Training Course Presentation

Laura Beranzoli, Francesca De Pascalis

IR0000032 – ITINERIS, Italian Integrated Environmental Research Infrastructures System
(D.D. n. 130/2022 - CUP B53C22002150006) Funded by EU - Next Generation EU PNRR-Mission 4 "Education and Research" - Component 2: "From research to business" - Investment 3.1: "Fund for the realisation of an integrated system of research and innovation infrastructures"

Finanziato dall'Unione europea NextGenerationEU
Ministero dell'Università e della Ricerca
Italiadomani

Training Course: Introduction to Marine Research Infrastructures: managing complexity

General description of the course:

1. Comprehensive introduction to the marine research infrastructures: complexity of operation and management.
2. Framework the Italian and European contexts of RIs
3. Overview of different aspects: governance models, financial management, policy frameworks, and operation.
4. Examples

Training objectives:

Understand the socio-economic relevance of the RI

Getting familiar with the main concept behind the RIs,

Getting knowledge about modes by which the users can take advantage of the RIs

Training Course ‘Introduction to Marine Research Infrastructures: managing complexity ‘

Training modules:

- **Introduction to RIs**
- Generating knowledge
- Focus on specific RIs - LNS and EMSO
- Governance and Management of Research Infrastructures

Introduction to RIs

Francesca De Pascalis, Laura Beranzoli

Some contents of this presentation are courtesy of Carmela Cornacchia, Gelsomina Pappalardo, Sabine Philippin, Rosalia Santoleri

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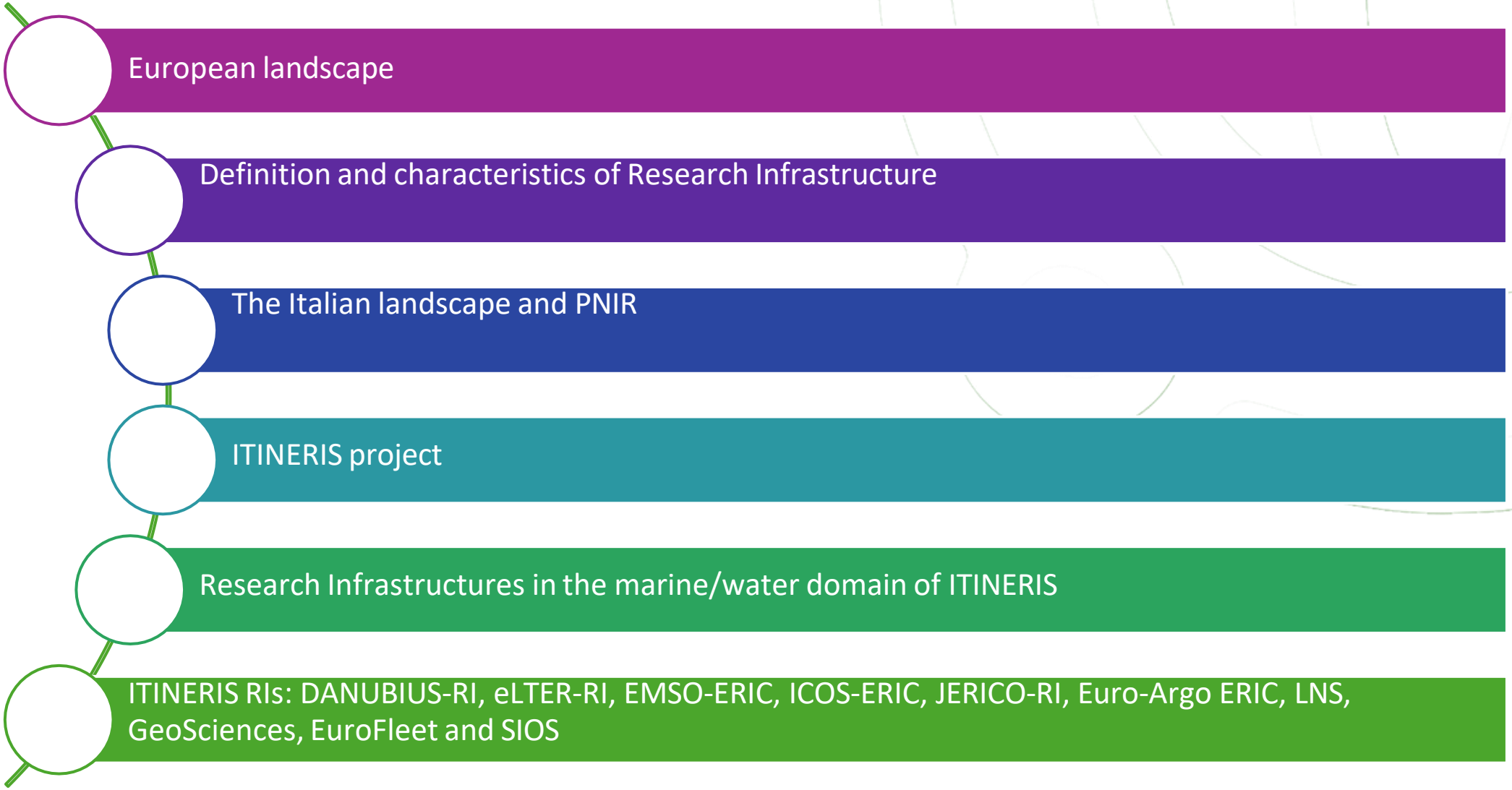
Introduction to RIs



European landscape

Francesca De Pascalis, Laura Beranzoli

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Why Research Infrastructures

RI are facilities, **resources** and **services** that are **used** by the research communities to conduct research and foster innovation in their fields

- Foster Excellence in European research and innovation
- Pan-European interest and sustainability
- Reduce fragmentation and avoid duplication of skills and efforts
- Sharing knowledge and resources
- Joining forces – international collaboration and networking
- Tackling key societal challenges

- Major scientific equipment or sets of instruments
- Knowledge-based resources – collections, archives, scientific data
- Data, computing systems and communication networks
- Any other research and innovation infrastructure of a unique nature open to users to achieve excellence

Research Infrastructures Key Messages

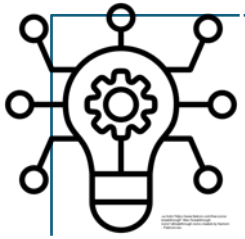
(https://www.esfri.eu/forum)

Essential Pillar of the European Research Area

- Sustainable Ecosystem: Supports scientific excellence and transnational services.
- Education & Skills Development:

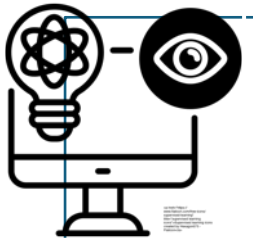
Strategic Investments Across Borders

- Sectoral Contributions: Aligns with European strategic agendas.
- Addressing Societal Challenges: Facilitates research and innovation.



Knowledge and Innovation Hubs

- Local Integration: Strengthens community ties.
- European Competitiveness: Enhances regional and global outreach.<



Promoters of Open Science

- FAIR Data Principles: Ensures findability, accessibility, interoperability, and reusability.
- Support for European Open Science Cloud: Enhances user capacity and impact.

Coherence in Policies

- Alignment of Priorities: Strengthens< European, national, and regional strategies for development and funding.

Utilizing ESFRI Potential

- Coherent Policy Development: Ensures effective investment in Research Infrastructures across Europe.

European landscape

ESFRI

The European Strategy Forum on RI (ESFRI) is a strategic body, set up in 2002 and mandated by the EU council for:

- **Contribution to the European Research Area (ERA):** Focus on Research Infrastructures as a priority area for joint action in the Pact for Research and Innovation in Europe
- **Coherent Policy Making**: Support strategy-led approaches for Research Infrastructures in Europe.
- **Facilitate Multilateral Initiatives:** Enhance the use and development of Research Infrastructures as incubators for pan-European and global projects.
- **European Roadmap:** Create and update a roadmap for new and upgraded infrastructures over the next 10-20 years.
- **Implementation Follow-Up:** Assess ongoing ESFRI Projects and prioritize infrastructure projects in the roadmap.

✓ Leading role in the development of pan-EU RIs / Global RI, incubator role

✓ Appointed ESFRI delegates from 28 EU MS, other associated countries and the EC

✓ 8 Strategic working groups, implementation group, task forces, ad hoc working groups

ESFRI - European Strategy Forum on Research Infrastructures

https://www.esfri.eu/forum

ESFRI

ABOUT | STAKEHOLDERS | ROADMAP | LANDSCAPE | MONITORING | EVENTS | NEWS | LIBRARY

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The Forum

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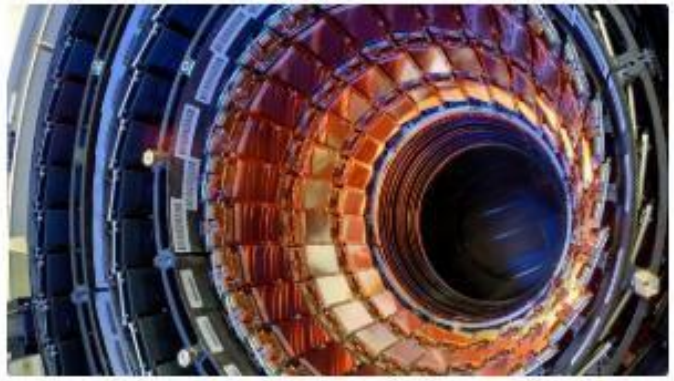
- ESFRI Workplan
- Glossary
- StR-ESFRI

The **Forum**

ESFRI, the European Strategy Forum on Research Infrastructures, is a strategic instrument to develop the scientific integration of Europe and to strengthen its international outreach. The competitive and open access to high quality Research Infrastructures supports and benchmarks the quality of the activities of European scientists, and attracts the best researchers from around the world. ESFRI operates at the forefront of European and global science policy and contributes to its development translating political objectives into concrete advice for RI in Europe.



ESFRI **Objectives & Vision**

The mission of ESFRI is to support a coherent and strategy-led approach to policy-making on research infrastructures in Europe, and to facilitate multilateral initiatives leading to the better use and development of research infrastructures, at EU and international level. ESFRI's delegates are nominated by the Research Ministers of the Member and Associate Countries, and include a representative of the Commission, working together to develop a joint vision and a common strategy.
more...

ESFRI

ESFRI **Background**

The European Strategy Forum on Research Infrastructures was established in 2002, with a mandate from the EU Council to support a coherent and strategy-led approach to policy-making on research infrastructures in Europe, and to facilitate multilateral initiatives leading to the better use and development of research infrastructures, at EU and international level. more...

- The Forum
  - Objectives & Vision
  - Background
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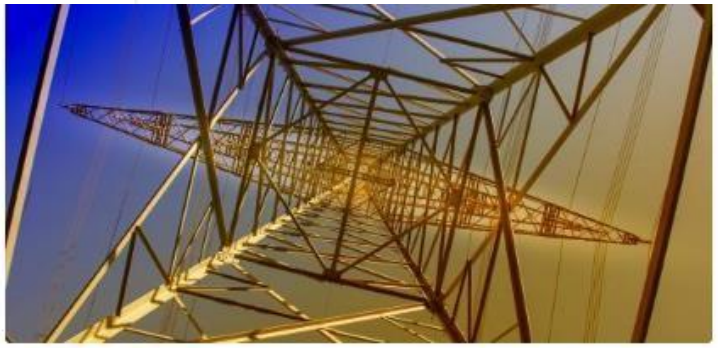


ESFRI **Structure**

A brief overview of the composition and role of some of the key players in the Forum, ESFRI members, ESFRI executive Board and ESFRI executive secretariat.

