

EN

Annex II

Horizon Europe

Work Programme 2025

3. Research Infrastructures

DISCLAIMER

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Introduction

The Horizon Europe Programme objectives are pursued through the Research Infrastructures part endowing Europe with world-class sustainable 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 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.

To continue enabling transnational access to research infrastructure services both for curiosity driven research and the development of, and the transnational access to, new challenge-driven customised services, that often involve interdisciplinary approaches, is another key aim of the programme. 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 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.

INFRA TECH - 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 call¹

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

Topics	Type of Action	Budgets (EUR million)	Expected EU contribution per project (EUR million) ²	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 ³	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	14.00 ⁴	1.00 to 1.50	10
HORIZON-INFRA-2025-01-DEV-03: Consolidation of the Research Infrastructure landscape – Individual support for evolution, long term sustainability and emerging needs of	RIA	30.00 ⁵	3.00 to 4.00	8

¹ 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.

² Nonetheless, this does not preclude submission and selection of a proposal requesting different amounts.

³ Of which EUR 10.00 million from the 'na' budget.

⁴ Of which EUR 14.00 million from the 'na' budget.

⁵ Of which EUR 30.00 million from the 'na' budget.

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pan-European research infrastructures				
HORIZON-INFRA-2025-01-DEV-04: Support to the European Strategy Forum on Research Infrastructures	CSA	3.00 ⁶	1.50 to 3.00	1
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 ⁷	1.00 to 2.00	3
Destination INFRAEOSC - Enabling an operational, open and FAIR EOSC ecosystem (2025)				
HORIZON-INFRA-2025-01-EOSC-01: Readiness and participation of nodes and node candidates in the EOSC Federation	RIA	24.00 ⁸	8.00 to 12.00	2
HORIZON-INFRA-2025-01-EOSC-02: Synergies and interplay of EOSC with Common European Data Spaces	RIA	10.00 ⁹	Around 10.00	1
HORIZON-INFRA-2025-01-EOSC-03: FAIR Integration for Enhanced Research Data in the EOSC ecosystem and beyond	RIA	16.00 ¹⁰	5.00 to 8.00	2
HORIZON-INFRA-2025-01-EOSC-04: Advancing AI-readiness and Machine-Actionability in the EOSC Ecosystem	RIA	15.00 ¹¹	7.50 to 15.00	1
HORIZON-INFRA-2025-01-EOSC-05: Data stewards, skills and training for Open Science and FAIR practices	CSA	8.00 ¹²	5.00 to 8.00	1
HORIZON-INFRA-2025-01-EOSC-06: Using Generative AI (GenAI4EU) for Scientific Research via EOSC	RIA	30.00 ¹³	7.50 to 10.00	3
Destination INFRA SERV - Research infrastructures services to support health research,				

⁶ Of which EUR 3.00 million from the 'na' budget.
⁷ Of which EUR 4.50 million from the 'na' budget.
⁸ Of which EUR 24.00 million from the 'na' budget.
⁹ Of which EUR 10.00 million from the 'na' budget.
¹⁰ Of which EUR 16.00 million from the 'na' budget.
¹¹ Of which EUR 15.00 million from the 'na' budget.
¹² Of which EUR 8.00 million from the 'na' budget.
¹³ Of which EUR 30.00 million from the 'na' budget.

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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	37.00 ¹⁴	5.00 to 12.00	4
HORIZON-INFRA-2025-01-SERV-02: Research infrastructure services to enable R&I addressing main challenges and EU priorities	RIA	18.00 ¹⁵	5.00 to 10.00	2
HORIZON-INFRA-2025-01-SERV-03: Research infrastructure services advancing frontier knowledge	RIA	40.00 ¹⁶	5.00 to 10.00	7
Destination INFRA TECH - 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 ¹⁷	Around 5.00	5
HORIZON-INFRA-2025-01-TECH-02: Implementing research infrastructure technology roadmaps	RIA	45.00 ¹⁸	10.00 to 15.00	4
HORIZON-INFRA-2025-01-TECH-03: AI-powered impact simulations in support of the Destination Earth initiative	RIA	30.00 ¹⁹	7.00 to 10.00	4
HORIZON-INFRA-2025-01-TECH-04: AI-generated digital twins for science	RIA	40.00 ²⁰	8.00 to 10.00	4
Overall indicative budget		399.50		

General conditions relating to this call

- ¹⁴ Of which EUR 37.00 million from the 'na' budget.
¹⁵ Of which EUR 18.00 million from the 'na' budget.
¹⁶ Of which EUR 40.00 million from the 'na' budget.
¹⁷ Of which EUR 25.00 million from the 'na' budget.
¹⁸ Of which EUR 45.00 million from the 'na' budget.
¹⁹ Of which EUR 30.00 million from the 'na' budget.
²⁰ Of which EUR 40.00 million from the 'na' budget.

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<i>Admissibility conditions</i>	The conditions are described in General Annex A.
<i>Eligibility conditions</i>	The conditions are described in General Annex B.
<i>Financial and operational capacity and exclusion</i>	The criteria are described in General Annex C.
<i>Award criteria</i>	The criteria are described in General Annex D.
<i>Documents</i>	The documents are described in General Annex E.
<i>Procedure</i>	The procedure is described in General Annex F.
<i>Legal and financial set-up of the Grant Agreements</i>	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 of 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	
<i>Expected EU contribution per project</i>	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.

