EN

Horizon Europe

Work Programme 2025

3. Research Infrastructures

(European Commission Decision C(2025) 2779 of 14 May 2025)

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Introduction

The Horizon Europe Programme objectives are pursued through the Research Infrastructures part endowing Europe with world-class sustainable[1] research infrastructures which are open and accessible to the best researchers from Europe and beyond. This work programme supports activities to consolidate, evolve, open, integrate and interconnect a world leading ecosystem of research services for researchers in Europe, encompassing both national and pan-European infrastructures. The aim is to cover the continuum of needs from the creation of fundamental knowledge to technology development and innovation, while supporting open science. The programme is building on continuous policy development under the European Research Area, including the strategy-led approach and roadmap exercise of the European Strategy Forum on Research Infrastructures (ESFRI) and the use of the European Research Infrastructure Consortium (ERIC) legal instrument. The programme is highly relevant to the Political Guidelines for the next European Commission 2024-2029, which highlight that "to lead on innovation, we need to create the conditions for researchers to thrive. This means providing the infrastructure and innovative laboratories they need to test and develop ideas".

The programme aims to improve the sustainability of the research infrastructures ecosystem and synergies amongst funding sources, support human resources and skills development for an optimal functioning of research infrastructures, and reinforce the international dimension of research infrastructures in particular with regards to shared global challenges.

Another key aim of the programme is to continue enabling transnational access to research infrastructure services with two main targets:

- curiosity driven research.
- challenge-driven research (also considering the development of new or customised services, to better serve interdisciplinary approaches).

It will also promote the educational and training dimensions of access to research infrastructures while making sure these activities do not come at the cost of already overbooked transnational access services. The programme also aims at fostering the uptake of research infrastructure services in other parts of the Horizon Europe programme, in line with the Pact for R&I in Europe and the ERA Policy Agenda.

The programme promotes collaboration in the upgrading and design of scientific instruments and tools, including through cooperation with industry and through creating research infrastructure innovation ecosystems. Reduction of the environmental footprint of research infrastructures is also a focus.

In line with the Strategic R&I Agenda of the 2021-2030 European Open Science Cloud (EOSC) co-programmed European Partnership , the programme aims at ensuring that Open

[1] Sustainable refers to the overall "capacity for a research infrastructure to remain operative, effective and competitive over its expected lifetime". This also encompasses the environmental and resources footprint dimensions.

Science policies, practices and skills become the norm across the ERA and that the EOSC federation is enlarged through connecting existing research infrastructures in Europe and providing additional value added services based on user needs, also with the view of enabling the European contribution to a web of FAIR data and services.

Finally, the further evolution of the Destination Earth flagship initiative as a digital model of the Earth on a global scale is also supported, with a strong AI component of the New Digital Twins.

The Research Infrastructures work programme is structured around the following four destinations:

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 the access to RIs, 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.

Calls

Call - Research Infrastructures 2025

HORIZON-INFRA-2025-01

Overview of this call[2]

Proposals are invited against the following Destinations and topic(s):

Topics	Type of Action	Budgets (EUR million)	Expected EU contribution per project (EUR million)[3]	Indicative number of projects expected to be funded
		2025		
Opening: 06 May 2025 Deadline(s): 18 Sep 2025				
Destination INFRADEV - Consolidation and evolution of the European Research Infrastructure landscape (2025)				
HORIZON-INFRA-2025-01-DEV-01: Training and up-skilling of research infrastructures technical staff	CSA	10.00	1.00 to 1.50	8
HORIZON-INFRA-2025-01-DEV-02: Early phase implementation of ESFRI Projects that entered the ESFRI Roadmap in 2021	CSA	16.50	1.00 to 1.50	11
HORIZON-INFRA-2025-01-DEV-03: Consolidation of the Research Infrastructure landscape – Individual support for evolution, long term sustainability and emerging needs of pan-European research infrastructures	RIA	30.00	3.00 to 4.00	8
HORIZON-INFRA-2025-01-DEV-04: Support	CSA	3.00	1.50 to 3.00	1

[2] The Director-General responsible for the call may decide to open the call up to one month prior to or after the envisaged date(s) of opening.
The Director-General responsible may delay the deadline(s) by up to two months.
All deadlines are at 17.00.00 Brussels local time.
The budget amounts are subject to the availability of the appropriations provided for in the general budget of the Union for 2025.

[3] Nonetheless, this does not preclude submission and selection of a proposal requesting different amounts.

to the European Strategy Forum on Research Infrastructures				
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.	CSA	4.50	1.00 to 1.50	3
Destination INFRAEOSC - Enabling an operational, open and FAIR EOSC ecosystem (2025)				
HORIZON-INFRA-2025-01-EOSC-01: EOSC Nodes with federating capabilities for the EOSC Federation	RIA	30.00	6.00 to 8.00	4
HORIZON-INFRA-2025-01-EOSC-02: FAIR Integration for Enhanced Research Data in the EOSC ecosystem and beyond	RIA	16.00	5.00 to 8.00	2
HORIZON-INFRA-2025-01-EOSC-03: Advancing AI-readiness and Machine-Actionability in the EOSC Ecosystem	RIA	15.00	7.50 to 15.00	2
HORIZON-INFRA-2025-01-EOSC-04: Data stewards, skills and training for Open Science and FAIR practices	CSA	8.00	5.00 to 8.00	1
HORIZON-INFRA-2025-01-EOSC-05: Using Generative AI (GenAI4EU) for Scientific Research via EOSC	RIA	37.50	7.50 to 10.00	4
Destination INFRASERV - Research infrastructures services to support health research, accelerate the green transition and the digital transformation, and advance frontier knowledge (2025)				
HORIZON-INFRA-2025-01-SERV-01: Research infrastructure services to enable R&I addressing main challenges and EU priorities related to the health domain	RIA	30.00	Around 10.00	3
HORIZON-INFRA-2025-01-SERV-02: Research infrastructure services to enable R&I addressing main challenges and EU priorities	RIA	20.00	Around 5.00	4
HORIZON-INFRA-2025-01-SERV-03: Research infrastructure services advancing	RIA	20.00	Around 10.00	2

frontier knowledge				
HORIZON-INFRA-2025-01-SERV-04: Research infrastructure services advancing frontier knowledge (bottom-up)	RIA	20.00	Around 5.00	5
Destination INFRATECH - Next generation of scientific instrumentation, tools, methods, and advanced digital solutions of research infrastructures and foster innovation and co-creation with industry (2025)				
HORIZON-INFRA-2025-01-TECH-01: New technologies and solutions for reducing the environmental and climate footprint of research infrastructures	RIA	25.00	Around 5.00	5
HORIZON-INFRA-2025-01-TECH-02: Implementing research infrastructure technology roadmaps	RIA	45.00	Around 10.00	4
HORIZON-INFRA-2025-01-TECH-03: AI-powered impact simulations in support of the Destination Earth initiative	RIA	30.00	7.00 to 10.00	4
HORIZON-INFRA-2025-01-TECH-04: AI-generated digital twins for science	RIA	40.00	8.00 to 10.00	4
Overall indicative budget		400.50		

General conditions relating to this call	
Admissibility conditions	The conditions are described in General Annex A.
Eligibility conditions	The conditions are described in General Annex B.
Financial and operational capacity and exclusion	The criteria are described in General Annex C.
Award criteria	The criteria are described in General Annex D.
Documents	The documents are described in General Annex E.
Procedure	The procedure is described in General Annex F.

Legal and financial set-up of the Grant Agreements	The rules are described in General Annex G.

Destinations

Destination INFRADEV - Consolidation and evolution of the European Research Infrastructure landscape (2025)

The objective of this destination is to consolidate and evolve the European research infrastructure landscape, considering notably the development of pan-European research infrastructures prioritised by ESFRI and the ERICs, and underpinning an effective and agile European Research Area. It supports actions to develop an integrated European ecosystem of research infrastructures, including single-sited facilities, distributed facilities and networks of facilities providing joint services.

The expected impact of the EU intervention on the activities supported under this destination notably includes:

- Further consolidation, evolution and optimisation of the European research infrastructure landscape, with the objective to enhance its capacity and capability to support the continuum of research and innovation needs.
- Exploring ways forward towards improved sustainability of the research infrastructure ecosystem and synergies amongst research infrastructure funding sources, considering that funding an increasing number and size of pan-European research infrastructures has a significant impact on research budgets.
- Support for human resources and skills development for an optimal functioning of research infrastructures, through continuous professional training and upskilling of staff in charge of research infrastructures, considering that highly skilled personnel play a vital role in constructing, evolving and operating research infrastructures and serving users; and thus, research infrastructures must be able to attract, up-skill, and keep specialised staff.

Proposals are invited against the following topic(s):

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

Call: Research Infrastructures 2025	
Specific conditions	
Expected EU contribution per project	The Commission estimates that an EU contribution of between EUR 1.00 and 1.50 million would allow these outcomes to be addressed appropriately. Nonetheless, this does not preclude submission and selection of a proposal requesting different amounts.

Indicative budget	The total indicative budget for the topic is EUR 10.00 million.
Type of Action	Coordination and Support Actions
Eligibility conditions	The conditions are described in General Annex B. The following exceptions apply: The Joint Research Centre (JRC) may participate as member of the consortium selected for funding.
Procedure	The procedure is described in General Annex F. The following exceptions apply: To ensure a balanced portfolio covering a wide range of domains, grants will be awarded to applications not only in order of ranking but at least also to those proposals that are the highest ranked within each domain, provided that the applications attain all thresholds.
Legal and financial set-up of the Grant Agreements	The rules are described in General Annex G. The following exceptions apply: Eligible costs will take the form of a lump sum as defined in the Decision of 7 July 2021 authorising the use of lump sum contributions under the Horizon Europe Programme – the Framework Programme for Research and Innovation (2021-2027) – and in actions under the Research and Training Programme of the European Atomic Energy Community (2021-2025). [4].

Expected Outcome: Project results are expected to contribute to the following expected outcomes:

- Enhanced expertise and knowledge of technical staff working in research infrastructures, for an optimal functioning of the infrastructure.
- Enhanced mobility and career opportunities throughout Europe for technical staff, including across research infrastructure domains as well as across sectorial careers.
- 'One-stop-shop(s)' of training services dedicated to technical staff that meet the needs of different domains.

Scope: In research infrastructures there is the need for staff with an extraordinary blend of scientific, technical and managerial expertise. Considering that highly skilled personnel play a vital role in constructing, operating and implementing research infrastructures and serving users, research infrastructures must be able to attract, up-skill, and valorise specialised staff to exploit their full potential.

[4] This decision is available on the Funding and Tenders Portal, in the reference documents section for Horizon Europe, under 'Simplified costs decisions' or through this link: https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/horizon/guidance/ls-decision_he_en.pdf

This action will support structuring the offer of training activities dedicated to enhancing skills and career profiles of technical staff working in research infrastructures, as 'one-stop shop(s)'. 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 may address the improvement of the skills of different professionals working in a single research infrastructure or in a single domain, and may also enhance horizontal key professionals across research infrastructure domains, covering identified common needs such as those related to digital aspects, research data management, Artificial Intelligence (AI) or enhanced remote access. The activities should include the promotion of existing good practices, as well as dissemination and exploitation of successful experiences to a set of relevant stakeholders.

Individual proposals should focus on one specific domain[5] (or sub-domain for the largest ones) as defined by ESFRI but should allocate efforts to contribute to gathering programmes under an overarching training service or entry point across domains to facilitate correlation between training supply and demand and to harmonise and optimise the training services offered. This requires dedicated activities for collaboration with other projects under this topic and, where appropriate, common entry portal or cross-references among portals. Proposals should explicitly state which domain (and sub-domain, where applicable) they are addressing.

To ensure consolidation and evolution of the European research infrastructure landscape, considering notably the development of pan-European research infrastructures prioritised by ESFRI and the ERICs, proposals should include at least one ESFRI Landmark[6] or European Research Infrastructure Consortium (ERIC)[7] as beneficiary. In case of a distributed[8] ERIC, as an alternative to the ERIC participating as a beneficiary, a legal entity that is hosting ERIC facilities, resources or related services may participate as a beneficiary. A declaration signed by the legal representative of the ERIC should confirm that the ERIC is supporting this participation, explain the relevance for the ERIC and describe any further cooperation with the ERIC.

Considering past or ongoing actions identifying training needs is encouraged as well as exploring collaboration with relevant training projects e.g. Marie Skłodowska-Curie Actions with a research infrastructure dimension. Projects may also build on the past activities and experience gained in projects such as RItrainPlus (Research Infrastructure Training Plus).

Proposals could consider the inclusion of the European Commission's Joint Research Centre (JRC) Support Services Directorate in their research infrastructure portfolio. The JRC offers

5 ESFRI domains: 1. Data, Computing and Digital Research Infrastructures; 2. Energy; 3. Environment; 4. Health & Food; 5. Physical Sciences and Engineering; 6. Social Sciences & Humanities. See ESFRI Landscape Analysis 2024 https://landscape2024.esfri.eu/.

6 See lists of ESFRI 'Landmarks' in the 2021 ESFRI Roadmap on https://roadmap2021.esfri.eu/

7 European Research Infrastructure Consortium (ERIC) | European Commission (europa.eu)

8 The term 'distributed' research infrastructure typically refers to one or a few central hubs and several interlinked (national or institutional) nodes where many components of the research infrastructure may not be part of the same legal entity, the ERIC.

its experience in assessing, setting the strategy, maintaining, operating and providing access to external researchers to its research infrastructures in various fields of science. The JRC runs a specific programme that opens its research infrastructure for access to external users for the purposes of training and capacity building, where researchers are trained on the capabilities and use of our experimental equipment. In this regard, the JRC will consider collaborating with any successful proposal.

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

Call: Research Infrastructures 2025	
Specific conditions	
Expected EU contribution per project	The Commission estimates that an EU contribution of between EUR 1.00 and 1.50 million would allow these outcomes to be addressed appropriately. Nonetheless, this does not preclude submission and selection of a proposal requesting different amounts.
Indicative budget	The total indicative budget for the topic is EUR 16.50 million.
Type of Action	Coordination and Support Actions
Eligibility conditions	The conditions are described in General Annex B. The following exceptions apply: If eligible for funding, legal entities established in non-associated third countries may exceptionally participate in this Coordination and support action as a beneficiary or affiliated entity.
Procedure	The procedure is described in General Annex F. The following exceptions apply: To ensure a balanced coverage of the targeted ESFRI Projects, grants will be awarded to applications not only in order of ranking but at least also to those proposals that are the highest ranked for each targeted ESFRI Project, provided that the applications attain all thresholds.
Legal and financial set-up of the Grant Agreements	The rules are described in General Annex G. The following exceptions apply: Eligible costs will take the form of a lump sum as defined in the Decision of 7 July 2021 authorising the use of lump sum contributions under the Horizon Europe Programme – the Framework Programme for Research and Innovation (2021-2027) – and in actions under the

	Research and Training Programme of the European Atomic Energy Community (2021-2025). [9].

Expected Outcome: Project results are expected to contribute to several of the following expected outcomes:

- Faster and larger implementation of the ESFRI Projects that entered the ESFRI Roadmap in 2021;
- enhanced ERA excellence and attractiveness through the availability of additional capacities from the targeted ESFRI Projects;
- solid Member States/Associated Country engagement in pan-European research infrastructures, leading to their full implementation;
- long-term perspective for investments in research infrastructures;
- synergies and complementarities between new and existing research infrastructures.

Scope: This topic targets the research infrastructure projects that entered the ESFRI Roadmap in 2021[10], due to their scientific excellence and organisational maturity as well as to their strategic importance for the European Research Area and the structuring of the European research infrastructure ecosystem. Proposals must explicitly state which ESFRI Project they target.

Although these ESFRI Projects have received EU funding for their preparatory phase and initial commitment from Member States/Associated Countries, the early stages of the research infrastructure life cycle are particularly challenging. Past monitoring exercises on ESFRI infrastructures highlighted recurrent bottlenecks hampering their full implementation and start of operation phase. Building on such experiences, proposals are expected to identify and address the most critical issues that could prevent or delay the entering of these ESFRI Projects into the implementation phase.

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 (including data management according to the FAIR principles and possible open access to data); 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; or addressing staff and procurement related issues. Proposals should focus on the activities addressing the identified bottlenecks.

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9 This decision is available on the Funding and Tenders Portal, in the reference documents section for Horizon Europe, under 'Simplified costs decisions' or through this link: https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/horizon/guidance/ls-decision_he_en.pdf

10 ESFRI Projects eligible for support under this topic are: EBRAINS, SLICES, SoBigData++, MARINERG-I, EIRENE RI, ET, EuPRAXIA, GGP, GUIDE, OPERAS, RESILIENCE.

Proposals should involve all stakeholders necessary to move the project forward and ensure financial commitments (including national/regional ministries/governments, research councils or funding agencies).

Proposals should explain any synergies and complementarities with previous or current EU grants.

HORIZON-INFRA-2025-01-DEV-03: Consolidation of the Research Infrastructure landscape – Individual support for evolution, long term sustainability and emerging needs of pan-European research infrastructures

Call: Research Infrastructures 2025	
Specific conditions	
Expected EU contribution per project	The Commission estimates that an EU contribution of between EUR 3.00 and 4.00 million would allow these outcomes to be addressed appropriately. Nonetheless, this does not preclude submission and selection of a proposal requesting different amounts.
Indicative budget	The total indicative budget for the topic is EUR 30.00 million.
Type of Action	Research and Innovation Actions
Eligibility conditions	The conditions are described in General Annex B. The following exceptions apply: The following additional eligibility criteria apply: Due to the scope of this topic, proposals must include at least one of the ESFRI Landmarks [11] or European Research Infrastructures Consortia (ERICs) [12] as beneficiary. Such research infrastructure(s), and the beneficiaries that own/operate them, must be explicitly identified in the proposal. For distributed ERIC the ERIC must be the beneficiary.
Legal and financial set-up of the Grant Agreements	The rules are described in General Annex G. The following exceptions apply: The funding rate is 80% of the eligible costs.

Expected Outcome: Project results are expected to contribute to several of the following expected outcomes:

- better structured and strengthened European Research Infrastructure (RI) landscape;

[11] See the list of ESFRI 'Landmarks' in the 2021 ESFRI Roadmap on https://roadmap2021.esfri.eu/
[12] European Research Infrastructure Consortium (ERIC) | European Commission (europa.eu)

- new services available to a wider user community, including participants in other parts of Horizon Europe, allowing to better tackle scientific and societal challenges;
- increased capacity to address EU policy priorities and/or socio-economic challenges;
- reinforced global competitiveness of the European Research Area;
- reduction of environmental (including climate-related) impacts as well as optimisation of resource and energy consumption integrated through the full life cycle of research infrastructures;
- increased long-term sustainability of European research infrastructures.

