



# **European Strategy Forum on Research Infrastructures and the ESFRI Roadmap**

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## Research Infrastructures

### Definition

'Research infrastructures' mean **facilities, resources and services** that are used by the **research communities** to **conduct research and foster innovation** in their fields. (H2020)

### Characteristics

- Scientific equipment and instrumentation, knowledge-based resources (collections, archives), enabling ICT infrastructures (grid, computing)
- Single-sited, distributed or virtual
- Generally publically-owned and sustained by public support, providing excellence-based open access, focusing on lower technology readiness levels (TLRs), with limited economic activity



## What is ESFRI?

- An **informal body** composed by representatives of Member States, Associated Countries and the EC on issues related to research infrastructures, **providing advice** to the Council.
- A **platform** giving national authorities the opportunity to be informed of and to explore (i.e. without *a priori* commitments) international and national initiatives of European significance.
- An **incubator** of new RIs, where Member States structure their priorities and negotiate.
- A European **knowledge hub** on research infrastructures.



## ESFRI mandate

ESFRI was established in 2002 with a mandate from the EU Council (2001) to:

- support a **coherent and strategy-led approach** to policy-making on research infrastructures in Europe
- **facilitate multilateral initiatives** leading to the better use and development of research infrastructures
- **establish a European Roadmap** for research infrastructures (new and major upgrades, pan-European interest) for the coming 10-20 years, stimulate the implementation of these facilities, and update the Roadmap as the need arises (Council 2004, 2007, 2014, 2016);
- ensure the **follow-up of implementation** of already on-going ESFRI projects after a comprehensive assessment, as well as the prioritisation of the infrastructure projects listed in the ESFRI Roadmap (Council 2012);
- to **implement ERA Priority 2B: Research Infrastructures** (Council 2015).

