Research Infrastructures in Horizon 2020

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Research Infrastructures

Research infrastructures are facilities, resources and services that are used by the research communities to conduct research and foster innovation.

- Major scientific equipments
- Knowledge-based resources
- e-infrastructures
Why an EU approach for Research Infrastructures?

- To address collectively the complexity and cost of the design and development of new world class research infrastructures
- To open access to the research infrastructures existing in the individual Member State to all European researchers
- To avoid duplication of efforts 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 the research and innovation
- To help pooling resources so that the Union can also develop and operate research infrastructures globally
From FP7 to Horizon 2020

- More focused support to the implementation and operation of world-class infrastructures such as ESFRI projects
- Broader access to and deeper integration of European research infrastructures
- Foster the innovation potential of research infrastructures
- Widen the participation to pan-European research infrastructures
- More support to e-infrastructures
- Reinforce policy support to European strategy on research infrastructures
- Develop international dimension of the actions

Excellent science

- European Research Council
- Future and Emerging Technologies
- Marie Curie actions
- European Research infrastructures (including e-infrastructures) - 2.488 M€

Societal challenges

- Health, demographic change, wellbeing
- Food security, sustainable agriculture, marine - maritime research, bio-economy
- Secure, clean and efficient energy
- Smart, green, integrated transport
- Climate action, resource efficiency, raw materials
- Inclusive, innovative and secure societies

Industrial leadership

- Leadership in enabling and industrial technologies (ICT, space, nanotechnologies, advanced materials and advanced manufacturing and processing, biotechnology)
- Access to risk finance
- Innovation in SMEs
Research Infrastructures in Horizon 2020

1. Developing the European RIs for 2020 and beyond
   - Developing new world-class RIs
   - Integrating and opening national and regional RIs of pan-European interest
   - Development, deployment and operation of ICT based e-Infrastructures

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

3. Reinforcing European RI policy and international cooperation
A Coherent Toolbox of Activities

ESFRI & Other World Class RI (OWCRI) of pan European interest

Preparatory Phase

Support to Implementation & Operation

Individual projects - Clusters

EU Structural Funds & National Funding

Concept
Preparation
Implementation
Operation

Design Study

Integrating Activities

Innovation & Human resources

Policy support actions – International Cooperation
Research Infrastructures – Calls

4 Calls - 22 topics in total

1. Developing new world-class Research Infrastructures

2. Integrating and Opening RI of European Interest

3. e-Infrastructures

4. Support to Innovation, Human resources, Policy and International cooperation
Call 1 - Developing new world-class RI

4 topics

1. Design studies

2. Preparatory Phase of ESFRI projects

3. Individual implementation and operation of ESFRI projects

4. Implementation and operation of cross-cutting services and solutions for clusters of ESFRI and other relevant RI initiatives
Call 1 - Developing New world-class RI

Concept & Preparatory Phases

Help Europe respond to challenges in science, industry & society:

• Support the conceptual design of new research infrastructures, which are of a clear European dimension and interest (topic 1):
  ➢ bottom-up process

• Support the preparatory or pre-implementation phase of ESFRI projects (topic 2):
  ➢ Linked to prioritisation exercise
Call 1 - Developing New world-class RI

**Implementation & Operation Phases**

Facilitate and support the implementation, long-term sustainability and efficient operation of the ESFRI & OWCRI:

- Individual implementation and operation of ESFRI projects (topic 3):
  - Linked to prioritisation exercise

- Clusters: joint activities and implementation of common solutions for RI in specific domains (topic 4):
  - Targets ESFRI together with OWCRI, ERICs, IA, e-infrastructures
Call 1 - Developing New world-class RI

Preparatory phase activities – Specific features

- **Legal work** for the setting-up of the RI;
- **Management and logistical work** incl. planning (timing, resources), organisation of the logistic support ...;
- **Governance work** i.e. management structure, advisory body...;
- **Financial work** i.e. the financial arrangements for the construction, operation and decommission of the facility;
- **Strategic work** i.e. analysis of the socio-economic and local/regional impact of the new infrastructure;
- **Technical work** i.e. final prototypes for key enabling technologies and implementation plans for transfer of knowledge from prototypes to the new facility;
Call 1 - Developing New world-class RI

Support to ESFRI projects – Specific features

• Central management and coordination activities;
• Enhancement of the technical architecture, R&D and engineering work; users' access;
• Data management (including possible open access to data);
• Inter-operability, standardisation, outreach, training and international cooperation;
• Development of innovative components and technology transfer activities;
• Integration of new members and development of Regional Partner Facilities.
Call 1 - Developing New world-class RI

