



Bu proje Avrupa Birliği ve Türkiye Cumhuriyeti  
tarafından finanse edilmektedir  
This project is co-funded by the European Union  
and the Republic of Türkiye



Technical Assistance for Turkey in Horizon 2020 Phase-II  
EuropeAid/139098/IH/SER/TR

# General Information Training (Webinar)

Istanbul, 21 November 2022

## Research Infrastructures in Horizon Europe Indicative Call Topics - 2023

# Research Infrastructures (RI) Webinar Structure



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1. Introduction to RI
2. Terminology & definitions
3. Examples of Approved Projects
4. Indicative 2023 Topics (Draft Workprogramme 2023-2024)
5. Tips for Successful Participation
6. What's next?



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# RI Webinar

21/11/2022

## 1. Introduction to RIs

# RI in Horizon Europe



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## Overall objective of the RI Programme:

To **empower** Europe through **world-class and accessible RI**, as part of an **integrated European** research and technology infrastructures **landscape**.





# What are RIs?



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**Facilities** that provide **resources and services** for the research communities to conduct research and foster innovation in their fields

Crucial **enablers** of research and technological innovation and **drivers** of multidisciplinary and data-intensive science

# European RIs (1/3)



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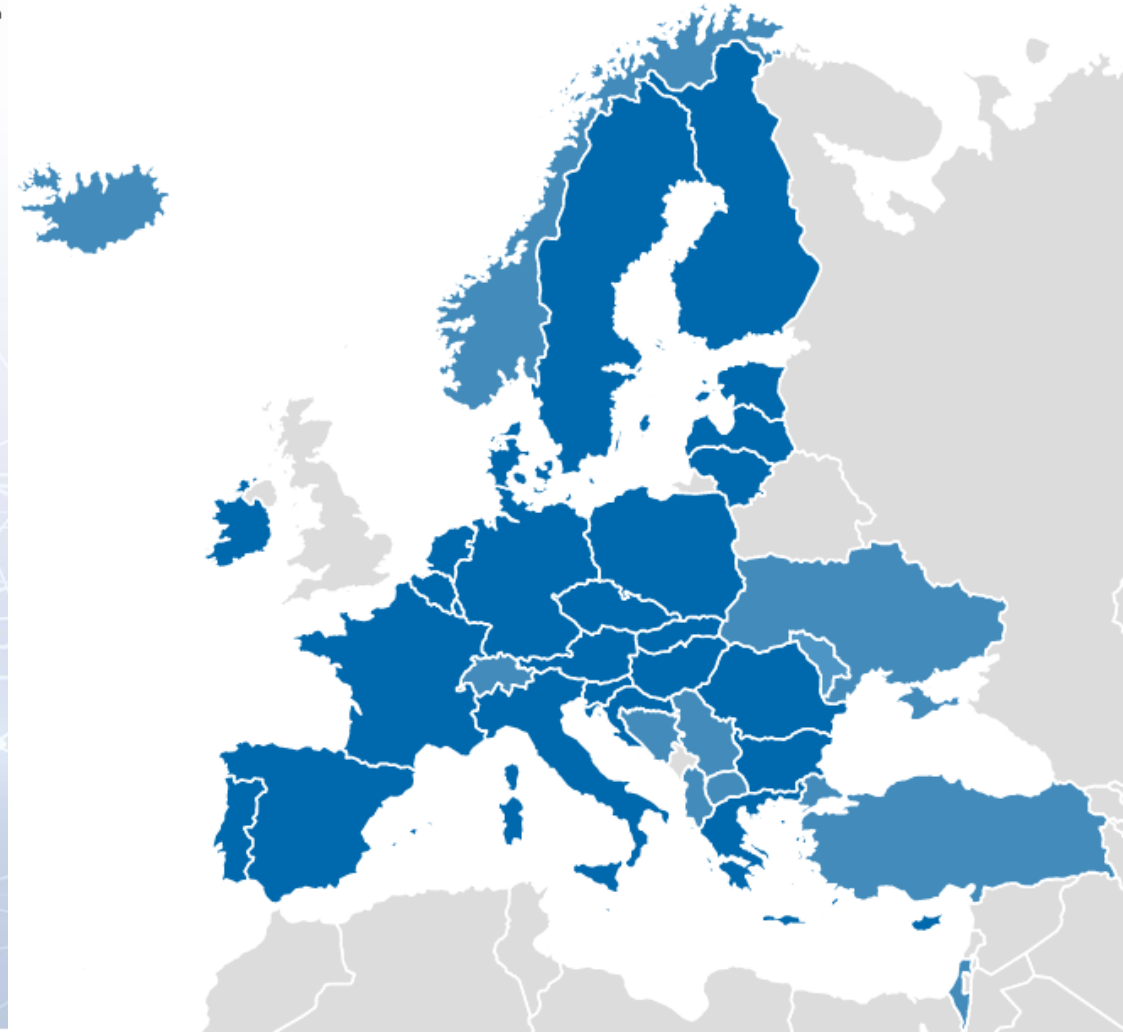
63 European RIs, of which 41 already implemented

## List of RIs per thematic area:

1. [Data, Computing & Digital](#)
2. [Energy](#)
3. [Environmental](#)
4. [Health & Food](#)
5. [Physical Sciences & Engineering](#)
6. [Social & Cultural Innovation](#)

