



AGÊNCIA NACIONAL
DE INOVAÇÃO

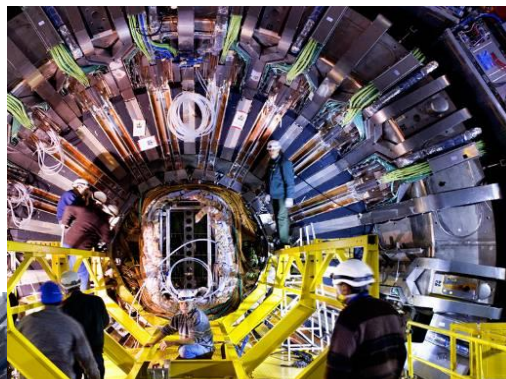
CALL H2020-INFRAIA-2-2020 INTEGRATING ACTIVITIES FOR STARTING COMMUNITIES

Call H2020-INFRAIA-2-2020 (Starting Communities)
20/11/2018 | ANI, Lisbon

Knowledge-based resources



Major scientific equipments



e-infrastructures

Research infrastructures are **facilities, resources and services** that are used by the research communities to conduct research and foster innovation. They can be "**single sited**", "**distributed**" or "**virtual**".

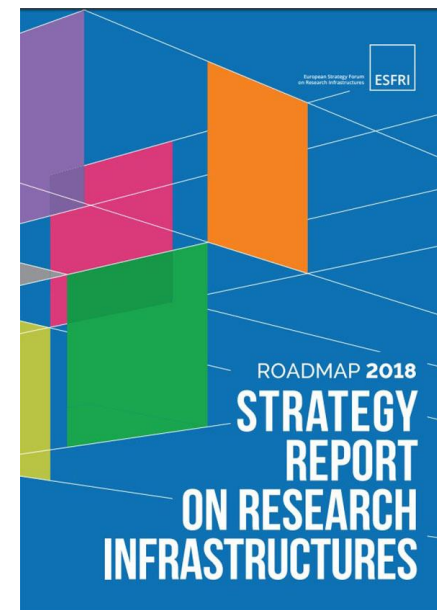
WHAT ARE RESEARCH INFRASTRUCTURES?



