



THE EU RESEARCH & INNOVATION PROGRAMME 2021 - 2027

Work Programme 2025 overview

INFRADEV - Consolidation and evolution of the European Research Infrastructure landscape, to develop an **integrated** European **ecosystem** of research infrastructures, including single-sited facilities, distributed facilities and networks of facilities providing joint services.

INFRAEOSC - Enabling an operational, open and FAIR EOSC ecosystem, to contribute to a web of FAIR (Findable, Accessible, Interoperable, Reusable) research data and provide a trusted and secure federated system of research data and services (EOSC Federation) for researchers in the EU and Associated Countries to store, share, process and reuse within and across disciplines and borders FAIR research outputs and tools for research, innovation and educational purposes.

INFRASERV - Research infrastructures services to support health research, accelerate the green transition and the digital transformation, and advance frontier knowledge, to support transnational access to state-of-the-art facilities for researchers, relevant for a large research domain or in support of societal challenge and EU priorities.

INFRATECH - Next generation of scientific instrumentation, tools, methods, and advanced digital solutions of research infrastructures and foster innovation and co-creation with industry, to support research infrastructure needs for technology development to maintain and upgrade their services and to create new ones, and to support the Destination Earth initiative.



HORIZON-INFRA-2025-01-DEV-01: Training and up-skilling of research infrastructures technical staff









TYPE OF ACTION

 Coordination and Support Actions (CSA)

INDICATIVE BUDGET

- EUR 10 million
- Expected EU contribution per project: EUR 1-1.5 million

OTHER CONDITIONS

- Indicative number of projects expected to be funded: 8
- Eligible costs will take the form of a lump sum
- JRC may participate

- Call opening: 15 May 2025
- Deadline: 18 September 2025



Training and up-skilling of research infrastructures technical staff

Scope

- This action will support structuring the offer of training activities dedicated to enhancing skills and career profiles of technical staff working in research infrastructures.
- This would cover activities such as:
 - The development of new training programmes addressed to cover specific needs of research infrastructures.
 - Training programmes that promote mobility and career opportunities throughout Europe (for example through staff exchange) or that create training opportunities (for example through summer schools or workshops).
 - Programmes to improve skills in a single RI or in a single domain / across RI domains (common needs such as research data management, AI or remote access)
- Proposals should include efforts to collaborate with other projects in this topic aligning, sharing or publicizing their respective training activities.
- Proposals must include at least one ESFRI / ERIC (or legal entity hosting ERIC facilities/services, with a declaration of ERIC support)



HORIZON-INFRA-2025-01-DEV-02: Early phase implementation of ESFRI Projects that entered the ESFRI Roadmap in 2021









TYPE OF ACTION

 Coordination and Support Action (CSA)

INDICATIVE BUDGET

- EUR 16.5 million
- Expected EU contribution per project: EUR 1 - 1.5 million

OTHER CONDITIONS

- Indicative number of projects expected to be funded: 11
- Eligible costs will take the form of a lump sum

- Call opening: 15 May 2025
- Deadline:
 18 September
 2025



Early phase implementation of ESFRI Projects that entered the ESFRI Roadmap in 2021

Scope

- This topic targets the research infrastructure projects that entered the ESFRI Roadmap in 2021. Proposals must explicitly state which of these 11 ESFRI Projects* they target.
- Support can be provided for activities such as:
 - Enlargement of the membership.
 - Establishment of the governance structure and legal entity.
 - Securing the funding.
 - Finalisation of the distributed architecture.
 - Development of ICT and data management solutions.
 - Development of access policies and users' strategies.
 - Consolidation of the international dimension.
 - Consolidation of the service offer.
 - Assessing possible expansion to new user communities/new needs.
 - Addressing staff and procurement related issues.
- Proposals should focus on activities addressing identified bottlenecks.



HORIZON-INFRA-2025-01-DEV-03:

Consolidation of the RI landscape – Individual support for evolution, long-term sustainability and emerging needs of pan-European research infrastructures









TYPE OF ACTION

 Research and Innovation Action (RIA)

INDICATIVE BUDGET

- EUR 30 million
- Expected EU
 contribution per
 project: EUR 3 4
 million

OTHER CONDITIONS

- Indicative number of projects expected to be funded: 8
- At least one ESFRI Landmark / ERIC
- 80% funding rate

- Call opening: 15 May 2025
- Deadline:18 September2025



Consolidation of the RI landscape – Individual support for evolution, long-term sustainability and emerging needs of pan-European research infrastructures

Scope

Consolidation of the EU RI landscape through the support, together with the countries that are members of the RIs, to the strengthening, long-term sustainability, reorientation or evolution of ESFRI Landmarks or European Research Infrastructure Consortia (ERICs).

