commitments to fund construction approved</li> <li>– decision on hosting of central hub taken</li> <li>– services to users at national level and services from Central Hub to National Nodes delivered</li> <li>– detailed plan for scientific, technical and organisational implementation validated</li> </ul>	<ul style="list-style-type: none"> <li>– achieving research results delivering relevant services to scientific community</li> <li>– utilisation of RI monitored and reported</li> <li>– construction effectively completed</li> <li>– medium term operations and upgrade plan approved and secured</li> <li>– procedure to winding up established</li> </ul>	<ul style="list-style-type: none"> <li>– detailed and validated plan for decommission, major upgrade or merger approved</li> </ul>



GOVERNANCE, MANAGEMENT & HUMAN RESOURCES	<ul style="list-style-type: none"> <li>– project organisation approved</li> <li>– scientific leadership, project manager and required staff identified</li> </ul>	<ul style="list-style-type: none"> <li>– satisfactory project organisation and management for preparation and implementation with clearly defined skills and staffing plans, responsibilities and reporting lines approved</li> <li>– measurable and satisfactory Key Performance Indicators identified</li> <li>– governance for operation with clearly defined responsibilities and reporting lines outlined, including Supervisory and other Advisory Boards</li> <li>– Human resources policy for implementation and operation to gather necessary competences, hiring, equal opportunities (including gender balance and diversity), secondments, education and training outlined</li> </ul>	<ul style="list-style-type: none"> <li>– legal entity established</li> <li>– organisation for implementation in place</li> <li>– robust Key Performance Indicators for operation, management, administration and facilitation agreed</li> <li>– key managers and staff for implementation recruited and necessary skills trained</li> <li>– viable organisation for operation with adequate staffing and independent monitoring approved</li> <li>– human resources policy to gather necessary competences for operation, hiring, equal opportunities (including gender balance and diversity), secondments, education and training approved</li> </ul>	<ul style="list-style-type: none"> <li>– planning and reporting mechanisms in place</li> <li>– staff for operation and management recruited and necessary skills trained</li> <li>– all human resources policies and instruments in place</li> </ul>	<ul style="list-style-type: none"> <li>– organisation of decommission/merger/upgrade approved</li> <li>– organisation and social plan for decommission approved</li> </ul>
FINANCES	<ul style="list-style-type: none"> <li>– funding concept and potential partners (e.g. nature of partnership, in-kind versus cash) contributions outlined</li> <li>– budget for design study approved</li> </ul>	<ul style="list-style-type: none"> <li>– financial commitment by lead country or EIROforum member and possible other entities satisfactorily covering the preparation and implementation phases.</li> <li>– top-level breakdown of cost elements with overall order of magnitude estimates (including for Central Hub, National Nodes and main upgrades)</li> <li>– estimates and confidence levels available for each element</li> <li>– funding opportunities identified for the whole lifecycle</li> <li>– in-kind contribution policy outlined</li> </ul>	<ul style="list-style-type: none"> <li>– formal commitment for funding of implementation obtained</li> <li>– cost book with costs based on supplier discussions or quotes and accounting principles approved</li> <li>– financial reporting set up</li> <li>– Work Packages and in-kind contributions fully detailed and centrally budgeted</li> <li>– validated projection on operation costs for at least five years and agreement on how to cover them</li> <li>– costs for decommission identified</li> <li>– funding for Central Hub and firm projection on operation costs for at least five years</li> </ul>	<ul style="list-style-type: none"> <li>– funding for operation secured</li> <li>– auditing of accounting and budget systems in place</li> </ul>	<ul style="list-style-type: none"> <li>– budget and liability for decommission/merger/major upgrade approved and covered</li> </ul>
RISKS	<ul style="list-style-type: none"> <li>– conceptual ideas about scientific, technological, political and financial risks</li> </ul>	<ul style="list-style-type: none"> <li>– clear identification of major risks involved and appropriate mitigation strategies described</li> </ul>	<ul style="list-style-type: none"> <li>– detailed risk inventory established and appropriate mitigation measures for implementation in place</li> </ul>	<ul style="list-style-type: none"> <li>– appropriate risk management and mitigation policies for operation in place</li> </ul>	<ul style="list-style-type: none"> <li>– risks involved in decommission/upgrade/merger described and mitigation strategies in place</li> </ul>

Texts in blue only apply to single-site RI.

Texts in green only apply to distributed RI.

\* Proposals that meet the minimal key requirements for the 'preparation' phase may be considered as Projects.

\*\* Projects that meet the minimal key requirements for the 'implementation' phase may be considered as Landmarks.



# Minimal key requirements

New Projects must demonstrate adequate maturity level, and provide proof of:

- political support, i.e. **Expression of political Support (EoS)** by the lead country and a **satisfactory** number of prospective members;
- satisfactory **inter-institutional and multi-lateral agreement**, e.g. a Memorandum of Understanding (MoU) signed by all core partners - being research institutions - formally involved in the consortium.
- clear strategy how to **gather necessary commitment** at institutional and governmental level;





# Minimal key requirements

Apart from the first three criteria, new projects must have:

- successfully completed a **design/feasibility study**;
- developed a clear **business case**;
- a clear strategy how to tackle **technological and construction issues**;
- a **detailed plan for preparation and implementation** agreed among the partners, including relevant investment decisions;
- **Overall plan for operations and decommission** defined (life cycle!)



# Minimal key requirements

- satisfactory **project organisation and management** for preparation and implementation phase, including skills, staffing etc. approved
- measurable and satisfactory **Key Performance Indicators** identified
- **governance** with clearly defined responsibilities and reporting lines outlined, including supervisory and other Boards
- **human resources policy** for implementation and operation to gather necessary competences (hiring, equal opportunities, training etc)



# Minimal key requirements

- **Financial commitment** by lead country or EIROforum member, and possible other entities satisfactory covering the preparation and implementation phases.
- top-level **breakdown of cost elements** with overall order of magnitude estimates (incl for central Hub, National Nodes and main upgrades)
- **estimates and confidence levels** to cost elements
- **funding opportunities** identified for whole lifecycle
- **in-kind contribution policy** outlined
- clear **identification of major risks** involved and appropriate **mitigation strategies** described





THANK YOU FOR YOUR  
ATTENTION!