[People](#) behind RI working groups

## Research Infrastructures Map



# European RIs (2/3)



## Key features of the Roadmap 2021:

- ❖ 11 new RI Projects; total investment >€4bn
- ❖ 4 RIs receive Landmark status, signifying their successful implementation
- ❖ Map of existing RIs in Europe
- ❖ Identification of scientific needs and gaps, collaboration opportunities
- ❖ Available RI services of relevance for environmental, economic and social issues, focusing on Sustainable Development Goals, COVID-19 and digital transition

## RIs lifecycle phases:

1. (Scientific) concept
2. Design (including plan to ensure technical feasibility)
3. Preparatory, leading to a full-fledged organisation
4. Implementation
5. Operational
6. Final (may result in the dissolution of the organisation and/or RI)



# European RIs (3/3)

## New projects in the Roadmap 2021:

Full name	Operation start	Investment cost
<b>Data, computing and digital research infrastructures</b>		
European Brain ReseArch INfrastructureS (EBRAINS*)	2026	323,8
Scientific Large-scale Infrastructure for Computing/ Communication Experimental Studies (SLICES*)	2024	137,7
European Integrated Infrastructure for Social Mining and Big Data Analytics (SoBigData++*)	2030	130,5
<b>Energy</b>		
Marine Renewable Energy Research Infrastructure (MARINERG-i)	2030	8,9
<b>Health and food</b>		
Research Infrastructure for EnvIRonmental Exposure assessmeNt in Europe (EIRENE RI)	2031	202,0
<b>Physical sciences and engineering</b>		
Einstein Telescope (ET*)	2035	1912,0
European Plasma Research Accelerator with Excellence in Applications (EuPRAXIA*)	2028	569,0
<b>Social and cultural innovation</b>		
The Generations and Gender Programme (GGP)	2028	18,2
Growing Up in Digital Europe: EuroCohort (GUIDE)	2032	580,6
OPen scholarly communication in the European Research Area for Social Sciences and Humanities (OPERAS)	2029	15,0
RELigious Studies Infrastructure: toolS, Innovation, Experts, conNections and Centres in Europe (RESILIENCE)	2034	318,4



# Why participating in HE Research Infrastructures?



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- Cost-benefit for the research institutions:
  - **Costs:** investment cost; operating costs;
  - **Benefits:** enhancing research capacity; attracting R&I funding, researchers & students; enhanced networking & reputation

More on social cost-benefit analysis of large-scale RI: [here](#)



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## 2. Terminology & definitions

# Terminology (1/2)



- ❖ **Research infrastructures (RIs):** are facilities that provide resources and services for the research communities to conduct research and foster innovation in their fields.
- ❖ **Technology Infrastructures (TIs):** are defined facilities, equipment, capabilities and support services required to develop, test and upscale technology to advance from validation in a laboratory up to higher TRLs prior to competitive market entry.
- ❖ **Research Infrastructures of European interest:** A RI is of European interest when is able to attract users from EU or associated countries other than the country where the infrastructure is located.
- ❖ **European Research Area (ERA):** is the ambition to create a single, borderless market for research, innovation and technology across the EU

# Terminology (2/2)



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- ❖ **European Strategy Forum on Research Infrastructures (ESFRI)**: Mission: to support a coherent & strategy-led approach to policy-making on RIs in Europe, and to facilitate multilateral initiatives leading to the better use and development of RIs, at EU and international level.

<https://www.youtube.com/c/ESFRI-EU/videos>

- ❖ **European Research Infrastructure Consortium (ERIC)**: is a specific legal form that facilitates the establishment and operation of RI with European interest. The ERIC allows the establishment and operation of new or existing RI on a non-economic basis.

- ❖ **European Open Science Cloud (EOSC)**: aims to build infrastructures to provide seamless access to FAIR data and interoperable services for the scientific community.

<https://www.eosc.eu/>

- ❖ **FAIR data**: are data which meet principles of findability, accessibility, interoperability, and reusability.





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## 3. Examples of Approved Projects

# Indicative HE INFRA projects (1/2)



- **iMagine**: Imaging data and services for aquatic science; 2022-2025; HORIZON-INFRA-2021-SERV-01

<https://cordis.europa.eu/project/id/101058625>

It provides a portfolio of image datasets, high-performance image analysis tools empowered AI, and Best Practice documents for scientific image analysis

- **AI4EOSC**: Artificial Intelligence for the European Open Science Cloud; 2022-2025 HORIZON-INFRA-2021-EOSC-01

<https://cordis.europa.eu/project/id/101058593>

It delivers an enhanced set of advanced services for the development of AI, ML and Deep Learning (DL) models and applications

- **eRImote**: European RIs - Pathway to Improved Resilience and Digital and Remote Access 2022-2024; HORIZON-INFRA-2021-DEV-01

<https://cordis.europa.eu/project/id/101057557>

To consider solutions for digital and remote service provision across RI domains and to look for transferable practices and new developments that will improve accessibility and resilience of RIs

# Indicative HE INFRA projects (2/2)

- **AI4LIFE:** Artificial Intelligence for Image Data Analysis in the Life Sciences; 2022-2025; HORIZON-INFRA-2021-SERV-01

<https://cordis.europa.eu/project/id/101057970>

It will build an open, accessible, community-driven repository of FAIR pre-trained AI models and develop services to deliver these models to life scientists, including those without substantial computational expertise



- **canSERV:** Providing cutting edge cancer research services across Europe; 2022-2025; HORIZON-INFRA-2021-SERV-01

<https://cordis.europa.eu/project/id/101058620>

It connects, coordinates, and aligns existing oncology and complimentary RIs and provides services.

It brings together 16 RIs (BBMRI, EURO-BIOIMAGING, ELIXIR, etc.)