Proposed action should **justify the specific objectives** and focus on activities that are **critical for the sustainability and optimised use** of the ESFRI Landmarks or ERICs, such as activities aiming at several of the following objectives:

- Enlargement of the **membership** or broadening of the base of participating countries.
- Reinforcing international cooperation.
- Revision of **business/funding plan**.
- Development of managerial and technical **skills** for RI staff.
- Structuring and strengthening of national **nodes**.
- Extension of remote and/or virtual **access**.
- Management of research **data** according to the FAIR principles.
- **Reorientation or evolution** of the RI scope.
- Addressing critical aspects raised following an assessment or monitoring exercise, e.g. in the context of ESFRI activities.
- Development, update and or implementation of **impact assessment** of the RI.

(further aspects such as: filling gaps in the RI landscape – EU initiatives and priorities – greening – industry/SMEs – innovation ecosystems)

HORIZON-INFRA-2025-01-DEV-04: Support to the European Strategy Forum on Research Infrastructures









TYPE OF ACTION

 Coordination and Support Actions (CSA)

INDICATIVE BUDGET

- EUR 3 million
- Expected EU contribution per project: EUR 1.5 - 3 million

OTHER CONDITIONS

- Indicative number of projects expected to be funded: 1
- JRC may participate

- Call opening: 15 May 2025
- Deadline: 18 September 2025



Support to the European Strategy Forum on Research Infrastructures (ESFRI)

Scope:

- Provide administrative support to the ESFRI Chair and the ESFRI Executive Board, and in particular, support ESFRI, the ESFRI working groups and other ESFRI bodies in carrying out all of the following activities:
 - Development and publishing of the ESFRI Roadmap and Landscape Analysis.
 - Effective evaluation of new ESFRI Roadmap applications and ESFRI project monitoring after 2026, using also external expertise.
 - Strengthening ESFRI's analytical capacity, including through the use of external expertise.
 - Effective evaluation and monitoring of research infrastructures on the ESFRI Roadmap.
 - Development and implementation of the **ESFRI communication and outreach** strategy.
 - Fostering cooperation, exchange of experiences and good practices between the research infrastructures, their managers and stakeholders, as well as the funding bodies, including managing authorities of Cohesion policy programmes and policy makers.
 - Ensuring cooperation of ESFRI with ERA related groups and initiatives, with the EOSC initiative as well as with any
 other relevant initiatives, bodies and stakeholders at European or international level, including via the ESFRI
 Stakeholder Forum.
 - Calling on third party/ies to carry out an **impact assessment of ESFRI**.
- The project should organise its workplan in a sufficiently flexible way so as to be able to adapt to changing support needs of ESFRI. A mechanism with ESFRI should be foreseen to ensure optimal adaptation to ESFRI's needs over the course of the project.
- The ESFRI Workplan (<u>https://www.esfri.eu/esfri-workplan</u>) indicates support needs of ESFRI.



HORIZON-INFRA-2025-01-DEV-05:

Preparatory actions exploring future frameworks for research infrastructures investment plans and funding streams, for integrated and sustained scheme for access and for joint technology development









TYPE OF ACTION

 Coordination and Support Action (CSA)

INDICATIVE BUDGET

- EUR 4.5 million
- Expected EU contribution per project: EUR 1 – 1.5 million

OTHER CONDITIONS

- Indicative number of projects expected to be funded: 3
- Eligible costs will take the form of a lump sum
- JRC may participate (Area 2)

- Call opening: 15 May 2025
- Deadline:18 September2025



Preparatory actions - Area 1: Strengthening research infrastructures investment plans and diversifying funding streams

Expected Outcome

- RIs, stakeholders, funders have more robust **knowledge to develop strategies**, **coordinate and align future actions** in support of an effective ecosystem of cutting-edge European research infrastructures. (All areas)
- RI managers benefit from an overview of funding sources at national, regional and EU level.
- RI managers and funders are better prepared to develop **synergies** among **complementary funding** instruments that fit their specific needs and objectives.
- Funders have a better picture of the **financial impact** of the priorities and strategies around research infrastructures, covering both **day-to-day operations** and **long-term investments**.

Scope

- **Mapping of main funding sources** used for the preparation, construction and operation of ESFRI Projects and Landmarks, ERICs and other world-class European research infrastructures.
- Identification of established or potential **synergies across funding sources and different financial instruments** (including loans), at national/regional and EU level such as EIB funding instruments, structural and investment funds, Recovery and Resilience Facility funds, and funds under the Neighbourhood, Development and International Cooperation Instrument.
- Better **understanding of the specific costs and challenges** in financing different phases of the research infrastructures **life cycle** such as construction, operation and necessary upgrades to address greening and digitalisation challenges.
- Case studies of **distributed research infrastructures** on different approaches in identifying the nature and level of costs and best practices for long-term planning.