Scope: This topic targets the consolidation of the EU research infrastructures landscape through the support, together with the countries, that are members of the research infrastructures, 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.

In case of reorientation or evolution of the research infrastructure scope, activities should fill gaps in the research infrastructures landscape[13], enabling the research infrastructure to address

[13] Although the action aims at individual support to a pan-European research infrastructure, applicants should consider the ESFRI Landscape Analysis and liaise during the action with other relevant ESFRI/ERICs to ensure complementarity.

new research or societal challenges and/or serve new user communities, increasing and improving service capacity and/or integrating new resources/facilities.

Due attention must be given to related EU initiatives and priorities and, when relevant, to complementarity and relevance to activities in other parts of Horizon Europe. Proposals should explain any synergies with previous or current EU grants.

Given the funding rate, proposals should ensure a minimum adequate backing by the beneficiaries, who should provide the remaining share for the activities covered by the Grant Agreement and foster the sustainability of the ESFRI Landmark or ERIC.

Specific attention should be given, where relevant, to the greening of technologies and methodologies used by the research infrastructure, to the interaction with industry/SMEs, to the fostering of the innovation potential of the infrastructures, and to their integration into local, regional and global innovation ecosystems.

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

Call: Research Infrastructures 2025	
Specific conditions	
Expected EU contribution per project	The Commission estimates that an EU contribution of between EUR 1.50 and 3.00 million would allow these outcomes to be addressed appropriately. Nonetheless, this does not preclude submission and selection of a proposal requesting different amounts.
Indicative budget	The total indicative budget for the topic is EUR 3.00 million.
Type of Action	Coordination and Support Actions
Eligibility conditions	The conditions are described in General Annex B. The following exceptions apply: The Joint Research Centre (JRC) may participate as member of the consortium selected for funding.
Procedure	The procedure is described in General Annex F. The following exceptions apply: The granting authority can fund a maximum of one project.
Legal and financial set-up of the Grant Agreements	The rules are described in General Annex G. The following exceptions apply: Eligible costs will take the form of a lump sum as defined in the Decision of 7 July 2021 authorising the use of lump sum contributions under the Horizon Europe Programme – the Framework Programme for Research and Innovation (2021-2027) – and in actions under the

	Research and Training Programme of the European Atomic Energy Community (2021-2025). [14].

Expected Outcome: Project results are expected to contribute to all of the following expected outcomes:

- enhanced efficiency, impact and visibility of ESFRI strategy and actions;
- better structured and strengthened European research infrastructure ecosystem;
- reinforced global competitiveness of the European Research Area;
- coordination and alignment of EU and national priorities for research infrastructures;
- impact assessment of ESFRI.

Scope: The European Strategy Forum on Research Infrastructures (ESFRI) brings together policy makers, funding bodies, and the scientific community to identify joint investment priorities for pan-European research infrastructures as well as to foster their implementation, sustainability and impact. A comprehensive and efficient support structure is essential for the effective execution of ESFRI's tasks and activities.

In this respect, the project should provide administrative support to the ESFRI Chair and the ESFRI Executive Board, and in particular, it should 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 in support of ESFRI policy and the ESFRI Roadmap processes;
- effective evaluation and monitoring of research infrastructures on the ESFRI Roadmap through appropriate ICT and analytical tools, using also external expertise;
- development and implementation of the ESFRI communication and outreach strategy, including organisation of ESFRI-led conferences and outreach events;
- 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;

[14] This decision is available on the Funding and Tenders Portal, in the reference documents section for Horizon Europe, under 'Simplified costs decisions' or through this link: https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/horizon/guidance/ls-decision_he_en.pdf

- 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 taking account of suitable indicators proposed by 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.

All software developed under this destination should be open source, licensed under a CC0 public domain dedication or under an open source licence as recommended by the Free Software Foundation[15] and the Open Source Initiative[16].

Proposals could consider the inclusion of the European Commission's Joint Research Centre (JRC) Support Services Directorate in their research infrastructure portfolio. The JRC offers its experience in assessing, setting the strategy, maintaining, operating and providing access to external researchers to its research infrastructures in various fields of science. The JRC is an ESFRI stakeholder and collaborates with several ESFRI/ERIC consortia as an associated partner. In this regard, the JRC will consider collaborating with any successful proposal.

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.

Call: Research Infrastructures 2025	
Specific conditions	
Expected EU contribution per project	The Commission estimates that an EU contribution of between EUR 1.00 and 1.50 million would allow these outcomes to be addressed appropriately. Nonetheless, this does not preclude submission and selection of a proposal requesting different amounts.
Indicative budget	The total indicative budget for the topic is EUR 4.50 million.
Type of Action	Coordination and Support Actions
Eligibility conditions	The conditions are described in General Annex B. The following exceptions apply: The Joint Research Centre (JRC) may participate as member of the consortium selected for funding.
Procedure	The procedure is described in General Annex F. The following

[15] https://www.gnu.org/licenses/license-list#SoftwareLicenses
[16] https://opensource.org/licenses

	exceptions apply: To ensure a balanced portfolio covering the different areas, grants will be awarded to applications not only in order of ranking but at least also to those proposals that are the highest ranked within each area, provided that the applications attain all thresholds.
Legal and financial set-up of the Grant Agreements	The rules are described in General Annex G. The following exceptions apply: Eligible costs will take the form of a lump sum as defined in the Decision of 7 July 2021 authorising the use of lump sum contributions under the Horizon Europe Programme – the Framework Programme for Research and Innovation (2021-2027) – and in actions under the Research and Training Programme of the European Atomic Energy Community (2021-2025). [17].

Expected Outcome: For all areas: research infrastructures, their stakeholders and 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. Project results are expected to contribute to all of the following expected outcomes for one of the areas:

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

- Research infrastructure managers benefit from an overview of funding sources at national, regional and EU level.
- Research infrastructure 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.

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

- 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.

[17] This decision is available on the Funding and Tenders Portal, in the reference documents section for Horizon Europe, under 'Simplified costs decisions' or through this link: https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/horizon/guidance/ls-decision_he_en.pdf

- 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.

Area 3: Framework for joint research infrastructure technology developments

- Research infrastructures benefit from a 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 their 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.

Scope: Proposals should address only one of the following areas and should explicitly state which area they address:

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

The European Strategy Forum on Research Infrastructures (ESFRI), through successive roadmaps, has identified European priorities to equip researchers and innovators in Europe with infrastructures for groundbreaking research in all science and technology fields, from fundamental research to technological developments, to addressing pressing challenges of our society.

EU funding has been instrumental with recurrent support to the different phases of the research infrastructure life cycle, from concept and design to preparation and implementation, as well as in integrating and interconnecting new research infrastructure capacities in the European landscape and opening for access to them, overcoming the limits of national research programmes. When appropriate, pan-European research infrastructures have also benefitted from complementary EU funding, such as structural and investments funds or the Recovery and Resilience Facility funds.

However, funding an increasing number and size of pan-European research infrastructures weighs on national research budgets, raising the question of their long-term sustainability and of EU programmes' contribution to the various stages of their life cycle. At the same time, the

Pact for R&I in Europe[18] calls for more concerted investments and further synergies between Union, national and regional funding programmes. The Pact also calls for employing a broader range of funding sources for world-leading research infrastructures and exploring novel ways of funding transnational and virtual access.

Yet, recent ESFRI surveys show the difficulty to capture exhaustive information on the funding streams and level of funding. In many countries, the funding landscape is very complex with multiple funding instruments not always tracking research infrastructures along the final beneficiaries. Similarly, details of non-research EU funding benefitting research infrastructures are not always clear. From the research infrastructures' perspectives, many distributed research infrastructures lack long-term planning and do not have an overview of national funding sources nor expenses of the nodes, including access costs. This lack of visibility is hampering strategic discussions on investments plans and on broader access to research infrastructures.

Taking stock of relevant information sources such as the ESFRI work on funding[19], guides for synergies[20], documented examples from research infrastructures, and funders or financial organisms such as the EIB, the action should cover the following aspects:

- 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.

Proposals should foresee possible cooperation with projects selected under Area 2 with regards to funding models for access.

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

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18 Council Recommendation (EU) 2021/2122 of 26 November 2021 on a Pact for Research and Innovation in Europe

19 ESFRI Report: Funding of Research Infrastructures https://www.esfri.eu/esfri-report-funding-research-infrastructures.

20 E.g. COMMISSION NOTICE Synergies between Horizon Europe and ERDF programmes 2022/C 421/03 https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52022XC1104(02)

The support under Horizon Europe and past EU Framework Programmes for transnational and virtual access to research infrastructures has opened up world-class services and resources across Europe to research communities for their scientific activities, in all science and technology fields. It has helped the structuring of research infrastructures and their communities in organised networks, promoting single entry-points for access to facilities and resources including digital ones, and expanding to new pan-European research infrastructures.

Recent Horizon Europe support promoted further integration to better address users' needs, either around R&I areas to address societal challenges or around large scientific domains, increasing awareness in broader user communities and creating further opportunities for cross-domain R&I. However, the complexity of setting up appropriate project consortia and new access schemes coupled with the short duration projects necessitates a more integrated and sustainable approach.

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. It will build on the experience of past and ongoing EU supported access projects (notably under Horizon 2020 INFRAIA and Horizon Europe INFRASERV calls), on best practices from national access schemes, considering position papers from research infrastructures and scientific communities, and related ESFRI work.

Funding bodies, research infrastructure managers and user communities, including from Widening countries, should be involved in the design and governance of the proposed new EU access scheme, building up trust and creating opportunity to ensure a smooth implementation.

The proposal should be representative of all large scientific domains. It should involve EU research infrastructures in different fields, including preferably at least one ESFRI infrastructure[21] and/or ERIC[22] in each of the large ESFRI scientific domains as beneficiary. The action should also ensure a role for representatives of national research infrastructure funders (e.g. as a project consultative committee or advisory board) and appropriate consultation of scientific communities and potential users including from industry and public authorities.

The action will identify all necessary aspects to be addressed and possible options towards implementation. This should notably include 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);

[21] See the list of ESFRI 'Landmarks' in the 2021 ESFRI Roadmap: https://roadmap2021.esfri.eu/
[22] European Research Infrastructure Consortium (ERIC) | European Commission (europa.eu)

- Access policies including mechanisms ensuring appropriate balance among large domains, scientific fields and techniques best addressing key scientific challenges and the needs of users.

While the access scheme should be driven mainly by the excellence criterion, consideration should be given to incorporating services customised or developed in other projects to address specific EU priorities and societal challenges, as well as offering specific access conditions to targeted user groups, including fast track access e.g. for emergency cases.

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 projects selected under Area 1 with regards to funding models for access.

Proposals could consider the inclusion of the European Commission's Joint Research Centre (JRC) Support Services Directorate in their research infrastructure portfolio. The JRC offers its experience in assessing, setting the strategy, maintaining, operating and providing access to external researchers to its research infrastructures in various fields of science. The JRC runs a specific programme that opens its research infrastructure for access to external users and has developed a framework for access to its research infrastructures based on the European charter of access to research infrastructures. In this regard, the JRC will consider collaborating with any successful proposal.

Area 3: Framework for joint research infrastructure technology developments

Europe's long term scientific ambitions rely on the availability of world-class research infrastructures. These infrastructures require a continuous effort of optimisation and upgrading. Identifying and developing technology building blocks that can be used by a multitude of research infrastructure communities and across different domains can help increasing the efficiency of public investments in upgrades and optimisations of research infrastructures. Such efficiency gains can be further increased with standardisation and interoperability efforts and the identification of overlaps between different domain-specific ecosystems. Further development efforts rely on functioning innovation ecosystems for research infrastructure technologies, involving infrastructure operators, users, and industry, including SMEs and key other relevant stakeholders. Ensuring the functional capacity of such ecosystems as well as its resilience against disruptions require the creation of a more integrated and long-term planning and implementation of joint technology research.

Research infrastructure technologies are also understood to cover, where applicable, areas such as sample environments, support facilities, and software.

To ensure consolidation and evolution of the European research infrastructure landscape, considering notably the development of pan-European research infrastructures prioritised by ESFRI and the ERICs, proposals should include at least two different research infrastructures as beneficiaries [23] each of them being an ESFRI Landmark [24] a European Research Infrastructure Consortium[25] (ERIC) or another research infrastructure that is an international European research organisation[26] . Such research infrastructures, and where applicable the beneficiaries that own/operate them, must be explicitly identified in the proposals. In case of a distributed[27] ERIC, as an alternative to the ERIC participating as a beneficiary, a legal entity that is hosting ERIC facilities, resources or related services may participate as a beneficiary. A declaration signed by the legal representative of the ERIC should confirm that the ERIC is supporting this participation, explain the relevance for the ERIC and describe any further cooperation with the ERIC.

To ensure buy-in of the different scientific communities, the action will involve research infrastructures, covering a maximum of ESFRI domains, and, where relevant, user organisations and key industry and SME players. The consortium itself should consist of key research infrastructures that are representative of at least two ESFRI domains. While it is expected that the consortium includes research infrastructures representative of the different ESFRI domains covered, involvement of additional research infrastructures can be shown via engagement letters or other forms of endorsement.

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23 The participation of two nodes of the same ESFRI infrastructure or ERIC does not count as two different research infrastructures.

24 See the list of ESFRI 'Landmarks' in the 2021 ESFRI Roadmap: https://roadmap2021.esfri.eu/

25 European Research Infrastructure Consortium (ERIC) | European Commission (europa.eu)

26 An ‘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.

27 The term ‘distributed’ research infrastructure typically refers to one or a few central hubs and several interlinked (national or institutional) nodes where many components of the research infrastructure may not be part of the same legal entity, the ERIC.

The project should build on previous roadmapping and synergy efforts made by scientific communities and on projects such as the ones funded under Horizon 2020 INFRAINNOV-04-2020.

The project should address all of the following aspects:

- Identification of technology overlaps or building blocks relevant for multiple domains and infrastructure types.
- Identification of further technology roadmapping needs, covering both transversal needs and domain-specific needs.
- Identification of standardisation and interoperability needs.
- Identification of 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.

Destination INFRAEOSC - Enabling an operational, open and FAIR EOSC ecosystem (2025)

This destination serves the European Open Science Cloud (EOSC) ambition of contributing to a web of FAIR (Findable, Accessible, Interoperable, Reusable) research data and providing 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.

The expected impacts of the activities supported under this destination are in line with objectives of the co-programmed European Partnership for EOSC and its Strategic R&I Agenda, in particular:

- Enable the definition of standards, and the development of tools and services, to allow researchers to find, access, reuse and combine results;
- Establish a sustainable and federated infrastructure enabling open sharing of scientific results;
- Ensure that Open Science practices and skills are rewarded and taught, becoming the norm across the European Research Area.

Activities should continue to transform the research landscape in Europe by bringing cohesion and addressing common needs of the research communities. The programme should catalyse a fully operational environment covering the whole research data lifecycle across borders and communities.

To further advance this ambition, the EU must continue investing in dedicated activities and ensure synergies between EOSC-related actions at the EU, national, institutional and community levels.

All software developed under this destination should be open source, licensed under a CC0 public domain dedication or under an open source licence as recommended by the Free Software Foundation[28] and the Open Source Initiative[29].

All projects financed under this destination are expected to participate in concertation activities in the framework of the EOSC Partnership.

Proposals are invited against the following topic(s):

HORIZON-INFRA-2025-01-EOSC-01: EOSC Nodes with federating capabilities for the EOSC Federation

Call: Research Infrastructures 2025

[28] https://www.gnu.org/licenses/license-list#SoftwareLicenses
[29] https://opensource.org/licenses

Specific conditions	
Expected EU contribution per project	The Commission estimates that an EU contribution of between EUR 6.00 and 8.00 million would allow these outcomes to be addressed appropriately. Nonetheless, this does not preclude submission and selection of a proposal requesting different amounts.
Indicative budget	The total indicative budget for the topic is EUR 30.00 million.
Type of Action	Research and Innovation Actions
Eligibility conditions	The conditions are described in General Annex B. The following exceptions apply: Subject to restrictions for the protection of European communication networks.
Technology Readiness Level	Activities are expected to achieve TRL 7-8 by the end of the project – see General Annex B.
Award criteria	The criteria are described in General Annex D. The following exceptions apply: The following additions to the general award criteria apply: The extent to which the proposed work incorporates the necessary coordination efforts and resources with other relevant projects and the EOSC governance structure in the context of the EOSC Partnership will be taken into account for Impact.
Legal and financial set-up of the Grant Agreements	The rules are described in General Annex G. The following exceptions apply: Beneficiaries may provide financial support to third parties (FSTP). The support to third parties can only be provided in the form of grants. The maximum amount to be granted to each third party is EUR 60 000. Beneficiaries will be subject to the following additional access rights: • Each beneficiary must grant royalty-free access to its results to the EOSC Association for monitoring and developing policies and strategies for the European Open Science Cloud. Each beneficiary must also provide directly to the EOSC Association the information the beneficiary deems necessary for monitoring and developing policies and strategies for the EOSC. • Each beneficiary must grant royalty-free access to its intellectual property rights which are part of the results and are needed for further developing the EOSC to legal entities identified by the granting authority and established in Member States or countries associated to the Horizon Europe Framework Programme. Such

	access rights are limited to non- commercial use. Beneficiaries must deposit the digital research data generated in the action in a trusted repository federated in the EOSC in compliance with EOSC requirements.

Expected Outcome: Project results are expected to contribute to the following outcomes:

- The EOSC federation will be established as a distributed system of systems, comprising of independently managed EOSC nodes that collaborate to augment their contribution to EOSC users whilst ensuring resilience of the interconnected systems by supporting the common federating capabilities.
- Researchers will benefit from unified support aimed at integrating their research environments with the EOSC federation and this coordinated assistance will streamline the alignment of research practices with the EOSC ecosystem.

Scope: The call aims to further develop the cross-domain EOSC system of systems, building upon the results of the previous INFRAEOSC calls[30]. The focus is on developing and expanding the EOSC federation through a network of nodes as baseline elements of the federation model. These EOSC nodes will establish a set of essential federating capabilities, compatible with the EOSC EU Node reference architecture, following the EOSC Federation Handbook and EOSC interoperability framework. They should have a clearly described identity and offer unique value to EOSC users, for example representing a specific thematic domain (e.g. data or computing) or geographical area amongst the Horizon Europe participating and associated countries.