- **BioDT:** Biodiversity Digital Twin for Advanced Modelling, Simulation and Prediction Capabilities; 2022-2025; HORIZON-INFRA-2021-TECH-01

<https://cordis.europa.eu/project/id/101057437>

It aims to push the current boundaries of predictive understanding of biodiversity dynamics by developing a Digital Twin providing advanced modelling, simulation and prediction capabilities.



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## 4. Indicative 2023 topics (Draft Workprogramme 2023-2024)



# RI 2023 Call in figures



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## Developing, consolidating and optimising the European RIs landscape, maintaining global leadership

- 9 topics on INFRA-2023-DEV-01: 99.25M€ - 36 projects

## Enabling an operational, open and FAIR EOSC ecosystem

- 6 topics on HORIZON-INFRA-2023-EOSC-01: 69.50M€ - 8 projects

## RI services to support health research, accelerate the green and digital transformation, and advance frontier knowledge

- 3 topics on HORIZON-INFRA-2023-SERV-01: 147.10M€ - 13 projects

**Deadline: 28 March 2023 (?)**

# INFRA-2023-DEV-01 topics:



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## **HORIZON-INFRA-2023-DEV-01-01**

Concept development for a RI to manage, integrate and sustain large medical cohort studies

RIA; 1-3M€/ project; 3M€ total; 1 project to be funded

## **HORIZON-INFRA-2023-DEV-01-02**

Early phase implementation of ESFRI Projects which entered the ESFRI Roadmap in 2018

CSA; 1-2.5M€/ project; 5 projects to be funded

## **HORIZON-INFRA-2023-DEV-01-03**

Consolidation of the RI landscape – Individual support for evolution and long-term sustainability of pan-European RIs

RIA; 3-4M€/ project; 40M€ total; 10 projects to be funded; 80% funding rate

## **HORIZON-INFRA-2023-DEV-01-04**

Consolidation of the RI landscape – development of complementarities, synergies and/or integration between a set of pan- European RIs

RIA; 2-5M€/project; 20M€ total; 5 projects

## **HORIZON-INFRA-2023-DEV-01-05**

Preparation of common strategies for future development of RI technologies and services within broad RI communities

CSA; 1.5-2.5M€/project; 12.5M€ total; 5 projects

## **HORIZON-INFRA-2023-DEV-01-06**

Strengthen the bilateral cooperation on RIs with Latin America

CSA; 0.75-1.5M€/project; total 3.75M€; 3 projects

## **HORIZON-INFRA-2023-DEV-01-07**

Strengthening the international dimension of ESFRI and/or ERIC RIs

CSA; 1-1.5M€/project; 7.5M total; 5 projects

## **HORIZON-INFRA-2023-DEV-01-08**

Preparatory phase of new ESFRI RI projects

CSA; 3M€/project; 1 project to be funded

## **HORIZON-INFRA-2023-DEV-01-09**

Assessing the post-war state of RI in Ukraine

CSA; 2M€/project; 1 project to be funded

# INFRA-2023-EOSC-01 Topics



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## HORIZON-INFRA-2023-EOSC-01-01

Build on the science cluster approach to ensure the uptake of EOSC by research infrastructures and research communities

RIA; 25M€/ project; 25M€ total; 1 project

## HORIZON-INFRA-2023-EOSC-01-02

Development of community-based approaches for ensuring and improving the quality of scientific software and code

RIA; 8.5M€/ project; 1 project

## HORIZON-INFRA-2023-EOSC-01-03

Planning, tracking, and assessing scientific knowledge production

RIA; 8M€/ project; 1 project

## HORIZON-INFRA-2023-EOSC-01-04

Next generation services for operational and sustainable EOSC Core Infrastructure

RIA; 10M€/project; 1 projects

## HORIZON-INFRA-2023-EOSC-01-05

EOSC Architecture and Interoperability Framework

CSA; 3M€/project; 1 project to be funded

## HORIZON-INFRA-2023-EOSC-01-06

Trusted environments for sensitive data management in EOSC

RIA; 5M€/project; 15M€ total; 3 projects to be funded

# INFRA-2023-SERV-01Topics



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## **HORIZON-INFRA-2023-SERV-01-01**

RI services to enable R&I addressing main challenges and EU priorities

RIA; 8-14.5M€/ project; Total: 110M€; 8 projects to be funded

## **HORIZON-INFRA-2023-SERV-01-03**

Services advancing frontier knowledge: co-fund pilots with pan-European RIs and/or national RIs

COFUND; 6-9M€/project; Total: 12M€; 3 projects

## **HORIZON-INFRA-2023-SERV-01-02**

RI services advancing frontier knowledge

RIA; 8-14.5M€/ project; Total: 25.1M€; 2 projects to be funded



Concept development for a research infrastructure to manage, integrate and sustain large medical cohort studies (1/4)



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HORIZON-INFRA-2023-DEV-01-01

✓ RIA

✓ 1-3M€/ project

✓ 1 project to be funded

## Expected Outcome (contribute to several bullets)

- ✓ Support to planning and decision making at national & European level
- ✓ Ensuring stewardship & long-term availability of data & samples (existing & future large medical cohort studies for their **re-use** for secondary research)
- ✓ Strengthening and integration of existing capacities in the field
- ✓ New services and access opportunities available to the research community, allowing to better tackle medical challenges