ESFRI **Chair**

The ESFRI Chair is appointed from among the ESFRI delegates, for a two-year non-renewable term. The current Chair is Jana Kolar, Executive Director of CERIC-ERIC. The main tasks of the Chair include:

- To propose a planning for ESFRI activities
- To conduct meetings and to act as moderator for discussions
- To approve draft agendas and summaries of meetings
- To represent ESFRI in matters agreed by the Forum.

ESFRI **Executive Board**

An Executive Board assists the Chair in the planning of ESFRI activities. This board is composed of the ESFRI Chair, of the EC representative and of ESFRI Delegates selected by consensus.

ESFRI **Members/Delegates**

The ESFRI Delegates shall be senior science policy officials or equivalent representing the Ministers responsible for Research in each of those States wishing to take part; they shall have access to and be capable of influencing policy-making in their own country. A senior science policy official shall represent the European Commission. The members of each delegation are nominated by their Minister(s) for two years and may be confirmed whenever appropriate.

https://www.esfri.eu/forum

ESFRI

ESFRI **Working Groups**

https://www.esfri.eu/working-groups

Since 2006, ESFRI has presented a series of Roadmap updates supporting a coherent and strategy-led approach to the development of pan-European Research Infrastructures, which would ensure that scientists in Europe have access to world-class facilities enabling them to do cutting-edge research. This has been possible by establishing the Strategy Working Groups in six research domains and the Implementation Group, transversal to all research areas. In addition, in 2022 the Monitoring Committee was established as a permanent committee being responsible for coordinating the monitoring of ESFRI Landmark Research Infrastructures.

A series of ad-hoc Working Groups periodically performed an in-depth analysis of the scientific aspects and the maturity features of the Research Infrastructures of ESFRI portfolio.

STRATEGY WORKING GROUP & TASK FORCES

Environment
The Environment SWG follows up the scientific developments and initiatives in the field of the more...

Social Sciences and Humanities
The Social Sciences and Humanities (SSH) SWG monitors and assesses the implementation of existing more...

Physical Sciences and Engineering
The Physical Sciences and Engineering SWG monitors and assesses the implementation of existing more...

Data, Computing and Digital Research Infrastructures
As novel proposals with a dominant, or substantial, digital research infrastructure character have more...

ESFRI-EOSC Coordination Task Force
Interesting Publication: the ESFRI-EOSC Task Force has recently (April 2024) published an more...

Monitoring Committee
The Monitoring Committee is a permanent working group. Since 2016, the ESFRI Roadmap more...

Energy
The Energy SWG monitors and assesses the implementation of existing Energy Research Infrastructures more...

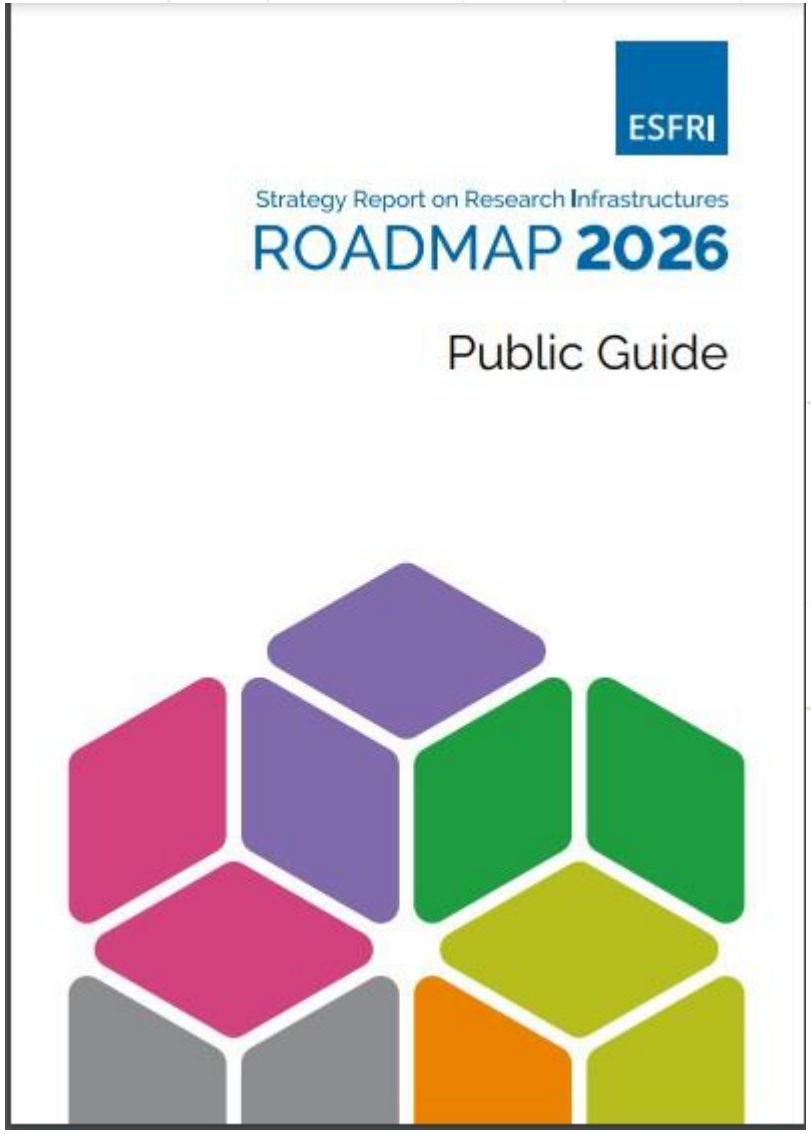
Health and Food
The Health and Food SWG monitors and assesses the implementation of existing Health and Food RIs, more...

IMPLEMENTATION GROUP

Implementation
The Implementation Group is the ESFRI instrument to analyse the maturity features of Research more...

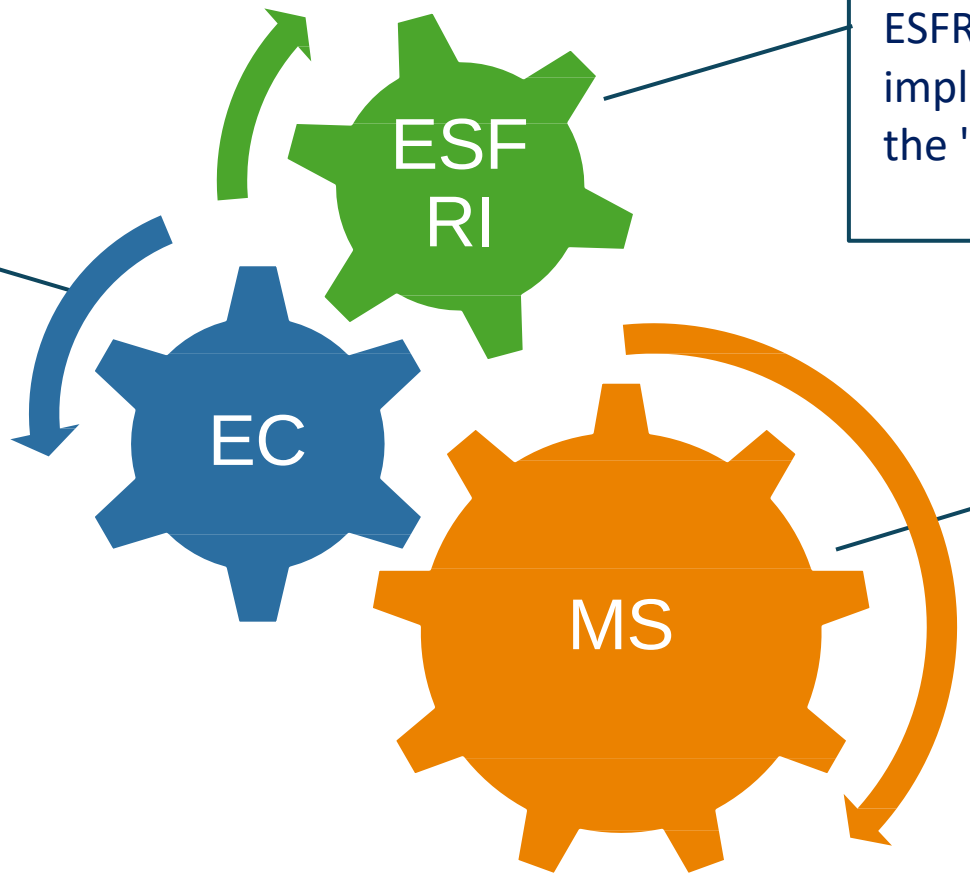
Actors in the definition of policies in RIs

The **European Strategic Forum for Research Infrastructures (ESFRI)** is a common endeavor between Member States (MS) and Associated Countries (AC), together with the European Commission (EC), to support a coherent and strategy-driven approach to policy-making on Large Research Infrastructures (RI) in Europe.



Actors in the definition of policies in RIs

Funds actions for implementation through European R&I Framework Programme.



Support to the establishment of policies in the field of Research Infrastructures.
ESFRI helps to achieve the implementation of the projects of the "Roadmap".

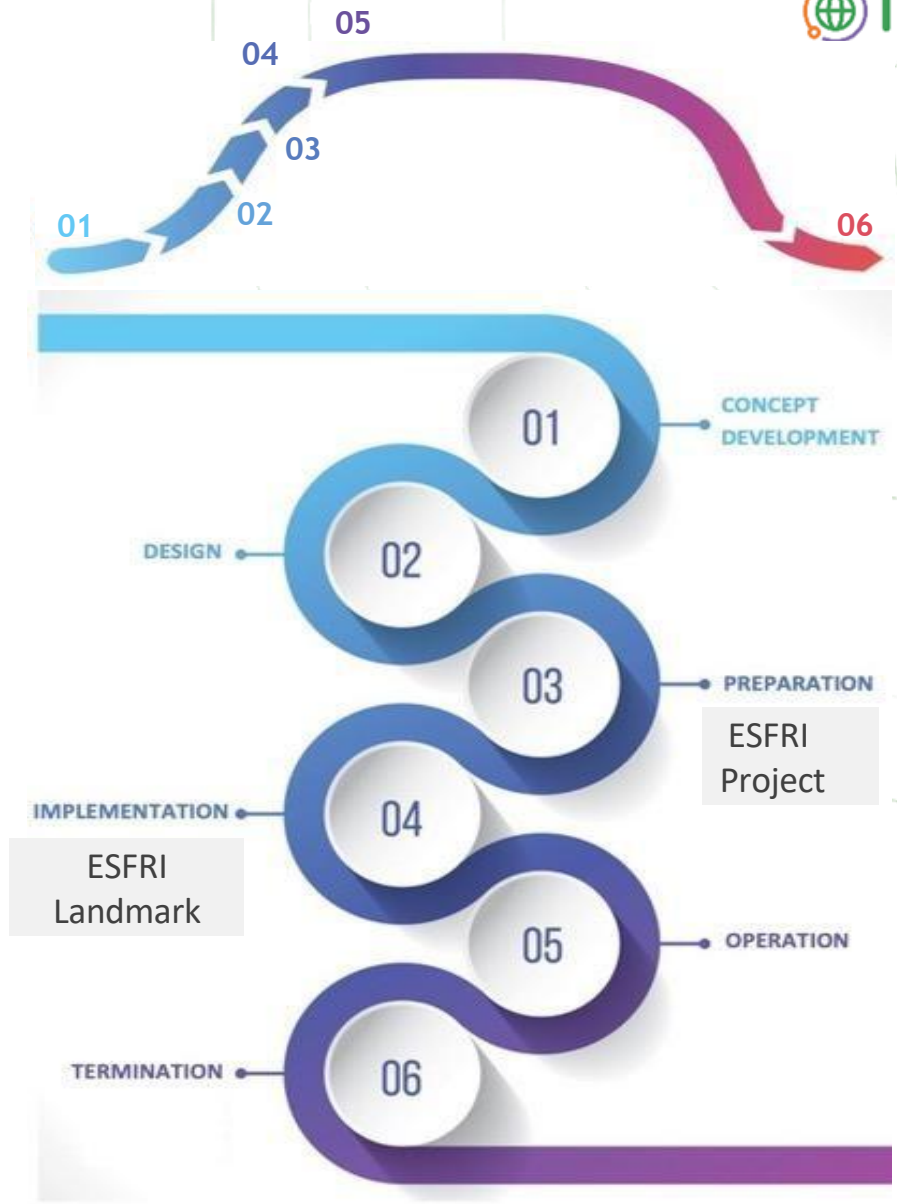
Commitment of national resources for the construction and sustainability of Research Infrastructures.