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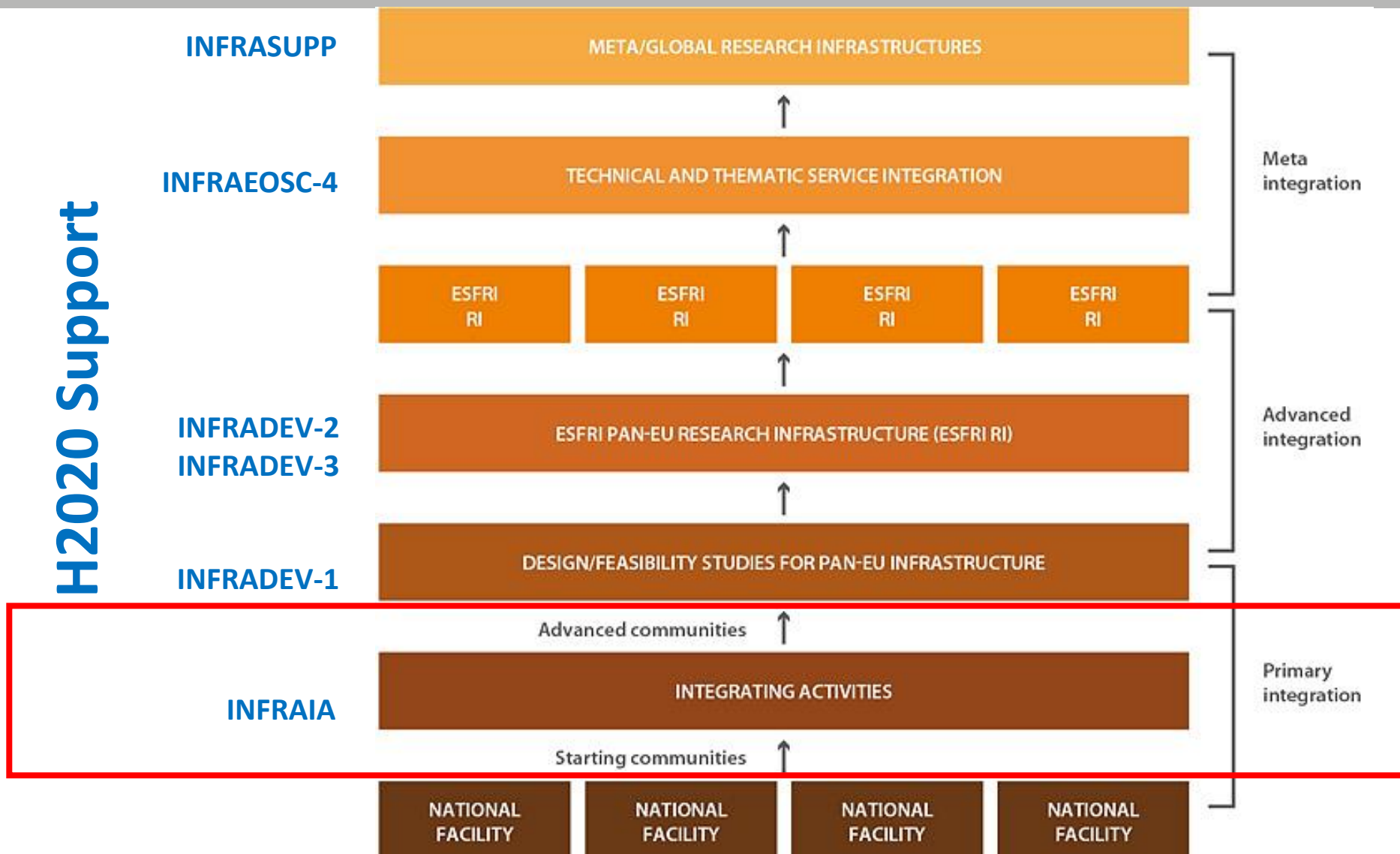


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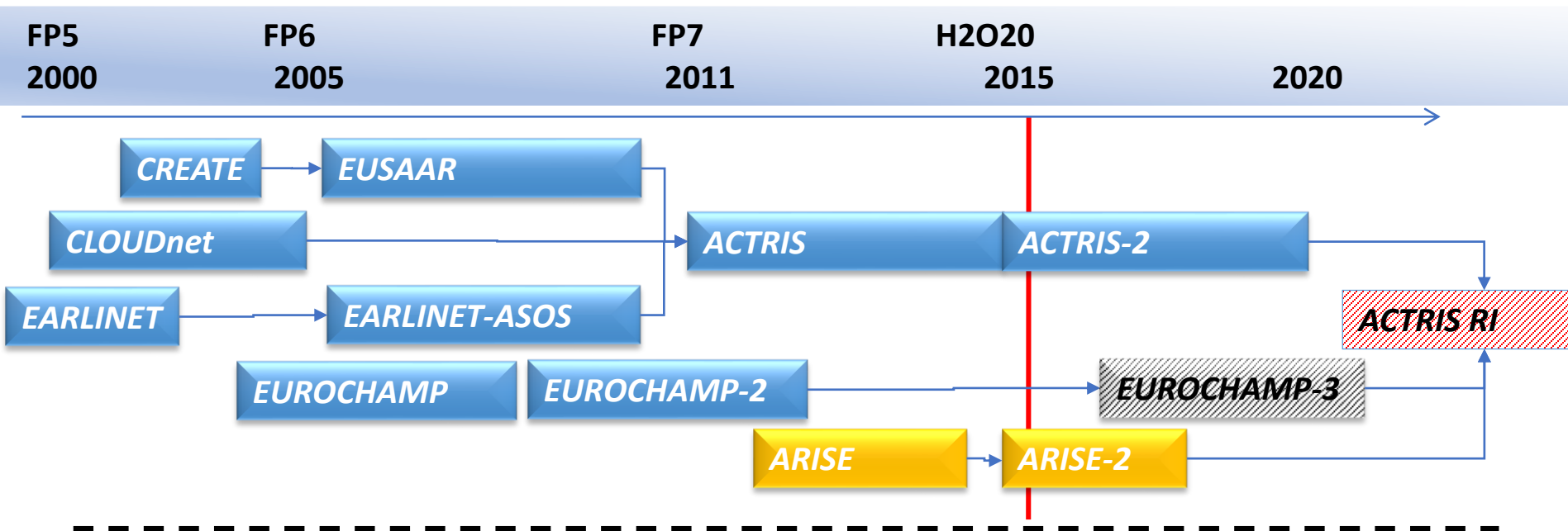
If you have doubts about any of the dimensions (National, European) of Research Infrastructures, who should you call?