Clusters – Specific features

Exploit synergies for joint activities, optimise technological implementation of common solutions, ensure a larger harmonisation, interoperability between research facilities such as:

• Training RI managers
• Developing the innovation capacities of RI
• Development of common devices and/or critical components for data handling
• Common data policies
# Call 1 Summary

<table>
<thead>
<tr>
<th>Research Infrastructures (RTD)</th>
<th>2014</th>
<th>2015</th>
<th>TOTAL</th>
<th>Single grant</th>
</tr>
</thead>
<tbody>
<tr>
<td>CALL 1 - H2020-INFRADEV-2014/2015</td>
<td>70</td>
<td>129</td>
<td>199</td>
<td></td>
</tr>
<tr>
<td>Design studies</td>
<td>15</td>
<td></td>
<td>15</td>
<td>From 1 to 3 M€</td>
</tr>
<tr>
<td>Preparatory Phase</td>
<td></td>
<td>14</td>
<td>14</td>
<td>Up to 2 or 5 M€</td>
</tr>
<tr>
<td>Implementation &amp; Operation - Individual</td>
<td>90</td>
<td>90</td>
<td></td>
<td>Up to 15 M€</td>
</tr>
<tr>
<td>Implementation &amp; Operation - Cluster</td>
<td>55</td>
<td>25</td>
<td>80</td>
<td>From 6 to 15 M€</td>
</tr>
</tbody>
</table>
Call 2 - Integrating and opening RI of European interest

Integrating Activities

To open up key national and regional research infrastructures to all European researchers and to ensure their optimal use and joint development:

- Networking;
- Transnational / Virtual Access;
- Joint Research Activities for the improvement of RI services.

And emphasis on management efficiency, innovation capacity (technology transfer, participation of SMEs, instrumentation development), international dimension, management of generated data…
Call 2 - Integrating and opening RI of European interest

*Integrating Activities*

- **New communities**: emphasis on networking, standardisation and common access procedure
- **Communities already involved in previous projects**: emphasis on access, joint activities, broadening of the consortium, international cooperation, participation of industry and technology transfer
Call 2 - Integrating and opening RI of European interest

Integrating Activities – Specific features

- "Real" transnational access and virtual access through the provision of remote services covered

- Opportunities should be widely publicised, selection through peer review evaluation

- Support of third country researchers (> 20% of total access) and industry participants allowed

- Participation of third country RI allowed, financial support according to RfP
Call 2 - Integrating and opening RI of European interest

*Integrating Activities – Access costs*

- Access cost: "service" cost of the installation, can be declared as direct eligible cost, as unit costs or as a combination of both
- Methodology for calculating unit costs in a separate Commission decision
- Unit cost = average annual total access costs / average total quantity of access to the installation
- Capital costs of the installation and travel and subsistence of users excluded from the total access costs calculation
Call 2 - Integrating and opening RI of European interest

**Distribution of targeted areas by domain**

<table>
<thead>
<tr>
<th>Domain</th>
<th>Starting communities</th>
<th>Advanced communities</th>
<th>Number of areas</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bio Medical Sciences</td>
<td>5</td>
<td>4</td>
<td>9</td>
</tr>
<tr>
<td>Energy</td>
<td>2</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>Environment</td>
<td>4</td>
<td>5</td>
<td>9</td>
</tr>
<tr>
<td>ICT</td>
<td>1</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Material and Analytical Facilities</td>
<td>1</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>Physics</td>
<td>4</td>
<td>3</td>
<td>7</td>
</tr>
<tr>
<td>Social Sciences and Humanities</td>
<td>2</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>19</strong></td>
<td><strong>22</strong></td>
<td><strong>41</strong></td>
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## Call 2 Summary

<table>
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<tr>
<th>Research Infrastructures (RTD)</th>
<th>2014</th>
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<th>TOTAL</th>
<th>Single grant</th>
</tr>
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<tbody>
<tr>
<td>CALL 2 - H2020-INFRAIA-2014/2015</td>
<td>90</td>
<td>50</td>
<td>140</td>
<td>Up to 5 or up to 10 M€</td>
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</tbody>
</table>
Call 4 - Support to Innovation, Human resources, Policy and International cooperation