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<i>Indicative budget</i>	The total indicative budget for the topic is EUR 10.00 million.
<i>Type of Action</i>	Coordination and Support Actions
<i>Eligibility conditions</i>	<p>The conditions are described in General Annex B. The following exceptions apply:</p> <p>The following additional eligibility criteria apply: due to the specific nature of this topic, consortia must include at least one ESFRI Infrastructure²¹ or European Research Infrastructure Consortium (ERIC)²². In case of a distributed research infrastructure, a signed declaration from the legal representative confirming which node(s) will represent the research infrastructure is an alternative to the member that holds the statutory seat (e.g. ERIC) being a beneficiary.</p>
<i>Procedure</i>	<p>The procedure is described in General Annex F. The following exceptions apply:</p> <p>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.</p>
<i>Legal and financial set-up of the Grant Agreements</i>	<p>The rules are described in General Annex G. The following exceptions apply:</p> <p>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).²³.</p>

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.

²¹ See lists of ESFRI infrastructures (Landmarks and Projects) in the 2021 ESFRI Roadmap on <https://roadmap2021.esfri.eu/>

²² [European Research Infrastructure Consortium \(ERIC\) | European Commission \(europa.eu\)](https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/horizon/guidance/l-eric_en.pdf)

²³ 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/l-eric_en.pdf

- ‘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.

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, or to 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.

Projects should allocate efforts to contribute to gathering programmes under an overarching training service or entry point to facilitate correlation between training supply and demand and to harmonise and optimise the training services offered.

To ensure a balanced portfolio covering a wide range of domains [*to be defined, e.g. ESFRI domains*], grants will be awarded to proposals not only in order of ranking but at least also to those proposals that are the highest ranked within each domain, provided that the proposals attain all thresholds.

Liaising with actions identifying training needs is encouraged as well as with 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 [RIttrainPlus](#) (Research Infrastructure Training Plus).

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	
<i>Expected EU contribution per</i>	The Commission estimates that an EU contribution of between EUR 1.00 and 1.50 million would allow these outcomes to be addressed

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<i>project</i>	appropriately. Nonetheless, this does not preclude submission and selection of a proposal requesting different amounts.
<i>Indicative budget</i>	The total indicative budget for the topic is EUR 14.00 million.
<i>Type of Action</i>	Coordination and Support Actions
<i>Eligibility conditions</i>	<p>The conditions are described in General Annex B. The following exceptions apply:</p> <p>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.</p> <p>The following additional eligibility criteria apply:</p> <p>Consortia must represent at least one of the ESFRI Projects that entered the ESFRI Roadmap in 2021²⁴.</p>
<i>Legal and financial set-up of the Grant Agreements</i>	<p>The rules are described in General Annex G. The following exceptions apply:</p> <p>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).²⁵.</p>

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

- enhanced ERA excellence and attractiveness through the availability of additional capacities;
- consistent and well-structured research infrastructures ecosystem in Europe;
- 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.

²⁴ ESFRI Projects eligible for support under this topic include: EBRAINS, SLICES, SoBigData++, MARINERG-I, EIRENE RI, ET, EuPRAXIA, GGP, GUIDE, OPERAS, RESILIENCE.

²⁵ 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

Scope: This topic targets the research infrastructure projects that entered the ESFRI Roadmap in 2021, 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.

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.

Proposal consortia 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	
<i>Expected EU contribution per project</i>	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.
<i>Indicative budget</i>	The total indicative budget for the topic is EUR 30.00 million.
<i>Type of Action</i>	Research and Innovation Actions
<i>Eligibility</i>	The conditions are described in General Annex B. The following

<i>conditions</i>	<p>exceptions apply:</p> <p>The following additional eligibility criteria apply:</p> <p>Due to the scope of this topic, consortia must include at least one of the ESFRI Landmarks²⁶ or European Research Infrastructures Consortia (ERICs)²⁷. Such research infrastructure(s), and the beneficiaries that own/operate them, must be explicitly identified in the proposal. For ERICs, the member that holds the statutory seat of the ERIC must be a beneficiary.</p>
<i>Legal and financial set-up of the Grant Agreements</i>	<p>The rules are described in General Annex G. The following exceptions apply:</p> <p>The funding rate is 80% of the eligible costs in order to ensure a minimum adequate backing by the beneficiaries, who should provide the remaining share for the activities covered by the Grant Agreement and foster their sustainability.</p>

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

- better structured and strengthened European Research Infrastructure (RI) landscape;
- 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 member countries, 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:

²⁶ See list of Landmarks in the 2021 ESFRI Roadmap on <https://roadmap2021.esfri.eu/>
²⁷ [European Research Infrastructure Consortium \(ERIC\) | European Commission \(europa.eu\)](https://roadmap2021.esfri.eu/)

- 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

In case of reorientation or evolution of the research infrastructure scope, activities should fill gaps in the Research Infrastructures landscape, enabling the research infrastructure to address 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.

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	
<i>Expected EU contribution per project</i>	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.
<i>Indicative budget</i>	The total indicative budget for the topic is EUR 3.00 million.
<i>Type of Action</i>	Coordination and Support Actions

<i>Procedure</i>	The procedure is described in General Annex F. The following exceptions apply: The granting authority can fund a maximum of one project.
<i>Legal and financial set-up of the Grant Agreements</i>	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). ²⁸ .

