



# The Work Programme 2020 of H2020

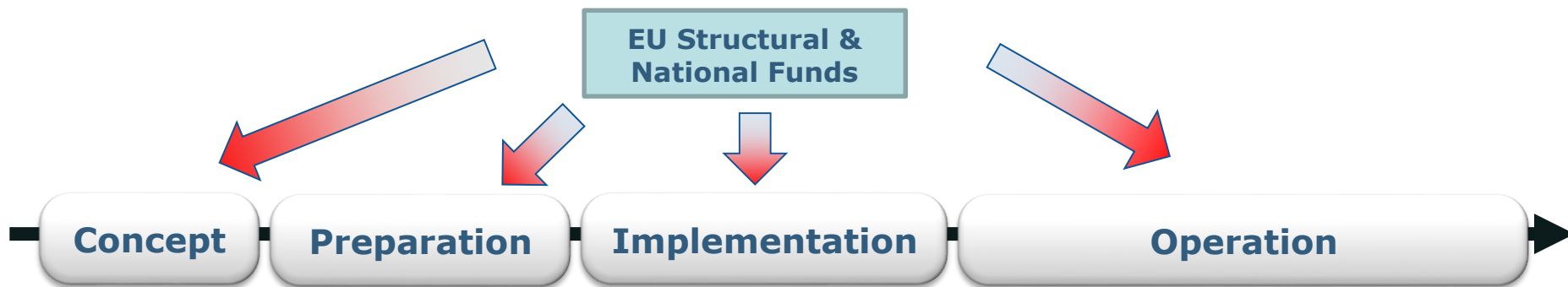
## A bridge to Horizon Europe

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# Research Infrastructures in Horizon 2020

## *A Coherent Toolbox of Activities*



# Overview of activities in WP 14-18

Activities	Grants	EC Cont (M€)	%total
Design Studies	17	47,8	4%
ESFRI Preparatory Phases (incl. Early Phase support)	13	34,6	3%
Individual support (incl. ESFRI Priority projects)	29	154,8	14%
Clusters	13	177	16%
EOSC	8	59,9	6%
Integrating Activities	65	542,9	50%
Innovation actions	4	28,9	3%
International Cooperation	10	21,4	2%
Policy support and training actions	17	21,2	2%
	176	1088,5	100%

**Draft**



**Work Programme 2020**

## *In a snapshot:*

# RESEARCH INFRASTRUCTURE Work Programme 2020: 5 calls, 8 topics

**CALL INFRADEV**  
DEVELOPMENT AND LTS OF NEW  
PAN-EUROPEAN RIS

DESIGN STUDIES  
(2019)

PREPARATORY PHASE  
OF NEW ESFRI  
PROJECTS (2019)

INDIVIDUAL SUPPORT TO  
ESFRI AND OTHER WORLD  
CLASS RI (2018, 2019)

FAST TRACK TO THE  
IMPLEMENTATION OF  
AN ESFRI RI (2019)

**CALL INFRAEOSC**  
IMPLEMENTING THE EOSC

ACCESS TO  
COMMERCIAL  
SERVICES  
THROUGH THE  
EOSC HUB (2018)

PROTOTYPING  
NEW SERVICES  
(2019)

INTEGRATION &  
CONSOLIDATION  
OF THE ACCESS  
MECHANISM  
(2020)

CONNECTING  
ESFRI RI  
THROUGH  
CLUSTERS  
(2018)

EOSC  
GOVERNANCE  
(2018)

ENHANCING  
THE EOSC  
PORTAL  
(2019)

INCREASING  
THE SERVICE  
OFFER OF THE  
EOSC PORTAL  
(2020)

**CALL INFRAIA**  
INTEGRATING AND OPENING  
RI OF EUROPEAN INTEREST

INTEGRATING ACTIVITIES FOR  
ADVANCED COMMUNITIES  
(2018, 2019)

INTEGRATING ACTIVITIES FOR  
STARTING COMMUNITIES  
(2020)