To become an EOSC node, the proposals are expected to demonstrate the ability to assess and address the existing gaps regarding the federating capabilities at technical, legal and organisational level. The proposals are expected to indicate adherence to the EOSC governance structure, federation policies and capabilities. They should also address business models, service management procedures, and technical and semantic interoperability. Furthermore, the proposals should propose a credible plan to ensure the sustainability of the proposed solutions beyond the project lifespan, including how to take over or replicate the federating role currently ensured by the EOSC EU Node[31].

More specifically, the proposals should focus on all of the following aspects:

30 https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/horizon/wp-call/2021-2022/wp-3-research-infrastructures_horizon-2021-2022_en.pdf; https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/horizon/wp-call/2023-2024/wp-3-research-infrastructures_horizon-2023-2024_en.pdf

31 https://open-science-cloud.ec.europa.eu/. Financial support for third-parties (FSTP), that will make value-added data, tools and services ready to be onboarded and available via the node, can be included in the proposals. The FSTP budget will only cover the cost of onboarding.

- Satisfy the minimal node requirements as defined by the EOSC tripartite governance[32], and go beyond them by further development and refinement of the harmonized participation model, taking into account the variety of thematic and national dimensions in the EOSC federation. These requirements include: [33];
    - Compliance with the requirements on the legal status of the organisation;
    - Compliance with the requirements aiming at large-scale, quality service provisioning;
    - Capacity to onboard third-party services
- Capacity to contribute to and/or take-over the EOSC federating capabilities;
- Adoption and integration of the EOSC federation rules and policies, and further refinement and practical adaptation of best practices;
- Support to effectively monitor and report the activities of the services provided.
- Integrate and offer EOSC core federating capabilities pioneered by the EOSC EU Node, such as Authentication, Authorisation and Accounting, Research Catalogues and Knowledge Graph, Application Workflows, Monitoring and Helpdesk
- Contribute to a robust and coordinated strategy for evolving and sustaining the federated governance model for EOSC by fostering effective collaboration and coordination among the other node operators offering federating capabilities. This can be done for example by distributing the work and taking a share in facilitating the identification, selection and integration/enrolment of other organisations interested in becoming responsible for operating an EOSC node and representing various countries, regions and scientific disciplines.
- Enrich the existing guidelines and best practices for the onboarding and enrolment processes.
- Evolve and refine the EOSC federation specifications to drive the evolution across governance, operations, sustainability and technical interoperability.
- Designate and train the EOSC node operators, especially those offering federating capabilities, for high level of responsibilities within the EOSC federation.
- Develop and run community engagement and support programmes around the EOSC nodes and the surrounding ecosystem.

[32] https://eosc.eu/wp-content/uploads/2024/05/EOSC-A_GA8_20240527-28_Paper-G_Update_EOSC_Nodes_requirements-DRAFT-v240524.pdf

[33] Financial support for third-parties (FSTP), that will make value-added data, tools and services ready to be onboarded and available via the node, can be included in the proposals. The FSTP budget will only cover the cost of onboarding.

HORIZON-INFRA-2025-01-EOSC-02: FAIR Integration for Enhanced Research Data in the EOSC ecosystem and beyond

Call: Research Infrastructures 2025	
Specific conditions	
Expected EU contribution per project	The Commission estimates that an EU contribution of between EUR 5.00 and 8.00 million would allow these outcomes to be addressed appropriately. Nonetheless, this does not preclude submission and selection of a proposal requesting different amounts.
Indicative budget	The total indicative budget for the topic is EUR 16.00 million.
Type of Action	Research and Innovation Actions
Award criteria	The criteria are described in General Annex D. The following exceptions apply: The following additions to the general award criteria apply: The extent to which the proposed work incorporates the necessary coordination efforts and resources with other relevant projects and the EOSC governance structure in the context of the EOSC Partnership will be taken into account for Impact.
Legal and financial set-up of the Grant Agreements	The rules are described in General Annex G. The following exceptions apply: Beneficiaries will be subject to the following additional access rights: Each beneficiary must grant royalty-free access to its results to the EOSC Association for monitoring and developing policies and strategies for the EOSC. Each beneficiary must also provide directly to the EOSC Association the information the beneficiary deems necessary for monitoring and developing policies and strategies for the EOSC. Beneficiaries must deposit the digital research data generated in the action in a trusted repository federated in the EOSC in compliance with EOSC requirements.

Expected Outcome: Projects are expected to contribute to all of the following expected outcomes:

- improved findability, accessibility, interoperability and re-usability ("FAIRness") of research data and other digital research outputs;
- wider uptake of and compliance with FAIR data principles and practices by national and European research data and metadata providers, repositories and databases;

- operationalisation of the concept of FAIR digital objects throughout the entire research data lifecycle;

- enhanced and mainstreamed technical specifications for FAIR digital objects to facilitate the creation of digital objects that are FAIR-by-design.

Scope: The scope of this call topic is centred on advancing the interoperability and integration of research data within the European Open Science Cloud (EOSC), in alignment with the broader context of the Common European Data Spaces and cross-sector collaboration. FAIR digital objects provide a conceptual and implementation framework to develop scalable cross-disciplinary capabilities, deal with the increasing data volumes and their inherent complexity, build tools that help to increase trust in data, create mechanisms to efficiently operate in the domain of scientific assertions, and promote data interoperability. Proposals should cover all of the following areas and activities:

- FAIR-by-Design digital objects creation: the development of tools that enable the creation of digital objects adhering to the FAIR (Findable, Accessible, Interoperable, Reusable) principles both from the "source" or as a result of an analysis.

- Automated standardisation and data quality assessment: development and provision of automated tools and procedures for standardisation and data quality assessment. This will ensure that data across different domains adhere to common standards, fostering greater compatibility and enhancing overall data quality.

- Operational data services specification: delivering technical specifications for operational data services that support the transformation of digital objects into FAIR entities. Such services may include the integration of AI-based tools capable of autonomously operating on data repositories, contributing to the automatic establishment of FAIR practices throughout the research ecosystem.

- Interoperability and training to promote the uptake of open standards: the action should make substantial contributions to the development, upkeep and widespread adoption of open standards for metadata, formats, vocabularies, semantics and APIs. Activities should foster compatibility among digital objects across different domains, facilitating seamless data exchange and integration. Training and dissemination activities will facilitate the uptake of these standards, fostering collaboration and compatibility.

- Collaboration and alignment with Common European Data Spaces: harmonisation of EOSC technical specifications with those of other Common European Data Spaces.

- Interoperability demonstration and content integration: demonstrating the tangible outcomes of applying FAIR tools, standards, and specifications will showcase the achieved interoperability and integration, strengthening the case for data sharing and reuse across disciplines and sectors.

- Cross-Sector data utilization: by enhancing content integration from data spaces, industry, and beyond, the reuse of science data in various sectors is to be encouraged.

This will ease access to real-life data from other data spaces, fostering its utilization in research and expanding its impact.

These activities will have to be developed in accordance with standards and guidelines defined or adopted by EOSC, promoting data quality and open access practices. To ensure complementarity of outcomes, proposals are expected to cooperate and align with activities of the EOSC Partnership and to coordinate with relevant initiatives and projects contributing to the development of EOSC, including projects funded by the call topics HORIZON-INFRA-2023-EOSC-01-04 - 'Next generation services for operational and sustainable EOSC Core Infrastructure' and HORIZON-INFRA-2024-EOSC-01-05 - 'Innovative and customizable services for EOSC Exchange'. In addition, cooperation is expected with project(s) funded by the call topic HORIZON-INFRA-2025-01-EOSC-01. Finally, proposals should build on the work delivered by the projects FAIR-IMPACT and FAIRCORE4EOSC, especially in the areas of interoperability across disciplines and sectors, as well as in the mainstreaming of creating FAIR-by-Design digital objects. This topic implements the co-programmed European Partnership for the European Open Science Cloud.

HORIZON-INFRA-2025-01-EOSC-03: Advancing AI-readiness and Machine-Actionability in the EOSC Ecosystem

Call: Research Infrastructures 2025	
Specific conditions	
Expected EU contribution per project	The Commission estimates that an EU contribution of between EUR 7.50 and 15.00 million would allow these outcomes to be addressed appropriately. Nonetheless, this does not preclude submission and selection of a proposal requesting different amounts.
Indicative budget	The total indicative budget for the topic is EUR 15.00 million.
Type of Action	Research and Innovation Actions
Eligibility conditions	The conditions are described in General Annex B. The following exceptions apply: Subject to restrictions for the protection of European communication networks. The Joint Research Centre (JRC) may participate as member of the consortium selected for funding.
Technology Readiness Level	Activities are expected to start at TRL 4 and achieve TRL up to 6 by the end of the project – see General Annex B.
Award criteria	The criteria are described in General Annex D. The following exceptions apply: The following additions to the general award criteria apply: The extent

	to which the proposed work incorporates the necessary coordination efforts and resources with other relevant projects and the EOSC governance structure in the context of the EOSC Partnership will be taken into account for Impact.
Legal and financial set-up of the Grant Agreements	The rules are described in General Annex G. The following exceptions apply: Beneficiaries will be subject to the following additional access rights: • Each beneficiary must grant royalty-free access to its results to the EOSC Association for monitoring and developing policies and strategies for the European Open Science Cloud. Each beneficiary must also provide directly to the EOSC Association the information the beneficiary deems necessary for monitoring and developing policies and strategies for the European Open Science Cloud. • Each beneficiary must grant royalty-free access to its intellectual property rights which are part of the results and are needed for further developing the European Open Science Cloud to legal entities identified by the granting authority and established in Member States or countries associated to the Horizon Europe Framework Programme. Such access rights are limited to non-commercial use. Beneficiaries must deposit the digital research data generated in the action in a trusted repository federated in the European Open Science Cloud (EOSC) in compliance with EOSC requirements. Eligible costs will take the form of a lump sum as defined in the Decision of 7 July 2021 authorising the use of lump sum contributions under the Horizon Europe Programme – the Framework Programme for Research and Innovation (2021-2027) – and in actions under the Research and Training Programme of the European Atomic Energy Community (2021-2025). [34]. Grants awarded under this topic will be linked through collaboration agreements to the grants from the following action: HORIZON-INFRA-2025-01-EOSC-05: Using Generative AI (GenAI4EU) for Scientific Research via EOSC.

[34] This decision is available on the Funding and Tenders Portal, in the reference documents section for Horizon Europe, under 'Simplified costs decisions' or through this link: https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/horizon/guidance/ls-decision_he_en.pdf

Expected Outcome: Project results are expected to contribute to the following outcomes:

- EOSC will be advancing AI-readiness and Machine-Actionability (MA) in the ecosystem by offering AI-ready federated infrastructure and easy-to-use platform services for EOSC, in order to respond to one of the main challenges of research infrastructures for AI in science, namely the lack of interoperability between AI/ML solutions.

- EOSC will focus on integrating machine-actionable repositories within the ecosystem and demonstrating their reliability and effectiveness by collaborating with repository owners and service providers to implement MA tools and protocols, ensuring seamless integration with the EOSC EU Node.

Scope: Today, the sustainable FAIRification of data can be a bottleneck towards the goal of a European web of FAIR data and services. The use of AI/ML can significantly help in the process of FAIRification, data curation and data quality assurance, close to the source of the data. EOSC shall promote actions that give incentives to further advance AI-readiness and Machine-Actionability in the EOSC federation for FAIRification and to support their application.

European researchers need access to compute and repository services to develop, train and validate AI/ML models, in line with the GenAI4EU initiative and other key initiatives, like the Apply AI strategy, based on AI-ready research data from research infrastructures and third-party repositories. The proposed infrastructures should complement the EOSC EU Node capacity and be able to scale to a large number of users within transnational access to high-value datasets from national and European Research Infrastructure and e-Infrastructure ecosystems.

AI-based assistance tools shall be customised and trained for the discovery and composition of open science resources into custom workflows allowing researchers to discover and interact with open science infrastructures, combining relevant data, software and application assets.

Open Data and Open Research Software are essential for reliable, trustworthy, and transparent AI/ML. They ensure that datasets and algorithms are well documented, accessible, and reproducible, enabling others to validate and understand AI/ML algorithms. This transparency fosters trust, supports ethical standards, and ensures compliance with regulations, particularly important in the field of AI/ML.

The proposals should focus on all following aspects:

- Develop and prototype tools to drive machine-actionability in repositories, data, and services, establishing a network of trusted repositories linked to the EOSC EU Node;

    - formulate open protocols and policies to facilitate effortless data access, transfer, processing, and provenance updates within EOSC's repository and service network;

  - deliver AI-based capabilities to make interoperable AI/ML solutions and facilitate the setup of custom workflows for research data processing;
  - offer tools/services for automatic quality measures of inputs and outputs of the AI/ML models.

- Provide federated infrastructure services for serving AI models integrating horizontal and thematic EOSC nodes:
  - ensure capacities for AI model retraining and inference;
  - take into account the whole research data life cycle, including raw data retention before AI modelling.
- Provide access to an easy-to-use technology platform offering reference implementations and recipes to quickly get started working with AI/ML with limited engineering overhead:
  - promote and apply state-of-the-art AI/ML operational best practices;
  - validate reference implementations and share commonly used recipes within EOSC.
- Establish and/or provide access to existing AI/ML model repositories and services to serve models for retraining of generic models for specific needs for future predictions and reproducibility:
  - create AI/ML model repository and enhance FAIRness of existing AI/ML models;
  - offer services for utilisation of these models, including fine-tuning and inference, thus providing the foundational building blocks for the development of AI applications in EOSC.
- Establish an EOSC AI/ML competency centre for the pooling of expertise and coordinated support on AI/ML use of data, compute infrastructure and AI/ML models for the upskilling and technical support of EOSC users and research operators, as a strategic asset that will enable a new paradigm for science production.

The proposers should take into account and leverage on the results of relevant projects in the field, including EOSC Data Commons[35], and the other initiatives and projects contributing to the development of EOSC, especially in the area of machine-actionability and data FAIRification.

This topic implements the co-programmed European Partnership for the European Open Science Cloud.

[35] EOSC Data Commons, Grant agreement ID: 101188179 https://cordis.europa.eu/project/id/101188179

HORIZON-INFRA-2025-01-EOSC-04: Data stewards, skills and training for Open Science and FAIR practices

Call: Research Infrastructures 2025	
Specific conditions	
Expected EU contribution per project	The Commission estimates that an EU contribution of between EUR 5.00 and 8.00 million would allow these outcomes to be addressed appropriately. Nonetheless, this does not preclude submission and selection of a proposal requesting different amounts.
Indicative budget	The total indicative budget for the topic is EUR 8.00 million.
Type of Action	Coordination and Support Actions
Award criteria	The criteria are described in General Annex D. The following exceptions apply: The following additions to the general award criteria apply: The extent to which the proposed work incorporates the necessary coordination efforts and resources with other relevant projects and the EOSC governance structure in the context of the EOSC Partnership will be taken into account for Impact.
Legal and financial set-up of the Grant Agreements	The rules are described in General Annex G. The following exceptions apply: Beneficiaries will be subject to the following additional access rights: Each beneficiary must grant royalty-free access to its results to the EOSC Association for monitoring and developing policies and strategies for the EOSC. Each beneficiary must also provide directly to the EOSC Association the information the beneficiary deems necessary for monitoring and developing policies and strategies for the EOSC. Beneficiaries must deposit the digital research data generated in the action in a trusted repository federated in the EOSC in compliance with EOSC requirements. Beneficiaries may provide financial support to third parties. The support to third parties can only be provided in the form of grants. The maximum amount to be granted to each third party is EUR 60 000. Eligible costs will take the form of a lump sum as defined in the Decision of 7 July 2021 authorising the use of lump sum contributions under the Horizon Europe Programme – the Framework Programme for Research and Innovation (2021-2027) – and in actions under the

	Research and Training Programme of the European Atomic Energy Community (2021-2025). [36].

Expected Outcome: Projects are expected to contribute to all of the following expected outcomes:

- Definition of consistent core curricula for data stewards throughout Europe, fostering the adoption of Open Science and FAIR principles.
- Enhanced data steward skills, enhancing their ability to manage and interpret complex data.
- Advancement of Open Science education throughout all research career stages. Creation and standardisation of open science curricula tailored to researchers at all career stages, promoting consistency and collaboration in Open Science practices.
- Expansion and strengthening of existing competence networks, broadening their scope across countries and disciplines and improving their readiness to support the uptake of Open Science and of EOSC. Development of a sustainable coordination network model to support synergies and continued growth.
- Mainstreaming transparent, aligned, and interoperable Open Science practices and promoting efficiency and trustworthiness in the management of FAIR digital objects.

Scope: The uptake of Open Science practices and of the European Open Science Cloud (EOSC) requires dedicated, professional profiles for data curation and data management, as well as equipping researchers with adequate skills and supporting them for the sharing and re-use of FAIR research digital objects. However, at present, data stewards and related profiles lack well-defined career paths, and data sharing and other open science practices are not fully mainstreamed within the research community and are often not recognised in research assessment practices.

The objective of this topic is to foster a stronger culture of Open Science and to address gaps related to the professionalisation of data stewards and to the acquisition and recognition of open science and data management skills at all career levels. This requires the identification of consistent core curricula for data stewards, together with the further development and coordination of competence centres at the European level.

Proposals are expected to cover the following activities:

- Coordinating European-level actions to make data steward curricula management consistent and to propose mechanisms to monitor their suitability and possible evolution.

[36] This decision is available on the Funding and Tenders Portal, in the reference documents section for Horizon Europe, under 'Simplified costs decisions' or through this link: https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/horizon/guidance/ls-decision_he_en.pdf

- Enhancing data steward and researcher curricula with Open Science and FAIR practices, ensuring adaptability at the different contexts, levels and scientific domains of applicability.
- Addressing diverse data steward levels, including support staff and researchers.
- Collaborating with existing competence centres to foster Open Science and FAIR networks.
- Leveraging national networks and related institutional initiatives for European-level coordination.
- Launching outreach programs targeting early-career researchers and less-structured communities.
- Offering support to countries and institutions that are underrepresented and bolstering national competence centre networks.

Proposals are expected to build on and align with the European Competence Framework for Researchers (ResearchComp) [37] and with the revised Charter for Researchers [38], which underline the importance of Open Science competences and practices in research careers. Proposals should also seek for synergies with the activities of the Coalition for Advancing Research Assessment (CoARA) in order to reach a better recognition of open, collaborative practices in research assessment.