EUROPEAN RESEARCH INFRASTRUCTURES INTEGRATION LANDSCAPE

H2020 Support



THE (SOMETIMES) LONG ROAD TO EUROPEAN INTEGRATION



I³ and IA projects

Design study

From research groups to pan-European science community
 From 10 researchers > 100-200 researchers > 500 - 1000



Adapted from Sanna Sorvari, FMI

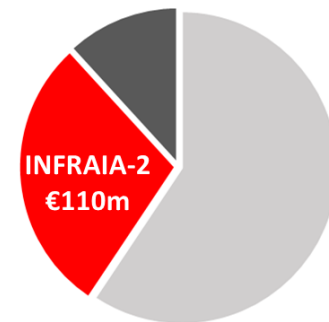
1. Development and long term sustainability of new pan-European RIs
2. Implementing the EOSC
3. **Integrating and Opening RIs of European Interest**
4. European Data Infrastructure
5. Demonstrating the role of RIs in the translation of Open Science into Open Innovation
6. Support to policy and International cooperation

Other Actions: GÉANT Partnership projects, Support to NCP

Around €1,1 billion to be awarded over 3 years

- **Integrating Activities**

- To open up Key National and Regional research infrastructures to all European researchers and to ensure their optimal use and joint development
- Emphasis on sustainability, widening access, skills, innovation and data management in compliance with the EOSC
- 3 topics in WP 2018-2020:
 - INFRAIA-1-2018-2019 (Advanced Communities)
 - **INFRAIA-2-2020 (Starting Communities)**
 - INFRAIA-3-2020 (Pilot for a new model of IA)



2018-2020 Work Programme

Only 2018 and 2019 topics were defined fully from the beginning. 2020 topics are in the process of getting descriptions and **only the titles can be seen** in the current Work Programme.

Scope: A 'Starting Community' has never been supported for the integration of its infrastructures under FP7 or Horizon 2020 calls, in particular within an integrating activity.

An Integrating Activity will mobilise a comprehensive consortium of several key research infrastructures^[1] in a given field as well as other stakeholders (e.g. public authorities, technological partners, research institutions) from different Member States, Associated Countries and other third countries^[2] when appropriate, in particular when they offer complementary or more advanced services than those available in Europe.

Funding will be provided to support, in particular, the trans-national and virtual access provided to European researchers (and to researchers from Third Countries under certain conditions), the cooperation between research infrastructures, scientific communities, industries and other stakeholders, the improvement of the services the infrastructures provide, the harmonisation, optimisation and improvement of access procedures and interfaces.

To this extent, an Integrating Activity shall combine, in a closely co-ordinated manner:

- (i) **Networking activities**, to foster a culture of co-operation between research infrastructures, scientific communities, industries and other stakeholders as appropriate, and to help develop a more efficient and attractive European Research Area;
- (ii) **Trans-national access or virtual access** activities, to support scientific communities in their access to the identified key research infrastructures;
- (iii) **Joint research activities**, to improve, in quality and/or quantity, the integrated services provided at European level by the infrastructures.

All **three categories of activities are mandatory** as synergistic effects are expected from these different components.

Access should be provided only to **key research infrastructures of European interest**, i.e., those infrastructures able to attract significant numbers of users from countries other than the country where they are located. Other national and regional infrastructures in Europe can be involved in the project, in particular in the networking activities for the exchange of best practises, without necessarily be beneficiaries of the action.