Foresee possible cooperation with projects selected under Area 2 (on funding models for access



Preparatory actions - Area 2: Preparatory action to explore a more integrated and sustainable scheme for access to research infrastructures

Expected Outcome:

- **Proposal for a new EU access scheme** addressed to Research Infrastructure stakeholders (research infrastructures funders, research infrastructures managers, research infrastructures user communities), ensuring effective, flexible and seamless access to world-class scientific services and resources in all science and technology fields, accommodating the diverse nature of research infrastructures and their evolving needs, and overcoming the and disruptive effects of an approach based on short-term projects.
- Analysis of how research infrastructures user communities, including from Widening countries, will benefit from a new EU access scheme that enable wider, simplified and more efficient access so as to boost breakthrough and leading-edge research.
- Better **understanding** by research infrastructure stakeholders of the **governance options**, **funding and implementation** aspects of a future access scheme.

Scope: The action will identify **novel approaches and operational steps** towards a longer-term, cross-domain integrated access scheme, promoting the vision of a '**one-stop-shop**' for access to research infrastructures, their services and resources.

Build on experience (INFRAIA, INFRASERV, best practices, position papers, ESFRI work). Funding bodies, research infrastructure managers and user communities, including from Widening countries, should be involved.

Representative of all large scientific domains; **preferably at least one ESFRI/ERIC in each large domain**; role for national funders; consultation scientific communities and potential users including from industry and public authorities.

Identify options for:

- Governance of the access scheme, advisory bodies (such as scientific boards and users' representatives);
- Funding models, underpinned by an initial core EU funding complemented by other funding streams (institutional, national);
- Access policies including mechanisms ensuring appropriate balance among large domains, scientific fields and techniques best addressing key scientific challenges and the needs of users.



Preparatory actions - Area 2: Preparatory action to explore a more integrated and sustainable scheme for access to research infrastructures

Scope (continued): The proposed action is expected to deliver on all the following points

- **Concept for a new EU access scheme** aiming at wider, simplified, seamless and more efficient access for researchers, including from Widening countries, to the best research infrastructures available.
- Scenarios for governance, co-funding and implementation of the access scheme.
- Promoting breakthrough and leading-edge research enabled by advanced research infrastructure services made available to a wider user community, while ensuring sustainability of the research infrastructures themselves (including by increasing their visibility and attractiveness, and creating incentives for expanding their membership).
- **Recommendations** on access policies, adopting the principles of the European Charter on Access to Research Infrastructures.
- **Good practices on access call conditions**, agreements between research infrastructures and selected users, access modalities, selection of users, support to users.
- Proposals for **design of possible pilot(s)** to be implemented under Horizon Europe calls for improved and harmonised RI services and broader use of RI resources, e.g. in specific domains.
- Outline of a communication plan and **key components for a single-entry point portal** including opportunities under complementary national or institutional access schemes.

Proposals should foresee possible cooperation with project selected under Area 1 with regards to funding models for access.



Preparatory actions - Area 3: Framework for joint research infrastructure technology developments

Expected Outcome

- More stable framework for joint technology developments avoiding duplication, promoting pooling of resources and appropriate support mechanism.
- Research infrastructure innovation ecosystems are further developed, and overlaps are identified. They underpin the technology developments needed by research infrastructures including the implementation of research infrastructure technology roadmaps.
- A virtuous circle for early involvement of industry, including SMEs, and development or update of joint research infrastructure technology roadmaps is created.
- Mechanisms to ensure the openness of research infrastructure technology innovation ecosystems, which must be able to integrate new EU players.



Preparatory actions - Area 3: Framework for joint research infrastructure technology developments

Scope:

- Include at least two different RIs as beneficiaries each of them being an ESFRI Landmark a European Research Infrastructure Consortium (ERIC) or another research infrastructure that is an international European research organisation.
- Involve RIs, **covering a maximum of ESFRI domains**, and, where relevant, user organisations and key industry and SME players.
- RI technologies also cover, where applicable, areas such as **sample environments, support facilities, and software**.
- Address all of the following aspects:
 - Identification of:
 - technology overlaps and building blocks relevant for multiple domains and infrastructure types.
 - further **roadmapping needs**, covering both transversal and domain-specific needs.
 - standardisation and interoperability needs.
 - possible training and coordination needs, from technical to management staff.
 - Exploration of **funding mechanisms**, best adapted to the needs of different research infrastructure technology innovation ecosystems.
 - Identification of optimal interaction modes between research infrastructures and industry, including SMEs, depending on the research infrastructure technology innovation ecosystem.