ESFRI - the RI pathway

https://www.esfri.eu/sites/default/files/ESFRI_Roadmap2026_Public%20Guide_approved_FINAL.pdf

ESFRI - the RI pathway

- Bottom-up clustering of scientific communities
- Proof of scientific concept of technical feasibility
- Centrally coordinated RI, developing the organisational, financial, operational and strategic framework
- Governance and management structure, political and financial support, legal entity and service launching
- Delivering excellent science services and generating frontier research
- Termination



ESFRI from 2002 to 2026

2002

2006

35 ESFRI Projects for new large-scale RI of pan-EU relevance and scientific excellence

2008

44 ESFRI Projects (of which 4 are distributed Ris)

201
0

48 ESFRI Projects
Focus on energy and biology-medical sciences

201
6

21 ESFRI Projects and 29 “Landmarks”

18 ESFRI Projects and37 Landmarks, Analysis

201
8

2021

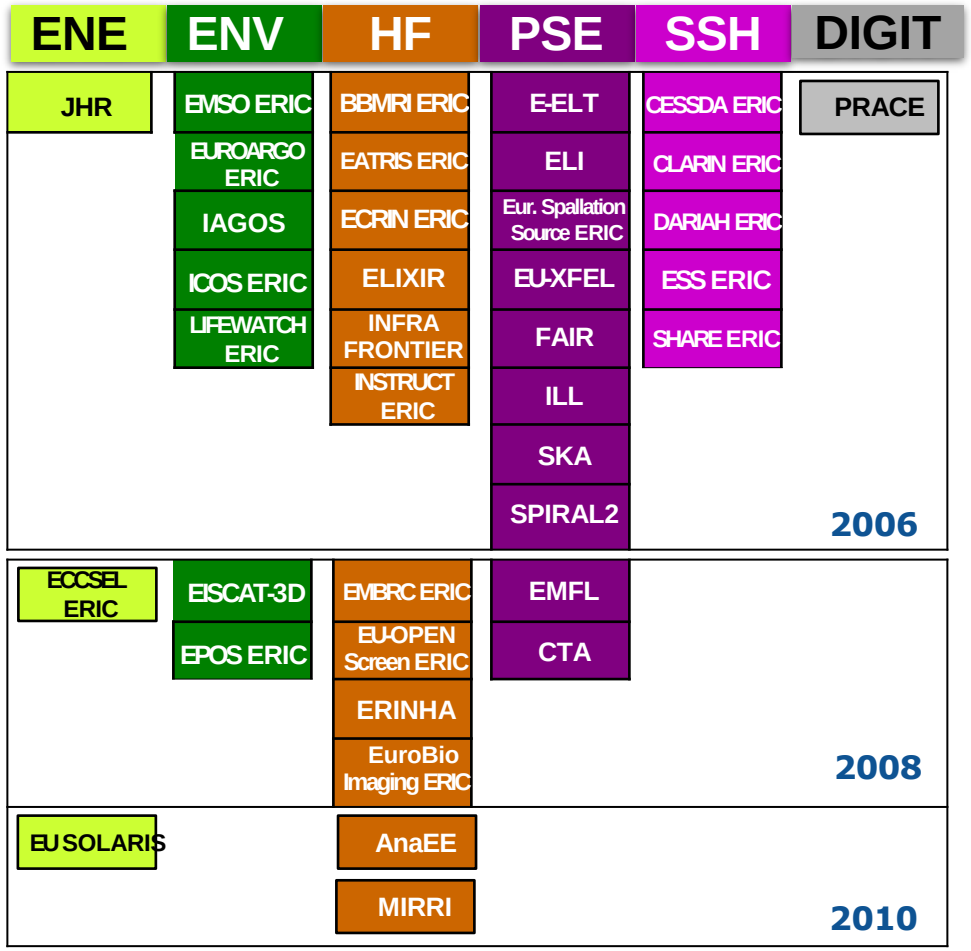
22 ESFRI projects and 41 landmarks
Relevant ESFRI RIs for SDG, capacity to rapid responses to emergencies, contribution to green + digital transformation

2026

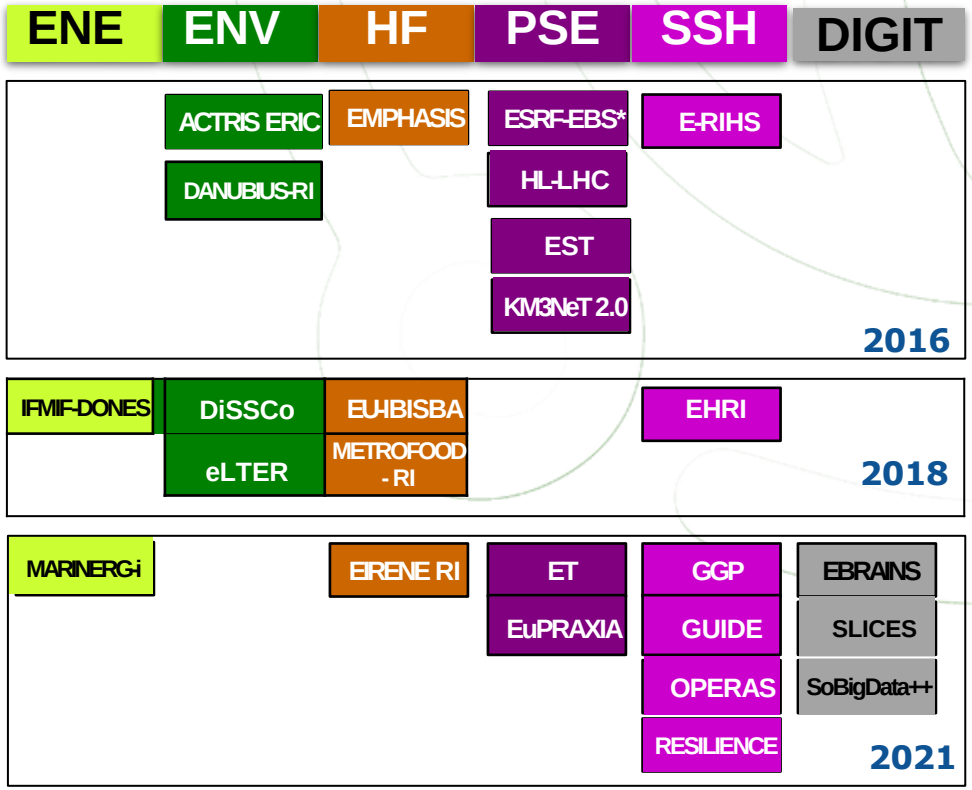
Building a robust and sustainable European RI Ecosystem

European landscape

41 ESFRI Landmarks (4 new)



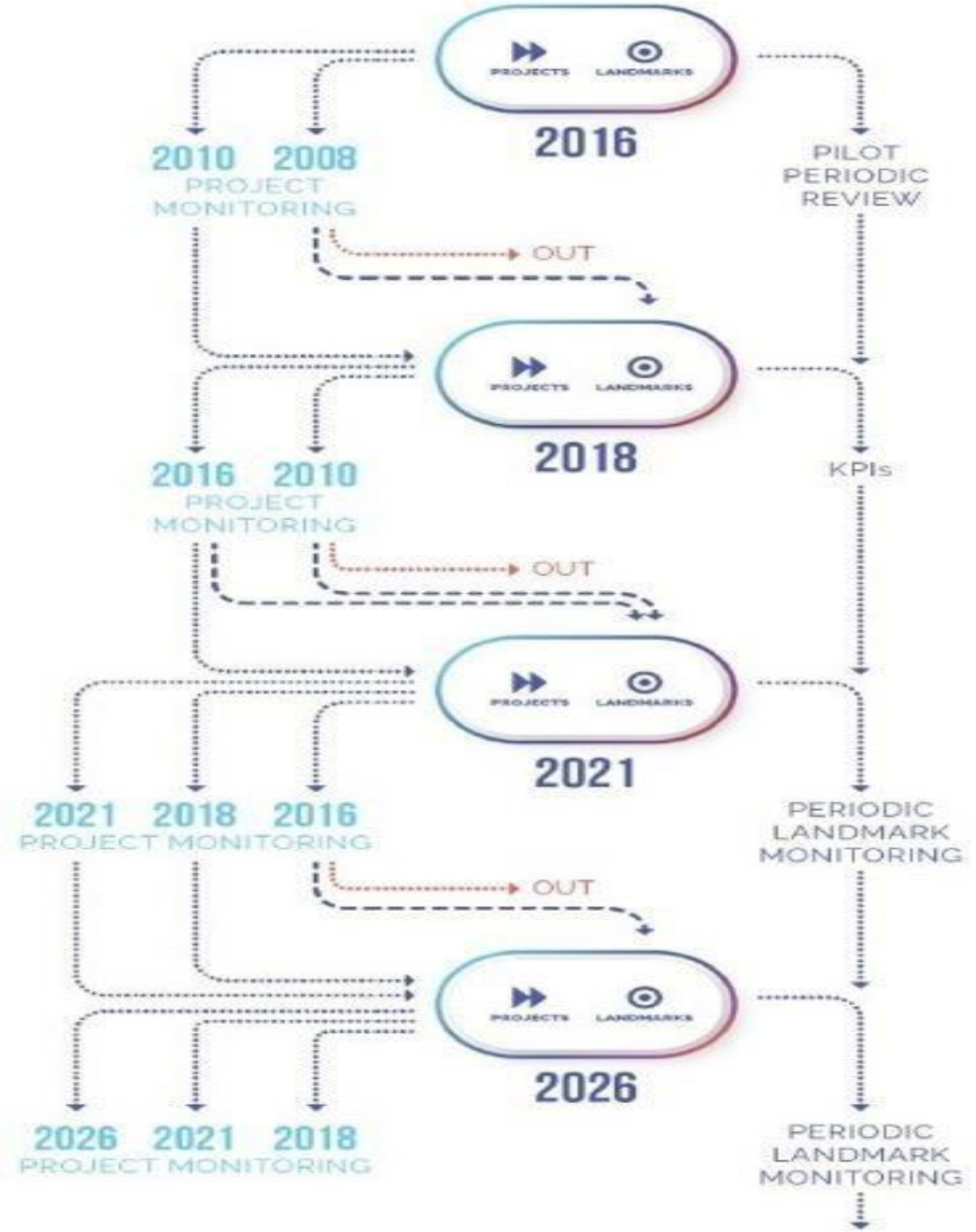
24 ESFRI Projects (11 new)



ESFRI - the RI monitoring process

- Thorough evaluation process: questionnaire, hearing, site visits Monitoring of ESFRI Roadmap projects (10-year term)

- **Scientific case - minimal key requirements (operation phase)**
  - Scientific excellence
  - Pan-European relevance
  - Socio-economic impact
  - User strategy and access policy
  - e-Needs
- **Implementation case:** stakeholder commitment, preparatory work and planning, governance, management and human resources, finances, risks



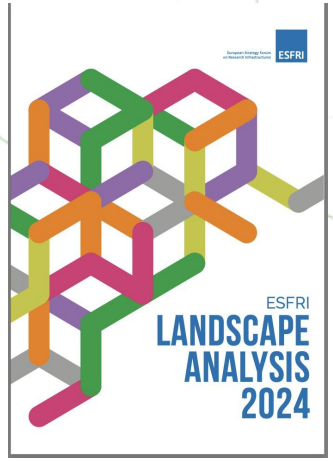
European landscape

Since 2016, ESFRI has introduced the Landscape Analysis in its Roadmaps, providing an overview of the European Research Infrastructure (RI) ecosystem, identifying key RIs and their global positioning.

