UKRO Horizon 2020 Condensed

Research Infrastructures

What is the Research Infrastructures programme?

The Research Infrastructures (RI) programme sits within the 'Excellent Science' pillar of Horizon 2020. It aims to develop European research infrastructures (including e-infrastructures) for 2020 and beyond, fostering their innovation potential and human resources and reinforcing European research infrastructure policy.

Research infrastructures are defined as "facilities, resources and services that are used by the research communities to conduct research and foster innovation in their fields. Where relevant, they may be used beyond research, e.g. for education or public services. They include:

- **major scientific equipment** (or sets of instruments);
- **knowledge-based resources** such as collections, archives or scientific data;
- **e-infrastructures**, such as data and computing systems and communication networks; and
- any other **infrastructure of a unique nature** essential to achieve excellence in research and innovation.

Such infrastructures may be 'single-sited', 'virtual' or 'distributed'."

The European Commission recognises that Member States and Associated countries have a central role in the development and financing of research infrastructures (RI), and that the majority fund at a national or regional level. Therefore the Commission Priorities are to;

- **Avoid duplication** of efforts;
- Answer needs that a **single country cannot handle**; and
- Ensure a **coherent approach** on RI-policy in Europe.

The actions under the programme are set out under broad lines of activities:

- Developing the European research infrastructures for 2020 and beyond. This includes:
  - The preparation, implementation of the European Strategy Forum on Research Infrastructures (ESFRI) and other world-class research infrastructures, including the development of regional partner facilities;
  - The integration of and access to national research infrastructures of pan-European and regional interest;
  - The development, deployment and operation of e-infrastructures.

- Fostering the innovation potential of research infrastructures and their human resources

- Reinforcing European research infrastructure policy and international co-operation

Some of these actions are implemented through bottom-up calls; others through targeted calls aimed at RIs in particular fields; while others are restricted to those included on the ESFRI roadmap and equivalents.

Funding, eligibility and project details

The majority of the topics will be funded through Co-ordination and Support Actions or Research and Innovation Actions. Some funding will be allocated to named beneficiaries (such as GÉANT), and some through Public Procurement for Innovative Solutions.

What will be funded?

The European Commission published a Scoping Paper for the 2018-2020 Work Programme following stakeholder consultations and consideration of the report from the Advisory Group for Research Infrastructures. The paper identified six key priorities to be translated in to calls in 2018-2020.

The 2018-2020 Research Infrastructures part of the Work Programme has seven calls split into 17 topics, with an overall budget of over €1,200M across the 3 years. The seven main call headings are:

- **Development and long-term sustainability of new pan-European RIs**
- **Implementing the European Open Science Cloud (EOSC)**
- **Integrating and Opening RIs of European Interest**
- **European Data Infrastructures**
- **Demonstrating the role of Research Infrastructures in the translation of Open Science into Open Innovation**
- **Support to Policy and International cooperation**
- **Other Actions**

Relevant EU policy areas and developments

The **ESFRI Roadmap** is the mechanism used to develop a cohesive approach to the development of major Research Infrastructures in Europe, identifying new RIs of pan-European interest that match the long term needs of the European research communities, covering all scientific areas. Many of the calls in the Research Infrastructures Work Programme are targeted at the RIs listed in the roadmap.

The development of pan-European Research Infrastructures is an important pillar of the **European Research Area** (ERA) activities, with the ERA Communication setting out a number of targets under the heading 'Effective investment in and use of research infrastructures'. The EU's **Innovation Union** Flagship Initiative also commits to the development of Research Infrastructures, within the section of the overall EU 2020 Strategy devoted to research and innovation: "The European Union should step up its cooperation on the roll-out of the global research infrastructures".

A report on the **Consultation on Long Term Sustainability of Research Infrastructures**, published by the European Commission in May 2016, highlights the need to strengthen the role of industry to develop clear business models, as well as strong governance models to build research infrastructures. This was followed in May 2018 by a **'Call for Action'** report which discusses measures to be taken in Europe to address RI sustainability in medium/long-term.

There are also a number of important policy drivers underlying the 'e-Infrastructures' section of the Research Infrastructures programme. As with 'Innovation Union', the **Digital Agenda for Europe** Flagship Initiative emphasises the need to reinforce Europe's e-infrastructures and the importance of developing innovation clusters.

With the adoption of the Digital Single Markets strategy in May 2015, the Commission announced the launch of a cloud for research data – the 'research open science cloud'. The '**European Open Science Cloud'** (EOSC) aims to create a trusted environment for hosting and processing research data to support EU science in its global leading role. In 2016 the European Commission funded the **EOSC pilot**, which has supported the first stage of development of **EOSC–** which was officially launched in November 2018. Activities contributing towards the EOSC are to be funded as part of the 2018-2020 Work Programme.

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More information:

- European Commission Funding and Tenders Opportunities Portal for:
    - **Calls for proposals**
      https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/home
    - **Work programmes**
      https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/how-to-participate/reference-documents
    - **2018-2020 Research Infrastructures Work Programme part**
      http://ec.europa.eu/research/participants/data/ref/h2020/wp/2018-2020/main/h2020-wp1820-infrastructures_en.pdf
- **European Commission Horizon 2020 website**
  http://ec.europa.eu/programmes/horizon2020/en
- **2018-2020 Work Programme Scoping Paper**
  http://www.gsrt.gr/News/Files/New81503/sp_h2020_wp18_ri-einfra.pdf
- **The EU Innovation Union Flagship Initiative**
  https://ec.europa.eu/info/research-and-innovation/strategy/goals-research-and-innovation-policy/innovation-union_en
- **The EU Digital Agenda for Europe Flagship Initiative**
  https://ec.europa.eu/digital-single-market/
- European Commission's pages on **Research Infrastructures**
  http://ec.europa.eu/research/infrastructures/index.cfm
- **ESFRI** (http://ec.europa.eu/research/infrastructures/index.cfm?pg=esfri)
- **ESFRI 2018 roadmap** (http://roadmap2018.esfri.eu/)
- **Report on the Consultation on Long Term Sustainability of Research Infrastructures**
  http://ec.europa.eu/research/infrastructures/pdf/lts_report_062016_final.pdf
- **'Call For Action' Report** on long term sustainability of Research Infrastructures
  https://ec.europa.eu/research/infrastructures/pdf/ri_policy_swd-infrastructures_2017.pdf
- **European Open Science Cloud pilot** (https://eoscpilot.eu/eosc)
- **European Open Science Cloud**
  (http://ec.europa.eu/research/openscience/index.cfm?pg=open-science-cloud)
- Commission web pages relating to the sub-areas of 'e-Infrastructures':
    - **High Performance Computing**
      (https://ec.europa.eu/digital-single-market/node/77512)
    - **Open Science** (https://ec.europa.eu/digital-single-market/en/open-science)
    - **Big Data** (https://ec.europa.eu/digital-single-market/en/big-data)
- Sign up to the **UKRO Portal** to stay up to date on Horizon 2020 general developments, calls, events and results
- For specific questions, contact your UKRO European Advisor.