The research infrastructures of a 'Starting Community' usually show a limited degree of coordination and networking at present. The strongest impact of an integrating activity is expected typically to arise from a **focus on networking, standardisation and establishing a common access procedure** for trans-national and/or virtual access provision.

In line with the strategy for EU international cooperation in research and innovation (COM(2012)497), Integrating Activities should, whenever appropriate, give due attention to any related initiatives internationally (i.e. outside the EU) and foster the use and deployment of global standards.

Integrating Activities should also organise the efficient curation, preservation and provision of access to the data collected or produced under the project, defining a data management plan, even when they opt out of the Pilot on Open Research Data. Data management, interoperability (definition of metadata and ontologies) as well as advanced data and computing services should be addressed where relevant. To this extent, proposals should build upon the state of the art in ICT and e-infrastructures for data, computing and networking, working in **cooperation with e-infrastructure service providers**.

Integrating Activities in particular should contribute to fostering the **potential for innovation**, including social innovation, of research infrastructures by reinforcing the partnership with industry, through e.g. transfer of knowledge and other dissemination activities, knowledge sharing through co-creation, activities to promote the use of research infrastructures by industrial researchers, involvement of industrial associations in consortia or in advisory bodies.

Integrating Activities are expected to duly **take into account all relevant ESFRI and other world-class research infrastructures** to exploit synergies, to reflect on sustainability and to ensure that rationally designed, comprehensive and coherent overall concepts for European Infrastructures are being pursued.

As the scope of an Integrating Activity is to ensure coordination and integration between all the key European infrastructures in a given field and to avoid duplication of effort, at most one proposal per area is expected to be submitted.

Further conditions and requirements that applicants should fulfil when drafting a proposal are given in part C of the section "Specific features for Research Infrastructures". Compliance with these provisions will be taken into account during evaluation.

Expected Impact: Researchers will have wider, simplified, and more efficient access to the best research infrastructures they require to conduct their research, irrespective of location. They benefit from an increased focus on user needs.

Operators of related infrastructures develop synergies and complementary capabilities, leading to improved and harmonised services. There is less duplication of services, leading to an improved use of resources across Europe. Economies of scale and saving of resources are also realised due to common development and the optimisation of operations.

Innovation is fostered through a reinforced partnership of research organisations with industry.

A new generation of researchers is educated that is ready to optimally exploit all the essential tools for their research.

Closer interactions between larger number of researchers active in and around a number of infrastructures facilitate cross-disciplinary fertilisations and a wider sharing of information, knowledge and technologies across fields and between academia and industry.

The integration of major scientific equipment or sets of instruments and of knowledge-based resources (collections, archives, structured scientific information, data infrastructures, etc.) leads to a better management of the continuous flow of data collected or produced by these facilities and resources.

When applicable, the integrated and harmonised access to resources at European level can facilitate the use beyond research and contribute to evidence-based policy making.

When applicable, the socio-economic impact of past investments in research infrastructures from the European Structural and Investment Funds is enhanced.

- **Integrating Activities for Starting Communities**
 - **All areas** of Science and Technology eligible;
 - S&T communities served should **not be too narrow** (if they are at present, think how they could serve a wider community);
 - **Key RIs** in the domain of the proposal should be included, so there is an expectation for **1 proposal/domain** (and not more)

(Key RI of European interest are those able attract significant numbers of Transnational Access users from countries other than the one where they are installed)

