

Developing Research Infrastructures for 2020 and beyond

Philippe Froissard

Deputy Head of Unit Research Infrastructures
European Commission – DG Research & Innovation

*"The views expressed in this presentation are those of the author and
do not necessarily reflect the views of the European Commission"*

Commitments

- **Innovation Union flagship initiative:** implementation of the **ESFRI roadmap**, facilitate **trans-national access**, develop **international cooperation**
- **European Research Area:** financial commitment for the construction of EFSRI projects, consolidate access to and **integration of RI**, complementarity between funding sources

From FP7 to Horizon 2020

What has changed?

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

Horizon 2020– Framework Programme for Research and Innovation (2014-2020)

Excellent science

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

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

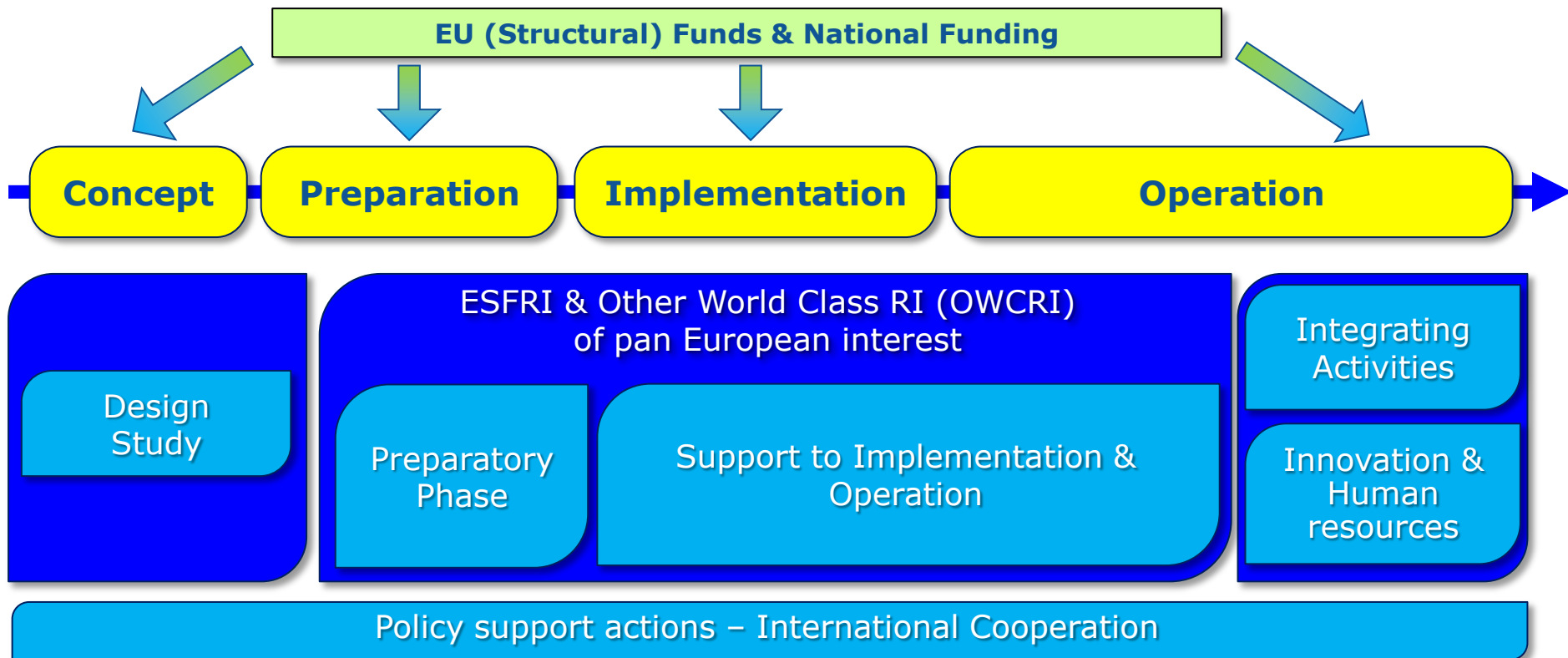
Industrial leadership

- 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



Developing New world-class RIs

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:
- Support the **preparatory or pre-implementation phase** of ESFRI projects

Implementing world-class RI

Implementation & Operation Phases

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

- **Prioritised ESFRI projects** and selected OWCRI with **established legal structure and governance** such as ERIC
- **Clusters**: joint activities and implementation of common solutions for RI in specific domains

Integrating and Opening National RI of pan-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 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...

- **Simplified implementation** (unit cost...)

Development, deployment and operation of e-Infrastructures...

...to make **every European researcher digital**

- e-Infrastructure for Open Access
- Big data
- Global data e-infrastructures
- Centres of excellence for computing applications
- Virtual research environments
- Network of HPC Competence centres for SMEs
- Provisioning of core e-services for research communities
- GEANT
- PRACE

Exploiting the innovation potential of RI

- R&D partnerships with industry to develop Union capacities and industrial supply in high-tech areas such as scientific instrumentation or ICT;
- Stimulate the use of research infrastructures by industry incl. SMEs;
- Encourage the integration of research infrastructures into local, regional and global innovation systems;
- Pilot Pre-Commercial Procurement (PCP) and Public Procurement of Innovation (PPI) schemes (e.g. in the field of instrumentation).

Strengthening the human resources of RI

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.

Reinforcing European policy for RI

Support **partnerships** between relevant policy makers, funding bodies or advisory groups e.g. ESFRI & e-IRG, **develop complementarities and ensure coordination** between different Union policies and programmes, support NCP network, **survey, monitoring and assessment** of RI and support the development of an up-to-date **database on RI** in Europe.

International Cooperation

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, bilateral partnerships with e.g. Africa, ENP, Russia and multilateral partnerships e.g. transatlantic in Arctic, Marine science and biodiversity**

Thank you for your Attention!



HORIZON 2020

Find out more:

www.ec.europa.eu/research/horizon2020