HORIZON-INFRA-2025-01-SERV-01: Research infrastructure services to enable R&I addressing main challenges and EU priorities related to the health domain









TYPE OF ACTION

 Research and Innovation Action (RIA)

INDICATIVE BUDGET

- EUR 30 million
- Expected EU contribution per project: around EUR 10 million

OTHER CONDITIONS

- Indicative number of projects expected to be funded: 3
- Eligible costs may take form of unit costs for transnational and virtual access to research infrastructures
- JRC may participate

- Call opening: 15 May 2025
- Deadline:
 18 September
 2025



Research infrastructure services to enable R&I addressing main challenges and EU priorities related to the health domain

Expected Outcomes:

Innovative, customised RI services enhancing society's long-term problem-solving capacity & evidence-based policy making related to the health domain.

Scope:

TNA to integrated & customised RI services in each of 3 areas related to the health domain.

Includes ad hoc users' training & scientific & technical support. Main goal, access provision to existing services, should be clearly reflected in activities & allocated resources. Improvement, optimisation & development of new services, also supported

Grants awarded to highest ranked proposals within each area, provided attain all thresholds.



Research infrastructure services to enable R&I addressing main challenges and EU priorities related to the health domain

Area 1: research infrastructure services to support research and development of medical countermeasures for epidemic response:

Expected Outcomes:

- Identify, characterise & mitigate the effects of existing & emerging pathogens & development tools against emerging pathogens. Provide long-term sustainability concept for RI network supporting epidemic research.
- Catalogue of RI services to tackle infectious diseases epidemics

Scope:

- Access to RI services targeting: i) research on pathogens with epidemic potential, ii) development of prevention and/or intervention tools & measures.
- Within one-Health concept, services supporting research on transmission of pathogens from animals to humans (or vice versa). Ensure Operational links established within the ISIDORe project & with epidemics risk assessment & management bodies.
- Alignment with the Pandemic Preparedness partnership. FAIR & usable results enabling further research on pathogens and disease.

Research infrastructure services to enable R&I addressing main challenges and EU priorities related to the health domain

Area 2: research infrastructure services for improving clinical research in the paediatric area:

Expected outcomes:

- Advancement paediatric medicines & therapeutic & diagnostic approaches to markets & clinical use;
- Competitiveness European industry & biotech SMEs: paediatric medicines, treatment & diagnostic devices;
- Facilitate paediatric research in the context of EU regulatory environment;
- Innovative tools to conduct paediatric clinical trials, re-use of population & historical data
 Scope:
- Support clinical R&I projects addressing therapeutic, diagnostic & prevention measures for paediatric disease management & help meet regulatory requirements for licensing & clinical use of paediatric medicines & medical devices.
- Innovative trial designs & novel monitoring tools.
- Wider international collaboration beyond Europe, including with Low-to-Middle-Income Countries.



Research infrastructure services to enable R&I addressing main challenges and EU priorities related to the health domain

Area 3: research infrastructure services to enable research linking environmental factors to human health:

Expected Outcomes:

- Better risk assessment tools to anticipate & mitigate -ve environmental implications on human health;
- Evidence for public health bodies on assessment & management of human health environmental risks;
- Wider access to RI services, underpin competitiveness of European industry including SMEs.
- Link with environmental research on exposure to other living organisms within One-Health concept.

Scope:

- Integrate & give access to wide range of monitoring & experimental RI services to investigate effect of environmental exposure. Services to user projects to characterise environmental risk factors and/or to develop innovative tools & methods for deciphering causal pathways & the prevention of associated diseases. Integration of data using One-Health approach.
- Links with ongoing initiatives & resources

HORIZON-INFRA-2025-01-SERV-02: Research infrastructure services to enable R&I addressing main challenges and EU priorities









TYPE OF ACTION

 Research and Innovation Action (RIA)

INDICATIVE BUDGET

- EUR 20 million
- Expected EU contribution per project: around EUR 5 million

OTHER CONDITIONS

- Indicative number of projects expected to be funded: 4
- Eligible costs may take form of unit costs for transnational and virtual access to research infrastructures
- JRC may participate

- Call opening: 15 May 2025
- Deadline:
 18 September
 2025



SERV-02. Research infrastructure services to enable R&I addressing main challenges and EU priorities - <u>All areas</u>

Expected Outcome:

• Provision of innovative, customised and efficient research infrastructures services enhancing and increasing society's long-term and consistent problem-solving capacity and evidence-based policy making.

Scope: This topic aims at providing **trans-national access (on-site or remote) and/or virtual access** to integrated and customised research infrastructure services for **challenge-driven research and innovation** in each of the **areas listed** below, offered by a wide range of **complementary and interdisciplinary top level research infrastructures**.

ad hoc users' **training** and scientific and technical **support** - facilitate and integrate the **access procedures** - improve, customise and harmonise the **services** (offered under the action) - further development of new or improved services (for use within 2-3 years) when duly justified (e.g. ESFRI Landscape Analysis, SRIAS Horizon Europe Missions or Partnerships) – **Data management**, interoperability, **EOSC** – take due account of major **European or international initiatives**.

access providers: as beneficiaries, affiliated entities, third parties, or external providers of purchased services.