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 support ESFRI 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;
- development and execution of the ESFRI communication and outreach strategy, including organisation of ESFRI-led conferences and outreach events;

²⁸ This [decision](https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/horizon/guidance/ls-decision_he_en.pdf) 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

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- 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;
- fostering cooperation, exchange of experiences and good practices between the research infrastructures, their managers and stakeholders, as well as the funding bodies, including managing authorities of Cohesion policy programmes and policy makers;
- ensuring cooperation of ESFRI with 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;
- defining suitable indicators for an impact assessment of ESFRI.

In addition, the project should focus on all of the following aspects:

- providing support to the ESFRI Chair;
- providing support to ESFRI working group chairs;
- carrying out an impact assessment of ESFRI.

At the same time, the project should organise its workplan in a sufficiently flexible way so as to be able to adapt to changing support needs of ESFRI. The impact assessment of ESFRI can be carried out by a third party.

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	
<i>Expected EU contribution per project</i>	The Commission estimates that an EU contribution of between EUR 1.00 and 2.00 million would allow these outcomes to be addressed appropriately. Nonetheless, this does not preclude submission and selection of a proposal requesting different amounts.
<i>Indicative budget</i>	The total indicative budget for the topic is EUR 4.50 million.
<i>Type of Action</i>	Coordination and Support Actions
<i>Eligibility conditions</i>	The conditions are described in General Annex B. The following exceptions apply: The following additional eligibility criteria apply:

	<p>For area “Framework for joint research infrastructure technology developments”, the following additional eligibility criteria apply: due to the specific nature of this topic, consortia must include at least two different research infrastructures, each of them being an ESFRI infrastructure²⁹, a European Research Infrastructure Consortium³⁰ (ERIC) or another research infrastructure that is an international European research organisation³¹. Such research infrastructures, and the beneficiaries that own/operate them, must be explicitly identified in the proposals. In case of a distributed research infrastructure, a signed declaration from the legal representative confirming which node(s) will represent the research infrastructure is an alternative to the member that holds the statutory seat (e.g. ERIC) being a beneficiary³².</p>
<i>Procedure</i>	<p>The procedure is described in General Annex F. The following exceptions apply:</p> <p>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.</p>
<i>Legal and financial set-up of the Grant Agreements</i>	<p>The rules are described in General Annex G. The following exceptions apply:</p> <p>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).³³.</p>

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

²⁹ See lists of ESFRI infrastructures (Landmarks and Projects) in the 2021 ESFRI Roadmap on <https://roadmap2021.esfri.eu/>

³⁰ [European Research Infrastructure Consortium \(ERIC\) | European Commission \(europa.eu\)](https://ec.europa.eu/eurofin/eu-ri/eu-ri-portal/eu-ri-portal_en)

³¹ 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. The criterion is also fulfilled if the research infrastructure is already validated under Horizon 2020 as ‘international organisation of European interest’

³² The participation of two nodes of the same ESFRI infrastructure or ERIC does not count as two different research infrastructures.

³³ This [decision](https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/horizon/guidance/ls-decision_he_en.pdf) 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

Area: 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: 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 S&T fields, accommodating the diverse nature of research infrastructures and their evolving needs, and overcoming the and disruptive effects of an approach based on short-term projects.
- Analysis of how research infrastructures user communities 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: 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 are expected to address one of the following areas:

Area: 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 S&T 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 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 */to add link to ESFRI report once published/* 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, guides for synergies³⁴, 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

³⁴ 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\(02\)](https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52022XC1104(02))

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.

For this area, an EU contribution around EUR 1 million should allow the outcomes to be addressed appropriately.

Area: Preparatory action to explore a more integrated and sustainable scheme for access to Research Infrastructures

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 S&T 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 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 consortium should be representative of all large scientific domains. It should involve EU research infrastructures in different fields, including preferably at least one ESFRI

infrastructure³⁵ and/or ERIC³⁶ in each of the large ESFRI scientific domains. 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);
- 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 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.

³⁵ See lists of ESFRI infrastructures (Landmarks and Projects) in the 2021 ESFRI Roadmap on <https://roadmap2021.esfri.eu/>

³⁶ [European Research Infrastructure Consortium \(ERIC\) | European Commission \(europa.eu\)](https://eric.europa.eu/)

- Outline of a communication plan and key components for a single-entry point portal including opportunities under complementary national or institutional access schemes.

For this area, an EU contribution of between EUR 1 and 2 million should allow the outcomes to be addressed appropriately.

Area: 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. Ensuring the functional capacity of such ecosystems requires 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 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 must consist of key research infrastructures that are representative of at least three 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.

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.

For this area, an EU contribution of between EUR 1 and 1.5 million should allow the outcomes to be addressed appropriately.

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 ongoing 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 Foundation³⁷ and the Open Source Initiative³⁸.

³⁷ <https://www.gnu.org/licenses/license-list#SoftwareLicenses>

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: Readiness and participation of nodes and node candidates in the EOSC Federation

Call: Research Infrastructures 2025	
Specific conditions	
<i>Expected EU contribution per project</i>	The Commission estimates that an EU contribution of between EUR 8.00 and 12.00 million would allow these outcomes to be addressed appropriately. Nonetheless, this does not preclude submission and selection of a proposal requesting different amounts.
<i>Indicative budget</i>	The total indicative budget for the topic is EUR 24.00 million.
<i>Type of Action</i>	Research and Innovation Actions
<i>Technology Readiness Level</i>	Activities are expected to start at TRL 7 and achieve TRL up to 9 by the end of the project – see General Annex B.
<i>Award criteria</i>	The criteria are described in General Annex D. The following exceptions apply: Additional sub-criterion for Impact: 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.
<i>Procedure</i>	The procedure is described in General Annex F. The following exceptions apply: To ensure a balanced portfolio covering projects that deliver on both points a) and b) below, grants will be awarded to applications not only in order of ranking but at least also to one proposal that is the highest ranked within those delivering on a) or b), provided that the applications attain all thresholds.
<i>Legal and financial set-up of the Grant Agreements</i>	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. The