To ensure complementarity of outcomes, proposals are expected to cooperate and align with activities of the EOSC Partnership and to coordinate with relevant initiatives and projects contributing to the development of EOSC. In particular, proposals should take account of the results of the Skills4EOSC and FAIR-IMPACT projects and interact with related initiatives aimed at developing competence centres and at improving FAIR data practices in different contexts, like in research infrastructures, research performing organisation and higher education institutions. In particular, cooperation is expected with project(s) funded by call topic HORIZON-INFRA-2025-01-EOSC-02. Proposals are expected to propose adequate measures and tailor its support to different levels and contexts of data stewardship.

Proposals are expected to establish interactions with the operators of the EOSC Federation, in order to ensure alignment with the policies and practices of the EOSC Federation, notably on the area of data interoperability standards, persistent identifiers and others to identify useful tools and resources for the broad EOSC community. This topic implements the co-programmed European Partnership for the European Open Science Cloud.

[37] https://research-and-innovation.ec.europa.eu/jobs-research/researchcomp-european-competence-framework-researchers_en.
[38] https://euraxess.ec.europa.eu/hrexcellenceaward/european-charter-researchers.

HORIZON-INFRA-2025-01-EOSC-05: Using Generative AI (GenAI4EU) for Scientific Research via EOSC

Call: Research Infrastructures 2025	
Specific conditions	
Expected EU contribution per project	The Commission estimates that an EU contribution of between EUR 7.50 and 10.00 million would allow these outcomes to be addressed appropriately. Nonetheless, this does not preclude submission and selection of a proposal requesting different amounts.
Indicative budget	The total indicative budget for the topic is EUR 37.50 million.
Type of Action	Research and Innovation Actions
Eligibility conditions	The conditions are described in General Annex B. The following exceptions apply: Subject to restrictions for the protection of European communication networks. The Joint Research Centre (JRC) may participate as member of the consortium selected for funding.
Technology Readiness Level	Activities are expected to start at TRL 4 and achieve TRL up to 6 by the end of the project – see General Annex B.
Award criteria	The criteria are described in General Annex D. The following exceptions apply: The following additions to the general award criteria apply: The extent to which the proposed work incorporates the necessary coordination efforts and resources with other relevant projects and the EOSC governance structure in the context of the EOSC Partnership will be taken into account for Impact.
Legal and financial set-up of the Grant Agreements	The rules are described in General Annex G. The following exceptions apply: Beneficiaries will be subject to the following additional access rights: • Each beneficiary must grant royalty-free access to its results to the EOSC Association for monitoring and developing policies and strategies for the European Open Science Cloud. Each beneficiary must also provide directly to the EOSC Association the information the beneficiary deems necessary for monitoring and developing policies and strategies for the European Open Science Cloud. • Each beneficiary must grant royalty-free access to its intellectual

	property rights which are part of the results and are needed for further developing the European Open Science Cloud to legal entities identified by the granting authority and established in Member States or countries associated to the Horizon Europe Framework Programme. Such access rights are limited to non-commercial use. Beneficiaries must deposit the digital research data generated in the action in a trusted repository federated in the European Open Science Cloud (EOSC) in compliance with EOSC requirements. Eligible costs will take the form of a lump sum as defined in the Decision of 7 July 2021 authorising the use of lump sum contributions under the Horizon Europe Programme – the Framework Programme for Research and Innovation (2021-2027) – and in actions under the Research and Training Programme of the European Atomic Energy Community (2021-2025)[39]. Grants awarded under this topic will be linked through collaboration agreements to the grants from following action: HORIZON-INFRA-2025-01-EOSC-03: Advancing AI-readiness and Machine-Actionability in the EOSC Ecosystem.

Expected Outcome: Project results are expected to contribute to the following outcomes:

- EOSC will make available the high-quality machine-readable scientific datasets to be consumed by machine-driven Generative AI applications at the service of science in line with the GenAI4EU[40] initiative and other key EU initiatives, like the Apply AI strategy.
- EOSC will facilitate the pooling and sharing of high-value data sets originated from EOSC and other data spaces identified as priorities (including, but not limited to, public sector, health, climate, environmental, manufacturing, agriculture, energy, financial and mobility data). The large-scale actions supported by EOSC will include the creation of common data platforms enabling secure and compliant sharing and reuse of sensitive, confidential, proprietary and personal data, as well as large-scale experimentation based on Generative AI, in line with the GenAI4EU initiative and other key EU initiatives, like the Apply AI strategy.

[39] This decision is available on the Funding and Tenders Portal, in the reference documents section for Horizon Europe, under 'Simplified costs decisions' or through this link: https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/horizon/guidance/ls-decision_he_en.pdf

[40] This call falls under the 'GenAI4EU' initiative as in the Communication from the Commission to the European Parliament, the Council, the European Economic And Social Committee and the Committee of the Regions on boosting startups and innovation in trustworthy artificial intelligence ((COM(2024) 28 final of 24.1.2024).

Scope: The scope of this call is to demonstrate and foster the use of Generative AI for Scientific Research, in line with the GenAI4EU initiative and other key EU initiatives, like the Apply AI strategy, throughout the research data lifecycle supported by EOSC. Generative AI can be used for activities such as writing, data generation and analysis, reporting and many others, for improving productivity. This enables lifting science beyond the human scale by facilitating the deployment and use of smart algorithms, machine learning and AI services onto the Web of FAIR Data. The awareness and readiness of using Generative AI for scientific research must be raised by training activities.

AI-powered natural language interfaces can transform the way researchers interact with open science infrastructures, how they discover and combine relevant data, software and application assets. EOSC should evolve towards offering such capabilities in ways that ensure unbiased and trustworthy responses. This includes adopting FAIR practices, for AI-trained models as well, to address challenges ranging from reproducibility to trustworthiness.

Open Data and Open Research Software are essential for reliable, trustworthy, and transparent GenAI. They ensure that datasets and algorithms are well-documented, accessible, and reproducible, enabling others to validate and understand GenAI algorithms. This transparency fosters trust, supports ethical standards, and ensures compliance with regulations, particularly important in the field of GenAI.

The proposals shall focus on all following aspects:

- Enrich the EOSC federation with Generative AI tools for evaluating research data quality, ensuring trustworthiness across the European network of trusted repositories, accessible by humans, machines, and Generative AI services: formulate protocols and policies to facilitate effortless data access, processing, and provenance updates within EOSC's repository and service network.

- Support European research infrastructures to improve the FAIRness of their data, so that they are ready to be combined with data of infrastructures in scientifically neighbouring domains, in order to provide Generative AI-ready data.

    - conduct pilots to validate the effectiveness and accuracy of the Generative AI-driven data quality evaluation methods, iteratively improving and refining them based on feedback and real-world use cases and removing the potential biases inherited from the training data.

- Run community engagement and support programmes for implementing Generative AI in scientific workflows via EOSC:

    - promote a sound training programme to facilitate the uptake and the use of Generative AI as a means to facilitate the FAIRification of data and data curation;

    - demonstrate how Generative AI can facilitate quality assessment of FAIR data;

- advance the realization of machine-actionable (MA) research data and services, including AI-based systems;

- propose protocols and policies to govern automatic data workflows within the network of repositories and services.

The proposals are expected to deliver on one or more of the following:

- Develop, promote and support real-life use cases for Generative AI models in scientific research domains, in line with the GenAI4EU initiative and other key EU initiatives, like the Apply AI strategy, such as:

  - augment datasets in scientific fields that rely on image analysis, such as biology, astronomy, and materials science: by generating synthetic images that closely resemble real data, researchers can expand their datasets, improve model robustness, share anonymized version of sensitive data and generalize better to unseen scenarios;

  - learn the underlying patterns of complex time-series data, such as sensor readings in environmental monitoring or physiological signals in healthcare: by generating data samples that match the learned distribution, these models can detect anomalies or deviations from normal behaviour;

  - accelerate materials design and discovery by predicting the properties of new materials without the need for extensive experimental testing: these models can generate novel material structures with desired properties, such as strength, conductivity, or catalytic activity, based on learned relationships between material compositions and properties;

  - advance drug design and molecular modelling by generating novel molecular structures with desired pharmacological properties: these models can explore vast chemical spaces, predict the interactions between molecules and biological targets, and optimize drug candidates for efficacy and safety;

  - simulate complex systems and phenomena in various scientific domains, such as physics, chemistry, and ecology: by capturing the underlying dynamics and interactions of the system, these models can generate realistic simulations that mimic observed behaviour or predict future outcomes under different conditions.

The proposers should take into account and leverage on the results of relevant projects in the field, including AI4EOSC[41], iMagine[42], EOSC Data Commons[43], RI-SCALE[44], and other developments within the scope of the GenAI4EU initiative and other key EU initiatives, like the Apply AI strategy.

41 https://ai4eosc.eu/
42 https://www.imagine-ai.eu/
43 Grant no 101188179 from the call HORIZON-INFRA-2024-TECH-01
44 Grant no 101188168 from the call HORIZON-INFRA-2024-TECH-01

This topic implements the co-programmed European Partnership for the European Open Science Cloud.

Proposals could consider the inclusion of the European Commission's Joint Research Centre (JRC) research infrastructure in their research infrastructure portfolio for the creation and sharing or high-quality machine-readable scientific datasets to be consumed by machine-driven Generative AI applications. In this regard, the JRC will consider collaborating with any successful proposal.

Destination INFRASERV - Research infrastructures services to support health research, accelerate the green transition and the digital transformation, and advance frontier knowledge (2025)

EU supported transnational access to research infrastructures has radically transformed the availability of state-of-the-art facilities for researchers, reinforcing Europe's strong research performance. Horizon Europe marked a shift towards new types of transnational access grants, awarded to consortia of diverse types of facilities providing access to broad portfolios of installations and scientific services relevant for a large research domain or in support of societal challenge and EU priorities.

Actions under this destination are invited to facilitate a fast-track access for Ukrainian researchers from government controlled territories, through specific outreach activities, support in preparing applications to the access calls, selection priority at equal scientific merit, as well as extended ad-hoc training and duration of visits (beyond 3 months).

The expected impact of the activities supported under this destination notably includes:

- Effective access of European researchers to the best research infrastructure services from national and pan- European research infrastructures (such as ESFRI Projects and Landmarks, ERICs), while ensuring both curiosity-driven and challenge-driven access, considering also that challenge-driven access must notably foster the role of research infrastructures in greening society and improving its resilience to crises.

- Improved research infrastructure services to address evolving scientific and societal challenges, including those related to EU priorities, and to reinforce the excellence, attractiveness and competitive edge of the ERA and its capacity to address future challenges and priorities, considering that this increasingly requires interdisciplinarity and cross-domain collaboration.

- Improved transnational access to new users such as early-stage career researchers, and researchers from other fields or sectors, while making sure that these new activities do not come at the cost of already overbooked transnational access services.

- New discoveries and knowledge breakthroughs enabled by access provision to the best and in some cases unique state-of-the-art RIs.

- A new generation of researchers trained to optimally exploit all the essential and advanced tools for their research.

Proposals are invited against the following topic(s):

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

Call: Research Infrastructures 2025

Specific conditions	
Expected EU contribution per project	The Commission estimates that an EU contribution of around EUR 10.00 million would allow these outcomes to be addressed appropriately. Nonetheless, this does not preclude submission and selection of a proposal requesting different amounts.
Indicative budget	The total indicative budget for the topic is EUR 30.00 million.
Type of Action	Research and Innovation Actions
Admissibility conditions	The conditions are described in General Annex A. The following exceptions apply: Applicants are not required to include in their proposal a plan for the exploitation and dissemination of the results as the main objective of these actions is the service provision. As proposals need to give information on the research infrastructures providing access, the page limit of the application is 100 pages.
Eligibility conditions	The conditions are described in General Annex B. The following exceptions apply: The following additional eligibility criteria apply: Given the specific nature of this topic, access provision activities must be included in the proposal. Please read carefully the provisions under the section “Specific features for Research Infrastructures” of this work programme part before preparing your application. Considering the Union’s interest to make accessible to its researchers the most advanced research infrastructures, wherever they are in the world, legal entities established in Australia, Brazil, Canada, Chile, India, Japan, Mexico, New Zealand, Republic of Korea, Singapore, Switzerland, and USA, which provide, under the grant, access to their research infrastructures to researchers from Member States and Associated Countries, are exceptionally eligible for funding from the Union under this topic. The Joint Research Centre (JRC) may participate as member of the consortium selected for funding.
Award criteria	The criteria are described in General Annex D. The following exceptions apply: The following additions to the general award criteria apply: *For the 'Excellence' criterion*, the additional following aspects will also be taken into account:

	• The extent to which the access activities (trans-national and/or virtual access) will offer access to the state-of-the-art infrastructures of European interest in the field, high quality services, and will enable users to conduct excellent research. • The extent to which the project will contribute to facilitating and integrating the access procedures, to improve the services the infrastructures provide and to further develop their on-line services.
Procedure	The procedure is described in General Annex F. The following exceptions apply: To ensure a balanced portfolio covering the different areas, grants will be awarded to applications not only in order of ranking but at least also to those proposals that are the highest ranked within each area, provided that the applications attain all thresholds.
Legal and financial set-up of the Grant Agreements	The rules are described in General Annex G. The following exceptions apply: Eligible costs may take form of unit costs for trans-national and virtual access to research infrastructures as defined in the Decision authorising the use of unit costs for the actions involving trans-national and virtual access (see Annex 2a of the Horizon Europe Model Grant Agreement).

Expected Outcome:

For all areas:

- 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 related to the health domain.

Project results are expected to contribute to all of the following expected outcomes for one of the areas:

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

- Excellent research and innovation to identify, characterise and mitigate the effects of existing and future emerging pathogens of public health concern.
- Comprehensive catalogue of research infrastructure services relevant to tackle infectious diseases epidemics, updated and available.
- Increased knowledge on, and development of intervention tools against (re)emerging pathogens enabled by relevant research infrastructure services.

- Availability of research data emerging from access provision activities for re-use on common data platforms and registries, according to FAIR principles and compliant with legal provisions under the General Data Protection Regulation (GDPR).

- Challenge driven integration of EU research infrastructures and organisational and structural alignment with the future Pandemic Preparedness Partnership, the EU Reference Laboratories and the EU4Health funded laboratory network DURABLE (or relevant legacy initiative).

- Providing a long-term sustainability concept for such a research infrastructure network supporting epidemic research.

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

- Advancement of paediatric medicines and other therapeutic and diagnostic approaches for this population group to markets and towards clinical use;

- Accelerated availability of solutions and products to paediatric patients in need;

- Wider access to rationally designed research infrastructure services across Europe to underpin the competitiveness of the European industry and of biotech SMEs developing paediatric medicines and treatment and diagnostic devices;

- Joined forces of research infrastructures and paediatric competence networks in EU Member States and Associated Countries, to facilitate paediatric research in the context of pertinent EU regulatory environment;

- Availability of innovative tools to conduct paediatric clinical trials, for the re-use of population and historical data, and for enhanced data sharing across actors at different care levels and across regions in Europe.

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

- Better risk assessment tools and data evidence to anticipate and mitigate negative environmental implications on human health;

- Evidence to inform policy making and public health bodies with respect to assessment and management of environmental risks for human health;

- Wider access to specialised research infrastructure services to underpin the competitiveness of the European industry including SMEs active in the field of risk assessment and management of environmental impact on human health.

- Link with the environmental research on the exposure to other living organisms within the One-Health concept.

Scope:

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

Access also includes ad hoc users' training and scientific and technical support. Training courses for using the infrastructures may also be supported. Training courses and ad hoc users' training will prepare the new generations of researchers to properly exploit leading-edge research infrastructures, and should provide them with appropriate skills for data stewardship.

Activities to facilitate and integrate the access procedures, to further develop the remote or virtual provision of services and to improve, customise and harmonise the services the infrastructures will also be supported, including for better serving the needs of open EU industrial research and innovation.

The main goal of this topic is access provision to existing services: this should be clearly reflected by the proposed activities and the allocated resources. The improvement and optimisation of the offered services and the development of new services, relevant to the challenges, will also be supported, including joint/cross- research infrastructures services provided the resulting services are opened and offered already under the actions (short term R&D) and that the long-term sustainability of such services is ensured by the participant research infrastructures. Further development of new or improved services for use in the mid-term (2-3 years) may also be supported when duly justified e.g. to address well-identified needs such as in the ESFRI Landscape Analysis, or in the research agendas of Horizon Europe Pillar II Missions or European Partnerships. The topic will not support longer-term R&D for new instrumentation, tools, methods and advanced digital solutions.

Proposals should adhere to the guidelines and principles of the European Charter for Access to Research Infrastructures[45]

Data management (and related ethics issues), interoperability, as well as the connection of digital services (e.g. data services) to the European Open Science Cloud, should be addressed where relevant.

Proposals should take due account of major European or international initiatives relevant in the domain. When appropriate, they should foster the use and deployment of (open) global standards.

Proposals should make available to researchers a wide, inclusive and comprehensive portfolio of complementary research infrastructure services, including data services, and customised workflows to enable R&I addressing the set challenge. To this extent, they should involve - as beneficiaries, affiliated entities, third parties, or external providers of purchased services - the

[45] https://op.europa.eu/publication-detail/-/publication/ec4692ae-ac6f-11ef-acb1-01aa75ed71a1

necessary interdisciplinary set of research infrastructures of European interest[46] that provide such services.

Proposed actions should ensure that they are strongly linked to research infrastructures of pan-European relevance, as prioritised by ESFRI and the ERICs. Therefore, proposals should include at least one ESFRI Landmark[47] or European Research Infrastructure Consortium (ERIC)[48] as beneficiary. In case of a distributed[49] ERIC, as an alternative to the ERIC participating as a beneficiary, a legal entity that is hosting ERIC facilities, resources or related services may participate as a beneficiary. A declaration signed by the legal representative of the ERIC should confirm that the ERIC is supporting this participation, explain the relevance for the ERIC and describe any further cooperation with the ERIC.

Access could also be open, in accordance with the 'Specific Features for Research Infrastructure' section of this Work Programme, to third countries' researchers to work on global challenges. Research infrastructures from third countries[50] may be involved when appropriate. However, such research infrastructures should only be involved, as beneficiaries or affiliated entities, if they offer complementary or more advanced services than those available in EU Member States and Associated Countries.