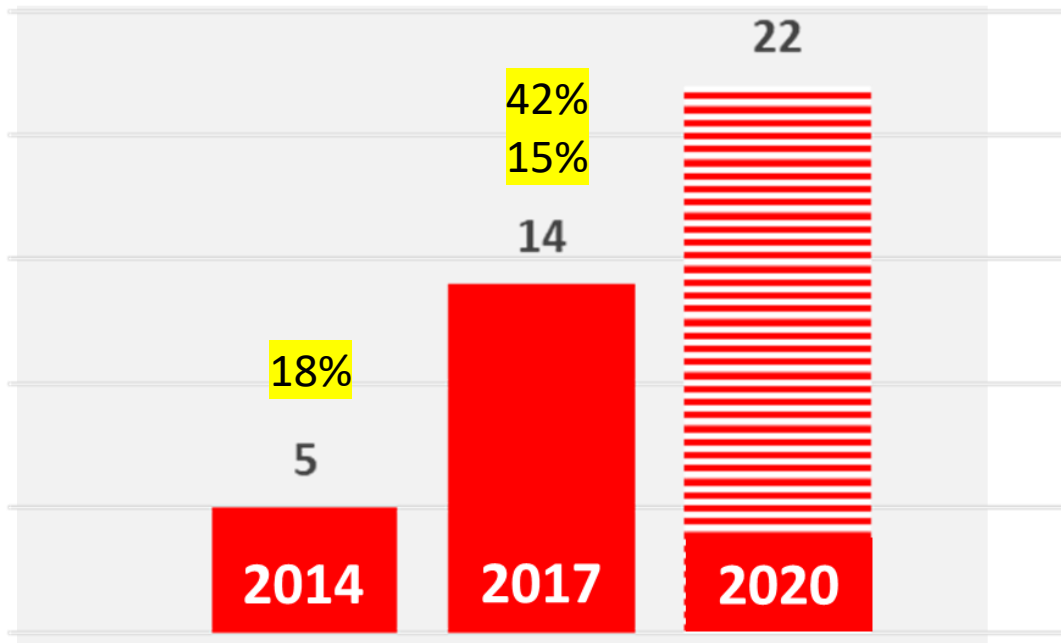
- **Integrating Activities for Starting Communities**
 - RI communities never supported for integration under FP7, H2020
 - Emphasis on:
 - **Networking**
 - Standardization and **common access procedures**
 - **Complementarity** and coherence with EU landscape
 - Contribution to a **Catalogue of RI Services**
 - Adoption of the European **Charter for Access** to RI
 - **Likely details of the call:**
 - **One-stage call**: deadline **March 2020**
 - Indicative budget: €**110M**, up to €**5M/project**
 - Page limit - expected **100 pages**



WHAT IS OUT THERE ALREADY?

OUTCOME OF PREVIOUS CALLS FOR STARTING COMMUNITIES

- **INFRAIA-2-2020 will be biggest call so far for Starting Communities**



Number of funded Starting Communities projects in 2014, 2017 and 2020 (predicted)

First specific call for Starting Communities only in 2017.

Number of approved projects grew and is expected to grow more in 2020.

For same success rate, there should be ~150 proposals (unlikely)



19 ongoing projects (5 + 14) First 5 are now part of the Multi-Annual plan for “Advanced Communities” and eligible for INFRAIA-1-2018-2019



Portuguese entities participate in 6 of the 19 Starting Communities
1 of the projects (EUMarineRobots) coordinated by FEUP