# Concept development for a RI to manage, integrate and sustain large medical cohort studies (2/4)



HORIZON-INFRA-2023-DEV-01-01



## Scope - Aim:

- ✓ To develop new concepts for a RI at European level, to **manage, integrate and sustain large medical cohort studies**
- ✓ To enable **exploitation of past investments** by EU framework programmes or other European funders on the development of medical cohorts
- ✓ To tackle all key questions concerning the **technical and conceptual feasibility** of an effective RI service offer, at EU level, to manage, integrate and sustain large medical cohort studies

# Concept development for a RI to manage, integrate and sustain large medical cohort studies (3/4)



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HORIZON-INFRA-2023-DEV-01-01



## Scope - The proposal should:

- ✓ Demonstrate relevance in relation to ERA, including to the existing landscape, and the advancement
- ✓ **Highlight the research challenges** to address (including global)
- ✓ Indicate the gaps in the RI landscape it will cover and the synergies with other existing infrastructures at European and global level
- ✓ Indicate, when relevant, the potential impact of this RI at regional level
- ✓ Etc.

# Concept development for a RI to manage, integrate and sustain large medical cohort studies (4/4)



HORIZON-INFRA-2023-DEV-01-01



## Topic analysis

- ✓ A new RI concept on medical cohort studies
- ✓ 1 project to be funded; limited budget of 3M€: too hard to join; unless with no funding?
- ✓ Of major interest to Turkish organisations committed to large medical cohort studies
- ✓ Potential benefits: improve clinical/ medical research capacity; improved access to data; get networked with high-profiled counterparts around Europe; get involved in future HE funded research projects
- ✓ Turkish participant profile: a governmental agency on health; healthcare organisations which already participate in several large medical cohort studies
- ✓ Potential key advantages of Türkiye: large population; millions of refugees/ immigrants who they can be the subject of medical cohort studies



# Preparation of common strategies for future development of RI technologies and services within broad RI communities (1/4)



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HORIZON-INFRA-2023-DEV-01-05

✓ CSA

✓ 1.5-2.5M€/ project

✓ 5 projects to be funded

## Expected Outcome (contribute to ALL bullets)

- ✓ More comprehensive analysis of **RI services available** to European scientists;
- ✓ Analysis of technology **needs and service gaps** in European RI at strategic level;
- ✓ Common long-term strategies for the development of technologies and services in pan-European RI;
- ✓ More effective RI landscape in Europe;
- ✓ Increased capacity of European RIs to respond to emerging needs;
- ✓ Better integration of the RI communities across the thematic areas.

# Preparation of common strategies for future development of RI technologies and services within broad RI communities (2/4)



HORIZON-INFRA-2023-DEV-01-05



## Scope - The proposal should:

- ✓ Analyse **long-term scientific developments and trends** in wide scientific domains, and how to enhance research capacities to support them
- ✓ Identify the **future research infrastructure needs** for technology or innovation, as well as service gaps in relation to key scientific challenges and policy priorities
- ✓ Define **common plans or roadmaps** for future RI technology and services, including their digitalisation when relevant, and their long-term development pathways

# Preparation of common strategies for future development of RI technologies and services within broad RI communities (3/4)



HORIZON-INFRA-2023-DEV-01-05



## Scope - The proposal should:

- ✓ Be carried out by **thematic consortia** of research infrastructures
- ✓ Plan for structured and long-term engagement with other relevant stakeholders and foresee dedicated activities to develop synergies and complementarities with the other projects selected under this topic

Closer collaboration with and involvement of ESFRI clusters & related RIs is needed.

# Preparation of common strategies for future development of RI technologies and services within broad RI communities (4/4)



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HORIZON-INFRA-2023-DEV-01-05

## Topic analysis

- ✓ 5 CSAs to be funded on thematic areas
- ✓ Turkish participation in areas of particular national interest
- ✓ Potential participants: Major research centres / governmental agencies



# Preparatory phase of new ESFRI RI projects (1/4)



HORIZON-INFRA-2023-DEV-01-08

- ✓ CSA
- ✓ 3 M€/ project
- ✓ 1 project to be funded



## Expected Outcome (contribute to several bullets)

- ✓ Structuring effect on ERA;
- ✓ The scientific excellence of the European landscape of sustainable RI enhances **problem solving capacities** to address challenges in science, industry & society;
- ✓ Solid ground for the **decision making** on new research infrastructures is available to MS/ACs, their funding bodies and other relevant stakeholders;
- ✓ Long-term perspective for RI investments;
- ✓ Consistent and well-functioning European RIs ecosystem through the development of **synergies and complementarities**

# Preparatory phase of new ESFRI RI projects (2/4)



HORIZON-INFRA-2023-DEV-01-08



## Scope should:

- ✓ To support the preparatory phase of new ESFRI RI projects **identified in the 2021 ESFRI Roadmap** (never supported before for their preparatory phase)
- ✓ To involve all the stakeholders necessary to move the project forward, to take the decisions, and to make **financial commitments**, before construction can start:
  - ✓ National/regional ministries/governments, research councils, or
  - ✓ Funding agencies from countries already declared their commitment to ESFRI.
  - ✓ Operators of research facilities, research centres, universities, and
  - ✓ Industry may also be involved whenever appropriate



## Scope - The proposal should address:



- ✓ The development of **legal & financial frameworks/plans** (setting-up, construction, integration of resources, operation, governance structure, etc.)
- ✓ The preparation of legal & financial agreements, (site, governance, internal rules, financing of the new Ris)
- ✓ The establishment of plans for logistics and HR management
- ✓ The technical challenges
- ✓ The development of plans for the provision of RI services
- ✓ The relevance of the RI for science and society