Proposals should include an outreach and engagement plan to actively advertise their services to targeted research communities, notably from Widening countries and, if applicable, to relevant industries, including SMEs.

Proposals are expected to exploit synergies and to ensure complementarity and coherence with other EU grants supporting access provision.

Proposals should include the list of services/installations[51] opened by research infrastructures for trans-national or virtual access and the amounts of units of access made available for users. Further conditions and requirements relating to access provisions that applicants should fulfil when drafting a proposal are given in the "Specific features for Research Infrastructures" section of this work programme part. Compliance with these provisions will be taken into account during evaluation.

In this topic the integration of the gender dimension (sex and gender analysis) in research and innovation content is not a mandatory requirement. However, where applicable, proposals should promote in their calls for access the integration of the gender dimension in the research and innovation content of the users applying to these calls.

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46 A research infrastructure is of European interest when is able to attract users from EU or associated countries other than the country where the infrastructure is located. This includes ESFRI and ERIC infrastructures.

47 See lists of ESFRI 'Landmarks' in the 2021 ESFRI Roadmap on https://roadmap2021.esfri.eu/

48 European Research Infrastructure Consortium (ERIC) | European Commission (europa.eu)

49 The term 'distributed' research infrastructure typically refers to one or a few central hubs and several interlinked (national or institutional) nodes where many components of the research infrastructure may not be part of the same legal entity, the ERIC.

50 See the Eligibility conditions for this topic.

51 "Installation" means a part or a service of a research infrastructure that can be used independently from the rest. A research infrastructure consists of one or more installations.

The topic targets the following scientific challenges and EU priority areas related to the health domain. Proposals are expected to address one of the following areas and must explicitly state which area they address:

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

The proposals in this area should build on the integrated research infrastructure services comprehensive and inclusive portfolio to support epidemic preparedness research, provide the capacity to respond to infectious disease epidemics, and underpin leading research in the domain. It should build on work already carried out following the HORIZON-INFRA-2021-EMERGENCY-02 call and the ISIDORe project.

The proposed action should support the provision of trans-national and/or virtual access to researchers, training for using the infrastructures, activities to improve and customise the services the infrastructures provide, as well as facilitating and integrating access procedures, and further developing the remote or virtual provision of services. Proposals should foster increased access to national research infrastructures through outreach activities targeting relevant user communities.

Access to research infrastructure services should be provided to users to support their research projects targeting: i) basic research meant to increase knowledge on pathogens with epidemic potential, and/or ii) the development of new or adapted prevention and/or intervention tools and measures. These include new or adapted diagnostic procedures and therapies, drugs, vaccines, or disease vector control.

Reflecting the One-Health concept, services supporting research on transmission of pathogens from animals to humans (or vice versa, animals as host reservoir), including vector-borne transmission, should be covered. Flexibility in the provision of services should be properly demonstrated to ensure fast re-orientation and expansion of the portfolio in response to unexpected epidemics situations. Effective operational links established within the ISIDORe project with the epidemics risk assessment and management bodies like ECDC, WHO, WOAH, and EU-HERA should be ensured. Furthermore, alignment with the future Pandemic Preparedness partnership should be taken into consideration. Global standards, relevant data platforms and registries should be used to make user project results FAIR and usable, thus enabling further research on pathogens and disease manifestation.

Proposals could consider the inclusion of the European Commission's Joint Research Centre (JRC) research infrastructure (Nanobiotechnology laboratory) in their research infrastructure portfolio for biophysical characterisation of recombinant proteins, antigens, therapeutic antibodies, lipid nanoparticles therapeutic and its expertise at the interface between the research activities and regulatory aspects. In that respect, the JRC will consider collaborating with any successful proposal and this collaboration, when relevant, should be established after the proposal’s approval.

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

Paediatric healthcare in EU and worldwide is often hampered by an enduring lack of specific medicines and therapies tailored for use in paediatric population. Proposals should integrate and give access to research infrastructure services to enable and accelerate R&I towards innovative biomedical products and therapies for children, including new-borns. They should support in particular, but not limited to, clinical R&I projects addressing therapeutic, diagnostic and prevention measures for paediatric disease management and help these projects to meet regulatory requirements for licensure and clinical use of paediatric medicines and medical devices.

Due to the peculiarities of paediatric clinical research with study subjects often dispersed across Europe, research infrastructure services offered should include innovative trial designs and novel monitoring tools, including the necessary support at local level. GDPR compliant and regulatory acceptable access and re-use of relevant population, historical and real world care data should be facilitated, as should be the harmonisation of respective ethics reviews across Europe.

As paediatric research is often faced with locally dispersed case incidences, wider geographical outreach and international collaboration beyond Europe, including with LMIC (Low-to-Middle-Income Country) is strongly encouraged.

Appropriate links and alignment should be ensured with EU level initiatives such as EnprEMA, and Horizon Europe partnerships such as the Innovative Health Initiative, the Transforming Health and Care Systems partnership, the Personalised Medicine partnership (EP PerMed), the ERA for Health Research (ERA4Health), and the partnership on Rare Diseases research (ERDERA).

Data management should duly cater for interoperability of data services, while contributing to GDPR compliant access modalities as required in the European Health Data Space. Metadata, statistical and anonymised data sets should duly comply with FAIR principles to become accessible under the European Open Science Cloud.

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

Human health is strongly dependant on exposure to environmental factors[52] with 10% of all premature deaths in EU linked to environmental pollution.[53].. Proposals should integrate and give access to a wide range of monitoring and experimental research infrastructure services to investigate the effect of environmental exposure. Services should be provided to user projects aiming to characterize environmental risk factors (e.g. of chronic health conditions) and/or to develop innovative tools and methods for deciphering the causal pathways and the prevention

[52] Physical substance (solids, liquids or gas) or energy (e.g. noise, light, electromagnetic fields, radioactive radiation, etc.) present in the environment.

[53] EEA: https://www.eea.europa.eu/en/topics/at-a-glance/health

of associated diseases. Integration of multiple types of data reaching from environmental exposure measurements to granular human omics, analytical and clinical data including also socio-economic and lifestyle data, in line with One-Health approach, is key for this type of research at the interface of environmental and health research.

Proposals in this area should customise and further develop research infrastructure services to meet the needs of ongoing research in the field. Appropriate links and complementarities should be ensured with relevant ongoing initiatives and resources, such as pertinent ESFRI roadmap efforts, e.g. EIRENE[54], the European Human Exposome Network (EHEN), the Information Platform for Chemical Monitoring (IPCHEM), the EC Knowledge Centre on Cancer[55], the European Microwave Signature Laboratory, the European Partnership for the Assessment of Risks from Chemicals (PARC), and other Horizon Europe relevant projects including the ones emerging from the 2023 and 2024 'Environment and health' calls of Cluster 1 - Health.

Proposals could consider the inclusion of the European Commission's Joint Research Centre (JRC) research infrastructure (Water Laboratory) in their research infrastructure portfolio for wastewater surveillance for various application fields from One-Health use cases, biosecurity and water resilience including water reuse and irrigation, as well as its expertise at the interface between the research activities and regulatory aspects. Proposals could also consider the inclusion of the JRC's High Throughput Testing (HTT) facility, which automates in vitro toxicology methods to generate large datasets from bespoke chemical libraries. Such data can be used in a variety of ways to explore potential links between exposure to environmental chemicals and their mixtures and adverse effects on human health. The JRC will consider collaborating with any successful proposal.

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

Call: Research Infrastructures 2025	
Specific conditions	
Expected EU contribution per project	The Commission estimates that an EU contribution of around EUR 5.00 million would allow these outcomes to be addressed appropriately. Nonetheless, this does not preclude submission and selection of a proposal requesting different amounts.
Indicative budget	The total indicative budget for the topic is EUR 20.00 million.
Type of Action	Research and Innovation Actions

54 EIRENE RI, Research Infrastructure for EnvIRonmental Exposure assessmeNt in Europe

55 The knowledge centre on Cancer and its five pillars: 1) Health Promotion and Disease Prevention Knowledge Gateway 2) The European Cancer Information System (ECIS) and the European Network of Cancer Registries (ENCR) 3) The European Commission Initiatives on Breast and Colorectal Cancers 4) The Cancer Inequalities Registry, 5) The European Platform on Rare Disease Registration (EU RD Platform)

Admissibility conditions	The conditions are described in General Annex A. The following exceptions apply: Applicants are not required to include in their proposal a plan for the exploitation and dissemination of the results as the main objective of these actions is the service provision. As proposals need to give information on the research infrastructures providing access, the page limit of the application is 100 pages.
Eligibility conditions	The conditions are described in General Annex B. The following exceptions apply: The following additional eligibility criteria apply: Given the specific nature of this topic, access provision activities must be included in the proposal. Please read carefully the provisions under the section “Specific features for Research Infrastructures” of this work programme part before preparing your application. Considering the Union’s interest to make accessible to its researchers the most advanced research infrastructures, wherever they are in the world, legal entities established in Australia, Brazil, Canada, Chile, India, Japan, Mexico, New Zealand, Republic of Korea, Singapore, Switzerland, and USA, which provide, under the grant, access to their research infrastructures to researchers from Member States and Associated Countries, are exceptionally eligible for funding from the Union under this topic. The Joint Research Centre (JRC) may participate as member of the consortium selected for funding.
Award criteria	The criteria are described in General Annex D. The following exceptions apply: The following additions to the general award criteria apply: *For the 'Excellence' criterion*, the additional following aspects will also be taken into account: • The extent to which the access activities (trans-national and/or virtual access) will offer access to the state-of-the-art infrastructures of European interest in the field, high quality services, and will enable users to conduct excellent research. • The extent to which the project will contribute to facilitating and integrating the access procedures, to improve the services the infrastructures provide and to further develop their on-line services.

Procedure	The procedure is described in General Annex F. The following exceptions apply: To ensure a balanced portfolio covering the different areas, grants will be awarded to applications not only in order of ranking but at least also to those proposals that are the highest ranked within each area, provided that the applications attain all thresholds.
Legal and financial set-up of the Grant Agreements	The rules are described in General Annex G. The following exceptions apply: Eligible costs may take form of unit costs for trans-national and virtual access to research infrastructures as defined in the Decision authorising the use of unit costs for the actions involving trans-national and virtual access (see Annex 2a of the Horizon Europe Model Grant Agreement).

Expected Outcome:

For all areas:

- 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.

Project results are expected to contribute to all of the following expected outcomes for one of the areas:

Area 1: research infrastructure services for advanced biotechnology and biomanufacturing:

- 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[56]".

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

- 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.

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

- 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.

Area 4: research infrastructure services for new aviation fuels and combustion technologies

- enabling research and innovation 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)

[56] COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS Building the future with nature: Boosting Biotechnology and Biomanufacturing in the EU

- 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:

For all areas:

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.

Access also includes ad hoc users' training and scientific and technical support. Training courses for using the infrastructures may also be supported. Training courses and ad hoc users' training will prepare the new generations of researchers to properly exploit leading-edge research infrastructures, and should provide them with appropriate skills for data stewardship.

Activities to facilitate and integrate the access procedures, to further develop the remote or virtual provision of services and to improve, customise and harmonise the services the infrastructures will also be supported, including for better serving the needs of open EU industrial research and innovation.

The main goal of this topic is access provision to existing services: this should be clearly reflected by the proposed activities and the allocated resources. The improvement and optimisation of the offered services and the development of new services, relevant to the challenges, will also be supported, including joint/cross-research infrastructure services provided the resulting services are opened and offered already under the actions (short term R&D) and that the long-term sustainability of such services is ensured by the participant research infrastructures. Further development of new or improved services for use in the mid-term (2-3 years) may also be supported when duly justified e.g. to address well identified needs such as in the ESFRI Landscape Analysis, or in the research agendas of Horizon Europe Missions or Partnerships. The topic will not support longer-term R&D for new instrumentation, tools, methods and advanced digital solutions.

Proposals should adhere to the guidelines and principles of the European Charter for Access to Research Infrastructures[57]

Data management (and related ethics issues), interoperability, as well as the connection of digital services (e.g. data services) to the European Open Science Cloud, should be addressed where relevant.

Proposals should take due account of major European or international initiatives relevant in the domain. When appropriate, they should foster the use and deployment of (open) global standards.

Proposals should make available to researchers a wide, inclusive and comprehensive portfolio of complementary research infrastructure services, including data services, and customised workflows to enable R&I addressing the set challenge. To this extent, they should involve - as beneficiaries, affiliated entities, third parties, or external providers of purchased services - the necessary interdisciplinary set of research infrastructures of European interest[58] that provide such services.

Proposed actions should ensure that they are strongly linked to research infrastructures of pan-European relevance, as prioritised by ESFRI and the ERICs. Therefore, proposals should include at least one ESFRI Landmark[59] or European Research Infrastructure Consortium (ERIC)[60] as beneficiary. In case of a distributed[61] ERIC, as an alternative to the ERIC participating as a beneficiary, a legal entity that is hosting ERIC facilities, resources or related services may participate as a beneficiary. A declaration signed by the legal representative of the ERIC should confirm that the ERIC is supporting this participation, explain the relevance for the ERIC and describe any further cooperation with the ERIC.

Access could also be open, in accordance with the 'Specific Features for Research Infrastructure' section of this Work Programme, to third countries' researchers to work on global challenges. Research infrastructures from third countries[62] may be involved when appropriate. However, such research infrastructures should only be involved, as beneficiaries or affiliated entities, if they offer complementary or more advanced services than those available in EU Member States and Associated Countries.

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57 https://op.europa.eu/en/publication-detail/-/publication/ec4692ae-ac6f-11ef-acb1-01aa75ed71a1

58 A research infrastructure is of European interest when is able to attract users from EU or associated countries other than the country where the infrastructure is located. This includes ESFRI and ERIC infrastructures.

59 See lists of ESFRI 'Landmarks' in the 2021 ESFRI Roadmap on https://roadmap2021.esfri.eu/

60 European Research Infrastructure Consortium (ERIC) | European Commission (europa.eu)

61 The term 'distributed' research infrastructure typically refers to one or a few central hubs and several interlinked (national or institutional) nodes where many components of the research infrastructure may not be part of the same legal entity, the ERIC

62 See the Eligibility conditions for this topic.The Strategic Agenda for Medical Ionising Radiation Applications (SAMIRA) contributes to Europe's Beating Cancer Plan, and responds to the EU Council's conclusion from 24 May 2019 on non-power nuclear and radiological technologies and applications

Proposals should include an outreach and engagement plan to actively advertise their services to targeted research communities, notably from Widening countries and, if applicable, to relevant industries, including SMEs.

Proposals are expected to exploit synergies and to ensure complementarity and coherence with other EU grants supporting access provision.

Proposals should include the list of services/installations[63] opened by research infrastructures for trans-national or virtual access and the amounts of units of access made available for users. Further conditions and requirements relating to access provisions that applicants should fulfil when drafting a proposal are given in the "Specific features for Research Infrastructures" section of this work programme part. Compliance with these provisions will be taken into account during evaluation.

In this topic the integration of the gender dimension (sex and gender analysis) in research and innovation content is not a mandatory requirement.

The topic targets the following areas related to scientific challenges and EU priorities. Proposals are expected to address one of the areas and must explicitly state which area they address:

Area 1: research infrastructure services for advanced biotechnology and biomanufacturing

The advances in life sciences, supported by digitalisation and artificial intelligence (AI), and the potential of solutions based on biology to solve societal issues, make biotechnology and biomanufacturing very promising technological areas. They can help the EU to modernise its agriculture, forestry, energy, food and feed sectors and industry. In addition, these technologies can contribute to a more competitive and resilient EU, that provides better healthcare to its citizens, and succeeds in its green and digital transitions.

To further leverage research and boost innovation, 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.

Building on past integration of access to facilities and services, research infrastructures in the field are invited to reach a higher and more interdisciplinary level of integration to offer access, through a single entry point, to a coherent and complementary set of services, customising and combining them when necessary, to support academic and industrial research teams in support notably of the actions and priorities set out in the Commission Communication "Building the future with nature: Boosting Biotechnology and Biomanufacturing in the EU".

[63] "Installation" means a part or a service of a research infrastructure that can be used independently from the rest. A research infrastructure consists of one or more installations.

Users should benefit from the harmonisation of standards, share of best practices and development of working standards promoted by the access providers, ensuring reproducibility and interoperability and accelerating the translation of knowledge into innovation. Users should also benefit from most recent efforts towards digitalisation of research infrastructures services and access to bioprocess data.

Proposals could consider the inclusion of the European Commission's Joint Research Centre (JRC) research infrastructure (Nanobiotechnology laboratory and Environmental biotechnology laboratory) in their research portfolio for the characterization of advanced biotechnology products and systems and its expertise at the interface between innovation, regulatory sciences and policy. In that respect, the JRC will consider collaborating with any successful proposal and this collaboration, when relevant, should be established after the proposal’s approval.

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

Proposals should carry out all of the following activities:

- 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:

    - the production and delivery of high purity radionuclides;

    - associated research in biomedical facilities;

    - supporting translational research and preclinical research techniques, either self-service 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[64] 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 European Commission's Joint Research Centre (JRC) research infrastructure PAMEC (Properties of Actinide Materials under

[64] See the Eligibility conditions for this topic.The Strategic Agenda for Medical Ionising Radiation Applications (SAMIRA) contributes to Europe's Beating Cancer Plan, and responds to the EU Council's conclusion from 24 May 2019 on non-power nuclear and radiological technologies and applications

Extreme Conditions) and FMR (Fuel for Material Research) in Karlsruhe, Germany, in their research infrastructure portfolio. The infrastructure is used and available for research into novel therapeutic medical radionuclides, including alternative production paths based on radionuclide such as but not limited to technetium, uranium or thorium targets, as well as the development of novel compounds for the treatment of various tumors by radioligand therapy. In this regard, the JRC will consider collaborating with any successful proposal in these areas and this collaboration, when relevant and upon availability of the radionuclide, should be established after feasibility study by local contact and the proposal's approval.

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

Meeting the goals of the Paris Agreement and achieving climate neutrality by 2050 in the EU require strengthening and continuously updating the underpinning scientific evidence base. This includes improving the knowledge of the Earth system, its recent evolution and future responses under different global emissions pathways and socio-economic scenarios while establishing stronger linkages with integrated assessment and impact modelling communities. State-of-the-art Earth's climate system models are essential for advanced understanding and capability to analyse the recent past and predict the future evolution of the coupled Earth system, at global to regional or more local scales, and across timescales.

Projects should provide 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 towards climate neutrality", the EU Mission on Adaptation to Climate Change, and Destination Earth.