2016

2018

2021

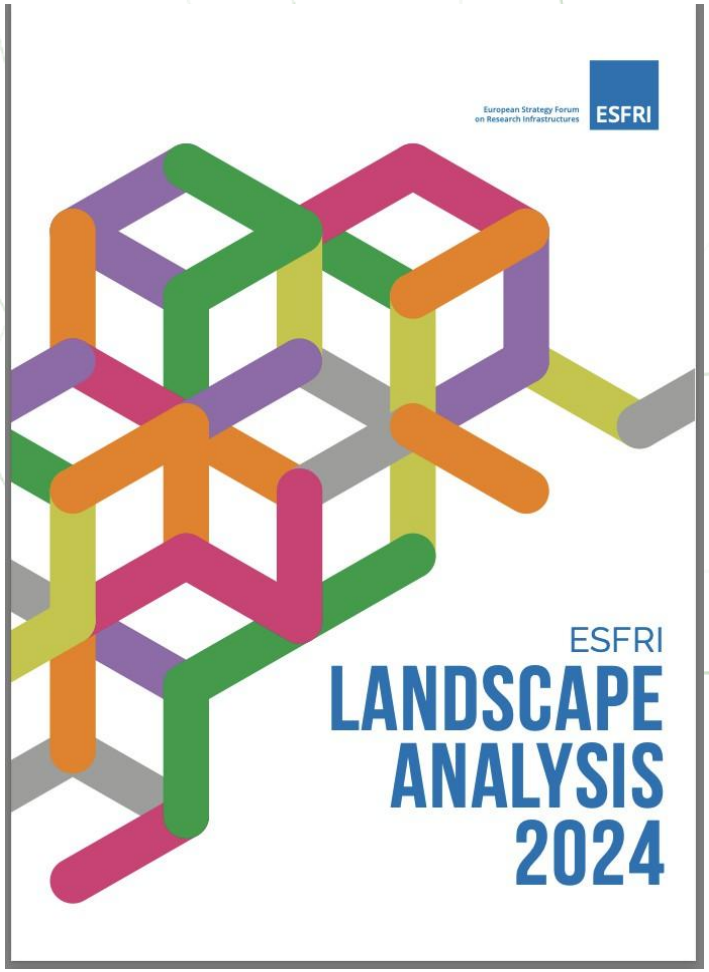


2024

https://landscape2024.esfri.eu

European landscape

- The ESFRI Landscape Analysis 2024 published in June 2024
- It is the first Landscape Analysis report to be **decoupled from the Roadmap**, providing the framework and the rationale for the next ESFRI Roadmap
- It includes the first version of the **ESFRI RIs Portfolio**, developed as an online tool to ensure up-to-date and readily usable information about all ESFRI RIs
- For the first time, the analysis was also based on **input** directly **from key stakeholders**



European landscape

The ESFRI Landscape Analysis Report 2024 includes two main sections:

Section 1 focuses on each of the six ESFRI Scientific domain (DIGIT, ENE, ENV, H&F, PSE, SSH.

It includes assessments of the current status, services offered, potential impact, trends, gaps and needs identified for each scientific domain as well as cross-domain aspects as identified from the specific domain.

Section 2 offers a broader view across all domains.

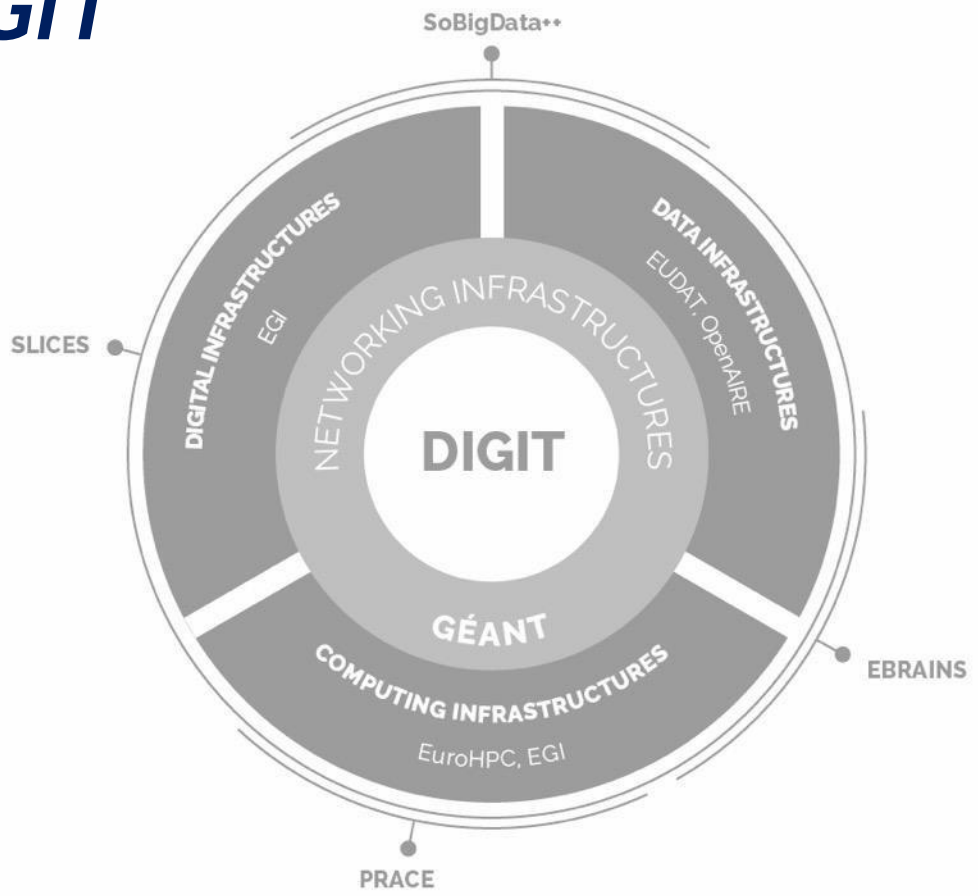
It encompasses current status, future trends, challenges, and opportunities of ESFRI RIs considered in their overarching characteristics, thus complementing the cluster-focused Section 1.

European landscape

Section 1 DIGIT

Critical areas identified:

- Competence development
- Synergy and collaboration between EuroHPC and EOSC
- Software development and scaling
- Sustainability and green transition
- Quality and usability of data



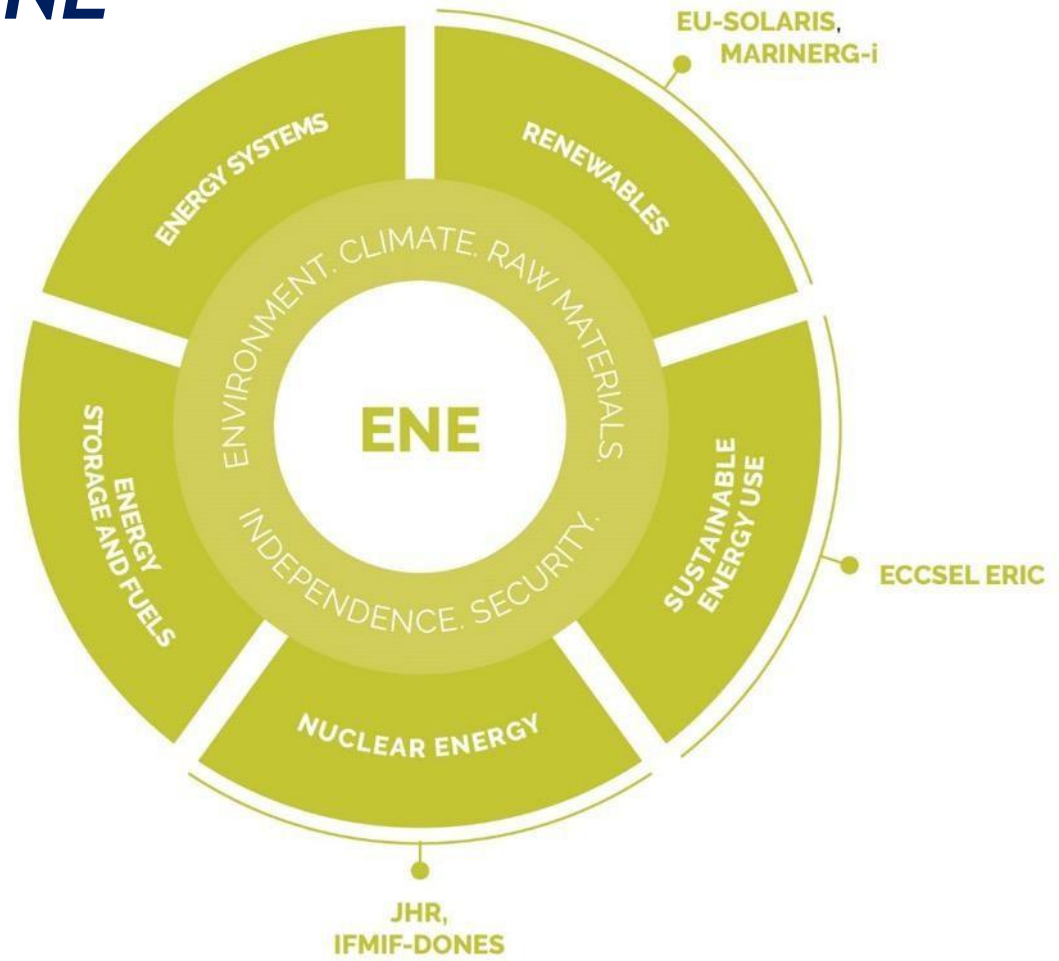
1 Landmark (PRACE) and 3 Projects (EBRAINS, SLICES and SoBigData++)

Section 1 ENE

Society constantly seeks the fast development of new, better energy solutions, in terms of efficiency, energy services, sustainability through circularity, security of supply and true (unsubsidised) cost.

Innovative research is often central in producing these.

Relevant areas include energy production (electricity, heat and synfuel), energy transmission, energy storage, and energy use.