# Preparatory phase of new ESFRI RI projects (4/4)



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HORIZON-INFRA-2023-DEV-01-08



## Topic analysis

- ✓ 1 project to be funded; Strategy: join proposal
- ✓ Is there a new ESFRI RI project of strategic importance for Türkiye?
- ✓ If yes, then it is worth participating



# Development of community-based approaches for ensuring and improving the quality of scientific software and code (1/4)



HORIZON-INFRA-2023-EOSC-01-02

- ✓ RIA
- ✓ 8.5 M€/ project
- ✓ 1 project to be funded
- ✓ Additional rules in the GA

## Expected Outcome (contribute to ALL bullets)

- ✓ A framework of **community curation** is established and promoted that ensures **quality** of s/w and code
- ✓ Infrastructure, tools & services are deployed (that **allow researchers** to develop, describe with metadata, version, archive, share & reuse research s/w)
- ✓ The notion of **s/w quality is defined** in the context of EOSC
- ✓ Baseline **quality indicators & “minimum quality”** are defined (fit for purpose)
- ✓ The quality of research s/w (technical & organizational) is improved
- ✓ Software is developed in a sustainable way and its reuse is maximised

# Development of community-based approaches for ensuring & improving quality of scientific s/w & code (2/4)



HORIZON-INFRA-2023-EOSC-01-02



## Scope:

- ✓ Software and code are **digital objects** that are becoming increasingly important for the EOSC ecosystem and beyond
- ✓ Overall objective: to **improve the quality** of s/w, code, and of other digital objects based on code such as workflows, computational models, etc.
- ✓ **Quality s/w is key for improving the reproducibility of research** and can also represent a first-class research output on par with publications and datasets

# Development of community-based approaches for ensuring & improving quality of scientific s/w & code (3/4)



HORIZON-INFRA-2023-EOSC-01-02



## Scope – Among other requirements, the proposal should:

- ✓ Foster alignment of **existing initiatives** by promoting coherence and developing community guidelines
- ✓ Promote the use of already **existing** common technical specifications, standards or infrastructure
- ✓ Define s/w delivering & packing best practices towards software reusability
- ✓ Ensure integration of infrastructure, tools and services for s/w and anything that is code-based
- ✓ Develop **minimum quality certification frameworks** through automated checks, pipelines and digital badges

# Development of community-based approaches for ensuring & improving quality of scientific s/w & code (4/4)



HORIZON-INFRA-2023-EOSC-01-02



## Topic analysis

- ✓ This topic may not be interesting for academic/ research organisations but for IT/ software development companies, and s/w quality startups
- ✓ 1 project to be funded; Suitable strategy: join existing consortia
- ✓ Look who is behind relevant existing initiatives, technical specs and standards



# Trusted environments for sensitive data management in EOSC (1/4)



HORIZON-INFRA-2023-EOSC-01-06

- ✓ RIA; At least TRL6
- ✓ 5 M€/ project
- ✓ 3 projects to be funded
- ✓ Eligible costs: lump sum
- ✓ Additional sub-criterion for Impact

## Expected Outcome (contribute to ALL bullets)

- ✓ Expansion of EOSC's access to resources provided by public authorities, in **highly sensitive areas** (health, gov statistics or geo-spatial applications) that ensures the opening of these valuable data sets **for novel research**
- ✓ Emergence of trusted environments for management and sharing of sensitive data to facilitate **new ways of using sensitive data sets**
- ✓ Demonstration that **FAIR data** workflows with sensitive data **are securely possible** (benefits for both data providers & science community)

# Trusted environments for sensitive data management in EOSC (2/4)



HORIZON-INFRA-2023-EOSC-01-06

## Scope:

- ✓ Data sets of public authorities are often very sensitive and therefore restricted
- ✓ Sensitive data is also offered by commercial entities
- ✓ It is vital for EOSC to enable its users to engage with such sensitive data sources
- ✓ Safe rooms, safe pods and secure remote access environments all present **challenges to physical and logical security** (transdisciplinary norms & transnational legislation present additional challenges)
- ✓ The **aim** of this topic is to develop & implement a set of methods, practices and environments **to effectively enable sensible data sharing/processing**
- ✓ Take into account existing & forthcoming work and policies in the area (e.g. [Medical Informatics Platform](#), [European Health Data Space](#))

## Scope – Among other requirements the proposal should:

- ✓ Explore the possibility of creating **Public Authorities' Government Zones in EOSC**, providing tailored access control and engaging with public authorities to establish safe & secure access to their data for FAIR data processing
- ✓ Explore possible solutions to move all or parts of a workflow on sensitive data to a secure data storage and to allow users to receive only aggregated and **desensitised** results
- ✓ Support for publishing **anonymised** data into repositories that are compliant with the EOSC Interoperability Framework

# Trusted environments for sensitive data management in EOSC (4/4)



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HORIZON-INFRA-2023-EOSC-01-06



## Topic analysis

- ✓ Medical/ health-related project proposals of potential interest for Turkish organisations
- ✓ Opportunity for researchers/ companies working on cybersecurity domains (data security, encryption, etc.)
- ✓ 1 project to be funded; look for existing consortia; check relevant publications to identify leading researchers in the area of sensitive data management
- ✓ Links to related projects from relevant topics, e.g. HORIZON-HLTH-2022-IND-13-02 should be established