Proposals could consider the inclusion of the European Commission's Joint Research Centre (JRC) research infrastructure (Marine Optical laboratory - MARlab) in their research infrastructure portfolio for supporting Earth Observations of the aquatic environment through highly accurate bio-optical in situ reference measurements and modelling, as well as its expertise at the interface between the research activities and regulatory aspects. In this regard, the JRC will consider collaborating with any successful proposal.

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

With the ratification of the ReFuelEU Aviation initiative, the extensive use of sustainable fuels in European aviation will become legally binding. The development of a competitive European industry for the production of sustainable fuels requires, on the one hand, the

consideration of a large number of sustainable raw materials as a starting point for the production process but also the introduction of alternative energy sources (especially liquid hydrogen). Due to the extremely high safety requirements, comprehensive test series in the development and investigation of the effects of these fuels on the various system elements of air traffic (this includes aircraft systems, refuelling vehicles, pipeline systems and much more) are of great importance for subsequent certification, as the foundation for a market uptake of sustainable aviation fuels.

To enlarge the array of sustainable feedstocks and applications and push further the use of new aviation fuels and combustion technologies for finding effective solutions to emerging socio-economic needs, researchers and innovators need the most advanced research and testing facilities.

The research infrastructures in the field including those relevant for adaption and expansion of existing test combustion capabilities to use new fuels 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 and test rigs that support the approval and qualification of SAF candidates entering ASTM D4054 (Tier 2.5) should build on past integration of access to their facilities in previous Framework Programmes and reach an higher and more interdisciplinary level of integration to offer access, through a single entry point, to a coherent and complementary set of services, customising and combining them when necessary, to support academic and industrial research teams.

Proposals could consider, for their inclusion in the service portfolio, relevant services and expertise offered by the European Commission's Joint Research Centre (JRC).

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

Call: Research Infrastructures 2025	
Specific conditions	
Expected EU contribution per project	The Commission estimates that an EU contribution of around EUR 10.00 million would allow these outcomes to be addressed appropriately. Nonetheless, this does not preclude submission and selection of a proposal requesting different amounts.
Indicative budget	The total indicative budget for the topic is EUR 20.00 million.
Type of Action	Research and Innovation Actions
Admissibility conditions	The conditions are described in General Annex A. The following exceptions apply: Applicants are not required to include in their proposal a plan for the exploitation and dissemination of the results as the main objective of

	these actions is the service provision. As proposals need to give information on the research infrastructures providing access, the page limit of the application is 100 pages.
Eligibility conditions	The conditions are described in General Annex B. The following exceptions apply: The following additional eligibility criteria apply: Given the specific nature of this topic, access provision activities must be included in the proposal. Please read carefully the provisions under the section "Specific features for Research Infrastructures" of this work programme part before preparing your application. Considering the Union's interest to make accessible to its researchers the most advanced research infrastructures, wherever they are in the world, legal entities established in Australia, Brazil, Canada, Chile, India, Japan, Mexico, New Zealand, Republic of Korea, Singapore, Switzerland, and USA, which provide, under the grant, access to their research infrastructures to researchers from Member States and Associated Countries, are exceptionally eligible for funding from the Union under this topic.
Award criteria	The criteria are described in General Annex D. The following exceptions apply: The following additions to the general award criteria apply: *For the 'Excellence' criterion*, the additional following aspects will also be taken into account: • The extent to which the access activities (trans-national and/or virtual access) will offer access to the state-of-the-art infrastructures of European interest in the field, high quality services, and will enable users to conduct excellent research. • The extent to which the project will contribute to facilitating and integrating the access procedures, to improve the services the infrastructures provide and to further develop their on-line services.
Procedure	The procedure is described in General Annex F. The following exceptions apply: To ensure a balanced portfolio covering the different areas, grants will be awarded to applications not only in order of ranking but at least also to those proposals that are the highest ranked within each area, provided that the applications attain all thresholds.

Legal and financial set-up of the Grant Agreements	The rules are described in General Annex G. The following exceptions apply: The funding rate is 80% of the eligible costs. Eligible costs may take form of unit costs for trans-national and virtual access to research infrastructures as defined in the Decision authorising the use of unit costs for the actions involving trans-national and virtual access (see Annex 2a of the Horizon Europe Model Grant Agreement).

Expected Outcome: Project results are expected to contribute to all the following expected outcomes:

- 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.

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. Given the funding rate, the topic also aims at fostering the sustainability of the access scheme. Proposals are expected to address one domain area and must explicitly state which area they address.

The scientific domains covered under this topic are:

- Area 1: Environment: atmospheric chemistry and dynamics.
- Area 2: Physical sciences and engineering: hadron physics.

For Area 2, proposers should 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.

Access also includes ad hoc users' training and scientific and technical support. Training courses for using the infrastructures may also be supported. Training courses and ad hoc users' training will prepare the new generations of researchers to properly exploit leading-edge research infrastructures, and should provide them with appropriate skills for data stewardship.

Activities to facilitate and integrate the access procedures, to further develop the remote or virtual provision of services and to improve, customise and harmonise the services the infrastructures will also be supported.

The main goal of this topic is access provision to existing services: this should be clearly reflected by the proposed activities and the allocated resources. The improvement and optimisation of the offered services and the development of new services, relevant to specific scientific challenges in the identified domains, can also be supported, including joint/cross-research infrastructure services, provided that the resulting services are opened and offered already under the actions (short-term R&D) and that the long-term sustainability of such services is ensured by the participant research infrastructures. This topic will not support longer-term R&D for new instrumentation, tools, methods and advanced digital solutions.

Proposals should adhere to the guidelines and principles of the European Charter for Access to Research Infrastructures[65].

Data management (and related ethics issues), interoperability, as well as the connection of digital services (e.g. data services) to the European Open Science Cloud, should be addressed where relevant.

Proposals should take due account of major European or international initiatives relevant in the domain. When appropriate, they should foster the use and deployment of (open) global standards.

Proposals should make available to researchers a very wide, inclusive and comprehensive portfolio of complementary research infrastructure services, including data services, which are relevant for frontier research in the domain. To this extent, they should involve, as beneficiaries, affiliated entities, third parties, or external providers of purchased services, the necessary interdisciplinary set of research infrastructures of European interest[66] that provide such services, including, if applicable, from emerging facilities.

Proposed actions should ensure that they are strongly linked to research infrastructures of pan-European relevance, as prioritised by ESFRI and the ERICs. Therefore, proposals should

65 https://op.europa.eu/publication-detail/-/publication/ec4692ae-ac6f-11ef-acb1-01aa75ed71a1

66 A research infrastructure is of European interest when is able to attract users from EU or associated countries other than the country where the infrastructure is located. This includes ESFRI and ERIC infrastructures.

include at least one ESFRI Landmark[67] or European Research Infrastructure Consortium (ERIC)[68] as beneficiary. In case of a distributed[69] ERIC, as an alternative to the ERIC participating as a beneficiary, a legal entity that is hosting ERIC facilities, resources or related services may participate as a beneficiary. A declaration signed by the legal representative of the ERIC should confirm that the ERIC is supporting this participation, explain the relevance for the ERIC and describe any further cooperation with the ERIC.

Access could also be open, in accordance with the 'Specific Features for Research Infrastructure' section of this Work Programme, to third countries' researchers to work on global scientific challenges. Research infrastructures from third countries[70] may be involved when appropriate. However, such research infrastructures should only be involved, as beneficiaries or affiliated entities, if they offer complementary or more advanced services than those available in the EU Member States and Associated Countries.

Proposals should include an outreach and engagement plan to actively advertise their services to the research communities, notably from Widening countries in the specific domains.

Proposals are expected to exploit synergies and to ensure complementarity and coherence with other EU grants supporting access provision.

Proposals should include the list of services/installations[71] opened by research infrastructures for trans-national or virtual access and the amounts of units of access made available for users. Further conditions and requirements relating to access provisions that applicants should fulfil when drafting a proposal are given in the "Specific features for Research Infrastructures" section of this work programme part. Compliance with these provisions will be taken into account during evaluation. In this topic the integration of the gender dimension (sex and gender analysis) in research and innovation content is not a mandatory requirement.

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

Call: Research Infrastructures 2025	
Specific conditions	
Expected EU contribution per project	The Commission estimates that an EU contribution of around EUR 5.00 million would allow these outcomes to be addressed appropriately. Nonetheless, this does not preclude submission and selection of a proposal requesting different amounts.

67 See lists of ESFRI 'Landmarks' in the 2021 ESFRI Roadmap on https://roadmap2021.esfri.eu/

68 European Research Infrastructure Consortium (ERIC) | European Commission (europa.eu)

69 The term 'distributed' research infrastructure typically refers to one or a few central hubs and several interlinked (national or institutional) nodes where many components of the research infrastructure may not be part of the same legal entity, the ERIC.

70 See the Eligibility conditions for this topic.

71 "Installation" means a part or a service of a research infrastructure that can be used independently from the rest. A research infrastructure consists of one or more installations.

Indicative budget	The total indicative budget for the topic is EUR 20.00 million.
Type of Action	Research and Innovation Actions
Admissibility conditions	The conditions are described in General Annex A. The following exceptions apply: Applicants are not required to include in their proposal a plan for the exploitation and dissemination of the results as the main objective of these actions is the service provision. As proposals need to give information on the research infrastructures providing access, the page limit of the application is 100 pages.
Eligibility conditions	The conditions are described in General Annex B. The following exceptions apply: The following additional eligibility criteria apply: Given the specific nature of this topic, access provision activities must be included in the proposal. Please read carefully the provisions under the section “Specific features for Research Infrastructures” of this work programme part before preparing your application. Considering the Union’s interest to make accessible to its researchers the most advanced research infrastructures, wherever they are in the world, legal entities established in Australia, Brazil, Canada, Chile, India, Japan, Mexico, New Zealand, Republic of Korea, Singapore, Switzerland, and USA, which provide, under the grant, access to their research infrastructures to researchers from Member States and Associated Countries, are exceptionally eligible for funding from the Union under this topic.
Award criteria	The criteria are described in General Annex D. The following exceptions apply: The following additions to the general award criteria apply: *For the 'Excellence' criterion*, the additional following aspects will also be taken into account: • The extent to which the access activities (trans-national and/or virtual access) will offer access to the state-of-the-art infrastructures of European interest in the field, high quality services, and will enable users to conduct excellent research. • The extent to which the project will contribute to facilitating and integrating the access procedures, to improve the services the infrastructures provide and to further develop their on-line services.

Procedure	The procedure is described in General Annex F. The following exceptions apply: To ensure a balanced portfolio covering as many scientific domains[72] for service provision as possible, grants will be awarded to applications not only in order of ranking but also to proposals that address a scientific domain (and sub-domain if needed) not covered by a higher-ranked proposal, provided that the proposals attain all thresholds.
Legal and financial set-up of the Grant Agreements	The rules are described in General Annex G. The following exceptions apply: The funding rate is 80% of the eligible costs. Eligible costs may take form of unit costs for trans-national and virtual access to research infrastructures as defined in the Decision authorising the use of unit costs for the actions involving trans-national and virtual access (see Annex 2a of the Horizon Europe Model Grant Agreement).

Expected Outcome: Project results are expected to contribute to all the following expected outcomes:

- 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.

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

[72] As defined in 2021 ESFRI Roadmap: 1. Data, Computing and Digital Research Infrastructures; 2. Energy; 3. Environment; 4. Health & Food; 5. Physical Sciences and Engineering; 6. Social Sciences & Humanities.

research in wide scientific domains, offered by a wide range of complementary and interdisciplinary top level research infrastructures. Given the funding rate, the topic also aims at fostering the sustainability of the access scheme. Proposals are expected to 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[73].

Access also includes ad hoc users' training and scientific and technical support. Training courses for using the infrastructures may also be supported. Training courses and ad hoc users' training will prepare the new generations of researchers to properly exploit leading-edge research infrastructures, and should provide them with appropriate skills for data stewardship.

Activities to facilitate and integrate the access procedures, to further develop the remote or virtual provision of services and to improve, customise and harmonise the services the infrastructures will also be supported.

The main goal of this topic is access provision to existing services: this should be clearly reflected by the proposed activities and the allocated resources. The improvement and optimisation of the offered services and the development of new services, relevant to specific scientific challenges in the identified domains, can also be supported, including joint/cross-research infrastructure services, provided that the resulting services are opened and offered already under the actions (short-term R&D) and that the long-term sustainability of such services is ensured by the participant research infrastructures. This topic will not support longer-term R&D for new instrumentation, tools, methods and advanced digital solutions.

Proposals should adhere to the guidelines and principles of the European Charter for Access to Research Infrastructures[74]

Data management (and related ethics issues), interoperability, as well as the connection of digital services (e.g. data services) to the European Open Science Cloud, should be addressed where relevant.

Proposals should take due account of major European or international initiatives relevant in the domain. When appropriate, they should foster the use and deployment of (open) global standards.

Proposals should make available to researchers a very wide, inclusive and comprehensive portfolio of complementary research infrastructure services, including data services, which are relevant for frontier research in the domain. To this extent, they should involve, as beneficiaries, affiliated entities, third parties, or external providers of purchased services, the

[73] 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.

[74] https://op.europa.eu/en/publication-detail/-/publication/ec4692ae-ac6f-11ef-acb1-01aa75ed71a1

necessary interdisciplinary set of research infrastructures of European interest[75] that provide such services, including, if applicable, from emerging facilities.

Proposed actions should ensure that they are strongly linked to research infrastructures of pan-European relevance, as prioritised by ESFRI and the ERICs. Therefore, proposals should include at least one ESFRI Landmark[76] or European Research Infrastructure Consortium (ERIC)[77] as beneficiary. In case of a distributed [78] ERIC, as an alternative to the ERIC participating as a beneficiary, a legal entity that is hosting ERIC facilities, resources or related services may participate as a beneficiary. A declaration signed by the legal representative of the ERIC should confirm that the ERIC is supporting this participation, explain the relevance for the ERIC and describe any further cooperation with the ERIC.

Access could also be open, in accordance with the 'Specific Features for Research Infrastructure' section of this Work Programme, to third countries' researchers to work on global scientific challenges. Research infrastructures from third countries[79] may be involved when appropriate. However, such research infrastructures should only be involved, as beneficiaries or affiliated entities, if they offer complementary or more advanced services than those available in the EU Member States and Associated Countries.

Proposals should include an outreach and engagement plan to actively advertise their services to the research communities, notably from Widening countries in the specific domains.

Proposals are expected to exploit synergies and to ensure complementarity and coherence with other EU grants supporting access provision.

Proposals should include the list of services/installations[80] opened by research infrastructures for trans-national or virtual access and the amounts of units of access made available for users. Further conditions and requirements relating to access provisions that applicants should fulfil when drafting a proposal are given in the "Specific features for Research Infrastructures" section of this work programme part. Compliance with these provisions will be taken into account during evaluation. In this topic the integration of the gender dimension (sex and gender analysis) in research and innovation content is not a mandatory requirement.

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75 A research infrastructure is of European interest when is able to attract users from EU or associated countries other than the country where the infrastructure is located. This includes ESFRI and ERIC infrastructures.

76 See lists of ESFRI 'Landmarks' in the 2021 ESFRI Roadmap on https://roadmap2021.esfri.eu/

77 European Research Infrastructure Consortium (ERIC) | European Commission (europa.eu)

78 The term 'distributed' research infrastructure typically refers to one or a few central hubs and several interlinked (national or institutional) nodes where many components of the research infrastructure may not be part of the same legal entity, the ERIC.

79 See the Eligibility conditions for this topic.

80 "Installation" means a part or a service of a research infrastructure that can be used independently from the rest. A research infrastructure consists of one or more installations.

Destination INFRATECH - Next generation of scientific instrumentation, tools, methods, and advanced digital solutions of research infrastructures and foster innovation and co-creation with industry (2025)

Research infrastructures require constant technology development to maintain and upgrade their services and to create new ones. The manufacturing capacity of industry is often required for this, and the co-creation of technological components is a defining feature of many research infrastructures.

The expected impact of the activities supported under this part of the destination notably includes:

- Reinforced EU resilience with respect to the availability of critical technical research infrastructure components, considering that research infrastructure operations rely in many cases on technical components or material for which Europe is strongly dependent on third countries.

- More robust research infrastructure innovation ecosystems, building also on activities funded in the past on the development of research infrastructure technology roadmaps and co-creation activities with industry.

- Accelerated digitalisation of research infrastructures throughout their entire life cycle.

- Greening of research infrastructures, by advancing and accelerating the reduction of the environmental footprint of research infrastructures operations, while at the same time contributing to increasing their resilience towards energy crises or other resource restrictions such as water.

- The development of more robust research infrastructure innovation ecosystems, including the development and implementation of common research infrastructure technology roadmaps.

Destination Earth (DestinE) is a flagship initiative aiming to develop a highly- accurate, interactive digital model of the Earth to model, monitor and simulate natural phenomena, hazards and the related human activities. DestinE will provide an operational system to support decision-makers in designing accurate and actionable climate change adaptation strategies and mitigation measures.

The expected impact of the activities supported under this part of the destination notably includes:

- Exploitation of the rapid advances in modelling, observations, digital technologies and ML/AI, ensuring that European leadership in this field is maintained;

- Verification of modelling results using observations of research infrastructures in relevant fields;

- New Digital Twins and use cases to cover unexplored areas/domains, becoming part of the overall ecosystem, addressing EU priorities and evolving end-user needs; multi-disciplinary, horizontal, transversal infrastructure solutions to handle diverse end-to-end workflows spanning various areas.

Proposals are invited against the following topic(s):

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

Call: Research Infrastructures 2025	
Specific conditions	
Expected EU contribution per project	The Commission estimates that an EU contribution of around EUR 5.00 million would allow these outcomes to be addressed appropriately. Nonetheless, this does not preclude submission and selection of a proposal requesting different amounts.
Indicative budget	The total indicative budget for the topic is EUR 25.00 million.
Type of Action	Research and Innovation Actions
Eligibility conditions	The conditions are described in General Annex B. The following exceptions apply: The Joint Research Centre (JRC) may participate as member of the consortium selected for funding. The following additional eligibility criteria apply: due to the specific nature of this topic, proposals must include at least two different research infrastructures as beneficiaries[81], each of them being an ESFRI Landmark[82], a European Research Infrastructure Consortium (ERIC)[83] or another research infrastructure that is an international European research organisation [84] . Such research infrastructures, and where applicable the beneficiaries that own/operate them, must be explicitly identified in the proposals.
Legal and financial set-up of the Grant Agreements	The rules are described in General Annex G. The following exceptions apply: Eligible costs will take the form of a lump sum as defined in the Decision of 7 July 2021 authorising the use of lump sum contributions

81 The participation of two nodes of the same ESFRI infrastructure or ERIC does not count as two different research infrastructures.