8 topics

- Innovation support measures (RTD)
- Innovation procurement pilot on instrumentation (RTD)
- Human Capital of research infrastructures (RTD)
- New professions and skills for e-infrastructures (CNECT)
- Policy measures for research infrastructures (RTD)
- International Cooperation for research infrastructures (RTD)
- e-infrastucture policy and international cooperation (CNECT)
- Network of national contact points (RTD)
Exploiting the innovation potential of RI

Innovation support measures (topic 1)

The action will support:

• the development of an opportunity portal of calls, tenders and future needs and technology transfer opportunities in RI of pan European interest;
• the networking of procurement professionals to encourage exchange of good practices across RI sectors;
• Awareness campaign towards industry on the potential of RIs for their activities in selected R&D areas
Exploiting the innovation potential of RI

Innovative procurement pilot action in the field of scientific instrumentation (topic 2)

The action will support:

• Pilot action in the field of scientific instrumentation exploiting the innovation potential of Research Infrastructures using Pre-Commercial Procurement (PCP) and/or Public Procurement of Innovation (PPI) schemes.
Strengthening the human capital of RI

Topic 3

Support the training of staff managing and operating RI of pan-European interest, the exchange of staff and best practices between facilities, and the adequate supply of human resources in key disciplines, including the emergence of specific education curricula.
Policy measures for RI

Topic 5

- Support partnerships between relevant policy makers, funding bodies or advisory groups such as ESFRI & e-IRG, support cooperation and exchange of good practices between managers of research infrastructures and stakeholder networks; support survey, monitoring and assessment of the implementation and operation of research infrastructures.

- Support the development of a comprehensive database targeted at policy makers on research infrastructures of more than national relevance in Europe.
Strategic international cooperation

*International cooperation for RI (topic 6)*

Facilitate the development of global research infrastructures and the cooperation of European RI with their non-European counterparts, ensuring their global interoperability and reach, and to pursue international agreements on the reciprocal use, openness or co-financing of infrastructures.

- Support to GSO activity on global research infrastructures

- Support bilateral cooperation with Africa, Russia (Mega Science projects)

- Support multilateral cooperation with ENP (mapping) and US, Canada, Russia etc… on Arctic research, Marine science and biodiversity
Support to the NCP network

*Network of NCP (topic 8)*

**Objective:** Facilitate trans-national co-operation between NCPs with a view to identifying and sharing good practices and raising the general standard of support to programme applicants.

**Activities:** could include benchmarking, joint workshops, enhanced cross-border brokerage events, specific training events and twinning schemes.

Restricted to the network of formally nominated NCPs in the area of research infrastructures (consortium should mix experienced and new NCP).
## Call 4 Summary

<table>
<thead>
<tr>
<th>Research Infrastructures (RTD / CNECT)</th>
<th>DG</th>
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<th>2015</th>
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<th>Single grant</th>
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<td>TOTAL</td>
<td>Single grant</td>
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<tr>
<td></td>
<td>RTD</td>
<td>17</td>
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<td>31</td>
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<tr>
<td></td>
<td>CNECT</td>
<td>5</td>
<td>2,5</td>
<td>7,5</td>
<td></td>
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<tr>
<td>Innovation support measures</td>
<td>RTD</td>
<td>2</td>
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<td>2</td>
<td></td>
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<tr>
<td>Innovative procurement pilot on instrumentation</td>
<td>RTD</td>
<td>14</td>
<td>14</td>
<td>14</td>
<td>At least two proposals</td>
</tr>
<tr>
<td>Human capital of research infrastructures</td>
<td>RTD</td>
<td>2</td>
<td></td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>New professions &amp; skills for e-infrastructures</td>
<td>CNECT</td>
<td>2,5</td>
<td>2,5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Policy measures for research infrastructures</td>
<td>RTD</td>
<td>4</td>
<td></td>
<td>4</td>
<td>Up to two proposals</td>
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<tr>
<td>International Cooperation for RI</td>
<td>RTD</td>
<td>7</td>
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<td>7</td>
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<tr>
<td>e-Infrastructure policy &amp; internat. cooperation</td>
<td>CNECT</td>
<td>5</td>
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<td>5</td>
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<tr>
<td>Network of National Contact Points</td>
<td>RTD</td>
<td>2</td>
<td></td>
<td>2</td>
<td>One proposal</td>
</tr>
</tbody>
</table>
Time schedule

- Opinion of Member States representatives: 15 November 2013
- Written procedure: early December 2013
- Decision on WP2014-2015: 10 December 2013
- Publication first calls: 11 December 2013
Thank you for your Attention!