	<p>selection of the third parties to be supported under each grant will be based on an external independent peer review of their proposed work.</p> <p>Research infrastructures which are beneficiaries/affiliated entities of the consortia awarded may exceptionally also be recipients of financial support to third parties. Proposals must explain how they will ensure that such beneficiaries/affiliated entities are not involved in the selection procedure of the calls, in order to avoid conflicts of interest and maintain confidentiality.</p> <p>Beneficiaries will be subject to the following additional access rights:</p> <ul style="list-style-type: none">• 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. <p>Beneficiaries must deposit the digital research data generated in the action in a trusted repository federated in the EOSC in compliance with EOSC requirements.</p>
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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 nodes. This framework will serve as the foundational structure for the progressive expansion of EOSC across European, national and regional levels both institutionally and thematically.
- Organisations responsible for EOSC nodes will play an integral role in the ongoing operations of the EOSC federation. This interconnected network of systems will offer operational interfaces that promote cross-node integration. The resulting Data and Exchange components will adhere to federation specifications and EOSC's interoperability guidelines, ensuring harmonious interoperation.
- Researchers will benefit from unified support aimed at integrating their research environments with the EOSC federation. This coordinated assistance will streamline the alignment of research practices with the EOSC ecosystem.

Scope: This call aims to advance the implementation of the cross-domain EOSC "System of Systems," building upon the previous INFRAEOSC projects^{39 40}. The focus is on operationalizing the EOSC federation through a network of nodes following a federation model. Key areas covered include governance structures, federation policies, business models, service management procedures, technical and semantic interoperability, and the role of the EOSC EU Node.

The EOSC federation model must remain in a state of continuous enhancement, informed by input from users, EOSC stakeholders, intermediaries, the EOSC Partnership⁴¹ and the practical insights gathered from a diverse range of nodes. The EOSC EU Node will experience augmentation with functionalities designed to streamline the establishment of new EOSC nodes. Additionally, it will facilitate the seamless sharing and integration of resources—ranging from services to datasets and other research outputs—among EOSC nodes, all aligned with the EOSC federation model.

An essential federator role for the participating node candidates shall be established and actively maintained for the duration of project activities. This is to enable them to jointly provision/offer some of the federating capabilities. Moreover, a transition plan, aligned with the EOSC federation model guidelines, shall also be executed as part of the work in order to enhance the operation of the existing EOSC Federation as a result.

The proposals will need to demonstrate ability to work with nodes at different maturity levels: mature nodes will contribute data and services through the EOSC Exchange⁴², while development-stage nodes will receive support to become EOSC federation-ready.

The proposals shall focus on all following aspects:

- Propose a harmonized participation model taking into account the variety of thematic and national dimensions of nodes in the EOSC federation:
 - o develop a robust and coordinated strategy for evolving and sustaining the federated governance model for EOSC, fostering effective collaboration and coordination among participating nodes;
 - o facilitate the identification, selection and integration/enrolment of node candidates joining the EOSC federation, should they come from various countries, regions and scientific disciplines;
 - o evolve and refine EOSC federation specifications and develop a corresponding maturity model to drive evolution across governance, operations, sustainability and technical interoperability.

³⁹ 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

⁴⁰ 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

⁴¹ <https://eosc.eu/partnership>

⁴² EOSC Exchange as defined in the SRIA v1.2 https://eosc.eu/wp-content/uploads/2023/12/20231114_SRIA_1.2_final2.pdf

- Enrich guidelines and best practices for the enrolment process:
 - review existing enrolment and onboarding processes and documentation, including from similar initiatives and federated systems;
 - identify key components and requirements for the enrolment process based on feedback from stakeholders and lessons learned from practical experiences;
 - develop and enrich comprehensive guidelines and best practices for enrolling new EOSC node candidates into the EOSC federation, covering technical, governance, and operational aspects;
 - continuously evaluate and update the guidelines and best practices based on feedback and evolving needs of the EOSC community.
- Establishment and maintenance of the federator role for the participating node candidates:
 - designate and train individuals or teams of node operators to fulfil the federator role within the EOSC federation;
 - define the responsibilities and tasks associated with the federator role, including coordination, communication, and governance.
- Develop and run harmonized community engagement and support programmes:
 - general support for EOSC node candidates to be validated and enrolled in the federation (FSTP cascade funding);
 - support to enrolled EOSC nodes to further develop services, tools and EOSC core service capabilities (FSTP cascade funding);
 - monitor the progress and impact of enrolled EOSC nodes and promote mutual learning among stakeholders;
 - promote the benefits of the EOSC federation model and establish an EOSC-ready node community to contribute to the EOSC Data Infrastructure and EOSC Exchange⁴³.
 - actively engage EOSC Nodes' users and providers to validate the federation model specifications and ensure alignment in architecture, governance, and core components.