# Research infrastructure services to enable R&I addressing main challenges & EU priorities (1/14)



## HORIZON-INFRA-2023-SERV-01-01

- ✓ RIA; 8-14.5 M€/ project; 8 projects to be funded
- ✓ 100 pages proposal
- ✓ Additional eligibility criteria
- ✓ Additional sub-criteria for 'Excellence'
- ✓ Approved projects: balance portfolio covering as many areas as possible (scientific challenges)

## 2023 priority areas: RI services ...

- ✓ 1. to enable research linking environmental factors to human health
- ✓ 2. for improving clinical research in the paediatric field
- ✓ 3. for climate-change risks
- ✓ 5. for healthy ocean and waters
- ✓ 6. for sustainable aquaculture, fisheries and blue economy
- ✓ 7. for renewable energy technologies and systems
- ✓ 8. for innovative applications of nanoscience and nanotechnology
- ✓ 9. to enhance the EU capacity for the development of semiconductors
- ✓ 10. for shaping the future generation society

# RI services to enable R&I addressing main challenges & EU priorities (2/14)



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## Expected Outcome

- ✓ Provision of **innovative, customised and efficient RI services** enhancing and increasing society's long-term and consistent problem-solving capacity and evidence-based policy making

# RI services to enable R&I addressing main challenges & EU priorities

(3/14)

## Scope:

- **Aim:** to provide **transnational access and/or virtual access** to integrated and customised RI services for **challenge-driven** research & innovation in the priority areas, offered by a wide range of top level RIs
- ✓ Other activities included:
  - ✓ Ad hoc users' training and scientific and technical support
  - ✓ Training courses for using the infrastructures
  - ✓ Remote or virtual provision of services & improve, customise & harmonise RI services
  - ✓ Limited development of new services, relevant to specific scientific challenges in the identified domains
- ✓ Adhere to the guidelines and principles of the [European Charter for Access to Research Infrastructures](#)



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# RI services to enable R&I addressing main challenges & EU priorities (4/14)



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## Scope – Proposals should:

- ✓ Make available to researchers a wide and comprehensive **portfolio** of complementary **RI services**, including data services, and customized workflows to enable R&I addressing the set challenge.
- ✓ Involve, as **beneficiaries**, affiliated entities, third parties, or external providers of purchased services, the necessary interdisciplinary set of RIs of European interest (ESRI, ERIC, etc.)



# Area 1: Linking Environmental Factors to Human Health (5/14)



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## Scope - The proposal should:

Types of services to be offered to users:

### Expected outcome:

- ✓ Better risk assessment tools and data evidence
- ✓ Evidence to inform policy making and public health bodies
- ✓ Wider access to specialised RI services

- ✓ Collecting samples and data on environmental risk factors including on socio-economic, occupational and life style factors;
- ✓ High throughput measurements to quantify substances of concern;
- ✓ Integration of diverse data types including
- ✓ Etc.

## Area 2: Clinical research in the paediatric area (6/14)



HORIZON-INFRA-2023-SERV-01-01

### Expected outcome:

- ✓ Advancement of paediatric medicines & therapeutic /diagnostic approaches to markets and clinical use;
- ✓ Accelerated availability of solutions and products to patients in need;
- ✓ Wider access to RI services to underpin competitiveness of the European industry & biotech SMEs;
- ✓ Joining forces of RI and paediatric competence networks;
- ✓ Availability of innovative tools to conduct paediatric clinical trials

### Scope - The proposal should:

- ✓ Integrate & give access to RI services to enable and accelerate R&I towards innovative biomedical products and therapies for children
- ✓ Support clinical R&I projects addressing therapeutic, diagnostic and prevention measures for disease management and help these projects to meet regulatory requirements
- ✓ Include innovative trial designs and novel monitoring tools

## Area 3: Climate-change risks (7/14)



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### Expected outcome:

- ✓ Enhanced and integrated cross-disciplinary RI capacities addressing climate related-risks in Europe (link to HE clusters 5 & 6, or support mission on climate adaptation);
- ✓ Harmonisation of data policies and management of IPRs and ethical issues; interoperability
- ✓ Researchers able to optimally exploit the RI services for their research

### Scope - The proposal will:



- ✓ Bring together RI for R&I addressing climate-related multi-hazard risks in the EU & ACs
- ✓ Offer fit-for-purpose access modalities facilitating the:
  - ✓ joint selection and or coherent scheduling of user projects,
  - ✓ adhoc support and training of (new) users,
  - ✓ customised R&I data,
  - ✓ data products,
  - ✓ scientific services, including joint services by complementary RIs



# Area 5: Healthy ocean and waters (8/14)



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## Expected outcome:

- ✓ Enabling/facilitating R&I for clean oceans & waters, and climate change;
- ✓ Enhanced and further integrated RI capacities in support of the development phase of the Mission “Restore our Ocean and waters by 2030”, European Green Deal and international climate initiatives



## Scope - The proposal will:

- ✓ Provide access to a wide portfolio of complementary RI and their services
- ✓ Further integrate, customise or combine services and adapt modalities of access to facilitate the development phase of the Mission
- ✓ Etc.



# Area 6: Sustainable aquaculture, fisheries and blue economy (9/14)



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## Expected outcome:

- ✓ Enabling/facilitating R&I for sustainable aquaculture, fisheries and the blue economy;
- ✓ Enhanced and further integrated RI capacities in support of the Common Fisheries Policy, the Farm to Fork Strategy, the sustainable blue economy and the European Green Deal

## Scope - The proposal will:

- ✓ Provide access to a wide portfolio of complementary RIs and their services needed to address the relevant scientific challenges
- ✓ Build on past integration of access to facilities
- ✓ Further integrate, customise or combine services & adapt modalities of access to facilitate research addressing EU priorities
- ✓ Etc.