82 See the list of ESFRI 'Landmarks' in the 2021 ESFRI Roadmap: https://roadmap2021.esfri.eu/

83 European Research Infrastructure Consortium (ERIC) | European Commission (europa.eu)

84 An ‘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.

	under the Horizon Europe Programme – the Framework Programme for Research and Innovation (2021-2027) – and in actions under the Research and Training Programme of the European Atomic Energy Community (2021-2025). [85].

Expected Outcome: Project results are expected to contribute to all the following expected outcomes:

- 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.

The proposed action is expected to deliver on several of the following points, as relevant:

- 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.

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

[85] This decision is available on the Funding and Tenders Portal, in the reference documents section for Horizon Europe, under 'Simplified costs decisions' or through this link: https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/horizon/guidance/ls-decision_he_en.pdf

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.

Proposals could consider the inclusion of the European Commission's Joint Research Centre (JRC) Support Services Directorate in their research infrastructure portfolio. The JRC offers its experience in assessing, setting the strategy, maintaining, operating and providing access to external researchers to its research infrastructures in various fields of science. One of the main pillars of JRC's strategy is ensuring the sustainability of its research infrastructures, with measures to reduce energy consumption, improve energy efficiency, and promote the use of renewable energy sources. In this regard, the JRC will consider collaborating with any successful proposal.

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

Call: Research Infrastructures 2025	
Specific conditions	
Expected EU contribution per project	The Commission estimates that an EU contribution of around EUR 10.00 million would allow these outcomes to be addressed appropriately. Nonetheless, this does not preclude submission and selection of a proposal requesting different amounts.
Indicative budget	The total indicative budget for the topic is EUR 45.00 million.
Type of Action	Research and Innovation Actions
Eligibility conditions	The conditions are described in General Annex B. The following exceptions apply: The following additional eligibility criteria apply: due to the specific nature of this topic, proposals must include at least two different research infrastructures as beneficiaries[86], each of them being an ESFRI Landmark[87], a European Research Infrastructure Consortium (ERIC)[88]

[86] The participation of two nodes of the same ESFRI infrastructure or ERIC does not count as two different research infrastructures.
[87] See the list of ESFRI 'Landmarks' in the 2021 ESFRI Roadmap: https://roadmap2021.esfri.eu/
[88] European Research Infrastructure Consortium (ERIC) | European Commission (europa.eu)

	or another research infrastructure that is an international European research organisation [89] . Such research infrastructures, and where applicable the beneficiaries that own/operate them, must be explicitly identified in the proposals.
Legal and financial set-up of the Grant Agreements	The rules are described in General Annex G. The following exceptions apply: Beneficiaries may provide financial support to third parties. The support to third parties can only be provided in the form of grants. Given the type of action (e.g. limited number of choices in specific technology fields) and its level of ambition, the maximum amount that can be granted to each third party may exceed the standard limit of EUR 60 000 if duly justified in the proposal.

Expected Outcome: Project results are expected to contribute to several of the following expected outcomes:

- 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.

Scope: Research infrastructures require constant technology development to maintain and upgrade their services and to create new ones, to keep pace with the advancements of research and meet the requirements of emerging user communities from academia and innovation ecosystems. The manufacturing capacity of industry, including SMEs, is often required for this, and the co-creation of technological components is a defining feature of many research infrastructures. In some cases, manufacturing capabilities are lacking inside the EU, putting Europe's technological sovereignty at stake.

[89] An ‘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.

Several research infrastructure and technology communities, such as the accelerator, light source, or astronomy communities, have already developed research infrastructure technology roadmaps that identify key components necessary to maintain Europe's leading position in research infrastructure technologies.

Projects should implement significant parts of, or entire existing research infrastructure technology roadmaps through co-creation with industrial partners from the earliest possible stage. The technology 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, e.g., of a single research infrastructure. 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.

Proposals are expected to involve research infrastructures and industrial partners, including SMEs, or other technological partners, to promote innovation and knowledge sharing through co-creation of required technological solutions and, when appropriate, make use of large-scale platforms combining R&D, integration and validation for technological developments. While industry, including SMEs, or other technological partners do not need to be consortium members, proposals should show evidence of their commitment via engagement letters or other forms of endorsement. If applicable, proposals should describe how such partners will be identified in the course of the action.

Furthermore, proposals should contribute to fostering the innovation potential of research infrastructures by reinforcing the partnership with industry, through e.g. transfer of knowledge and other dissemination activities.

Proposals should address the following aspects as well:

- development of identified fundamental technologies or techniques underpinning and arising from the efficient and joint use of the involved research infrastructures, taking into account resource efficiency (e.g. raw material and energy consumption) and environmental (including climate-related) impacts.

- prototyping of high-performance methodologies, protocols, and instrumentation, including the testing of components, subsystems, materials, and dedicated software, needed to upgrade the involved research infrastructures, construct their next generation, or develop new advanced applications.

Beneficiaries may provide financial support to third parties. The support to third parties can only be provided in the form of grants. Given the type of action (e.g. limited number of choices in specific technology fields) and its level of ambition, the maximum amount that can be granted to each third party may exceed the standard limit of EUR 60 000 if duly justified in the proposal.

Proposals may also include Pre-Commercial Procurement (PCP) subcontracting activities. This option encourages the use of public procurements for the competitive development of new specific solutions, whilst opening market opportunities for industry, including SMEs, and

researchers active in Europe. By establishing the procurement process in consecutive phases, the PCP activity can support the development of competing designs, prototypes, and solution testing. This ensures that investment risks do not prevent tackling specific scientific and technological issues and allows to approach a problem from different angles and to test different solutions.

When appropriate, proposals should also build on results from past/ongoing projects such as the ones funded under Horizon 2020 topics INFRAINNOV-03-2020 and INFRAINNOV-04-2020, and under Horizon Europe topics HORIZON-INFRA-2022-TECH-01-01 and HORIZON-INFRA-2024-TECH-01-01 and avoid overlap with them.

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

Call: Research Infrastructures 2025	
Specific conditions	
Expected EU contribution per project	The Commission estimates that an EU contribution of between EUR 7.00 and 10.00 million would allow these outcomes to be addressed appropriately. Nonetheless, this does not preclude submission and selection of a proposal requesting different amounts.
Indicative budget	The total indicative budget for the topic is EUR 30.00 million.
Type of Action	Research and Innovation Actions
Eligibility conditions	The conditions are described in General Annex B. The following exceptions apply: Subject to restrictions for the protection of European communication networks. The following additional eligibility criteria apply: If projects make use of weather and/or climate predictions or related data and services, beneficiaries should make use of the European Commission's Destination Earth initiative [90] and engage with the relevant community. If projects use satellite-based earth observation, positioning, navigation and/or related timing data and services, beneficiaries must make use of Copernicus and/or Galileo/EGNOS (other data and services may additionally be used).
Technology	Activities are expected to achieve TRL 7 or higher by the end of the

[90] See https://destination-earth.eu/. Access to the DestinE system can be requested through https://platform.destine.eu/services/

Readiness Level	project – see General Annex B.
Legal and financial set-up of the Grant Agreements	The rules are described in General Annex G. The following exceptions apply: Eligible costs will take the form of a lump sum as defined in the Decision of 7 July 2021 authorising the use of lump sum contributions under the Horizon Europe Programme – the Framework Programme for Research and Innovation (2021-2027) – and in actions under the Research and Training Programme of the European Atomic Energy Community (2021-2025). [91].

Expected Outcome: Project results are expected to contribute to all of the following expected outcomes:

- Innovative use of AI, in line with the GenAI4Eu initiative[92], and other key EU initiatives like the Apply AI strategy, to generate powerful local impact assessments on top of large-scale scenarios provided by digital twins demonstrated with fusion of real time data feeds, triggering available services and visualisations.
- Novel interfaces that translate the non-technical requirements of the users into concrete scenario assessments tailored for local needs.
- New best practices and guidelines on impact assessment of digital twin simulation and AI powered analysis are established.

Scope: Informed decision-making involves an increasing number of data sources, including high quality data from research infrastructures, and simulations. While the concept of Digital Twins in Earth Systems promises an increased interactivity for users to run various future impact scenarios, the complexity of such setups is challenging. Initiatives like Destination Earth (DestinE) have shown to generate massive data amounts that cannot be easily moved and therefore need to be processed on the RIs where they reside. AI solutions can help with complex data management activities but also benefit from the available data and compute resources, and combine them efficiently with required simulation services.

The proposals should cover all of the following aspects:

- Demonstrate the innovative use of AI, in line with the GenAI4EU initiative and other key EU initiatives, like the Apply AI strategy, to setup and manage impact assessments

91 This decision is available on the Funding and Tenders Portal, in the reference documents section for Horizon Europe, under 'Simplified costs decisions' or through this link: https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/horizon/guidance/ls-decision_he_en.pdf

92 This call falls under the 'GenAI4EU' initiative as in the Communication from the Commission to the European Parliament, the Council, the European Economic And Social Committee and the Committee of the Regions on boosting startups and innovation in trustworthy artificial intelligence ((COM(2024) 28 final of 24.1.2024).

assisted by simulation activities across RIs. They should ensure efficient selection of data and modelling resources and transparency for the consequent decision-making.

- Exploit the rapid 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, addressing Union priorities and evolving end-user needs and create multi-disciplinary, horizontal, transversal infrastructure solutions to handle diverse end-to-end workflows spanning various areas.
- 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.
- Demonstrate trustworthiness/reliability in the use of AI and practice clear and open communication of AI use and impact to users.

Additionally, the proposals should also include work on some of the following points:

- Evolve further through science & technology innovation using AI, provide novel digital solutions and capabilities at operational level and accelerate science-technology synergies to achieve breakthroughs in the area of AI-powered Earth system science;
- Invest on the design of a robust development framework and respective pre-operational infrastructure for advanced AI/ML tools and applications, ensuring the quality, reliability, transparency and verifiability (repeatability) of the methods applied and outcomes that are created;
- Expand to new thematic areas and fields based on identified user needs and structured feedback provided by relevant stakeholders and communities.

Proposals are expected to cover various application areas and cover at least three distinct user groups and their impact assessments. The solutions need to demonstrate a sustainable setup answering day-to-day challenges but also be suitable for continuous long-term research. They should demonstrate how the compute capabilities and data on RIs can be made directly usable to users through interactivity with twins, adapting to changing data and on-demand visualisation capabilities.

Proposals should take advantage of the opportunities and developments offered by existing Horizon Europe research and innovation actions (RIA) and innovation actions (IA) developing new simulation and observation capabilities, new and emerging ICT infrastructures (e.g. EuroHPC, AI-on-Demand platform), HPC Centers of Competence and Excellence (such as ESiWACE for weather and climate prediction and ChEESE for solid Earth applications) and the work towards the European Digital Twin of the Ocean. The

proposals should demonstrate a clear and credible pathway towards collaboration with the implementing entities of Destination Earth initiative (European Space Agency (ESA), European Centre for Medium-Range Weather Forecasts (ECMWF) and European Organisation for the Exploitation of Meteorological Satellites (EUMETSAT)) and, when relevant, other key organisations in the field (e.g. Mercator Ocean).

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

Call: Research Infrastructures 2025	
Specific conditions	
Expected EU contribution per project	The Commission estimates that an EU contribution of between EUR 8.00 and 10.00 million would allow these outcomes to be addressed appropriately. Nonetheless, this does not preclude submission and selection of a proposal requesting different amounts.
Indicative budget	The total indicative budget for the topic is EUR 40.00 million.
Type of Action	Research and Innovation Actions
Eligibility conditions	The conditions are described in General Annex B. The following exceptions apply: Subject to restrictions for the protection of European communication networks.
Technology Readiness Level	Activities are expected to achieve TRL 6 or higher by the end of the project – see General Annex B.
Legal and financial set-up of the Grant Agreements	The rules are described in General Annex G. The following exceptions apply: Eligible costs will take the form of a lump sum as defined in the Decision of 7 July 2021 authorising the use of lump sum contributions under the Horizon Europe Programme – the Framework Programme for Research and Innovation (2021-2027) – and in actions under the Research and Training Programme of the European Atomic Energy Community (2021-2025). [93].

Expected Outcome: Project results are expected to contribute to all of the following expected outcomes:

[93] This decision is available on the Funding and Tenders Portal, in the reference documents section for Horizon Europe, under 'Simplified costs decisions' or through this link: https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/horizon/guidance/ls-decision_he_en.pdf

- Innovative use of artificial intelligence (AI), in line with the GenAI4EU initiative[94], and other key EU initiatives, like the Apply AI strategy, is demonstrated to setup and manage highly complex modelling and simulation activities across different research infrastructures (RIs).

- New best practices and guidelines for model generation and setup, including simulation and simulation-observation data fusion, are established.

- Emergence of new applications and use cases, in line with the GenAI4EU initiative and other key EU initiatives, like the Apply AI strategy.

Scope: The aim is to use generative artificial intelligence (AI), in line with the GenAI4EU initiative and other key EU initiatives, like the Apply AI strategy, to deliver digital twins of complex real-world systems that advance the state-of-art of European research infrastructures and show transformative potential in their operations. The solutions should pave the way for new methods to conduct research by the RIs through AI generated and powered digital twins. They should propose suitable setups for creation of new digital twins or enhancing existing ones, already available within the scientific communities and relevant research infrastructures and for which an existing baseline on generative Artificial Intelligence models exists, the required data fusions, visualisations and execution of the workflows. 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 solutions, underpinning the provision of improved and advanced future services, should support RIs in new areas of research and/or a wider community of users, including clearly identified and relevant industrial, scientific or policy users and enhance the potential of the RIs in addressing EU's policy objectives and socio-economic challenges. The proposed solutions should, at least in part, be demonstrated in a relevant environment that can lead to sustainable production and include a cost estimate for the operations.

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[95], to demonstrate European capabilities to generate large on-demand impact simulations.

Proposals focusing on digital twins for decision-making in the area of the Earth systems and related socio-economic impacts will need to adhere to the standards and best practices set by

[94] This call falls under the 'GenAI4EU' initiative as in the Communication from the Commission to the European Parliament, the Council, the European Economic And Social Committee and the Committee of the Regions on boosting startups and innovation in trustworthy artificial intelligence ((COM(2024) 28 final of 24.1.2024).

[95] https://digital-strategy.ec.europa.eu/en/policies/ai-factories

the Destination Earth[96] initiative of the European Commission to allow coupling of new digital twins with the existing Destination Earth system.

The proposals should cover all of the following aspects:

- Demonstrate the ability to setup complex modelling and digital twin setups using generative AI in line with the GenAI4EU initiative and other key EU initiatives, like the Apply AI strategy.
- Ensure a data driven approach in which new simulations and Digital Twins are set up and demonstrate the chosen approach to work in at least three different application scenarios.
- Enable non-technical decision makers to express scenarios for challenges to be translated into impactful simulations, making use of existing digital twins, models and data sources.
- Demonstrate trustworthiness/reliability in the use of AI and practice clear and open communication of AI use and impact to users.

Additionally, the proposals should also include work on some of the following points:

- Best practices to use AI to generate digital twins and their setup.
- Contribute to the European AI Factories and their abilities to facilitate large scale AI setups.
- Demonstrate that proposed solutions work for at least two different scientific domains to highlight common principles and best practices in this approach.

Proposals should take advantage of the opportunities and developments offered by existing Horizon Europe research and innovation actions (RIA) developing new simulation and observation capabilities, the Horizon Europe CSA HORIZON-CL4-2025-03-HUMAN-18: GenAI4EU central Hub, and new and emerging ICT infrastructures (e.g. EuroHPC and the AI-on-demand platform). Successful proposals in the energy-intensive industrial transition field will be encouraged to closely cooperate with the European Commission's Joint Research Centre (JRC) to foster coordination with on-going related activities.

[96] https://digital-strategy.ec.europa.eu/en/policies/destination-earth

Other Actions not subject to calls for proposals

Grants to Identified Beneficiaries

1. International Conference on Research Infrastructures – ICRI 2026

Expected outcome:

The project is expected to contribute to all the following outcomes:

- Contribution to address research infrastructure challenges with a global dimension;
- Increased capacity of the EU to respond, in cooperation with international players, to challenges at global level;
- Development of further cooperation with key international partners on research infrastructures;
- Enhanced role of the Union in international organisations and multilateral fora;
- Progress towards the development of global research infrastructures.

Scope:

The International Conference on Research Infrastructures (ICRI) is organised in an EU Member States or in a non-EU country, in cooperation with the European Commission. The next ICRI Conference is planned in the second semester 2026 in Italy.

ICRI 2026 will contribute to the objectives of the Research Infrastructures Work Programme. The specific objectives of the conference include:

(1) to provide an international forum for the discussion on the development of global research infrastructures, in particular, on issues of common interest such as data sharing, digitisation of RIs, common standards, transnational access, the long-term sustainability of research infrastructures and their innovation potential;

(2) to facilitate dialogue and strategic collaboration between European research infrastructures and their international counterparts;

(3) to address the role of international research infrastructures collaboration in tackling global challenges and fostering the achievement of the UN Sustainable Development Goals;

This grant will be awarded without a call for proposals according to Article 198(e) of the Financial Regulation and Article 24(3)(b) of the Horizon Europe Regulation to the legal entities identified below, as they have been designated by the country hosting this event organised in cooperation with the Commission.

Specific conditions

Procedure: The evaluation committee will be fully composed of representatives of EU institutions.

Indicative timetable: Fourth quarter of 2025

Legal entities:

Responsible ministry or agency of Italy, or a legal entity designated by it. Consiglio Nazionale delle Ricerche, Piazzale Aldo Moro 7, 00185 Roma, Italy.

Form of Funding: Grants not subject to calls for proposals

Type of Action: Grant to identified beneficiary according to Financial Regulation Article 198(e) - Coordination and support action

The general conditions, including admissibility conditions, eligibility conditions, award criteria, evaluation and award procedure, legal and financial set-up for grants, financial and operational capacity and exclusion, and procedure are provided in parts A to G of the General Annexes.