PILOT FOR A NEW MODEL  
OF IA  
(2020)

**CALL INFRAEDI**  
EUROPEAN DATA INFRASTRUCTURE

SUPPORT TO A PAN-  
EUROPEAN HPC  
INFRASTRUCTURE &  
SERVICES – PRACE (2018)

SUPPORTING  
CENTRES OF  
EXCELLENCE ON  
HPC (2018)

SUPPORTING THE  
GOVERNANCE OF  
THE EDI (2018)

CENTRES OF  
EXCELLENCE IN  
EXASCALE COMPUTING  
(2020)

**CALL INFRAINNOV**  
ROLE OF RIS IN THE TRANSLATION  
OF OS INTO OPEN INNOVATION

NETWORK OF RI INDUSTRIAL  
LIAISON AND CONTACT  
OFFICERS (2019)

CO-INNOVATION PLATFORM  
FOR RI TECHNOLOGIES  
(2020)

INNOVATION PILOTS  
(2020)

**CALL INFRASUPP**  
SUPPORT TO POLICY AND  
INTERNATIONAL COOPERATION

POLICY & INTERNATIONAL COOPERATION  
MEASURES FOR RESEARCH  
INFRASTRUCTURES (2018, 2019)

STRENGTHENING THE HUMAN CAPITAL  
OF RESEARCH INFRASTRUCTURES (2020)

# Overview 2020: 5 calls - 8 topics

- **INFRAEOSC-03-2020**
- **INFRAEOSC-07-2020**
- **INFRAIA-02-2020 (IA SC)**
- **INFRAIA-03-2020 (IA Pilot)**
- **INFRAEDI-05-2020**
- **INFRAINNOV-03-2020**
- **INFRAINNOV-04-2020**
- **INFRASUPP-02-2020 (HR)**

# **Integrating and opening RIs of European interest**

## **INFRAIA call**

# Integrating and opening RIs of European interest

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, skills, innovation and data management in compliance with the EOSC*

1. Integrating activities for Advanced communities (2018, 2019 - 240M€)
2. **INFRAIA-02-2020 - Integrating activities for Starting Communities**  
(2020 – 115 M€)
3. **INFRAIA-03-2020 - Pilot for a new model of IA (2020 – 45 M€): new ways for opening & integrating at EU level RIs of European interest**



## INFRAIA-02-2020

### *Integrating Activities for Starting communities*

- RI Communities never supported for their integration under EU FPs
- **Bottom-up** approach, *One stage call: deadline 17 March 2020;*
- Indicative budget **115 M€**, up to 5 M€ of EU contrib. per GA (RIA)
- Emphasis on **networking**, standardisation and **common access procedure, complementarity** and coherence with the existing European RI landscape; on the contribution to a **catalogue of RI services** and on the adoption of the **European Charter for Access to RI**

## INFRAIA-03-2020

### *Pilot for a new model of Integrating Activities*

- To develop new ways for opening RI of European interest and support the integrating provision at EU level of their services
- To **harmonise national & European procedures** for providing access
- To **prepare the ground** for supporting networks that bring together national, regional and European funders of research infrastructures **for the co-funding of trans-national access of researchers.**
- Targeting larger sets of RIs, gathering close advanced communities to develop and implement a programme focussing on **access** provision, **harmonisation** of access procedures in the EU, and **integration**
- **Targeted** approach (3 areas). **One stage call:** deadline **17 March 2020**
- Indicative budget **45 M€**, up to 15 M€ of EU contrib. per GA (RIA)

# INFRAIA-03-2020

## *Pilot for a new model of Integrating Activities*

### Scope

- Virtual and Trans-national **access provision** to a catalogue of RIs services (installations). The RIs can be **internal or external** to the consortium, thus beneficiaries or third parties, the latter usually structured under a national access provision coordinator or a pan-European RIs. Projects are encouraged to **extend their catalogues under their lifetime**, selecting new installations to be included through amendments.
- Joint activities to facilitate and **integrate** the access procedures, **improve** the services the infrastructures provide and further **develop on-line services**, ensuring their connection to the EOSC
- Develop and trial models, mechanisms and practices for the long-term **engagement of funders** in supporting and making **trans-national access sustainable** beyond the EU funding.