# ESFRI Roadmap

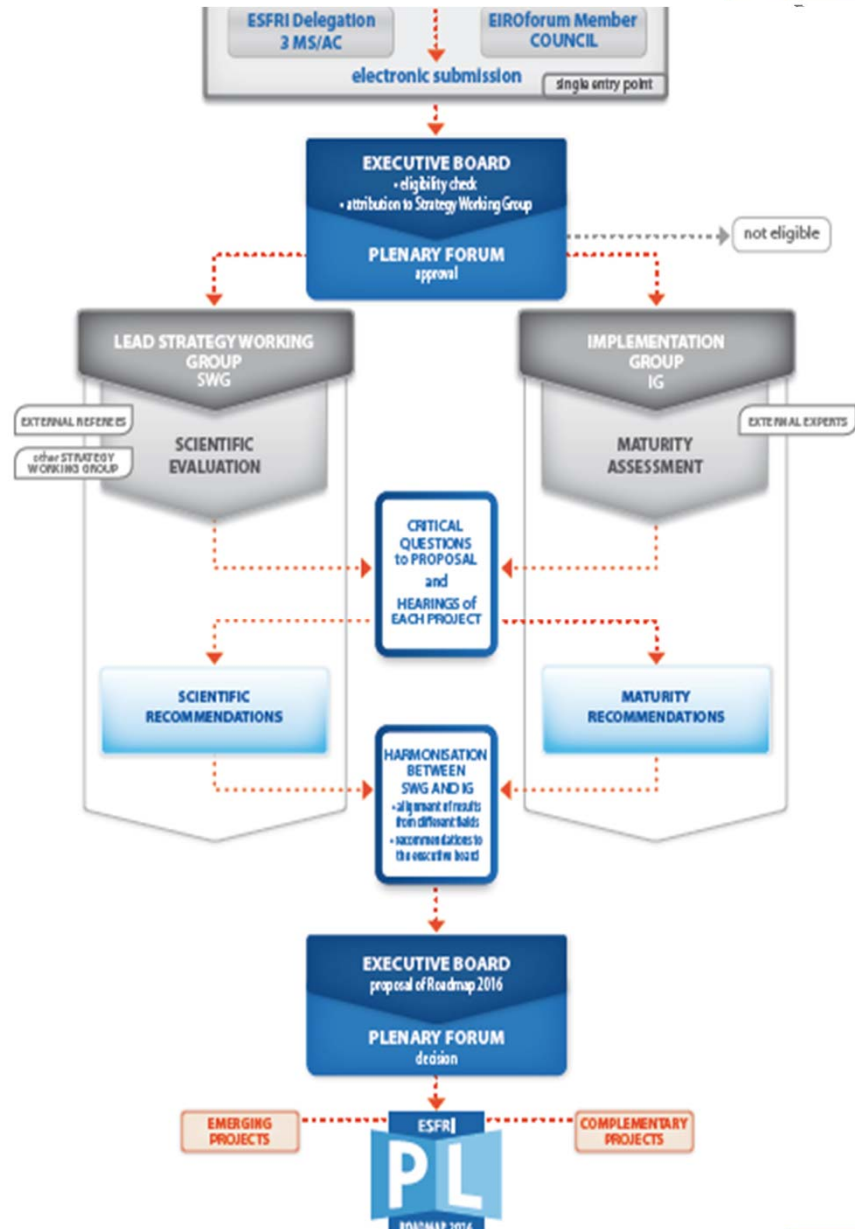


## 1st ESFRI Roadmap cycle

- First Roadmap published in 2006, updated in 2008 and 2010, and contained **48 Projects** intended to foster European leadership across a broad range of scientific fields.
- Required major financial investment (~20 b€) and long-term commitment for operation (~2 b€/year)

## 2nd ESFRI Roadmap cycle

- ESFRI Roadmap 2016 and 2018 - **37 ESFRI Landmarks** (~14,5 b€ capital value and ~1,4 b€/year) + **18 ESFRI Projects** (~3 b€ construction costs, 10-year rule) – strategic RIs for the future of ERA + **Landscape Analysis**.
- ESFRI Roadmap update in 2021.



## Scientific evaluation

- 1) scientific excellence
- 2) pan-European relevance
- 3) socio-economic impact
- 4) e-needs (infrastructure and services)

## Assessment of maturity

- 1) preparatory work
- 2) stakeholder commitment
- 3) planning
- 4) governance, scientific & legal management
- 5) HR policy & project management
- 6) finances
- 7) feasibility & risks



## ESFRI strategic role in practice

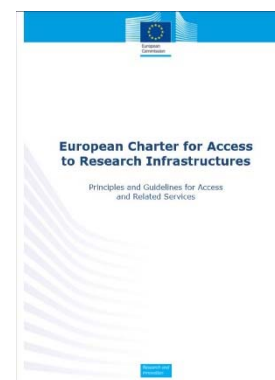
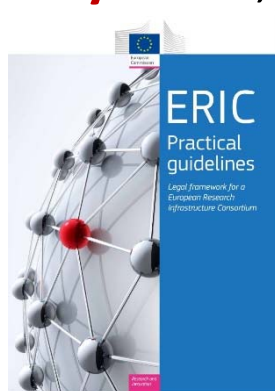
- ESFRI Roadmap **facilitates commitments** at national level
- ESFRI Roadmap **facilitates access to structural funds** (ex ante conditionality) and other sources of **funding** (ex. EIB)
- **Analytical work** (ad hoc working groups)
  - responding to Council requests: investments in e-Infrastructures, long-term sustainability action plan, RI prioritisation
  - own initiatives: socio-economic impact of RIs, links with industry and innovation (EIC), evolution of neutron sources
- **ERA Roadmap implementation** – Priority 2B
- Providing **visibility** to European RIs
- Facilitating **links** of European RIs with other EU and global partners

## European Commission in ESFRI

- Member of ESFRI, its Executive Board and Working Groups
- Providing ESFRI Executive Secretariat
- Support of ESFRI RIs – Preparatory Phase funding, boosting implementation, fostering long-term sustainability

## European Commission support for RIs

- Funding RI development across the life-cycle (structural funds, Framework Programmes for R&I, sectoral programmes)
- RI policy development – **ERIC** legal framework, SWD on **long-term sustainability** of RIs, **Charter for Access** to RIs