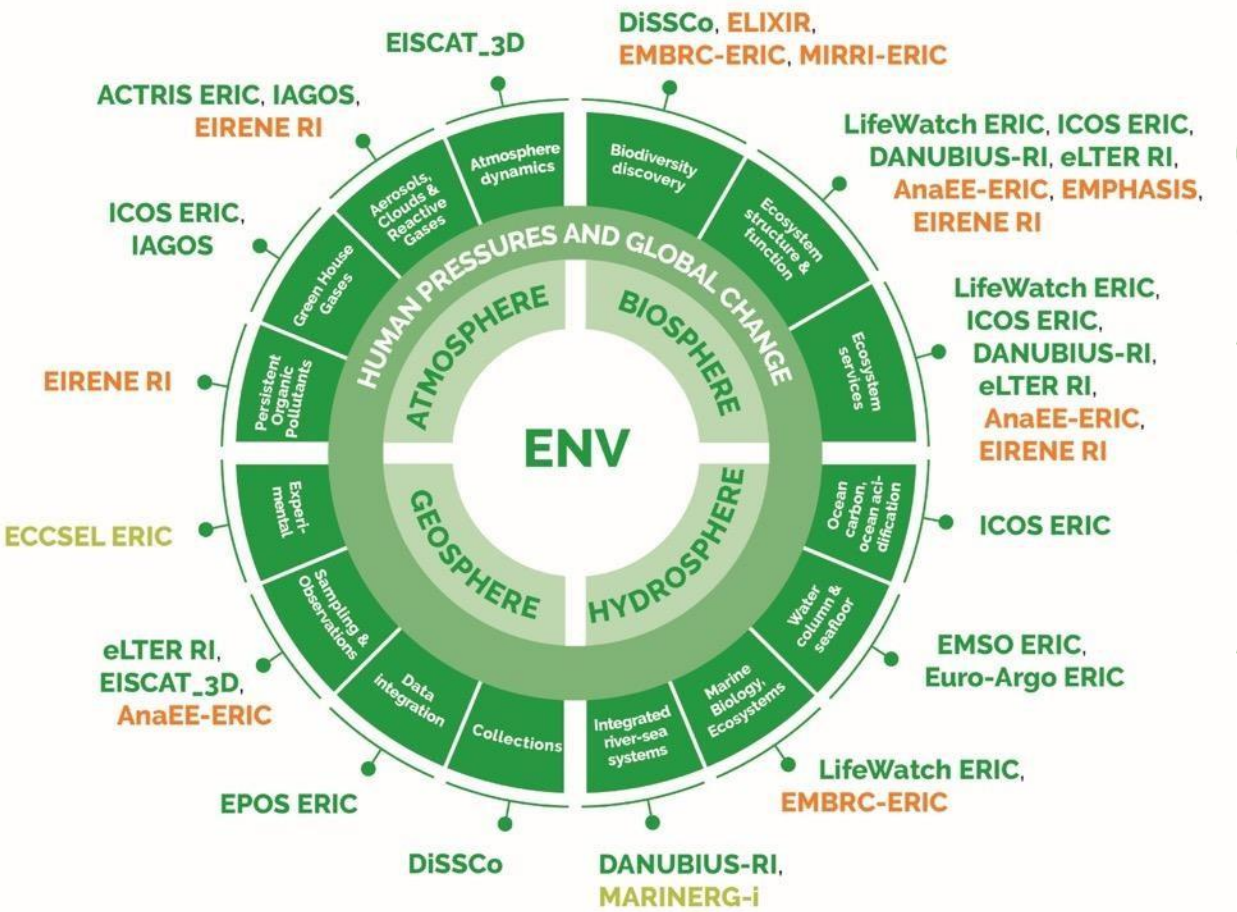
3 Landmarks (ECCSEL ERIC, EU-SOLARIS, JHR) and 2 Projects (IFMIF-DONES, MARINERG-I)

European landscape

Section 1 ENV

ENV RIs are at the core of a multi-disciplinary research strategy aimed at developing a seamless holistic understanding of the Earth a a system.

They provide the foundation for advancing scientific knowledge on natural processes whil developing new scientific and technological capabilities that can underpin broader and applied services.



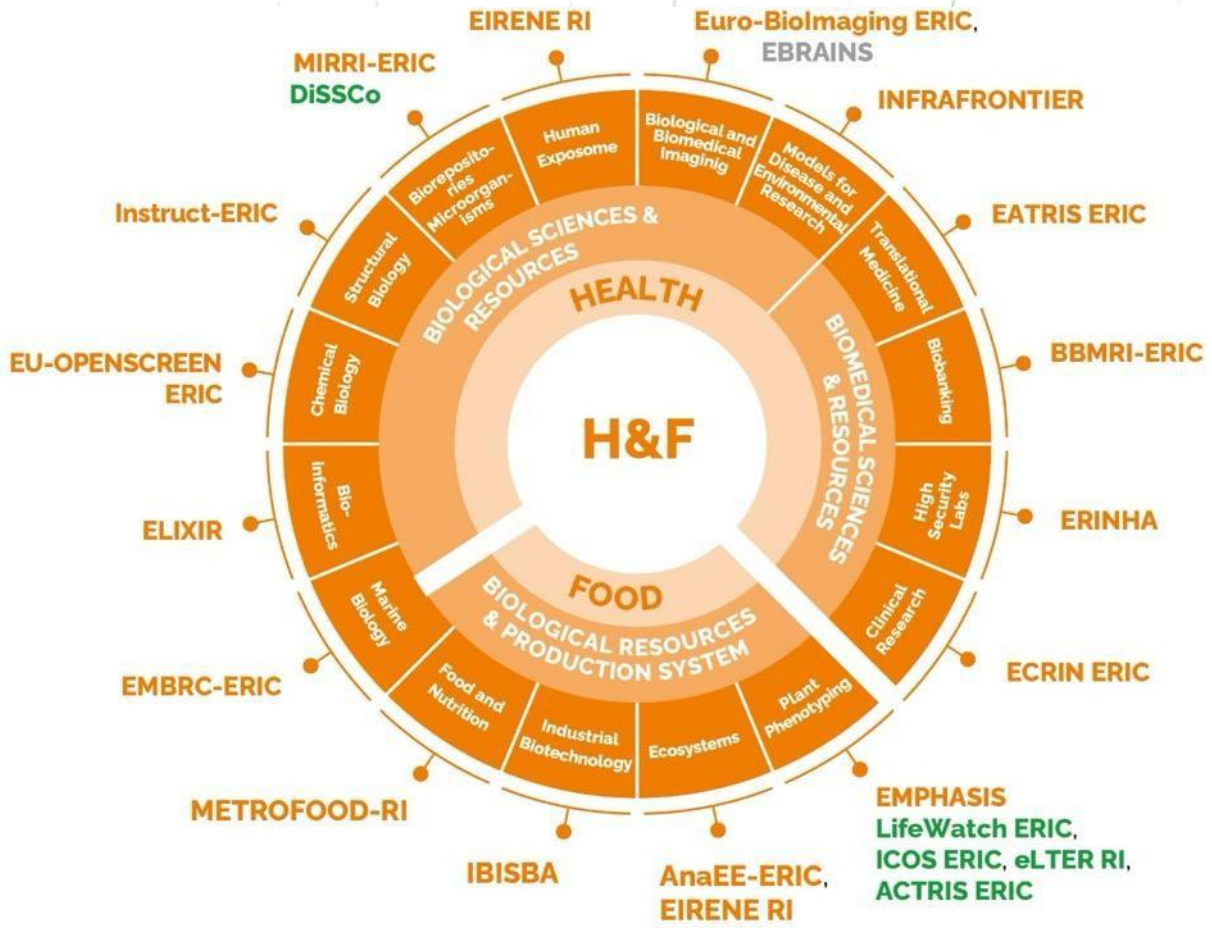
Research and Policy

8 Landmarks (ACTRIS, EISCAT_3D, EMSO, EPOS, EURO-ARGO, IAGOS, ICOS, LifeWatch) and 3 Projects (DANUBIUS-RI, DiSSCo, eLTER RI)

European landscape

Global challenges in the H&F domain where R play a major role:

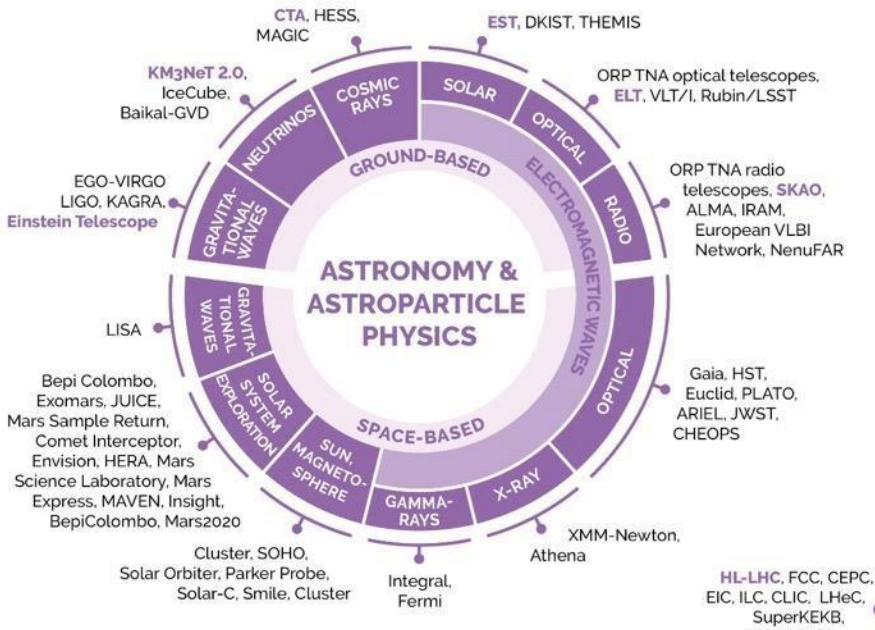
- the rising burden of common complex diseases;
- pandemics;
- livestock epidemics;
- the affordability of the health care systems;
- the resilience and sustainability of the entir agro-food value chain;
- food and nutrition security and safety, especially in light of shocks.