In addition, the proposals are expected to deliver on one of the following:

⁴³ EOSC Data Infrastructure and EOSC Exchange as defined in the SRIA v1.2 https://eosc.eu/wp-content/uploads/2023/12/20231114_SRIA_1.2_final2.pdf

- a. Evaluate the common support needed for thematic nodes and node candidates with existing national/regional footprint:
 - o provide support to EOSC-ready thematic nodes in offering coordinated access to value added, interoperable services and resources, enhancing the overall EOSC ecosystem;
 - o accelerate the generalization and adoption of FAIR data best practices across Europe that are specific to thematic nodes and increase the availability of FAIR data within the EOSC federation;
 - o foster collaboration and knowledge sharing among thematic and national node candidates and existing EOSC nodes to promote cross-collaboration.

or

- a. Evaluate the common support needed for national and/or regional (either multi-country or within a country) nodes and node candidates in line with the related national objectives and funding streams:
 - o establish an EOSC-ready national node network in coordination with the EOSC EU Node, moving towards operational readiness, and develop integration plans for a broader network of developing nodes;
 - o enhance the integration of e-infrastructures and services within the EOSC core, enabling European scientists and research organizations to demonstrate the added value of EOSC through streamlined research workflows;
 - o foster collaboration and knowledge sharing among thematic and national node candidates and existing EOSC nodes to promote cross-collaboration.

HORIZON-INFRA-2025-01-EOSC-02: Synergies and interplay of EOSC with Common European Data Spaces

Call: Research Infrastructures 2025	
Specific conditions	
<i>Expected EU contribution per project</i>	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.
<i>Indicative budget</i>	The total indicative budget for the topic is EUR 10.00 million.
<i>Type of Action</i>	Research and Innovation Actions
<i>Technology</i>	Activities are expected to start at TRL 5 and achieve TRL up to 8 by the

<i>Readiness Level</i>	end of the project – see General Annex B.
<i>Award criteria</i>	<p>The criteria are described in General Annex D. The following exceptions apply:</p> <p>Additional sub-criterion for Impact:</p> <p>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.</p>
<i>Legal and financial set-up of the Grant Agreements</i>	<p>The rules are described in General Annex G. The following exceptions apply:</p> <p>Beneficiaries will be subject to the following additional access rights:</p> <ul style="list-style-type: none"> • 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. <p>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.</p>

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

- EOSC stakeholders are actively collaborating with key stakeholders from other Common European Data Spaces to define and standardize technical specifications for operational data services, that will play a critical role in enabling the seamless adoption of FAIR practices throughout the research ecosystem by facilitating the transformation of digital objects into FAIR entities.
- EOSC stakeholders can systematically investigate and understand the architecture, capabilities and software elements of Simpl-Open⁴⁴ to propose mapping of EOSC

⁴⁴ <https://digital-strategy.ec.europa.eu/en/policies/simpl>

Interoperability Framework⁴⁵ elements and particular software/protocol candidates for Simpl-Open from the EOSC data space.

- By enhancing content integration from data spaces, industry and beyond, EOSC will enable the reuse of science data in various sectors that will ease access to real-life data from other data spaces, fostering its utilization in research and expanding its impact.

Scope: The aim is to advance the interoperability and integration of research data within the European Open Science Cloud (EOSC), in alignment with the broader context of Common European Data Spaces and cross-sector collaboration. The multifaceted scope revolves around creating tools, standards, and specifications that promote the FAIR principles within EOSC through collaboration, alignment, and interoperability with Common European Data Spaces and various sectors, aiming to create a connected research landscape that leverages data integration and accessibility to propel scientific advancements and cross-sector innovation.

EOSC shall be established as a Common European Data Space for research and innovation, and it will make significant progress towards strengthening open interoperability standards and APIs, advancing technical specifications for FAIR digital objects, operationalizing FAIR principles, integrating FAIRness components, and validating innovations through demonstrative cases involving participants in multiple Common European Data Spaces.

The EOSC ecosystem will have a plethora of user-friendly tools that enable the creation of digital objects adhering to FAIR principles within the EOSC environment. This includes automated tools and procedures for standardization and data quality assessment across different domains within the EOSC environment and beyond.

The proposals should focus on all following aspects:

- Work towards establishing EOSC as the Common European Data Space for research and innovation, facilitating seamless data sharing and collaboration across disciplines and borders, by:
 - supporting the interconnection of EOSC with other Common European Data Spaces, leveraging existing infrastructures and initiatives to enhance data accessibility and interoperability;
 - encouraging the linking of digitally advanced research infrastructures (RIs) within the EOSC federation and with other relevant digital infrastructures, fostering a cohesive ecosystem for innovation and economic development.
- Propose interoperable services and data workflows across multiple mature Common European Data Spaces for the scientific community to ensure interoperability between

⁴⁵ <https://op.europa.eu/en/publication-detail/-/publication/d787ea54-6a87-11eb-aeb5-01aa75ed71a1/language-en>

EOSC and research aspects of other data spaces based on Simpl⁴⁶:

- o focus on concrete use cases for the most advanced data spaces with a research component, including green deal data space with the Destination Earth initiative, health data space and cultural heritage data space.
- o develop and deploy components that enhance the FAIRness of research outcomes, such as metadata enrichment services, data validation tools, and semantic interoperability frameworks across data spaces.
- Foster baseline technical specification development:
 - o conduct thorough research and analysis to identify gaps and opportunities for standardization in metadata, formats, vocabulary, semantics, and APIs;
 - o engage domain experts to contribute to the development of technical specifications, ensuring that they are comprehensive, interoperable, and future-proof;
 - o deliver technical specifications for operational data services that support the transformation of digital objects into FAIR entities.
- In line with the concept of Simpl, promote the use of open-source software to enhance transparency and cooperation across data spaces on the development of new services for the scientific community.
 - o Establish and maintain greenhouse/clearinghouse capabilities for open source software developed and used by EOSC. With the aim to be considered as good candidates for inclusion into Simpl-Open.
- Validation through demonstrators:
 - o design and implement demonstrators that showcase the practical adoption and effectiveness of open standards, APIs, and technical specifications;
 - o collaborate with multidisciplinary research teams to develop scientific cases that span diverse domains and use cases;
 - o collect feedback from stakeholders and end-users to iteratively refine and improve the demonstrated solutions, ensuring that they meet real-world needs and requirements.
- Community Engagement and Collaboration:
 - o foster collaboration among stakeholders, including researchers, data scientists, infrastructure providers, and standards organizations;