At least one ESFRI Landmark/ERIC (distributed ERIC: declaration if a legal entity that is hosting ERIC facilities, resources or related services is an alternative beneficiary)



Area 1: research infrastructure services for advanced biotechnology and biomanufacturing

Expected Outcomes (all):

- Reinforced support for breakthrough research and innovation for **advancing industrial biotechnology**.
- Wider access for academic and industrial researchers to enhanced and further integrated research infrastructure services in the field.
- Cross-fertilisation and **wider sharing of knowledge** and technologies across the relevant scientific disciplines and sectors.
- Harmonisation and development of standards, and sharing of best practices ensuring **scientific reproducibility** in the field.
- Enhanced and further integrated research infrastructures capacities in support of the European Green Deal objectives, the EU's objectives for open strategic autonomy and resilience and the actions and priorities of the Commission communication "Building the future with nature: Boosting Biotechnology and Biomanufacturing in the EU

Scope: a more productive use of relevant research infrastructures must be facilitated with specific attention to accelerating the use of the Industrial Biotechnology Innovation and Synthetic Biology Accelerator (**EU IBISBA**) as a trusted digital repository and service network for the sector. ... higher and more interdisciplinary level of integration to offer access, through a single entry point, to a **coherent and complementary set of services**... Users should benefit from the harmonisation of **standards**, share of best practices... **access to bioprocess data**.



Area 2: research infrastructures services for access to novel radionuclides and facilities

Expected Outcomes (all):

- **Research in radionuclides facilitated**, contributing to the development of medical treatments and to the underlying required supply of stable or radio-isotopes for these treatments.
- Contribution of research infrastructures and scientific services to the EU action plan to support the **safe, high quality and reliable use of radiological and nuclear technology in healthcare**.

Scope:

- Build on the work carried out by the **PRISMAP** project in establishing a network of world-leading European facilities, including nuclear reactors, accelerators and radiochemical laboratories, offering a broad catalogue of radionuclides for medical research. The network must offer researchers access to radionuclides and to the complementary biomedical facilities.
- Offer services for: 1) the production and delivery of high purity radionuclides; 2) associated research in biomedical facilities; 3) supporting translational research and preclinical research techniques, either selfservice or fully performed as a service.
- Investigating towards the development of upscaling of the production of these novel radionuclides, in the form of novel production technology, new purification methods, and proof-of-concept investigations showing the development of new treatments from test bench to patient care.
- Monitoring and engagement with other initiatives supporting the EU SAMIRA action plan, in particular as regards the supply of novel (stable or radio-) isotopes and the development of innovative production methods, based on existing or new facilities.
- Proposals could consider the inclusion of the JRC research infrastructure (PAMEC, FMR)

Area 3: RI services to improve the understanding and prediction of future climate changes and their impact

Expected Outcomes (all):

- Reinforced support for cutting-edge research and innovation in **understanding and predicting future climate changes and their impacts**
- Wider, user-friendly and coordinated access for researchers to enhanced and further integrated state-of-the-art **Earth system models**, including high resolution or high complexity models and relevant high-performance computing resources
- **More robust evidence** underpinning the assessments of the Intergovernmental Panel on Climate Change (**IPCC**) about the state of scientific, technical and socio-economic knowledge on climate change, its impacts, risks and response options.
- **More effective climate policies** in the context of the implementation of the European Green Deal, the European Climate Law, and the Paris Agreement.

Scope: Access to a wide portfolio of world-class and complementary services in the field of **Earth climate system modelling**, such as models, software, high-performance computing resources, and data **to enable efficient production**, evaluation, and exploitation of model simulations, as well as rapid and reliable exchange of **knowledge** across multiple projects, models, and modelling communities in Europe and globally, and also with policymakers, planners, and climate services.

Proposals should ensure appropriate links with relevant European and international initiatives such as projects supported under Horizon Europe Cluster 5 Destination 1 "Climate sciences and responses for the transformation to climate change, and Destination Earth.