General feedback after 1st stage evaluation of INFRAIA-2-2017

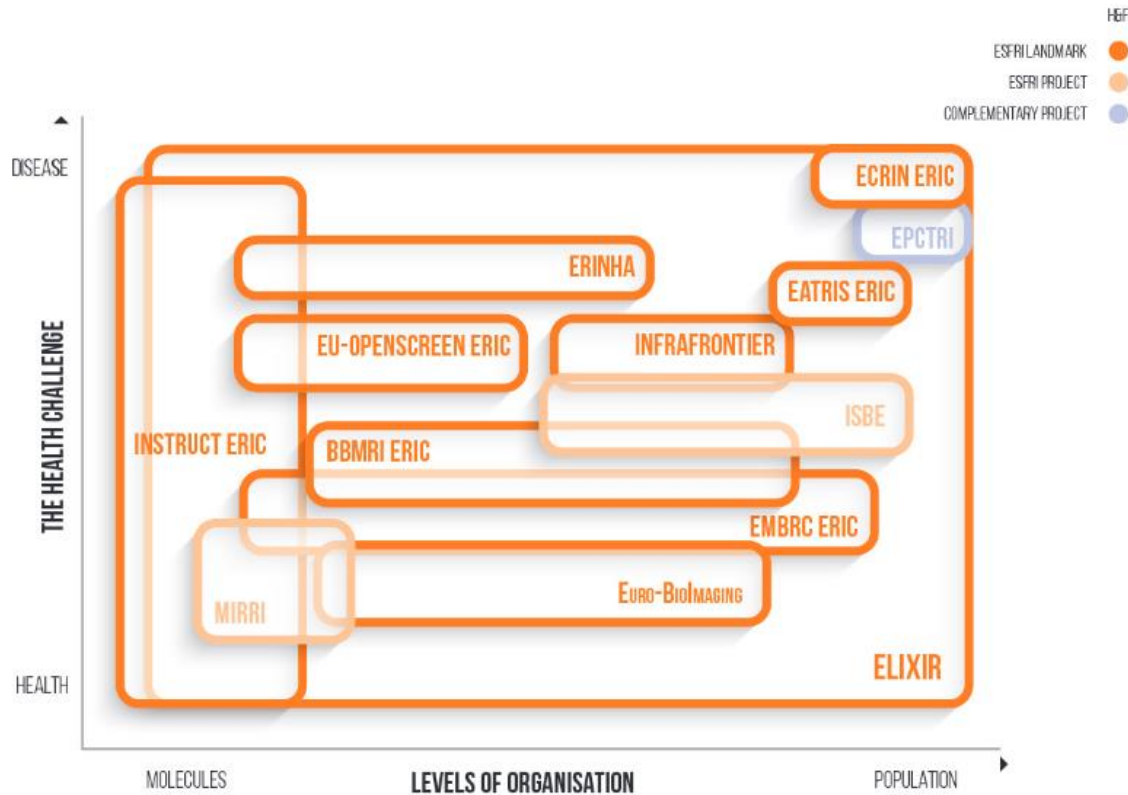
Information & tips

Main shortcomings found in the stage 1 evaluation:

The contribution of the three categories of activities of the call - Networking Activities, Access Activities (Trans-national Access and/or Virtual activities), and Joint Research Activities were often not fully explained.

The rationale for establishing the integrating activity was not always clearly justified in relation to ongoing related initiatives.

RATIONALE - HOW DOES IT FIT THE RI LANDSCAPE?



GROUND-BASED TELESCOPES

GAMMA RAY HESS MAGIC CTA	VISIBLE/INFRARED LSST ELT VLT
RADIO ALMA VLBI-JIVE SKA LOFAR-ILT	NEUTRINO KM3Net 2.0 IceCube
	SOLAR EST

SPACE-BASED TELESCOPE

VISIBLE HUBBLE KEPLER EUCLID PLATO	INFRARED/SUB-MILLIMETRE WEBB/JWST
X-RAY ATHENA	SOLAR SYSTEM Solar Orbiter BepiColombo Exomars Juice

GRAVITATIONAL WAVES INTERFEROMETERS

GROUND- AND SPACE-BASED LIGO VIRGO KAGRA INDIGO LISA
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Main sources

[Long-term Sustainability \(LTS\) of Research Infrastructures](#)
[European Open Science Cloud \(EOSC\)](#)
[Draft Specific Programme for Horizon Europe](#)
[ESFRI Roadmap update 2018](#)

Other sources

[Interim Evaluation of H2020](#)
[ERIC Implementation](#)
[International Cooperation Priorities](#)
[Expert Advisory Group report](#)



HOW TO STRUCTURE THE PROPOSAL?

NA, TNA, JRA. BENCHMARKING AND PRACTICAL EXERCISE

Joint management of access provision	Dissemination/ Exploitation of results - socio-economic impact	Reinforcing Partnership with Industry
Strengthening Virtual Research Communities	Registering RI services in catalog of services / EOSC	Definition of standards, interoperability
Development/ maintenance of common databases	Improvement of RI management and service provision	Staff exchanges and training
Training of new users / Women in Science	Attracting the young to Science careers	Foresight studies: new instruments, methods, concepts
Coordination with national & international related initiatives	Promoting coordination with related projects	Long-term Sustainability: beyond end of the project
Definition of DMP according to FAIR principles	Relations with publishers - data & sample deposition services	Mapping of infrastructures, users, investments - policy

Objectives of NAs

To foster a culture of cooperation between the participants in the project, the scientific communities benefiting from the research infrastructures, industries and other stakeholders, and to help developing a more efficient and attractive European Research Area.