⁴⁶ <https://digital-strategy.ec.europa.eu/en/policies/simpl>

- o establish working groups dedicated to the development and advancement of open standards and APIs for metadata, formats, vocabulary, semantics, and APIs;
- o organize workshops, webinars, and conferences to facilitate knowledge exchange and consensus-building around open standards and APIs.

HORIZON-INFRA-2025-01-EOSC-03: FAIR Integration for Enhanced Research Data in the EOSC ecosystem and beyond

Call: Research Infrastructures 2025	
Specific conditions	
<i>Expected EU contribution per project</i>	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.
<i>Indicative budget</i>	The total indicative budget for the topic is EUR 16.00 million.
<i>Type of Action</i>	Research and Innovation Actions
<i>Award criteria</i>	<p>The criteria are described in General Annex D. The following exceptions apply:</p> <p>Additional sub-criterion for Impact:</p> <p>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.</p>
<i>Legal and financial set-up of the Grant Agreements</i>	<p>The rules are described in General Annex G. The following exceptions apply:</p> <p>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.</p> <p>Beneficiaries must deposit the digital research data generated in the action in a trusted repository federated in the EOSC in compliance with EOSC requirements.</p>

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. These tools will have to be built in accordance with standards and guidelines defined or adopted by EOSC, promoting data quality and open access practices.
- 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 for 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.

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, synergies are expected with the ‘EOSC Beyond’ project as well as relevant projects funded by call topic HORIZON-INFRA-2024-EOSC-01-05 - ‘Innovative and customizable services for EOSC Exchange’. In addition, close cooperation is expected with projects funded by call topic HORIZON-INFRA-2025-01-EOSC-02 [*EOSC federation topic*]. 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.

HORIZON-INFRA-2025-01-EOSC-04: Advancing AI-readiness and Machine-Actionability in the EOSC Ecosystem

Call: Research Infrastructures 2025	
Specific conditions	
<i>Expected EU contribution per project</i>	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.
<i>Indicative budget</i>	The total indicative budget for the topic is EUR 15.00 million.
<i>Type of Action</i>	Research and Innovation Actions
<i>Technology Readiness Level</i>	Activities are expected to start at TRL 4 and achieve TRL up to 7 by the end of the project – see General Annex B.
<i>Award criteria</i>	The criteria are described in General Annex D. The following exceptions apply: Additional sub-criterion for Impact: 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.

<p><i>Legal and financial set-up of the Grant Agreements</i></p>	<p>The rules are described in General Annex G. The following exceptions apply:</p> <p>Beneficiaries will be subject to the following additional access rights:</p> <ul style="list-style-type: none"> • 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. <p>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</p>
<p><i>Other conditions</i></p>	<p>Grants awarded under this topic will be linked to the following action: HORIZON-INFRA-2025-01-EOSC-06: Using Generative AI (GenAI4EU) for Scientific Research via EOSC.</p>

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, 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.

The proposals shall 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 protocols and policies to facilitate effortless data access, processing, and provenance updates within EOSC's repository and service network.
- 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;

- o 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.

HORIZON-INFRA-2025-01-EOSC-05: Data stewards, skills and training for Open Science and FAIR practices

Call: Research Infrastructures 2025	
Specific conditions	
<i>Expected EU contribution per project</i>	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.
<i>Indicative budget</i>	The total indicative budget for the topic is EUR 8.00 million.
<i>Type of Action</i>	Coordination and Support Actions
<i>Award criteria</i>	<p>The criteria are described in General Annex D. The following exceptions apply:</p> <p>Additional sub-criterion for Impact:</p> <p>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.</p>
<i>Legal and financial set-up of the Grant Agreements</i>	<p>The rules are described in General Annex G. The following exceptions apply:</p> <p>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.</p> <p>Beneficiaries must deposit the digital research data generated in the action in a trusted repository federated in the EOSC in compliance with EOSC requirements.</p> <p>Beneficiaries may provide financial support to third parties. The support</p>

	<p>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.</p> <p>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).⁴⁷.</p>
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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

⁴⁷ This [decision](https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/horizon/guidance/ls-decision_he_en.pdf) 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

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.
- 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) [footnote] and with the revised Charter for Researchers [footnote], 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. 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.