# Area 6: Renewable energy technologies and systems (10/14)

## Expected outcome:

- ✓ Enabling R&I to increase energy efficiency and foster a wider use of RE, supporting the objective of the **European Green Deal** of a climate neutrality by 2050, the '**Fit for 55**' energy targets and the **SET-Plan** action on integrating renewable technologies in the energy systems;
- ✓ Wider access for academic and industrial researchers to enhanced and further integrated RI services in support of the green transition



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## Scope - The proposal should:

- ✓ Integrate services provided by RIs in the EU & ACs in the fields of:
  - ✓ solar power (PV & CSP),
  - ✓ hydrogen,
  - ✓ biofuels,
  - ✓ offshore renewable energy (ORE),
  - ✓ integrated grids and
  - ✓ energy storage
- ✓ Provide broader access to services for R&D of RE systems across various TRLs
- ✓ Etc.

## Area 8: Applications of nano-science & nanotechnology (11/14)



HORIZON-INFRA-2023-SERV-01-01

### Expected outcome:

- ✓ Enabling R&I on innovative applications to support European scientific & industrial competitiveness needed for green & digital transition
- ✓ Cross-fertilisation and transfer of knowledge and technologies
- ✓ Wider access for academic & industrial researchers to RI services to address emerging socio-economic needs
- ✓ Enhanced safety of R&D, reducing possible health & environmental risks

### Scope - The proposal should:

- ✓ Build on past integration of access to their facilities in previous FPs & reach higher and more interdisciplinary level of integration (offer access through a **single entry point** to a set of services)
- ✓ Take into account safety issues
- ✓ Etc.



# Area 9: EU capacity for the development of semiconductors (12/14)



HORIZON-INFRA-2023-SERV-01-01

## Expected outcome:

- ✓ Enabling R&I in support to the competitiveness and autonomy of the European industry and to the European Chips Act;
- ✓ Wider access for academic and industrial researchers to RI services;
- ✓ Transfer of knowledge & tech between research institutions & the semiconductor industry

## Scope:

- Existing RIs:** nanoelectronics infrastructure, printing facilities for electronics, facilities for ion beam-modification or cosmic radiation hardening of semiconductors, etc.
- ✓ Should create a **unique entry point** to a wide and integrated catalogue of services enabling R&D on leading-edge semiconductors (next generation computing)
  - ✓ Etc.



# Area 10: Shaping the future generation society (13/14)



HORIZON-INFRA-2023-SERV-01-01

## Expected outcome:

- ✓ Scientific evidence for the successful implementation of Next Generation EU (economic, societal & environmental);
- ✓ Insight on the ways different societal groups can get actively involved and contribute to EU missions
- ✓ Contribution to the EU Youth strategy;
- ✓ Provision of evidence on specific patterns and skills to foster active inclusion of various societal groups

## Scope - The proposal will:

- ✓ Effective access to an integrated, wide range of RI services enabling research into the transformation towards a **future European society** in line with the goals envisaged by Next Generation EU
- ✓ Provide physical, remote or virtual access to resources and make available and integrate existing data through a **single point of access**
- ✓ Etc.

# RI services to enable R&I addressing main challenges & EU priorities (14/14)



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## Topic analysis

- ✓ Priority areas relevant and/or of importance for Türkiye
- ✓ 1 project to be funded per area; aim at joining existing consortia
- ✓ Of interest for both researchers active in the priority areas and/or organisations/ companies offering relevant services

# Research infrastructure services advancing frontier knowledge (1/5)



**HORIZON-INFRA-2023-SERV-01-02**

- ✓ RIA; 8-14.5 M€/ project
- ✓ 29 M€ total; 2 projects to be funded
- ✓ 100 pages proposal
- ✓ Additional eligibility conditions
- ✓ Additional sub-criteria for 'Excellence'
- ✓ Approved projects: balance portfolio covering as many areas as possible (scientific domains)

## **Expected Outcome (contribute to ALL bullets)**

- ✓ Wider, simplified, and more efficient **access to the best RIs** available to researchers to conduct **curiosity-driven research, irrespective of location;**
- ✓ Breakthrough and leading-edge **research enabled by advanced RI services** made available to a wider user community;
- ✓ **Improved and harmonised RI services** and broader use of RI resources across the EU and AC deriving from the exploitation of synergies & complementarities;



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## Expected Outcome (continued)

- ✓ A new generation of researchers trained to exploit tools for their research;
- ✓ Cross-disciplinary fertilisations and a wider sharing of information, knowledge and technologies across scientific fields fostered by closer interactions between researchers
- ✓ Better management, including implementing FAIR data principle, of the continuous flow of data collected or produced by research infrastructures.





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## Scope:

- ✓ Aim: provide transnational access (on-site or remote) and/or virtual access to integrated and customised RI services for **curiosity-driven research** in wide scientific domains, offered by a wide range of complementary and interdisciplinary top level RIs
- ✓ In 2023, the scientific domains called under this topic are:
  - ✓ **Biosphere**: terrestrial biodiversity and ecosystems, including forest;
  - ✓ **Astronomy** and Astroparticle physics;
  - ✓ **Arts and Humanities**



## Scope - The proposal should:

- ✓ Other activities included:
  - ✓ Ad hoc users' training and scientific and technical support
  - ✓ Training courses for using the infrastructures
  - ✓ Remote or virtual provision of services & improve, customise & harmonise RI services
  - ✓ Limited development of new services, relevant to specific scientific challenges in the identified domains
- ✓ Adhere to the guidelines and principles of the [European Charter for Access to Research Infrastructures](#)



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HORIZON-INFRA-2023-SERV-01-02



## Topic analysis

- ✓ 3 wide areas open for 2023; only 2 projects to be funded
- ✓ Are you interested in (i) terrestrial biodiversity / ecosystems, including forest; Astronomy/ Astroparticle physics; Arts and Humanities?
- ✓ Are you developing advanced IT tools/ technologies that can be of value for RI services?