JRC (MARlab)

Area 4: research infrastructures services for New Aviation Fuels and Combustion Technologies

Expected Outcomes (all):

- enabling R&I in the field of new aviation fuels and combustion technologies to support European scientific and industrial competitiveness, including on adaption and expansion of existing test combustion capabilities to use new fuels (in particular biogenic and synthetic sustainable aviation fuels, liquid hydrogen) for future propulsion systems, referee-test rigs for the assessment of the potential and characteristics of sustainable aviation fuels in respect to safety and reliability (in contrast to Jet A1 using application-oriented combustion system including concept and design work based on known referee-rigs), test rigs that support the approval and qualification of SAF candidates entering ASTM D4054 (Tier 2.5)
- wider access for academic and industrial researchers to enhanced and further integrated RI services for fostering the testing of sustainable fuels to address emerging socio-economic needs;
- enhanced competitiveness of European aviation industry in the field through access to the broadest spectrum of advanced research tools and providing resources and services for research communities to conduct research and foster innovation in the field;
- positioning the top-level research infrastructures in the field as reliable innovation partners for world-wide researchers and European innovators
- where relevant, test beds may be used beyond research, e.g. for education and training.

Scope:

Context: ReFuelEU Aviation - enlarge the array of sustainable feedstocks and applications and push further the use of new aviation fuels and combustion technologies for finding effective solutions.

HORIZON-INFRA-2025-01-SERV-03: Research infrastructure services advancing frontier knowledge









TYPE OF ACTION

 Research and Innovation Action (RIA)

INDICATIVE BUDGET

- EUR 20 million
- Expected EU contribution per project: around EUR 10 million

OTHER CONDITIONS

- Indicative number of projects expected to be funded: 2
- Eligible costs may take form of unit costs for transnational and virtual access to research infrastructures
- 80% funding rate

- Call opening: 15 May 2025
- Deadline: 18 September 2025



Research infrastructure services advancing frontier knowledge

Expected Outcomes (all):

- Wider, simplified, and more efficient access to the best research infrastructures available to researchers to conduct curiosity-driven research, irrespective of location;
- **Breakthrough and leading-edge research** enabled by advanced research infrastructure services, including from emerging facilities, made available to a wider user community, including in emerging areas of research;
- **Improved and harmonised research infrastructure services** and broader and more balanced use of research infrastructure resources across the EU and Associated Countries deriving from the exploitation of synergies and complementarities;
- A **new generation of researchers trained** to optimally exploit all the essential 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 active in and around research infrastructures;
- Better management, including implementing FAIR data principle, of the continuous flow of data collected or produced by research infrastructures.

Research infrastructure services advancing frontier knowledge

Scope: This topic aims at providing **trans-national access (on-site or remote) and/or virtual access** to integrated and customised research infrastructure services for curiosity-driven research in wide scientific domains, offered by a wide range of **complementary and interdisciplinary top level research infrastructures**.

• Area 1: Environment: atmospheric chemistry and dynamics.

• Area 2: Physical sciences and engineering: hadron physics.

(*fully exploit transversal links* to and identify common developments with *neighbouring communities within the field of particle and nuclear physics building on the work of recent Horizon projects where applicable*)

Main goal is access provision to existing services.

ad hoc users' **training** and scientific and technical **support** - facilitate and integrate the **access procedures** - improve, customise and harmonise the **services** (offered under the action) – **Data management**, interoperability, **EOSC** – take due account of major **European or international initiatives**.

access providers: as beneficiaries, affiliated entities, third parties, or external providers of purchased services.

At least one ESFRI Landmark/ERIC (distributed ERIC: declaration if legal entity that is hosting ERIC facilities, resources or related services)



HORIZON-INFRA-2025-01-SERV-04: Research infrastructure services advancing frontier knowledge (bottom-up)









TYPE OF ACTION

 Research and Innovation Action (RIA)

INDICATIVE BUDGET

- EUR 20 million
- Expected EU contribution per project: around EUR 5 million

OTHER CONDITIONS

- Indicative number of projects expected to be funded: 4
- Eligible costs may take form of unit costs for transnational and virtual access to research infrastructures
- 80% funding rate

- Call opening: 15 May 2025
- Deadline:
 18 September
 2025



Research infrastructure services advancing frontier knowledge (bottom-up)

Expected Outcomes (all):

- Wider, simplified, and more efficient access to the best research infrastructures available to researchers to conduct curiosity-driven research, irrespective of location;
- **Breakthrough and leading-edge research** enabled by advanced research infrastructure services, including from emerging facilities, made available to a wider user community, including in emerging areas of research;
- Improved and harmonised research infrastructure services and broader and more balanced use of research infrastructure resources across the EU and Associated Countries deriving from the exploitation of synergies and complementarities;
- A new generation of researchers trained to optimally exploit all the essential 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 active in and around research infrastructures;
- Better management, including implementing FAIR data principle, of the continuous flow of data collected or produced by research infrastructures.

Research infrastructure services advancing frontier knowledge (bottom-up)

Scope: This topic aims at providing **trans-national access (on-site or remote) and/or virtual access** to integrated and customised research infrastructure services for curiosity-driven research in wide scientific domains, offered by a wide range of **complementary and interdisciplinary top level research infrastructures**.