HORIZON-INFRA-2025-01-EOSC-06: Using Generative AI (GenAI4EU) for Scientific Research via EOSC

Call: Research Infrastructures 2025	
Specific conditions	
<i>Expected EU contribution per project</i>	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.
<i>Indicative budget</i>	The total indicative budget for the topic is EUR 30.00 million.
<i>Type of Action</i>	Research and Innovation Actions
<i>Technology Readiness Level</i>	Activities are expected to start at TRL 4 and achieve TRL up to 7 by the end of the project – see General Annex B.
<i>Award criteria</i>	<p>The criteria are described in General Annex D. The following exceptions apply:</p> <p>Additional sub-criterion for Impact:</p> <p>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.</p>
<i>Legal and financial set-up of the Grant Agreements</i>	<p>The rules are described in General Annex G. The following exceptions apply:</p> <p>Beneficiaries will be subject to the following additional access rights:</p> <ul style="list-style-type: none"> • 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. <p>Beneficiaries must deposit the digital research data generated in the</p>

	action in a trusted repository federated in the European Open Science Cloud (EOSC) in compliance with EOSC requirements.
<i>Other conditions</i>	Grants awarded under this topic will be linked to the following action: HORIZON-INFRA-2025-01-EOSC-04: 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 GenAI4EU⁴⁸ initiative.
- 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.

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, 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 be evolved to offer such capabilities in ways that ensure unbiased and trustworthy responses. AI-trained models represent a form of data that is still in the early stages of adopting FAIR practices, presenting significant challenges ranging from reproducibility to trustworthiness.

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

⁴⁸ 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).

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

- o 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 AI4EOSC⁴⁹, and other developments within the scope of the GenAI4EU initiative.

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.

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.
- Further opening of national research infrastructures and strengthened access programmes of pan-European research infrastructures in the longer term, addressing sustainability challenges for transnational access and further exploration of synergies, so as to ensure continued and seamless access to the best research infrastructure services, avoiding access gaps over time or redundant offers from facilities crossing different domains and challenges.

⁴⁹ <https://ai4eosc.eu/>

- 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.

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	
<i>Expected EU contribution per project</i>	The Commission estimates that an EU contribution of between EUR 5.00 and 12.00 million would allow these outcomes to be addressed appropriately. Nonetheless, this does not preclude submission and selection of a proposal requesting different amounts.
<i>Indicative budget</i>	The total indicative budget for the topic is EUR 37.00 million.
<i>Type of Action</i>	Research and Innovation Actions
<i>Eligibility conditions</i>	<p>The conditions are described in General Annex B. The following exceptions apply:</p> <p>The following additional eligibility criteria apply:</p> <p>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.</p> <p>Consortia must include at least one research infrastructure, being an ESFRI Infrastructure⁵⁰ or a European Research Infrastructure Consortium⁵¹ (ERIC). In case of a distributed Research Infrastructure, a signed declaration from the legal representative confirming which node(s) will represent the research infrastructure is an alternative to the member that holds the statutory seat (e.g. ERIC) being a beneficiary.</p> <p>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</p>

⁵⁰ See lists of ESFRI infrastructures (Landmarks and Projects) in the 2021 ESFRI Roadmap on <https://roadmap2021.esfri.eu/>

⁵¹ [European Research Infrastructure Consortium \(ERIC\) | European Commission \(europa.eu\)](https://eric.europa.eu/)

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	<p>Associated Countries, are exceptionally eligible for funding from the Union under this topic.</p> <p>The Joint Research Centre (JRC) may participate as member of the consortium selected for funding.</p>
<i>Award criteria</i>	<p>The criteria are described in General Annex D. The following exceptions apply:</p> <p>The following additions to the general award criteria apply:</p> <p><i>For the 'Excellence' criterion</i>, in addition to its standard sub-criteria, the following aspects will also be taken into account:</p> <ul style="list-style-type: none"> • 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.
<i>Procedure</i>	<p>The procedure is described in General Annex F. The following exceptions apply:</p> <p>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.</p>
<i>Legal and financial set-up of the Grant Agreements</i>	<p>The rules are described in General Annex G. The following exceptions apply:</p> <p>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 2 of the Horizon Europe Model Grant Agreement).</p>

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.

For 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.
- Development of novel/adapted epidemics intervention tools and measures 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.

For 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.

For 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.

For the area of 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.

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 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](#)⁵².

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 interest⁵³ that provide such services.

Access could also be open, under certain conditions, to third countries' researchers to work on global challenges. Research infrastructures from third countries⁵⁴ may be involved when appropriate, in particular when 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 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/installations⁵⁵ 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.

The topic targets the following scientific challenges and EU priority areas related to the health domain:

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

⁵² https://ec.europa.eu/info/sites/default/files/research_and_innovation/2016_charterforaccessto-ris.pdf

⁵³ 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.

⁵⁴ See the Eligibility conditions for this topic.

⁵⁵ "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 action will 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 action will 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 will 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, WOA, and EU-HERA should be ensured. Global standards, relevant data platforms and registries should be used to make user project results openly available and usable, thus enabling further research on pathogens and disease manifestation.

For this area, an EU contribution of between EUR 10 and 12 million should allow the outcomes to be addressed appropriately. Nonetheless, this does not preclude submission and selection of a proposal requesting a different amount.

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, proposed Horizon Europe partnerships such as the Innovative Health Initiative, the Transforming Health and Care Systems partnership, a Personalised Medicine, an ERA for Health Research, and the planned partnership on Rare Diseases research.

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.

For this area an EU contribution of between EUR 8 and 10 million should allow the outcomes to be addressed appropriately. Nonetheless, this does not preclude submission and selection of a proposal requesting a different amount.

Research infrastructure services to enable research linking environmental factors to human health

Human health is strongly dependant on exposure to environmental factors⁵⁶ with 10% of all premature deaths in EU linked to environmental pollution.⁵⁷.. 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 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.

Actions 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. EIRENE⁵⁸, the European Human Exposome Network (EHEN), the Information

⁵⁶ Physical substance (solids, liquids or gas) or energy (e.g. noise, light, electromagnetic fields, radioactive radiation, etc.) present in the environment.