# INFRAIA-03-2020

## *Pilot for a new model of Integrating Activities*

### Thematic coverage:

- **Access to RI for research on Atmosphere:** ACTRIS-2 (aerosols, clouds and trace gases), InGOS (non CO2 greenhouses gas observation system), EUROCHAMP-2020 (simulation chambers for investigating atmospheric processes)
- **Access to RI for advanced research in micro-nano technologies for materials:** NFFA-Europe (nano foundries), Qnano (quality in nanomaterials safety testing), EUMINAFab (micro-nano fabrication of functional structures)
- **RI for advanced optical/IR and radio astronomy:** OPTICON (optical infrared network for astronomy), RadioNet (advanced radio astronomy)

# **Demonstrating the role of RIs in the translation of Open Science into Open Innovation**

## **INFRAINNOV call**

# Demonstrating the role of RIs in the translation of Open Science into Open Innovation

*Large initiatives and support measures to foster the innovation potential of research infrastructures:*

2. **INFRAINNOV-02-2019 - Network of research infrastructure Industrial Liaison and Contact Officers** (2019 – 1.5 M€)
3. **INFRAINNOV-03-2020 - Co-Innovation platform for research infrastructure technologies** (2020 – 35 M€)
4. **INFRAINNOV-04-2020 - Innovation pilots** (2020 – 30 M€)

# INFRAINNOV-03-2020

## Co-innovation platform for research infrastructure technologies

- Follow-up of topic INFRAINNOV-01-2017 (Fostering co-innovation for future detection and imaging technologies)
- Support breakthrough innovation and co-innovation process
- Second phase of the ATTRACT project, which purpose is to support in the first phase the proof of concept of many proposals and in the second phase the R&D of the most promising proposals
- One stage call: deadline **17 March 2020**;
- Indicative budget **35 M€**, up to 35 M€ of EU contrib. per GA (RIA)

# INFRAINNOV-03-2020

## Co-innovation platform for research infrastructure technologies

### Scope:

- Scaling-up, to **higher TRL level**, proofs of concept of industrial applications and exploitation of innovative solutions based on research infrastructure technologies
- **Cascade funding** (Annex K) necessary
- Selection of third parties based on **external independent peer review process**
- **Emphasis on impact** and dissemination strategy
- Cooperation with grants selected under the innovation pilot topic (dedicated activities and resources to be foreseen)



# INFRAINNOV-04-2020

## Innovation pilots

- Support RI networks **developing and implementing a common strategy/roadmap** including technological development required for improving their services through partnership with industry;
- Support **incremental innovation and cooperation with industry** and academia in areas such as scientific instrumentation
- Advanced Integrated Activities, which have reached a high level of integration and can focus on joint research developments
- One stage call: deadline **17 March 2020**;
- Indicative budget **30 M€**, up to 10 M€ of EU contrib. per GA (RIA)

# **INFRAINNOV-04-2020**

## **Innovation pilot**

### **Scope:**

- Networking and joint research developments on the basis of strategic roadmap
- Early stage involvement of industry as supplier
- Cooperation with grant selected under the Co-innovation platform topic (dedicated activities and resources to be foreseen)
- Sustainability plan requested

# INFRAINNOV-04-2020

## Innovation pilots

### Thematic coverage:

- **Innovation in light sources:** CALIPSOplus (access to light sources)
- **Innovation in detectors technologies for accelerators:** AIDA-2020 (infrastructures for detectors at accelerators)
- **Innovation in accelerators technologies:** ARIES (accelerator research and innovation)



# **Support to policy and international cooperation**

## **INFRASUP call**

# Policy and International cooperation

*Actions to reinforce European research infrastructures policy and international cooperation.*

