



The Work Programme 2020 of H2020

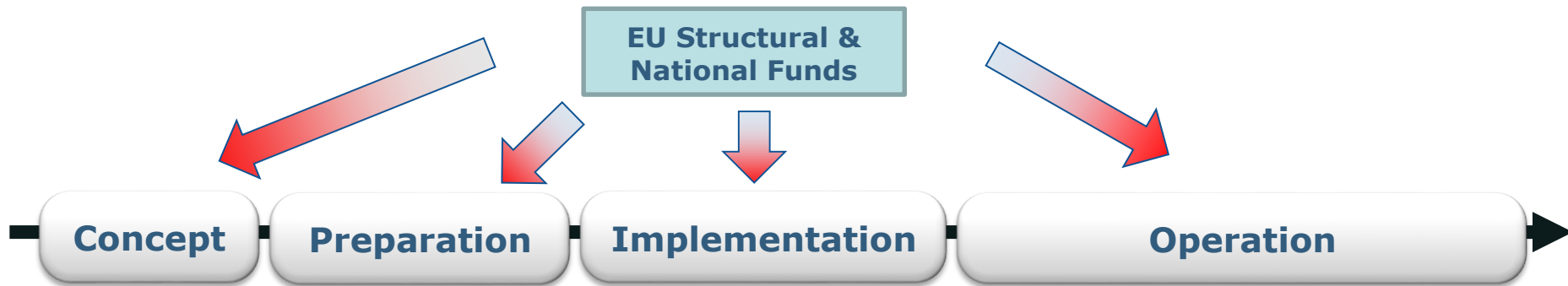
A bridge to Horizon Europe

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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

INFRAINNNOV-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