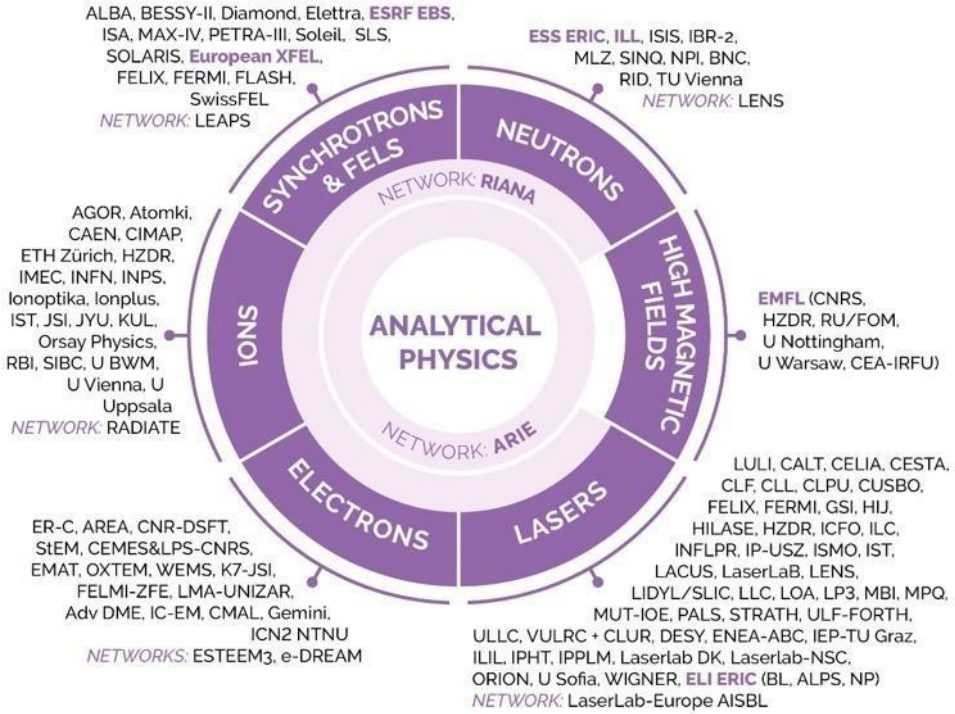
12 Landmarks (ANAEE, BBMRI, EATRIS, ECRIN, ELIXIR, EMBRC, ERINHA, EU-OPENSCREEN, Euro-BioImaging, INFRAFRONTIER, INSTRUCT, MIRRI) and 4 Projects (EIRENE, EMPHASIS, EU-IBISBA, METROFOOD)

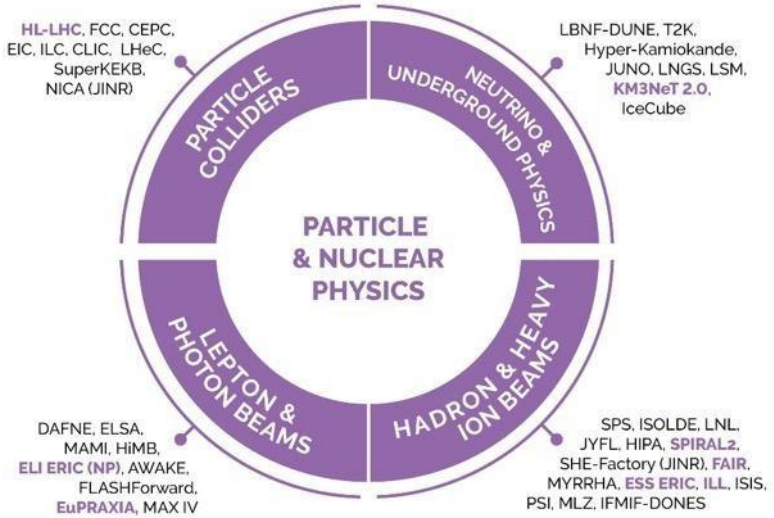
Section 1 PSE

European landscape



In the PSE domain, Europe is presently at the forefront of research with world-leading Research Infrastructures.





Europe needs to secure adequate and sustainable funding for the proper operation, maintenance and development of Research Infrastructures.

Section 1 SSH

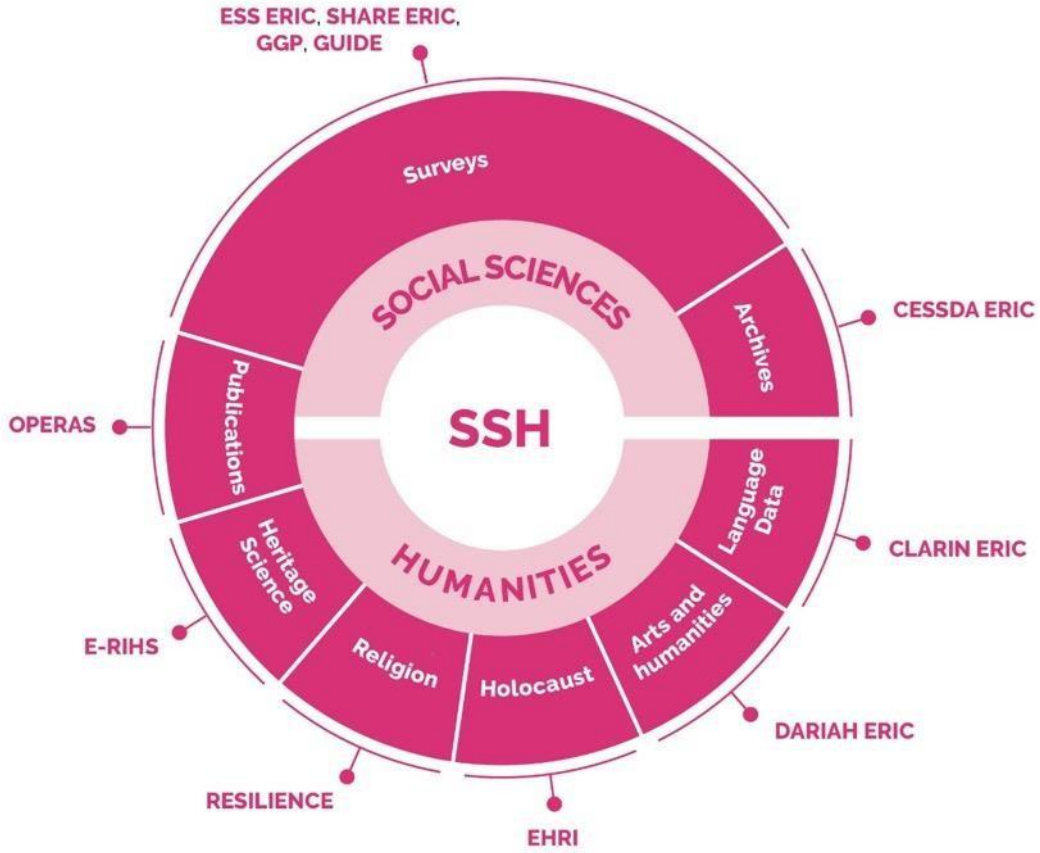
European landscape

The SSH RIs cover a wide range of academic disciplines, which help us to understand ourselves, others, and the human societies around us.

RIs in the SSH domain are evolving in a fast-changing context, where the impact of technology has major effects.

Level of funding is critical

- new technological requirements imposed by very large data and models
- access to high performance computing



5 Landmarks (CESSDA, CLARIN, DARIAH, ESS ERIC, SHARE) and 6 Projects (E-RIHS, EHRI, GGP, GUIDE, OPERAS, RESILIENCE)

Section 2

The RIs landscape is evolving rapidly, influenced by a confluence of trends in scientific and technological advances, funding mechanisms, collaborative approaches, governance and human resources, and ecosystem integration.

- AI revolution: transforming research across domains
- Digitalisation: the new pulse of RIs
- Aligning EU, national, and regional funding: the challenge of coordination
- Balancing services for basic and applied research: distribution of resources
- Fostering collaborative service models: interdisciplinary and cross-domain challenges
- Sustainability of long-term funding: ensuring continuity

ESFRI Landscape Analysis impact

The ESFRI Landscape Analysis is a strategic and important document also at national level

Reflection in the national roadmaps

- ESFRI scientific domains
- ESFRI definitions and vocabulary (RI's life-cycle approach, access modalities, data, etc.)
- European priorities reflected and combined with those at national level
- Interconnections
- RIs services and impact at national level

European landscape

National Research Infrastructure roadmaps developed, updated or under preparation in >25 European countries

Often aligned with European ESFRI Roadmap process for coordinating at national and EU level

Key pillar of national research and innovation ecosystem

Strategic piloting tools for national governments, for setting national priorities and funding programmes

National vs

European vs

Global Research Infrastructures

The Italian example - the Italian RIs National Roadmap 2021

Systemic approach: EU priorities, ERA, ESFRI, National priorities

Survey

Who: Public Research Institutions and Universities

What: updating RIs of previous Roadmap, new RIs

Contents:

- ✓ Data and territorial articulation;
- ✓ ERIC actual or under negotiation);
- ✓ ESFRI taxonomy and presence in Roadmap;
- ✓ links with regional administrations;
- ✓ participation in HORIZON 2020 and ESIF;
- ✓ connections, with EU programming and global challenges Heu Partnerships, SDGs, etc.);
- ✓ socio-economic impact;
- ✓ governance;
- ✓ data access and management.

Benchmark Criteria:

1. Scientific excellence
2. Socio-economic impact
3. Critical analysis of history and prospects
4. Completeness of access policies
5. International relations and pan-EU relevance
6. Political commitment and financial support from participating countries
7. Governance, management and human resources management
8. Financial aspects

131 RIs identified and categorized in three level of priorities:

- **HIGH: 74 RIs**
- **MEDIUM: 35 RIs**
- **NO PRIORITIES: 22 RIs**

Ministero dell'Università e della Ricerca

European landscape

FP1	FP2	FP3	FP4	FP5	FP6	FP7	H2020	Horizon Europe	FP10
(1984-1987)	(1987-1991)	(1990-1994)	(1994-1998)	(1998-2002)	(2002-2006)	(2007-2010)	(2014-2020)	(2021-2027)	(2028-2024)

Multi-annual Framework Programmes (FP)

Strategic tool to finance, streamline and support research an innovation activities across scientific domains

EU funding to support opening and developing RIs at Europ level

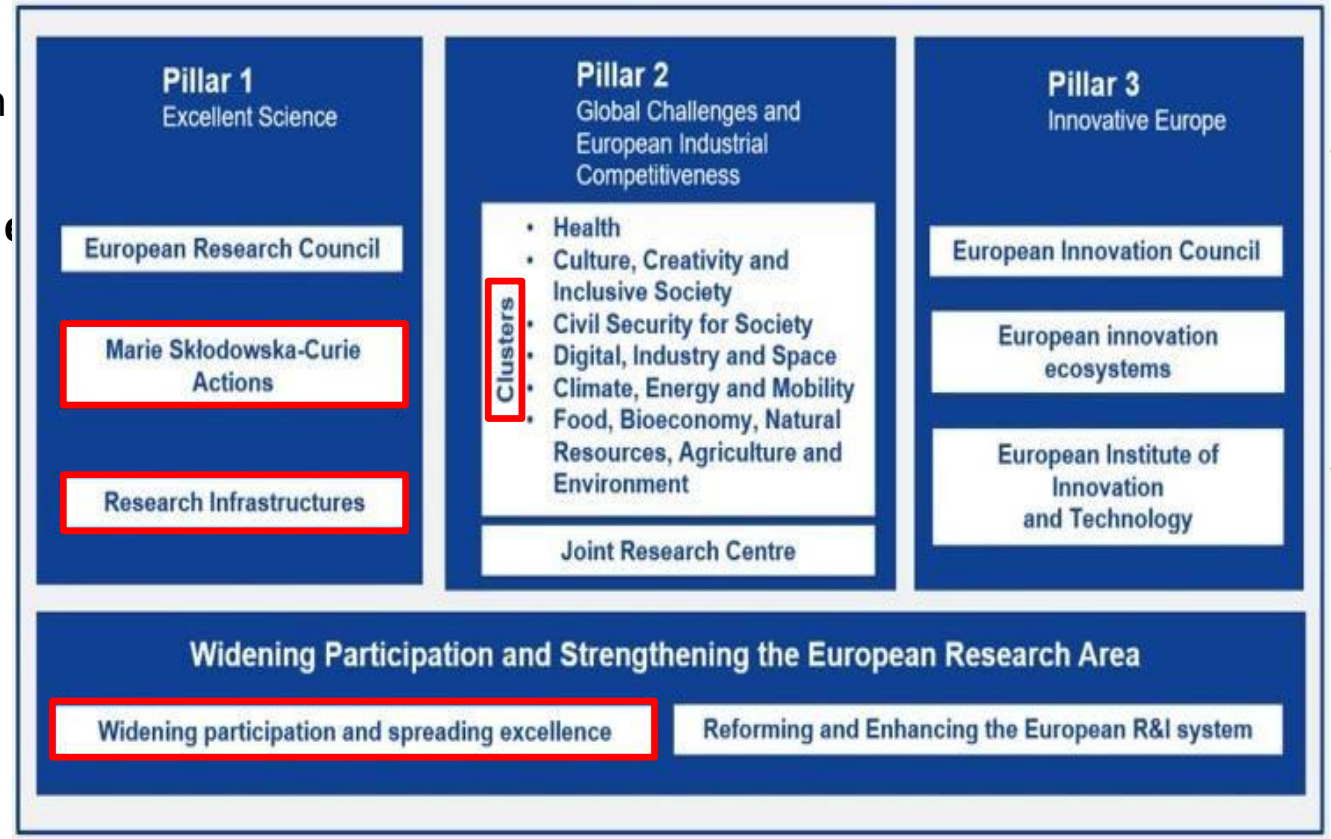
→Supporting ESFRI

→Catalysing and leveraging role the development and financing of EU RIs

→Pooling of resources across Europe

→Structuring effect for integrating and consolidating RI development and landscape