# Research infrastructure services advancing frontier knowledge: co- fund pilots with pan-European RIs and/or national RIs (1/5)



**HORIZON-INFRA-2023-SERV-01-03**

- ✓ **Co-fund Action; 2-5 M€/ project**
- ✓ **12 M€ total; 3 projects to be funded**
- ✓ **100 pages proposal**
- ✓ Additional eligibility conditions
- ✓ Additional sub-criteria for 'Excellence'
- ✓ Approved projects: balance portfolio covering as many areas as possible (scientific domains)

## **Expected Outcome (contribute to ALL bullets)**

- ✓ Wider, simplified, and more efficient **access to the best RIs** available to researchers to conduct curiosity-driven research, **irrespective of location;**
- ✓ Access programmes to RIs in the EU & ACs **enhance their openness;**
- ✓ Breakthrough and leading-edge research enabled by advanced research infrastructure services made **available to a wider user community;**



# RI services advancing frontier knowledge: co-fund pilots with pan-European RIs and/or national RIs (2/5)



HORIZON-INFRA-2023-SERV-01-03



## Expected Outcome (continued)

- ✓ A new generation of researchers trained to exploit tools for their research;
- ✓ Cross-disciplinary fertilisations and a wider sharing of information, knowledge and technologies across scientific fields fostered by closer interactions between researchers
- ✓ Better management, including implementing FAIR data principle, of the continuous flow of data collected or produced by research infrastructures.

# RI services advancing frontier knowledge: co-fund pilots with pan-European RIs and/or national RIs (3/5)



HORIZON-INFRA-2023-SERV-01-03



## Scope:

- ✓ **Aim:** Piloting the co-funding, with MS & ACs, of programmes of access to RIs
- ✓ The programme should provide trans-national access (on-site or remote) and/or virtual access to services offered by similar or complementary advanced RIs, to **enable curiosity-driven interdisciplinary research**
- ✓ Proposals can address **all scientific domains**

# RI services advancing frontier knowledge: co-fund pilots with pan-European RIs and/or national RIs (4/5)



HORIZON-INFRA-2023-SERV-01-03



## Scope - The proposal should:

- ✓ Explain how the EU funding will be complemented by other national/ international funding sources to implement **joint calls** for the provision of access to research infrastructures
- ✓ Clearly specify which of the two options (**direct implementation** or through **financial support to third parties**) they will use to implement the co-fund action
- ✓ Adhere to the guidelines and principles of the [European Charter for Access to Research Infrastructures](#)

# RI services advancing frontier knowledge: co-fund pilots with pan-European RIs and/or national RIs (5/5)



HORIZON-INFRA-2023-SERV-01-03



## Topic analysis

- ✓ Will be there Turkish funding sources available? (funding programme)
- ✓ If yes which organisation provides such funding?
- ✓ 3 projects to be funded for all scientific domains; low success rate is expected





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Technical Assistance for Turkey in Horizon 2020 Phase-II  
EuropeAid/139098/IH/SER/TR

# RI Webinar

21/11/2022

## 5. Tips for Successful Participation

# Tips for Successful Participation in RI calls



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- Strategy: Join consortia – don't lead efforts
- Rather easy to identify who is coordinating proposals: RIs are already there and the EC wishes to see continuation, consolidation, integration (See people behind RIs in ESFRI roadmap)
- It may be a challenge to convince consortia to let you in: Prepare your pitch – what value can you offer than no-one else can?
- Companies/ SMEs – startups may also benefit from RIs: either by contributing to e.g. the development of RI services or by making use of the RIs (facilities, data, services) for commercial purposes



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# RI Webinar

21/11/2022

## 6. What's next?

# 2023 – 2024 RIs Calendar



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- 09/12/2022: [Info Day](#) on HE RI Calls 2023
- 12-13/12/2022: 82<sup>nd</sup> ESFRI Forum Plenary Meeting
- 28/03/2023: 2023 Call deadline
- 12/03/2024: 2024 Call deadline
- 2023- onwards: Joint calls from RI projects?



# Turkish Participation in Research Infrastructures



Strategy Report on Research Infrastructures  
**ROADMAP 2021**


Part 1 Part 2 Part 3 Annex  
MARKS PEOPLE

Browse the catalogue

View the Table

Explore the map

## TURKEY



### Member

© Landmarks: PRACE

### Observer

© Landmarks: BBMRI ERIC

### Prospective

► Projects: METROFOOD-RI  
© Landmarks: EU-SOLARIS

CLOSE

<https://roadmap2021.esfri.eu/projects-and-landmarks/explore-the-map/>



# Food for thought & Q&A SESSION



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Further digging & thinking:

- ❑ Use Cordis DB to look into existing funded projects (Collection: HE, projects, INFRA call ID)  
<https://cordis.europa.eu/search/en>
- ❑ On top of national funding for new Turkish RIs, how can a Turkish academic & research organisation or industry take advantage of HE funding for RI-related activities?





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# Teşekkür ederim!

# Thank you!





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