Address one domain and must explicitly state which domain (and sub-domain if appropriate) they address among the scientific domains not covered by Horizon Europe Research Infrastructures part of Work Programme 2023 to 2025, curiosity- driven INFRASERV topics*

*Therefore, excluding the following domains/sub-domains: Environment/Biosphere: terrestrial biodiversity and ecosystems, including forest; Physical sciences and engineering/Astronomy and Astroparticle physics; Arts and Humanities; Environment / atmospheric chemistry and dynamics; Physical sciences and engineering:/ particle and nuclear physics.

ad hoc users' **training** and scientific and technical **support** - facilitate and integrate the **access procedures** - improve, customise and harmonise the **services** (<u>offered under the action</u>) – **Data management**, interoperability, **EOSC** – take due account of major **European or international initiatives**.

access providers: as beneficiaries, affiliated entities, third parties, or external providers of purchased services.

At least one ESFRI Landmark/ERIC (distributed ERIC: declaration if legal entity that is hosting ERIC facilities, resources or related services)



HORIZON-INFRA-2025-01-TECH-01: New technologies and solutions for reducing the environmental and climate footprint of research infrastructures



TYPE OF ACTION

 Research and Innovation Action (RIA)







INDICATIVE BUDGET

- EUR 25 million
- Expected EU contribution per project: around EUR 5 million

OTHER CONDITIONS

- Indicative number of projects expected to be funded: 5
- At least two RIs ESFRI Landmark / ERIC / IERO*
- Eligible costs will take the form of a lump sum
- JRC may participate

TIMING

- Call opening: 15 May 2025
- Deadline:18 September2025



* 'international European research organisation' means an international organisation, the majority of whose members are Member States or associated countries, whose principal objective is to promote scientific and technological cooperation in Europe

New technologies and solutions for reducing the environmental and climate footprint of research infrastructures

Expected Outcomes (all):

- reduction of environmental (including climate-related) impacts;
- optimisation of resource and energy consumption integrated through the full life cycle of research infrastructures;
- increased long-term sustainability of the European research infrastructures ecosystem.

Scope: The aim of this topic is to deliver **innovative technologies and solutions** which generate a **step change** in reducing the environmental and climate footprint of research infrastructures through the full life cycle of research infrastructures. Proposals should identify **common methodologies**, among the concerned research infrastructures, to **assess environmental impact** and **strategies to reduce** it, as well as efficiency gains in the broader ecosystem.

Consortia should be built on a **leading core** of **at least two** different world-class research infrastructures, each of them being an **ESFRI** infrastructure, a European Research Infrastructure Consortium (**ERIC**) or another research infrastructure that is an **intergovernmental organisation of European interest**, and can include a wider set of research infrastructures, and other technological partners.

Proposals should explain any synergies and complementarities with any related previous or current EU grants, including grants funded under other parts of Horizon Europe or Horizon 2020. Where relevant, proposals should ensure complementarity with actions funded under the 2023 call topic HORIZON-INFRA-2023-TECH-01-01 and clearly justify that different technologies and solutions are targeted.



New technologies and solutions for reducing the environmental and climate footprint of research infrastructures

Scope (continued):

- **new technologies and solutions** for research infrastructures enabling transformative resource efficiency (e.g. reduced energy consumption) and reduction of environmental (including climate-related) impacts, including, when relevant, more sustainable and efficient ways of collecting, processing and providing access to data;
- validation and prototyping;
- training of research infrastructures staff for the operation and use of the new solutions;
- action plans to deploy new developments at wider scale and ensure their sustainability;
- measures to ensure an environmentally effective integration of the solutions in the local contexts;
- **societal engagement** to harvest and incorporate solutions from other relevant ecosystems and or to foster acceptance of the solutions in the **local and regional communities**.



HORIZON-INFRA-2025-01-TECH-02: Implementing research infrastructure technology roadmaps







TYPE OF ACTION

 Research and Innovation Action (RIA)

INDICATIVE BUDGET

- EUR 45 million
- Expected EU contribution per project: around EUR 10 million

OTHER CONDITIONS

- Indicative number of projects expected to be funded: 4
- At least two RIs ESFRI Landmark / ERIC / IERO*
- Beneficiaries may provide financial support to third parties. The support to third parties can only be provided in the form of grants.

