



Research Infrastructures in Horizon 2020

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Research Infrastructures in Horizon 2020

(Horizon 2020 is still only a Commission proposal)

Research Infrastructures in Horizon 2020

Why a EU approach?

- To **open access** to the research infrastructures existing in the individual Members States to all European researchers
- To **avoid duplication of effort** and to coordinate and rationalise the use of these research infrastructures
- To trigger the **exchange of best practice**, develop **interoperability** of facilities and resources, develop the **training** of the next generation of researchers
- To connect national research communities and **increase the overall quality of research and innovation in Europe**
- To **help pooling resources** so that the EU can also acquire and operate research infrastructures at **world level**

Research Infrastructures in Horizon 2020

Objective

*“To endow Europe with **world-class research infrastructures** which are **accessible to all researchers** in Europe and beyond and fully **exploit their potential for scientific advance and innovation**”*

- Addresses core commitments of the **Innovation Union flagship initiative**, to develop world-class research infrastructures for ground-breaking research and innovation
- Addresses key actions of the **Digital Agenda for Europe flagship initiative**, to reinforce Europe's e-infrastructure

Research Infrastructures in Horizon 2020

Activities overview

1. Developing the European RIs for 2020 and beyond

- 1.1 Developing new world-class RIs
- 1.2 Integrating and opening national RIs of pan-European interest
- 1.3 Development, deployment and operation of ICT based e-Infrastructures

Main actions

2. Fostering the innovation potential of RIs & their human capital

Specific actions

3. Reinforcing European RI policy and international cooperation

Policy actions

1.1 Developing new world-class RIs

- **Objective:** to ensure the implementation, long-term sustainability and operation of the ESFRI and other world-class RIs
- EU funding will support:
 - The **preparatory phase** of future RIs (e.g. detailed construction plans, legal arrangements, multi-annual planning, etc.)
 - The **implementation phase** (e.g. R&D and engineering work, development of regional partner facilities, etc.)
 - The **operation phase** (e.g. access, data handling, outreach, training and international cooperation activities)
 - **Design studies** for new RIs through a bottom-up approach

1.2 Integrating and opening existing national RIs of pan-European interest

- **Objective:** to open up key national RIs to all European researchers and to ensure their optimal use and joint development
- EU funding will support “**European Research Infrastructures Networks**” bringing together RIs in a given field, covering:
 - **Transnational and virtual access activities** for users
 - **Networking activities** to foster a culture of cooperation
 - **Joint research activities** to improve the RI service quality

1.3 Development, deployment and operation of ICT based e-Infrastructures

- **Objective:** to achieve by 2020 a single and **open European space for online research**
 - Leading-edge capabilities and reliable networking and computing services
 - Seamless and open access to e-Science environments and global data resources
- EU funding will support:
 - Global research and education networks
 - Grid and cloud infrastructures
 - Ecosystem of supercomputing facilities progressing towards exa-scale
 - Software and service infrastructure for visualisation and simulation
 - Real-time collaborative tools for virtual research communities
 - Interoperable, open and rich scientific data infrastructure

2. Fostering the innovation potential of RIs and their human capital

Objectives:

- To **stimulate innovation** both in the RIs themselves and in their supplier and user industries
 - R&D partnerships with industries to develop European capacities in high-tech areas such as scientific instrumentation
 - Pre-commercial procurement by RI actors
 - Stimulate the use of RIs by industry
 - Encourage the integration of RIs into local, regional and global innovation ecosystems
- To **strengthen the human capital** of RIs
 - Support for the training of staff managing and operating RIs, exchanges of staff and best practices between facilities

3. Reinforcing European RI policy and international cooperation

Objectives:

- Reinforcing **European policy** for RIs
 - Partnerships between relevant policymakers and funding bodies
 - Surveys, monitoring and assessments of RIs at Union level
 - Policy studies and communication tasks
- Facilitating strategic **international cooperation**
 - Cooperation for global RIs
 - Cooperation of European RIs with their non-European counterparts:
 - Ensuring their global interoperability and reach
 - Pursuing international agreements on the reciprocal use, openness or co-financing of RIs

From FP7 to Horizon 2020

- An **increased budget (proposed)**, from 1,715 b€ (FP7) to 2,802 b€ (Horizon 2020)
- New activities to support the **implementation and operation** of world-class infrastructures, such as **ESFRI** infrastructures
- **Continuation** of the successful FP7 **Integrating Activities**
- **Reinforcement** of the support to **e-infrastructures**
- New objective of better exploiting the **innovation potential and human capital** of infrastructures



Questions?