Examples

Participant number	Organisation short of Installation	Unit of Infrastructure of access	
Calculation of the Unit Cost (UC) for Trans-national Access^[1]			
from:		to:	
A. Direct eligible costs of providing access over the last two years excluding personnel costs ^[2]	Describe the direct eligible costs ^[2] for providing access to the installation over the reference period (usually the last two closed financial years ^[1] preceding the current one). All contributions to capital investments of the installation are not eligible.	Eligible Costs (I)	
	Total A	0,00	
<i>of which subcontracting (A')</i>			
B. Personnel direct eligible costs needed to provide access over the last two years ^[2]	Category of staff^[1]	Person-Months	Personnel Costs (I)
Total B		0,00	
C. Indirect eligible costs: 25% x ((A-A') + B)		0,00	
D. Total access eligible costs over the last two years ^[1] = A+B+C		0,00	
E. Total quantity of access provided to all normal users of the installation (i.e. both internal and external) over the last two years ^[1]		1	
F. Unit cost = D/E		0	
G. Unit cost charged to the project		0	
H. Quantity of access offered under the project (over the whole duration of the project)		0	
project = G x H		0,00	

Objectives of TNA

To provide 'free of charge' trans-national access to researchers or research teams including from industry to one or more infrastructures among those operated by participants. These access activities should be implemented in a coordinated way such as to improve the overall services available to the research community. Access may be made available to external users, either in person ('hands-on') or through the provision of remote scientific services, such as the provision of reference materials or samples, the performance of sample analysis or sample deposition.

← Calculating Unit of Access Cost

What is a Unit of Access?

Participant number	Installation number	Organisation short of Installation	Year	Month	Day
Calculation of the Unit Cost (UC)					
from:			to:		
Describe the direct eligible costs ^[2] for providing access to the installation over the					

- Wide range of different units of access
 - From the classical ones: hour, day, week, month,
 - to specific ones: sample, virus, cruise day, beam-hour, ...
 - up to very specific ones: magnet shot, marmoset, shuttle run, micro-transfer-printing, ...
- Wide range of different unit costs too
 - From EUR 0,01 to EUR 75 000

E. Total quantity of access provided to all normal users of the installation (i.e. both internal and external) over the last two years ^[2]	1
F. Unit cost = D/E	0
G. Unit cost charged to the project	0
H. Quantity of access offered under the project (over the whole duration of the project)	0
project = G x H	0,00



Calculating Unit of Access Cost

Objectives of JRAs

To explore **new fundamental technologies** or techniques underpinning **the efficient and joint use of the participating research infrastructures**. They should involve, whenever appropriate, **industries and SMEs** to promote innovation and knowledge sharing through co-creation of needed technical solutions.

Including, but not limited to:

- **higher performance methodologies and protocols**, higher performance **instrumentation**, including the testing of components, subsystems, materials, techniques and dedicated software, taking into due account resource efficiency and environmental (including climate-related) impacts;
- **integration** of installations and infrastructures into **virtual facilities**;
- **innovative solutions for data** or sample collection, management, curation, annotation, and deposition
- creation of specific services for supporting research **addressing large research challenges**.

- Is there any “normal” configuration of Work Plan?

Project	Number of WPs						Total
	Management	Dissemination	Networking Act	TNA/VA	Joint Research Act	Others	
SmartCow	1	1	3	11	3		19
ARICE	1	1	3	2	2		9
NanoCommons	1	1	4	10	5	1	22
TERRINet	1	1	4	1	2		9
EUROVOLC	1	1	5	13	5		25
IBISBA 1.0	1	1	3	1	2		8
EU FT-ICR MS	1	1	2	1	1		6
HEMERA	1	1	4	3	2	1	12
ReIRes	1	1	3	2	2		9
EuroPDX	1	1	3	1	2	1	9

The core proposal has NA, TNA and JRA work packages, plus Management, Dissemination.