Indicative budget: EUR 0.30 million from the 2025 budget

2. Danish Presidency conference on research infrastructures

Expected outcomes:

The conference will contribute to the following outcomes:

- Increased focus on infrastructures for research and innovation as strategic assets of the European Research Area.
- Contributions to streamlining priorities for European investments in the European landscape of research infrastructures, also considering the policy agenda on technology infrastructures.
- Maximising the exploitation of the innovation potential of complementary infrastructures for research and innovation in supporting EU priorities on, e.g. green and digital transitions, and in ensuring EU strategic autonomy and strengthened competitiveness and resilience.

Scope:

Taking stock of developments notably as regards the ERA Policy Agenda actions on research infrastructures and technology infrastructures, the event would explore their value for the achievement of key EU political objectives such as research and innovation for the green energy, circular materials and digital transition, and for strategic autonomy and a more competitive and resilient society and economy.

The event would also provide an opportunity to discuss upcoming priorities and activities on research infrastructures and technology infrastructures to maximise their impact, notably by fostering synergies and complementarities.

This grant will be awarded without a call for proposals, according to Article 198(e) of the Financial Regulation and Article 24(3)(b) of the Horizon Europe Regulation, to the legal entity identified below.

Specific conditions

Legal and financial set-up of the Grant Agreements:

The rules are described in General Annex G. The following exception apply:

- Eligible costs will take the form of a lump sum as defined in the Decision of 7 July 2021 authorising the use of lump sum contributions under the Horizon Europe Programme – the Framework Programme for Research and Innovation (2021-2027) – and in actions under the Research and Training Programme of the European Atomic Energy Community (2021-2025)[97]

Procedure: The evaluation committee will be fully composed by representatives of EU institutions.

Indicative timetable: Second quarter of 2025.

Legal entities:

Responsible ministry or agency of Denmark, or a legal entity designated by it.

Form of Funding: Grants not subject to calls for proposals

Type of Action: Grant to identified beneficiary according to Financial Regulation Article 198(e) - Coordination and support action

The general conditions, including admissibility conditions, eligibility conditions, award criteria, evaluation and award procedure, legal and financial set-up for grants, financial and operational capacity and exclusion, and procedure are provided in parts A to G of the General Annexes.

Indicative budget: EUR 0.15 million from the 2025 budget

3. Action to support Gazan researchers

The action will aim at developing an extensive mapping exercise to identify existing regional and local initiatives, potential beneficiaries (Gazan researchers, displaced or in-situ), and

[97] This decision is available on the Funding and Tenders Portal, in the reference documents section for Horizon Europe, under 'Simplified costs decisions' or through this link: https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/horizon/guidance/ls-decision_he_en.pdfhttps://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/horizon/guidance/ls-decision_he_en.pdf

stakeholders that could support Gazan researchers. This will be complemented by a pilot initiative to provide immediate support to an initial cohort of 50 Gazan researchers through a Virtual Research Collaboration Hub.

The hub will serve as a digital platform offering mentorship, collaboration opportunities, and access to academic resources. In parallel, engagement with European and international research networks will be fostered to start re-integrating Gazan researchers into the global scientific community.

Toward the end of the action, a feasibility assessment will be conducted to analyse insights from the overall mapping and stakeholder consultations. This assessment will provide firsthand perspectives on challenges, opportunities, and areas needing strategic intervention, culminating in an assessment report produced between months 16 and 18. The report will serve as base to orientate the design of a larger intervention.

Expected Outcomes: Project results are expected to contribute to all the following outcomes:

- Inventory of existing initiatives – A structured database of ongoing regional and local initiatives, identifying potential beneficiaries (Gazan researchers) and key stakeholders to serve as a reference for designing targeted interventions in the upcoming phases.
- Mapping of data-driven insights – A comprehensive analysis that helps prioritise research and innovation (R&I) cooperation areas requiring urgent attention, enabling a more informed allocation of resources to maximise impact.
- Recommendations for further engagement – A set of well-researched recommendations for refining engagement strategies, ensuring alignment with key priorities, and fostering more effective collaboration with stakeholders.
- First pilot action for 50 researchers in an existing Virtual Research Collaboration Hub. The access to the hub will be granted to researchers from Gaza to collaborate with peers globally. It will offer tools for joint research, data sharing, and remote access to international academic resources, such as journals and databases.
- A feasibility assessment report, will present insights derived from the overall mapping and stakeholder consultations and will serve as a foundational resource for designing a larger intervention.

Expected Impact:

Proposals should set out a credible pathway to contributing to all the following impacts:

- Continuity of research activities in Gaza and among displaced Gazan researchers.
- Strengthened international research collaborations involving Gaza’s academic community.

Scope:

The mapping exercise will encompass a wide range of regional and local initiatives across multiple sectors, ensuring a holistic understanding of the engagement landscape. It will involve data collection from various available sources. The scope will also include stakeholder consultations to gain firsthand insights into challenges, opportunities, and areas requiring strategic intervention.

The action will serve as a foundation for future strategic planning by developing a dynamic and adaptable framework for continuous assessment. The findings will be utilised to refine policies, allocate resources more efficiently, and create collaborative networks that enhance the overall effectiveness of engagement and intervention efforts. Additionally, the action will identify the target groups necessary to extend the action in the next phase.

The pilot initiative to deliver immediate support to an initial group of 50 Gazan researchers through an existing virtual research collaboration hub could start in the last period of the mapping phase (month 12). The hub will act as a digital platform providing mentorship, collaborative research opportunities, and access to academic resources. At the same time, the initiative will strengthen connections with European and international research networks to facilitate the reintegration of Gazan researchers into the global scientific community.

The insights gained from this initial phase will help shape a more extensive intervention and a feasibility assessment report to be produced between months 16 and 18 will analyse key challenges, opportunities, and areas requiring strategic intervention to provide solid foundation for designing a larger intervention.

The Commission considers that a duration of 18 Months for this action would be appropriate.

This grant will be awarded without a call for proposals, according to Article 198(e) of the Financial Regulation and Article 24(3)(b) of the Horizon Europe Regulation, to the legal entity identified below.

Specific conditions

Legal and financial set-up of the Grant Agreements: The rules are described in General Annex G.

Procedure: The evaluation committee will be fully composed by representatives of EU institutions.

Legal entities:

UNIMED – Mediterranean Universities Union is a network of Higher Education and Research Institutions, active in promoting academic cooperation in the Euro-Mediterranean region and in Sub-Saharan Africa, in Middle East and in Western Balkans. UNIMED is a permanent stakeholder of the European Commission and the Union for the Mediterranean

Form of Funding: Grants not subject to calls for proposals

Type of Action: Grant to identified beneficiary according to Financial Regulation Article 198(e) - Coordination and support action

The general conditions, including admissibility conditions, eligibility conditions, award criteria, evaluation and award procedure, legal and financial set-up for grants, financial and operational capacity and exclusion, and procedure are provided in parts A to G of the General Annexes.

Indicative timetable: 2025-2026

Indicative budget: EUR 1.00 million from the 2025 budget

Public procurement

1. Support for EOSC EU Node Service Verification and Validation activities

Expected Outcome:

The requested personnel of the external service provider shall contribute to the evaluation and validation of the service components against the defined requirements and agreed roadmaps, verification and validation of the service, and system integration against defined industry standards and EOSC Platform specifications (upon which the EOSC EU Node has been built), examination of outputs produced by the implementation Contractor(s) as well as testing activities to confirm that system components are functional as designed.

The procurement will be using the existing TMII Framework Contract of DG DIGIT.

Scope:

In close collaboration with other Commission services and its customers, the Operating DG./Unit builds and operates solutions for a fully operational enabling infrastructure for EOSC – referred to as the EOSC EU Node – providing access to a rich portfolio of FAIR (Findable, Accessible, Interoperable, Reusable) data and professional quality interoperable services in all relevant domains from data handling to computing, processing, analysis and storing.

The main tasks for the external contractors are on one hand to support the Operating DG/Unit internally managing the service delivery, deployment and operations with special focus on the IT Governance process of the Commission and relevant policy and security compliance tasks, and on the other hand to monitor the third-party contractors directly, verifying and validating the services delivered against KPIs, SLR/SLA requirements (fit for use), as well as users' needs (fit for purpose).

Following EOSC specific tasks will be contributed by the personnel of the external service provider:

- Engage with the Operating DG/Unit, EC stakeholders and the EOSC EU Node Contractor(s) about opportunities to reuse existing solutions or services.

- Engage with the Operating DG/Unit concerning the IT Governance process and associated documents as “Project Charter”, “Architecture Canvas”, “Security Plan” etc. as per PM2 methodology.
- Continuous follow-up of EOSC EU Node Contractor(s)’ activities, SLRs, SLAs, milestones, and deliverables.
- Ensure the quality, efficiency, and effectiveness of EOSC EU Node services against requirements and EOSC's user community feedback.
- Check EOSC EU Node services through individual components and integration tests, including automatic testing of API end points, and performance and end-to-end testing (i.e., via online dashboard)
- Ensure EOSC EU Node’s capacity management is properly addressed:
    - monitor capacity and performance data;
    - investigate capacity issues.
- Ensure that a repository of architecture and deployment documentation of the environments rolled out by the three EOSC EU Node Contractor(s) is always available and properly maintained.
- Check services are available to users:
    - analyse availability data;
    - investigate service unavailability.
- Report back on user and community feedback.
- Liaise and organize coordination meetings with the Operating DG/Unit.
- Monitor and maintain live online dashboard for the Operating DG/Unit.
- Produce minimum quarterly service status reports for the Operating DG/Unit.

Following specific expertise is mandatory for the performance of tasks:

- There will be a collaborating relationship between the external contractor and the managed service providers of the EOSC EU Node (i.e., EOSC EU Node Contractor(s)), where both set of Contractor(s) add direct value to the overall service quality.
- The external contractor shall be able to assess the software tools proposed by the EOSC EU Node Contractor(s) to fulfil the functional and service level specifications of the procurement, as well as the cloud-based service delivery model (hosting and operations) requirement, for code quality, licensing, pre-existing IPR, service quality, and deployment, among others.

- The external contractor shall be able to apply state-of-the-art Software Audit Reviews & Software Quality Assessments based on industry standard maturity frameworks. Some notable service/software quality assurance standards include ISO 9000 family, Capability Maturity Model Integration, and Test Maturity Model integration.

- The external contractor shall be able to collect and summarize EOSC user community feedback (based on information provided by the EOSC EU Node services Contractor(s)) to assess the fitness of EOSC EU Node services to the users, and to assist future planning.

Form of Funding: Procurement

Type of Action: Public procurement

Indicative budget: EUR 1.00 million from the 2025 budget

Expert contract actions

1. External expertise 2025

This action will support:

1. The use of appointed independent experts for the evaluation and monitoring of actions (grant agreement, grant decision, public procurement actions, financial instruments, evaluation) funded under Horizon Europe and previous Framework Programmes for Research and Innovation and where appropriate, include ethics checks as well as compliance checks regarding the Gender Equality Plan eligibility criterion. A special allowance of EUR 450/day will be paid to the experts appointed in their personal capacity who act independently and in the public interest.

2. The use of individual experts to advise on, or support, the design and implementation of EU policies on research infrastructures. The activities carried out by the experts will be essential to the development and monitoring of the Union policy and initiatives in this area. The individual experts' tasks will include attending bilateral meetings with Commission services, remote drafting and possible preparatory work. The experts will be highly qualified, specialised, independent experts selected on the basis of their competence and knowledge of the field. A special allowance of EUR 450/day will be paid to the experts appointed in their personal capacity who act independently and in the public interest. This amount is considered to be proportionate to the specific tasks to be assigned to the experts, including the number of meetings to be attended and possible preparatory work.

3. The use of individual experts for the assessment of ERIC applications, as required under the ERIC Regulation[98]. The experts will be highly qualified independent experts selected on the basis of their specific competence. The experts will provide a report for each of

[98] Council Regulation (EC) No 723/2009 of 25 June 2009 on the Community Legal Framework for a European Research Infrastructure Consortium.

the assessed ERIC application. A special allowance of EUR 450/day will be paid to the experts appointed in their personal capacity who act independently and in the public interest. This amount is considered to be proportionate to the specific tasks to be assigned to the experts.

4. The use of individual experts for the assessment of ESFRI Roadmap applications and the monitoring of ESFRI projects as part of the preparation of the ESFRI 2026 roadmap. The experts will be highly qualified independent experts selected on the basis of their specific competence. The experts will provide a report for each of the assessed ESFRI Roadmap application or ESFRI projects. A special allowance of EUR 450/day will be paid to the experts appointed in their personal capacity who act independently and in the public interest. The amount will be proportionate to the specific tasks to be assigned to the experts.

Form of Funding: Other budget implementation instruments

Type of Action: Expert contract action

Indicative budget: EUR 0.20 million from the 2025 budget

Budget[99]

	Budget line(s)	2025 Budget (EUR million)
Calls		
HORIZON-INFRA-2025-01		400.50
	from 01.020103	*400.50*
Other actions		
Grant awarded without a call for proposals according to Financial Regulation Article 198(e)		1.45
	from 01.020103	*1.45*
Public procurement		1.00
	from 01.020103	*1.00*
Expert contract action		0.20
	from 01.020103	*0.20*
Estimated total budget		403.15

[99] The budget figures given in this table are rounded to two decimal places.
The budget amounts are subject to the availability of the appropriations provided for in the general budget of the Union for 2025.

Specific Features for Research Infrastructure

This section provides further conditions and requirements on access provision that applicants must comply with, for different topics under the INFRASERV destination of the Research Infrastructures work programme. Compliance with these provisions will also be taken into account during evaluation.

Trans-national and/or virtual access[100] **activities**.

Trans-national access activities

Trans-national access provision must be implemented as follows:

Trans-national access to infrastructure services offered under the grant is provided 'free of charge' to selected researchers or research teams (user-groups) including from industry. Access activities should be implemented in a coordinated way so as to improve the overall service provision to the research community. Access may be made available to external users, either **in person** (‘hands-on’), when the user visits the infrastructure to make use of it, or through the provision to the user of **remote** scientific services, such as the provision of reference materials or samples, the remote access to a high-performance computing facility, the performance of sample analysis or sample deposition.

The research infrastructures must publicise widely the access offered under the grant agreement to ensure that researchers who might wish to have access to the infrastructures are made aware of the possibilities open to them. They must open specific calls to invite researchers to apply for access. The research infrastructures must promote equal opportunities in advertising the access and take into account gender issues when defining the support provided to visitors. They must maintain appropriate documentation to support and justify the amount of access reported. This documentation must include records of the names, nationalities, and home institutions of the users within the research teams, as well as the nature and quantity of access provided to them. To this extent, a unit of access to each infrastructure service/installation [101] needs to be identified and precisely defined in the proposal.

The selection of researchers or research teams must be carried out through an independent peer-review evaluation of the research projects (user projects) they wish to carry out at the infrastructure. The research team, or its majority, must work in countries other than the country(ies) where the infrastructure is located (when the infrastructure is composed of several research facilities, operated by different legal entities, this condition must apply to each facility) except when access is provided by an International organisation, the Joint Research Centre (JRC), an ERIC or similar legal entities with international membership. User teams where all or the majority of users work in third countries can be supported as long as

100 **See Article 18 and Annex 5 of Horizon Europe Model Grant Agreement**

101 “Installation” means a part or a service of a research infrastructure that can be used independently from the rest. A research infrastructure consists of one or more installations.

the cumulative access provided to them is below 20% of the total amount of units of access provided under the grant. In exceptional and well justified cases a higher percentage of access to third-country user teams can be set out in the proposal.

Only user groups that are allowed to disseminate the results they have generated under the action may be eligible for access (unless the users are working for SMEs).

The duration of stay at a research infrastructure must normally be limited to three months, unless otherwise provided for in the proposal.

The EU financial support to trans-national access will cover the *access costs*[102] incurred by the access provider in providing access to the selected researchers, as well as the travel and subsistence costs incurred in supporting visits to the infrastructure of these researchers.

The *access costs* charged to the grant will not include capital investments (including depreciation costs of equipment, infrastructure or other assets) nor internally invoiced goods and services, unless otherwise specified in the work programme, while they may cover the running costs of the infrastructure as well as the cost for the logistical, technological and scientific support for users' access. This includes costs for ad-hoc training users need to use the infrastructure and for preparatory and closing activities that may be necessary to carry out users' work on the infrastructure.

Virtual access activities

Virtual access provision must be implemented as follows:

Virtual access to research infrastructure is provided through communication networks to users complying with the RI's access policy, without selecting them. Examples of virtual access activities are provision of access to databases available via Internet, or data deposition services.

The research infrastructures must publicise widely the access offered under the grant agreement to ensure that researchers who might wish to have access to the infrastructures are made aware of the possibilities open to them.

The EU financial support to virtual access will cover the *access costs*[103] incurred by the infrastructure in providing access under the project, including the technological and scientific

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102 Access costs will be supported through the reimbursement of the eligible costs specifically incurred by a research infrastructure for providing access to the research teams selected for support under the project, or on the basis of unit costs calculated according to the methodology indicated in the Decision of 5 May 2022, authorising the use of unit costs for the costs of providing trans-national and virtual access in Research Infrastructures actions under the Horizon Europe Programme. In the latter case the access costs will be calculated multiplying the unit cost by the quantity of access provided under the grant. The cost of the unit of access to the infrastructure, i.e. the unit cost, must then be indicated in the proposal. A combination of the two methods mentioned above will also be possible.

103 Access costs will be supported through the reimbursement of the eligible actual costs specifically incurred by a research infrastructure for providing virtual access to identified users under the project, or on the basis of unit costs calculated according to the methodology indicated in the Decision of 5 May 2022, authorising the use of unit costs for the costs of providing trans-national and virtual access in Research Infrastructures actions under the Horizon Europe Programme. In the latter case, the access

support researchers need to effectively use the services. Capital investments (including depreciation costs of equipment, infrastructure or other assets) as well as internally invoiced goods and services will not be eligible costs unless otherwise specified under the specific call or topic, in which case only the portion used to provide virtual access under the project can be eligible. A unit of access to each research infrastructure service must be identified and precisely defined in the proposal. The provision of virtual access during the project lifetime will be measured through the units of access defined in the grant agreement and must be periodically assessed by an external board. Eligibility criteria (e.g. affiliation to a research or academic institution) for users can be defined in the proposal, to take into account the access policies of the different RIs.

costs will be calculated multiplying the unit cost by the quantity of access provided under the grant. The cost of the unit of access to the research infrastructure, i.e. the unit cost, must then be indicated in the proposal. A combination of the two methods mentioned above will also be possible.