1. Policy and international cooperation measures for research infrastructures (2018, 2019 – 39.6 M€)
2. **Strengthening the human capital of research infrastructures** (2020, 2 M€)

# INFRASUPP-02-2020

## Strengthening the human capital of RI

### Scope:

- training of staff managing and operating RI,
- exchange of staff and best practices between facilities,
- adequate supply of skilled human resources, including through the development of specific education curricula and courses
- **emphasis on the development of data management, exploitation and stewardship skills**, in line with the FAIR principles, including the mastering of the data protection legislation features.

*building on RAMIRI and RIttrain past activities and gained experience*

# Commission proposal for Horizon Europe

THE NEXT EU RESEARCH & INNOVATION  
PROGRAMME (2021 – 2027)

**RESEARCH INFRASTRUCTURES**

#HorizonEU



## Specific objectives of the Programme

Support the creation and diffusion  
of high-quality knowledge

Strengthen the impact of R&I  
in supporting EU policies

Foster all forms of innovation and  
strengthen market deployment

Optimise the Programme's delivery for impact in a strengthened ERA



### Pillar 1 Excellent Science

European Research Council

Marie Skłodowska-Curie Actions

Research Infrastructures



### Pillar 2 Global Challenges and European Industrial Competitiveness

Clusters

- Health
- Culture, Creativity & Inclusive Society
- Civil Security for Society
- Digital and Industry
- Climate, Energy and Mobility
- Food and natural resources

Joint Research Centre



### Pillar 3 Open Innovation

European Innovation Council

European innovation ecosystems

European Institute of Innovation  
and Technology

### Strengthening the European Research Area

Sharing excellence

Reforming and Enhancing the European R&I system



# Challenges in Horizon Europe

*The EU strategic approach of RI development has generated clear advantages, such as avoiding duplication of efforts, pooling resources, rationalising RI use, standardising processes and procedures as well as consolidating the global leadership of European RI.*

*A number of outstanding issues have yet to be addressed in the forthcoming years*

# **Areas of interventions**

- 1. Consolidating the Landscape of European Research Infrastructures***
- 2. Opening, Integrating and Interconnecting Research Infrastructures***
- 3. The innovation potential of European Research Infrastructures and activities for innovation and training***
- 4. Reinforcing European Research Infrastructure policy and International Cooperation***

# *Consolidating the Landscape of European Research Infrastructures*

## *Lines of action:*

- Design of new RI; preparatory and implementation phase, early-phase operation of pan EU RI in complementarity with other funding sources, consolidation and optimisation of the RI ecosystem by facilitating service agreements, evolutions, mergers or decommissioning;
- Scalability and sustainability of the EOSC access channel; effective federation of European, national, regional and institutional resources; its technical and policy evolution to cope with new research needs and requirements; data inter-operability and compliance with the FAIR principles;
- Support pan-European research and education network underpinning the EOSC and EDI as well as enabling the delivery of HPC/data services in a cloud based environment.

# *Opening, Integrating and Interconnecting Research Infrastructures*

## *Lines of action:*

- Networks of national and regional funders of RI for the **co-funding of trans-national access**;
- Networks of pan EU, national and regional RI addressing **global challenges** for the provision of access and harmonisation & improvement of services;

# *The innovation potential of European Research Infrastructures and activities for training*

## *Lines of action:*

- Integrated networks of RI for **development and implementation of a common strategy/roadmap** for technological development required to improve their services through **partnership with industry**; as well as high-tech components in areas such as scientific instrumentation;
- Training of staff managing and operating research infrastructures of pan-European interest.

# *Reinforcing the international dimension of European Research Infrastructures*

## *Lines of action:*

- Survey, monitoring and assessment of RI at EU level;
- Policy studies, communication and training actions;
- International cooperation actions for RI;
- Specific activities of relevant policy and advisory bodies

Thank you for your attention

HORIZON 2020