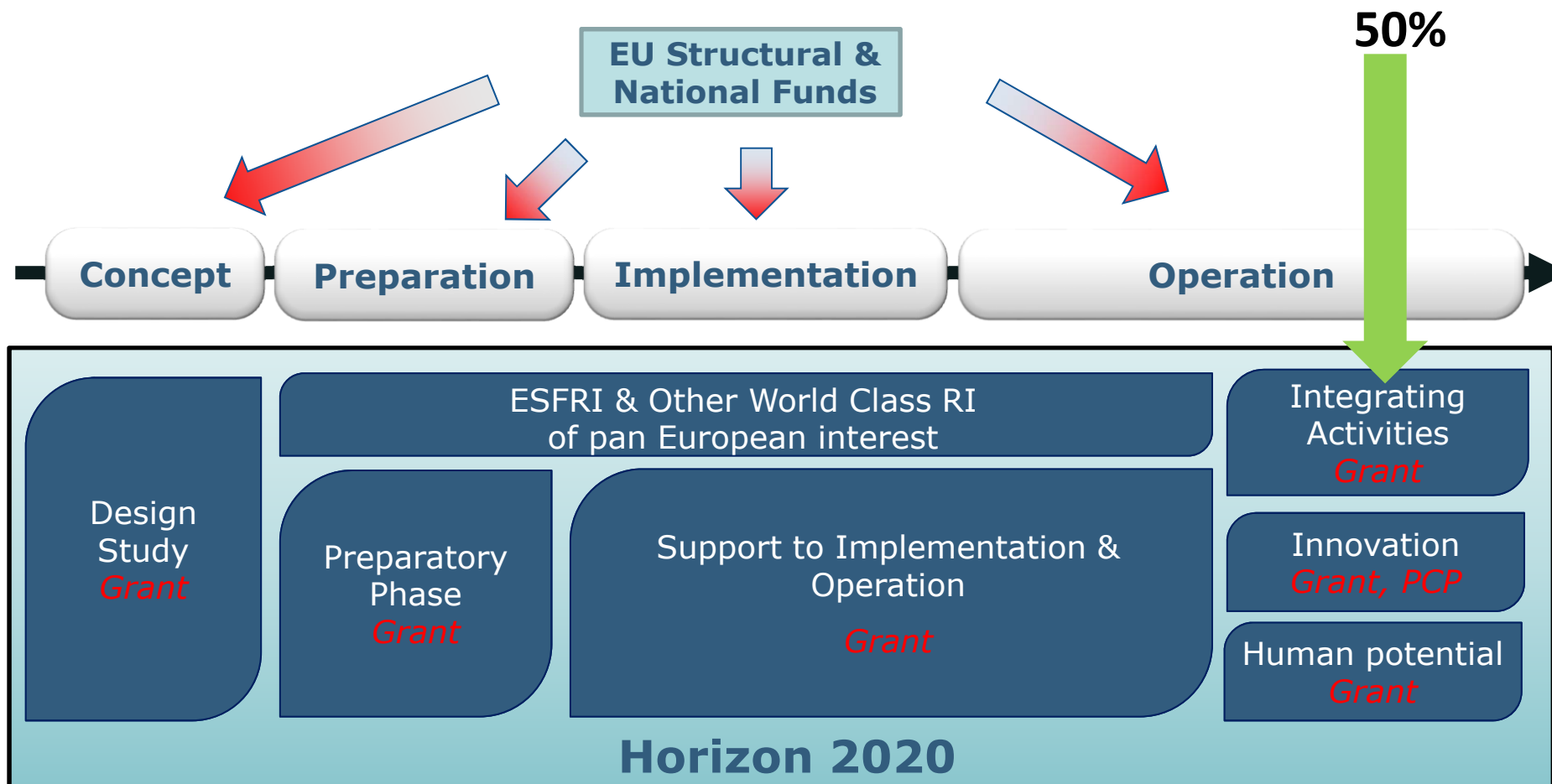




European  
Commission

# Research Infrastructures in Horizon 2020

## *A Coherent Toolbox of Activities*





## RI collaboration with industry

### ESFRI Innovation Working Group

*Report "Innovation-oriented cooperation of research infrastructures"*

- Objective: **analyse the relations** between Research Infrastructures and Industry and **explore how to promote** the RI potential for innovation
- Scope: role of RIs in the innovation chain, forms of RI-industry collaboration (supplier, user), industrial access to RIs, co-creation, barriers and opportunities, data policies, data services.
- Recommendations to RIs, funding agencies and policy makers: develop business-oriented activities and services, improve business access schemes, foster long-term collaboration, develop industry friendly data policies, develop local/regional ecosystems, etc.



Thank you for your attention

HORIZON 2020