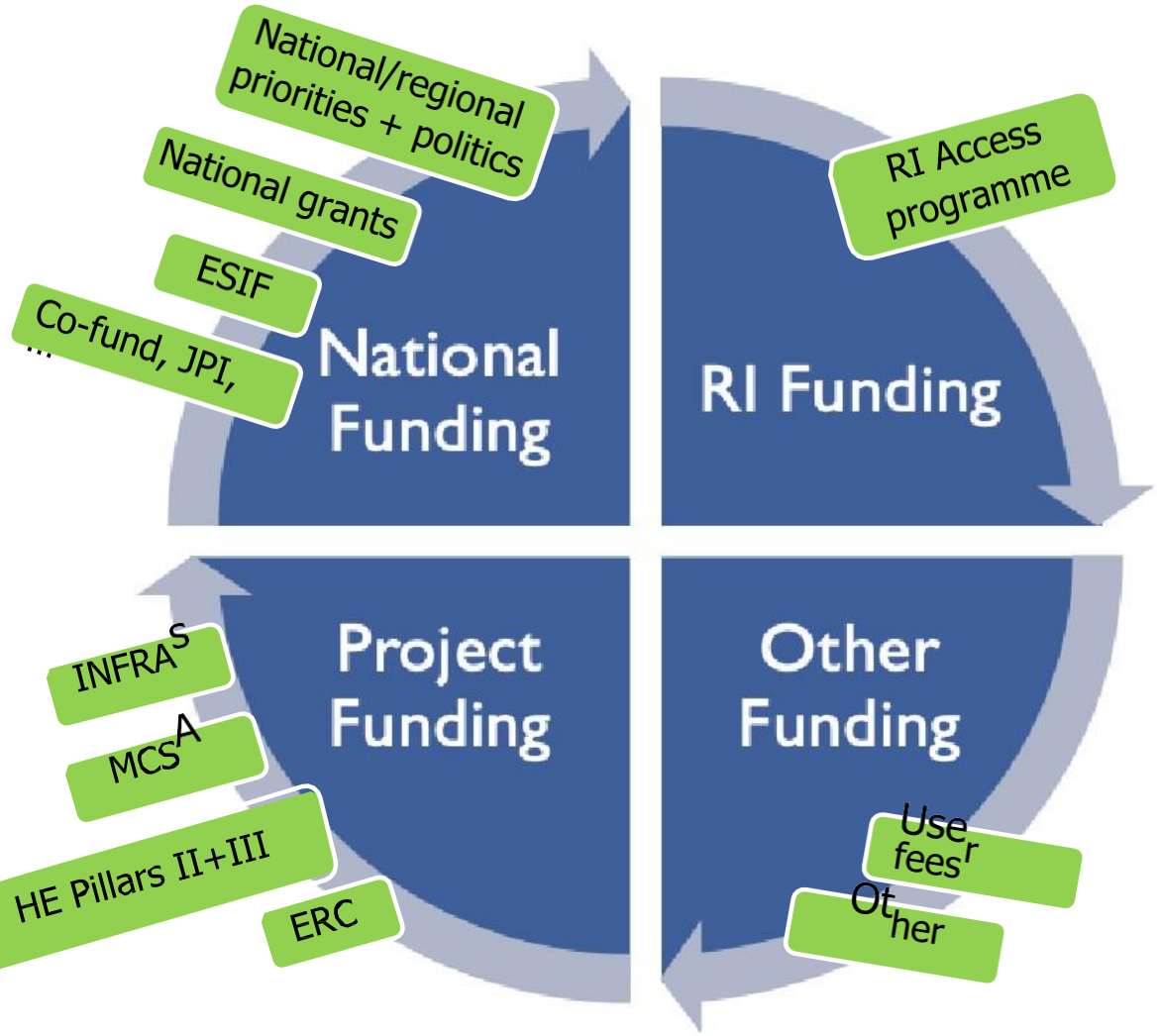
→Tackling complexity and diversity of RIs and investments



European landscape

INFRA **DEV**	Consolidation and evolution of the EU RI landscape, to develop an integrated European ecosystem of research infrastructures, including single-sited, distributed and networks of facilities providing joint services
INFRA **EOSC**	Enabling an operational, open and FAIR EOSC ecosystem, to contribute to a web of FAIR research data and provide a trusted and secure federated system of research data and services
INFRA **SERV**	RI services to support health research, accelerate the green transition and the digital transformation, and advance frontier knowledge
INFRA **TECH**	Next generation of scientific instrumentation, tools, methods, and advanced digital solutions of research infrastructures and foster innovation and co-creation with industry
INFRA **NET**	Network connectivity in Research and Education – Enabling collaboration without boundaries

European landscape



Synergy of available funding sources and mechanisms

Flexibility and attractiveness

Recognize funding as strategic investment to address complex societal challenges

Joint effort and common sharing of responsibilities and resources among all stakeholders

Due to diversity of RIs, no one-size-fits-all solution ⍰ adapting funding mechanisms to long-term operation needs of each individual RI

Aim: Ensuring a medium to long-term funding commitment

Definition and characteristics of Research Infrastructure

Francesca De Pascalis

Laura Beranzoli

IR0000032 – ITINERIS, Italian Integrated Environmental Research Infrastructures System
(D.D. n. 130/2022 - CUP B53C22002150006) Funded by EU - Next Generation EU PNRR-Mission 4 "Education and Research" - Component 2: "From research to business" - Investment 3.1: "Fund for the realisation of an integrated system of research and innovation infrastructures"

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Ministero dell'Università e della Ricerca
Italiadomani

Definition and characteristics of Research Infrastructure

https://www.esfri.eu/sites/default/files/ESFRI_Roadmap2026_Public%20Guide_approved_FINAL.pdf

Strategy Report on Research Infrastructures
ROADMAP 2026
Public Guide

ESFRI

DEFINITIONS

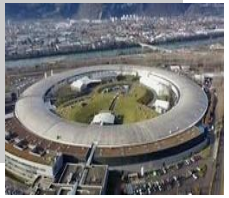
ESFRI engages in a fully transparent roadmapping process with clearly stated rules and procedures. The definitions, models and methods described herein apply to Roadmap 2026 update.

RESEARCH INFRASTRUCTURE

The following definition for research infrastructure (RI) applies[6]: "Research infrastructures means facilities that provide resources and services for the research communities to conduct research and foster innovation in their fields, including the associated human resources, major equipment or sets of instruments; knowledge-related facilities such as collections, archives or scientific data infrastructures; computing systems, communication networks and any other infrastructure of a unique nature and open to external users, essential to achieve excellence in R&I; they may, where relevant, be used beyond research, for example for education or public services and they may be single sited, virtual or distributed".

Accordingly, RIs are implemented along different organisational models, including central sources and laboratories for experiments and measurement sessions, coordination and management of geographically distributed observatories or laboratories, remotely accessible resources for computing, data banks, physical sample repositories, surveys and longitudinal studies.

Definition and characteristics of Research Infrastructure



Single-sited research infrastructure

Geographically localized in a single site or in a few complementary sites, designed for user access, with European or international governance

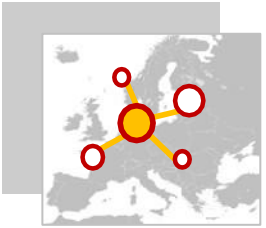
Distributed research infrastructure

The facilities, resources and services are geographically scattered, consisting of a central hub, with a single point of access for all users.

Virtual research infrastructure

E-infrastructure for digital online services to users: electronic services, networks, archives, databases and databanks, computing.

Definition and characteristics of Research Infrastructure



- High level of integration
- Common policies

- User support structure to optimise access to the relevant site
- Accommodation arrangements and logistics
- Long-term planning for the site throughout the life-cycle

- Effective operation of Central Hub
- Single point of access for all users with support structure to optimise access for research
- Joint investment strategy through the National Nodes and common/shared facilities

Definition and characteristics of Research Infrastructure

Human resources policy

Legal status and governance structure

Unique access policy and single access point and user strategy and user support structure

Data management system

Measurable KPIs for scientific excellent services and sustainability

Central hub* and interlinked national notes, legally binding coordination structures and joint investment strategy

*) Distributed RIs

Definition and characteristics of Research Infrastructure

- Vision about user community
- Access model described
- Common approaches for national /thematic nodes

Design Phase

- User categories identified
- User community quantatively investigated
- Identified services (user needs)
- Single entry point
- Access policy outlined

Preparation Phase

- User community consolidated
- User engagement + feedback
- Catalogue of initial services
- User strategy
- Common access policy
- Access process approved

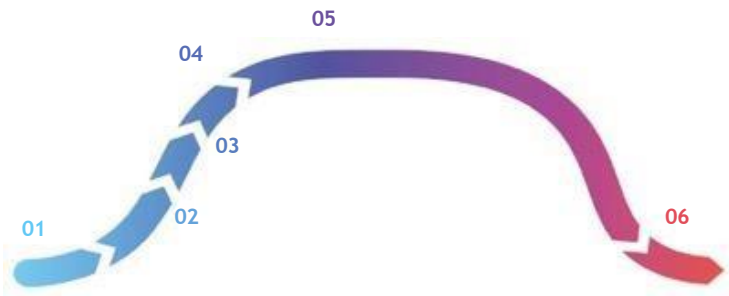
Implementation Phase

- Solid user strategy and access policy
- Catalogue of services
- Solid and sustainable access
- IPR policies
- Dissemination strategy
- Training for RI + users

Operation Phase

- IPR deployed beyond decommissioning

Termination



*) Distributed RIs

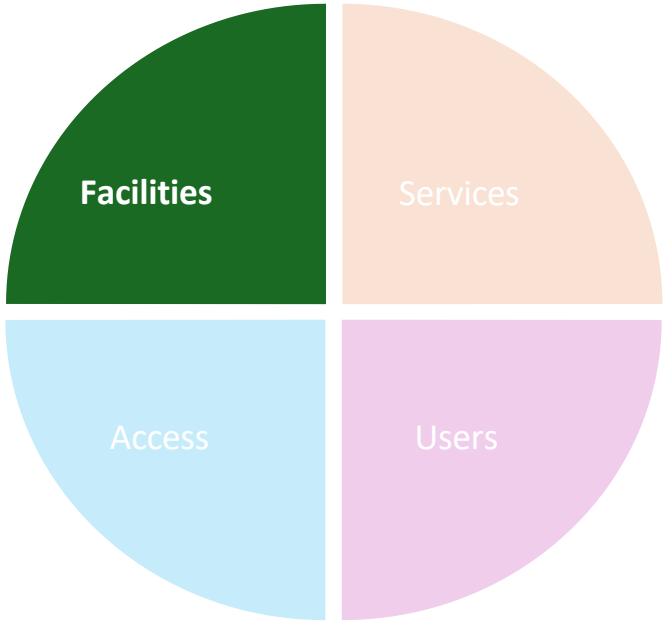
Definition and characteristics of Research Infrastructure

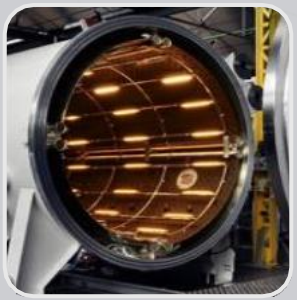
Definition

→ Physical infrastructure, buildings, and equipment within a research organization or institution that support the day- to-day activities of research, experimentation, and collaboration, including specialized scientific equipment.

