



# Research Infrastructures and Horizon 2020

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*The EU Framework  
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HORIZON 2020

Research and  
Innovation



**Facilities, resources, organisational systems and services that are used by the research communities to conduct research and innovation in their fields**

**This includes:**

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



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# An 'eco-system' of Research Infrastructures

- Large single-sited facilities
- Distributed European Facilities
- Regional Partner Facilities
- Network of national facilities
- Linked with local plate-forms, universities & schools
- Network of industrial suppliers / users



# Why a EU approach?

- To **open access** to the research infrastructures existing in the individual Member State 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 the research and innovation
- To **help pooling resources** so that the Union can also acquire and operate research infrastructures at **world level**



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# Commitments within Innovation Union

- « By 2015 (...) have completed or launched the construction of 60% of the priority European research infrastructures currently identified by the **ESFRI** (...) »
- « ... **opening of Member State operated research infrastructures** to the full European user community...»
- « The European Union should step up its cooperation on the roll-out of the **global** research infrastructures. By 2012, **agreement** should be reached with **international partners** on the development of research infrastructures, including ICT infrastructures, which owing to cost, complexity and/or interoperability requirements can only be developed on a global scale »





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# Contributing to the European Research Area (ERA)

- ERA framework proposal in 2012 to create a single market for knowledge research and innovation:
  - Boosting support to ERA priorities – mobility, **infrastructures**, knowledge transfer, policy learning
  - Stronger partnerships with Member States and private sector to invest more efficiently
  - Taking account of gender, ethical issues, researcher careers and open access to results
- Complemented by Horizon 2020



# Horizon 2020

**Excellent science (24 598 M€, constant 2011 prices)**

- European Research Council (13 268 M€)
- Future and Emerging Technologies (3 100 M€)
- Marie Curie actions (5 752 M€)
- **European Research infrastructures (including e-infrastructures) (2 478 M€)**

## **Societal challenges (31 743 M€)**

- Health, demographic change and wellbeing (8 028 M€)
- Food security, sustainable agriculture, marine - maritime research, bio-economy (4 152 M€)
- Secure, clean and efficient energy (5 782 M€)
- Smart, green, integrated transport (6 802 M€)
- Climate action, resource efficiency, raw materials (3 160 M€)
- Inclusive, innovative and secure societies (3 819 M€)

## **Industrial leadership (17 938 M€)**

- Leadership in enabling and industrial technologies (ICT, space, nanotechnologies, advanced materials and advanced manufacturing and processing, biotechnology) (13 781 M€)
- Access to risk finance (3 538 M€)
- Innovation in SMEs (619 M€)

**EIT (1 364 B€ + 1 461 B€)**

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**JRC (non-nuclear: 1 961 M€)**

# Research Infrastructures

## 4.1. Developing the European RIs for 2020 and beyond

- 4.1.1 Developing **new world-class RIs**
- 4.1.2 **Integrating** and **opening national RIs** of **pan-European interest**
- 4.1.3 Development, deployment and operation of ICT based **e-Infrastructures**

## 4.2. Fostering the **innovation** potential of RIs & their **human capital**

## 4.3. Reinforcing European RI **policy** and **international cooperation**





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# From FP7 to Horizon 2020

- An **increased budget**, from around €1.7 billion (FP7) to €2.5 billion (Horizon 2020 – 2011 constant prices)
- 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

# Structural Funds

- Developing **synergies between the Structural funds and Horizon 2020** is a priority of the European Commission
- More specific reference to research infrastructures "of European interest" is made in the European Commission proposal for the European Regional Development Fund
- Also, Horizon 2020 foresees support to activities dedicated to developing cooperation between research infrastructures and other Union policies, such as Cohesion, through relevant studies and communication tasks

# Measuring the socio-economic impact of research infrastructures

- Need for a better knowledge of impact of RIs and their role in the innovation chain
- Important in view of access to Structural Funds
- Several impact assessment activities under FP7
  - Within the **preparatory phases of ESFRI projects** (e.g. BBMRI); exchange of experiences presented at a dedicated workshop on 15 June 2011
  - Dedicated projects (**RIFI** project on “Research Infrastructures: Foresight and Impact”, **EVARIO** project on “Evaluation of Research Infrastructures in Open innovation and research systems”)



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# Some outcomes from impact assessment activities

- Research infrastructures generate:
  - Short-term direct impacts, through their suppliers
  - Medium to longer-term indirect impacts, more difficult to monitor: research results, training of people and skills, organizational changes, regional innovation and creativity, etc.
- Some of the factors for impact:
  - Established user-supplier relationships
  - Good outreach policy
  - Data policy for knowledge and technology transfer, etc.
- Efforts to be continued under Horizon 2020: to gather more empirical data (surveys, case studies, etc.) and develop indicators, monitoring and evaluation guidelines



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# Next steps for Horizon 2020

<b>Ongoing</b>	Parliament and Council negotiations on the basis of the Commission proposals
<b>Ongoing</b>	Parliament and Council negotiations on EU budget 2014-2020 (including overall budget for Horizon 2020)
<b>Mid 2012</b>	Final calls under 7th Framework Programme for research to bridge gap towards Horizon 2020
<b>Mid 2013</b>	Adoption of legislative acts by Parliament and Council on Horizon 2020
<b>1/1/2014</b>	<b>Horizon 2020 starts, launch of first calls</b>



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# For further information

- **Europe 2020**  
<http://ec.europa.eu/eu2020>
- **Innovation Union**  
<http://ec.europa.eu/research/innovation-union>
- **Horizon 2020**  
<http://ec.europa.eu/research/horizon2020>
- **FP7**  
<http://cordis.europa.eu/fp7/>
- **EC Research Infrastructures and ESFRI**  
<http://ec.europa.eu/research/infrastructures>
- **EC Regional Policy**  
[http://ec.europa.eu/regional\\_policy](http://ec.europa.eu/regional_policy)