TIMING

- Call opening:15 May 2025
- Deadline: 18 September 2025



* 'international European research organisation' means an international organisation, the majority of whose members are Member States or associated countries, whose principal objective is to promote scientific and technological cooperation in Europe

Implementing research infrastructure technology roadmaps

Expected Outcomes: (contribute to several)

- enhanced scientific and technological competitiveness of European research infrastructures;
- enhanced research infrastructure capacities to address research challenges and EU policy priorities;
- **increased technological level** of European **industries** through the co-development of advanced technologies for research infrastructures and creation of potential new markets;
- increased availability of research infrastructure component manufacturing capabilities currently not available in Europe;
- long-term **integration** of research infrastructures into local, regional and global research and **innovation ecosystems**;
- strengthened foundations for the **development of innovative companies in Europe**.



Implementing research infrastructure technology roadmaps

Scope:

- **Consortia must include at least two** different world-class research infrastructures, each of them being an **ESFRI** infrastructure, a European Research Infrastructure Consortium (**ERIC**) or another research infrastructure that is an **intergovernmental organisation of European interest**,
- Projects should implement significant parts of, or entire existing research infrastructure technology roadmaps through co-creation with industrial partners from the earliest possible stage. These roadmaps should be the result of a community or cross-community effort already undertaken, and they should not be the result of an isolated effort.
- The technological solutions developed should **respond to the needs of several research infrastructures**, and in some cases the **needs of different types** of research infrastructures.
- Involve research infrastructures and industrial partners, including SMEs or other technological partners.
- Build on results from past/ongoing projects and avoid overlap with them.



HORIZON-INFRA-2025-01-TECH-03: Al-powered impact simulations in support of the Destination Earth initiative









TYPE OF ACTION

 Research and Innovation Action (RIA)

INDICATIVE BUDGET

- EUR 30 million
- Expected EU contribution per project: EUR 7 - 10 million

OTHER CONDITIONS

- Indicative number of projects expected to be funded: 3-4
- Eligible costs will take the form of a lump sum

- Call opening: 15 May 2025
- Deadline:
 18 September
 2025



Al-powered impact simulations in support of the Destination Earth initiative

Expected Outcomes:

- Generate AI-powered local impact assessments, based on the scenarios provided by the Digital Twins integrated with fusion of real time data feeds. Ensure alignment with GenAI4EU initiative and other key EU initiatives, like Apply AI strategy.
- Develop novel interfaces that address the needs of non-technical users. These interfaces translate the non-technical requirements of the users into concrete scenario assessments tailored for local needs.
- Help establish new best practices and guidelines on impact assessment of Digital Twins simulations and AI-powered analysis.



Al-powered impact simulations in support of the Destination Earth initiative

Scope:

- Demonstrate the innovative use of AI to setup and manage impact assessments assisted by simulation activities across RIs. They should ensure efficient selection of data and modelling resources to support the decision-making process.
- Exploit the advances in modelling, observations, digital technologies and ML/AI, ensuring that European leadership in this field is maintained.
- Link to existing DestinE Digital Twins and services to cover unexplored areas/domains and explore joining the overall DestinE ecosystem and service offering.
- Allow for more informed decision-making by non-technical experts and policy makers through assistance of generative AI models enabling user requirements analysis and narrowing down vast amounts of data and information into actionable and understandable scenarios.

HORIZON-INFRA-2025-01-TECH-04: Al-generated digital twins for science









TYPE OF ACTION

 Research and Innovation Action (RIA)

INDICATIVE BUDGET

- EUR 40 million
- Expected EU contribution per project: EUR 8 - 10 million

OTHER CONDITIONS

- Indicative number of projects expected to be funded: 4-5
- Eligible costs will take the form of a lump sum

- Call opening: 15 May 2025
- Deadline:
 18 September
 2025



Al-generated digital twins for science

Expected Outcomes:

- Setup and manage highly complex AI-powered modelling and simulation activities across different research infrastructures (RIs). Ensure alignment with GenAI4EU initiative and other key EU initiatives, like Apply AI strategy.
- Establish new best practices and guidelines for model generation and setup, including simulation and simulation-observation data fusion.
- Develop new applications and use cases for AI-generated Digital Twins.



Al-generated digital twins for science

Scope:

The aim is to use generative artificial intelligence (AI) to deliver digital twins of complex realworld systems that advance the state-of-art of European research infrastructures.

The focus is on key impact sectors, such as healthcare (including mental health), transportation, agriculture, environment or manufacturing, or other fields related to the Clean Industrial Deal, in line with the European objectives seeking to leverage AI to address societal challenges, improve public services and drive inclusive economic growth.

The proposed work is expected to benefit from recent advances in various AI areas, like Foundation Models (e.g. Large Language Models (LLMs)), Federated Learning and link to relevant European AI initiatives, such as the European AI factories, GenAI4EU initiative, Apply AI strategy.



Planning of the Research Infrastructures (INFRA) call



15 May 2025

Call opening

18 Sept. 2025 Call closure

Oct. 2025 – Jan. 2026

Evaluation phase

Feb. 2026

Evaluation results externalised