Biggest difference between projects is in TNA

A focus on NAs is expected for a Starting Community

TODAY'S EXERCISE - DIY INFRAIA WORK PLAN

Integrating Activities for Starting Communities
Project _____ Dashboard



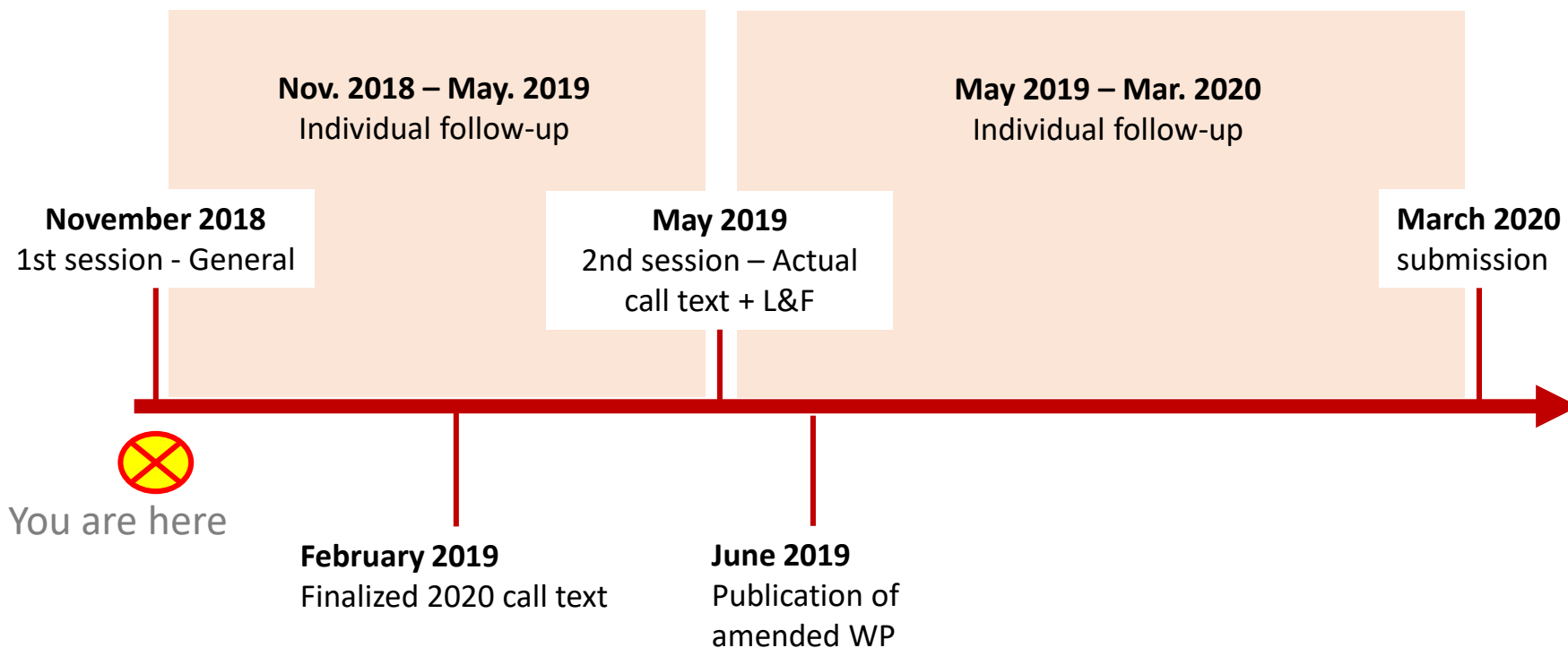
Networking Activities

Transnational/Virtual Access

Joint Research Activities



Joint management of access provision	Dissemination/ Exploitation of results - socio-economic impact	Reinforcing Partnership with Industry
Strengthening Virtual Research Communities	Registering RI services in catalog of services / EOSC	Definition of standards, interoperability
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Thank you

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