→ Not necessarily organised at single locations

→ Operated by one or several research institutions





Core Facilities

- European-level
- Support expertise
- QA/QC + standards

Data & Computing facilities

-HPC, servers, cloud-systems
- storing, processing, managing data

Observational Facilities

- Ground-based, ambient
- Monitoring, collecting, recording data

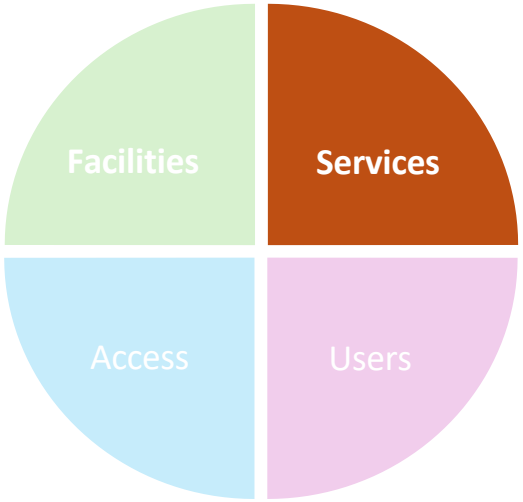
Exploratory Facilities

-Investigating processes + phenomena
- cutting edge technologies + discoveries

Mobile Facilities

-Transportable systems
- Specialised equipement
- ground-based, air, ship

Definition and characteristics of Research Infrastructure



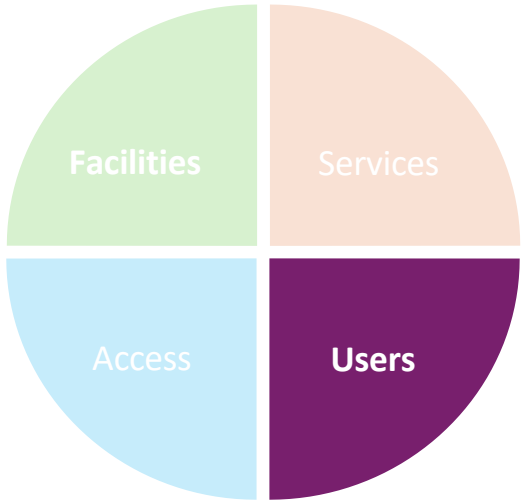
Definition

→ Various types of support, expertise, tools, and resources provided to users to facilitate their work and help them achieve their research goals.

What examples of service (general categories) exist within Ris?

Digital Services		Use of quality data and data products and other digital services including data documentation, compilation, archiving, preservation, traceability, citation and attribution
Scientific Services		Use of experimental research facilities equipped with state-of-the-art instrumentation and equipment for scientific exploration and realisation of experiments
Technical Services		Use of scientific expertise centres to ensure instrument quality, high performance measurements and methodologies, calibrations and intercomparisons, quality procedures and tools
Innovation Services		Use of scientific facilities for technological development, prototype testing, industrial or market-oriented applications including private sector use
Training Services		Training of scientists, new generations of researchers, and facility personnel to acquire knowledge and skills and provide good practices to exploit all essential tools for science

Definition and characteristics of Research Infrastructure



Definition

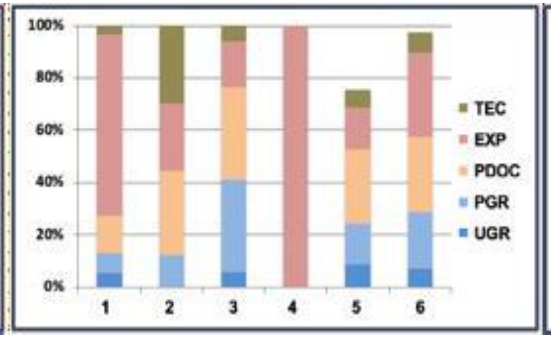
→ "Individuals, teams and institutions from academia, business, industry and public services. They are engaged in the conception or creation of new knowledge, products, processes, methods and systems and also in the management of projects"

Article 3 (b) of the European Charter for Access to Research Infrastructures

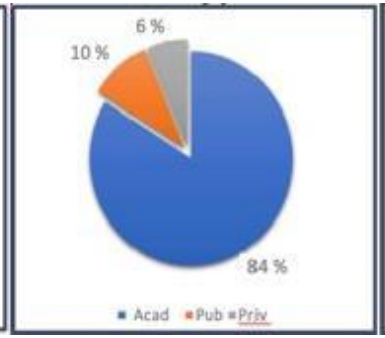
→ They make use of RI data, resources, equipment or other services provided by these to conduct their own activity or research or development work.

User origin

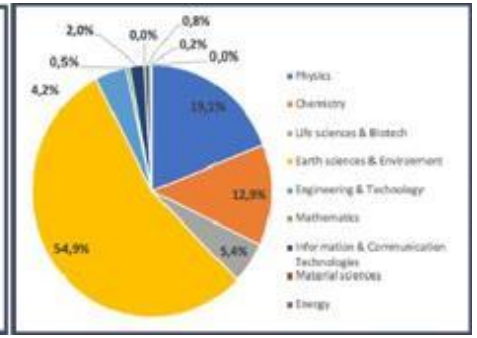
type



profile



scientific field



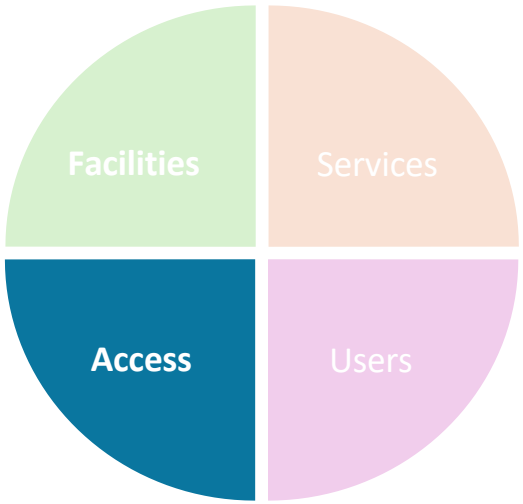
Definition and characteristics of Research Infrastructure

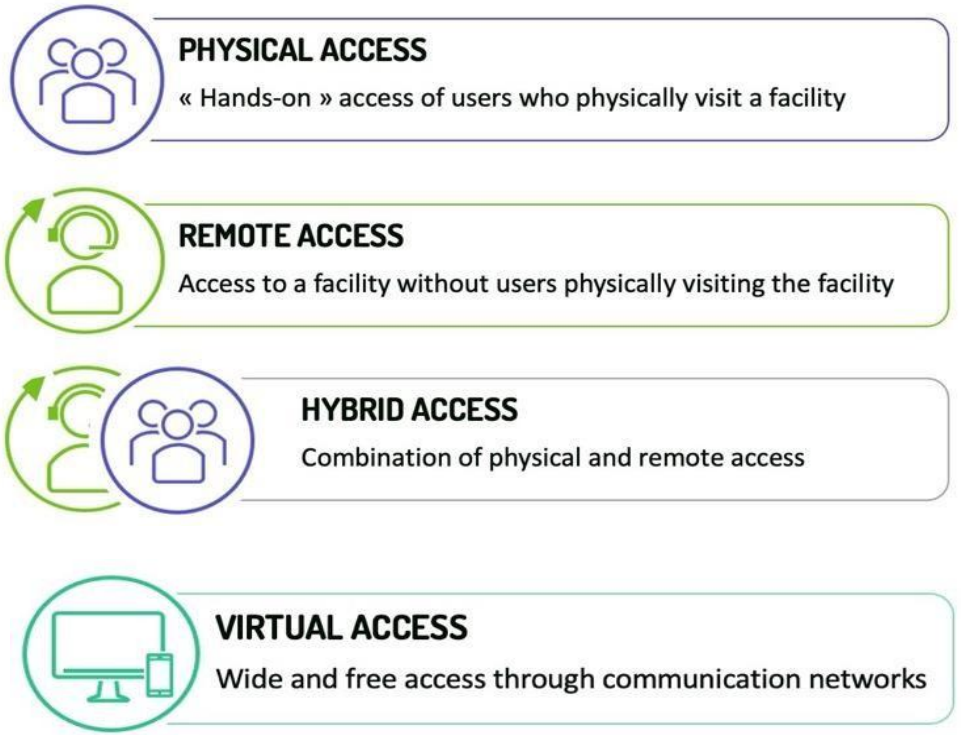
Definition

→ ‘Access’ refers to the legitimate and authorised physical, remote and virtual admission to, interactions with and use of Research Infrastructures and to services offered by Research Infrastructures to Users.

Article 3 (c) of the European Charter for Access to Research Infrastructures

→ = Ability to utilize the resources, equipment, and services of a facility to conduct research or experiments. Access can vary in terms of the scope, type, and conditions under which users can engage with the infrastructure.





Access is made to resources that are not unlimited → competitive selection process

Access can be simultaneously made by an unlimited number of users → no selection, free access

EUROPEAN RESEARCH INFRASTRUCTURE CONSORTIUM (ERIC) - A LEGAL STATUS FOR THE RIs

A RI can become an ERIC (international organisation) by agreement among Countries and according to the following requirements:

- Preparatory Phase Project Proposal and Implementation (Step 3) successfully passed
- Minimum 3 Member/Associated Countries
- Host Country agreed (hosting the ERIC legal seat)
- Science and Technology Plan released
- ERIC Statutes agreed among the Member Countries

EU Commission is the final authority acknowledging the ERIC leag Status to a RI

ERIC MAIN CHARACTERISTICS

By nature, an ERIC

- Has a strong coordination to deliver sustained integrated services,
- Is driven by R&I according to a common strategy etc.
- Has the national commitment of the adhering Members Countries.

EXAMPLES OF ERICs WITH ESFRI FLAG IN THE MARINE DOMAIN

Sustained long-term multidisciplinary observations in key-sites in the open sea and related R&I services.

Sustained European contribution to the Global Argo program and related development.

(Ocean Thematic Centre)

Sustained sea-atmosphere long-term observations on carbon cycle and greenhouse gases.

EXAMPLES OF RI WITHOUT ERIC STATUS

An international observing system for long-term measurements in and around the Norwegian archipelago of Svalbard addressing Earth System Science questions

THANKS!

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