⁵⁷ EEA: <https://www.eea.europa.eu/en/topics/at-a-glance/health>

⁵⁸ [EIRENE RI](#), Research Infrastructure for EnvIRonmental Exposure assessmeNt in Europe

Platform for Chemical Monitoring (IPCHEM), the EC Knowledge Centre on Cancer⁵⁹, 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.

For this area an EU contribution of between EUR 8 and 10 million should allow the outcomes to be addressed appropriately. Nonetheless, this does not preclude submission and selection of a proposal requesting a different amount.

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.
- The network must 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.
- Development towards the upscaling of the production of these novel radionuclides will be investigated, 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.
- Actions deployed under the proposal should monitor and engage with other initiatives supporting the EU SAMIRA⁶⁰ 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.

For this area an EU contribution of around EUR 5 million should allow the outcomes to be addressed appropriately. Nonetheless, this does not preclude submission and selection of a proposal requesting a different amount.

⁵⁹ 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)

⁶⁰ 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](#)

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	
<i>Expected EU contribution per project</i>	The Commission estimates that an EU contribution of between EUR 5.00 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.
<i>Indicative budget</i>	The total indicative budget for the topic is EUR 18.00 million.
<i>Type of Action</i>	Research and Innovation Actions
<i>Eligibility conditions</i>	<p>The conditions are described in General Annex B. The following exceptions apply:</p> <p>The following additional eligibility criteria apply:</p> <p>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.</p> <p>Consortia must include at least one research infrastructure, being an ESFRI Infrastructure ⁶¹ or a European Research Infrastructure Consortium⁶² (ERIC). In case of a distributed Research Infrastructure, a signed declaration from the legal representative confirming which node(s) will represent the research infrastructure is an alternative to the member that holds the statutory seat (e.g. ERIC) being a beneficiary.</p> <p>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.</p> <p>The Joint Research Centre (JRC) may participate as member of the consortium selected for funding.</p>
<i>Award criteria</i>	The criteria are described in General Annex D. The following

⁶¹ See lists of ESFRI infrastructures (Landmarks and Projects) in the 2021 ESFRI Roadmap on <https://roadmap2021.esfri.eu/>

⁶² [European Research Infrastructure Consortium \(ERIC\) | European Commission \(europa.eu\)](https://eric.europa.eu/)

	<p>exceptions apply:</p> <p>The following additions to the general award criteria apply:</p> <p><i>For the 'Excellence' criterion</i>, in addition to its standard sub-criteria, the following aspects will also be taken into account:</p> <ul style="list-style-type: none"> • 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.
<i>Procedure</i>	<p>The procedure is described in General Annex F. The following exceptions apply:</p> <p>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.</p>
<i>Legal and financial set-up of the Grant Agreements</i>	<p>The rules are described in General Annex G. The following exceptions apply:</p> <p>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 2 of the Horizon Europe Model Grant Agreement).</p>

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.

For 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".

For 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.

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](#)⁶³.

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 interest⁶⁴ that provide such services.

Access could also be open, under certain conditions, to third countries' researchers to work on global challenges. Research infrastructures from third countries⁶⁵ may be involved when appropriate, in particular when 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 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.

⁶³ https://ec.europa.eu/info/sites/default/files/research_and_innovation/2016_charterforaccessto-ris.pdf

⁶⁴ 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.

⁶⁵ See the Eligibility conditions for this topic.

Proposals should include the list of services/installations⁶⁶ 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 scientific challenges and EU priority areas:

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”.

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.

For this area an EU contribution of between EUR 5 and 8 million should allow the outcomes to be addressed appropriately. Nonetheless, this does not preclude submission and selection of a proposal requesting a different amount.

⁶⁶ “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.

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.

For this area an EU contribution of between EUR 8 and 10 million should allow the outcomes to be addressed appropriately. Nonetheless, this does not preclude submission and selection of a proposal requesting a different amount.

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

Call: Research Infrastructures 2025	
Specific conditions	
<i>Expected EU contribution per project</i>	The Commission estimates that an EU contribution of between EUR 5.00 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.
<i>Indicative budget</i>	The total indicative budget for the topic is EUR 40.00 million.
<i>Type of Action</i>	Research and Innovation Actions
<i>Admissibility conditions</i>	The conditions are described in General Annex A. The following exceptions apply: As proposals need to give information on the research infrastructures

	<p>providing access, the page limit of the application is 100 pages.</p>
<p><i>Eligibility conditions</i></p>	<p>The conditions are described in General Annex B. The following exceptions apply:</p> <p>The following additional eligibility criteria apply:</p> <p>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.</p> <p>Consortia must include at least one research infrastructure, being an ESFRI Infrastructure ⁶⁷ or a European Research Infrastructure Consortium⁶⁸ (ERIC). In case of a distributed Research Infrastructure, a signed declaration from the legal representative confirming which node(s) will represent the research infrastructure is an alternative to the member that holds the statutory seat (e.g. ERIC) being a beneficiary.</p> <p>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.</p>
<p><i>Award criteria</i></p>	<p>The criteria are described in General Annex D. The following exceptions apply:</p> <p>The following additions to the general award criteria apply:</p> <p><i>For the 'Excellence' criterion</i>, in addition to its standard sub-criteria, the following aspects will also be taken into account:</p> <ul style="list-style-type: none"> • 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.

⁶⁷ See lists of ESFRI infrastructures (Landmarks and Projects) in the 2021 ESFRI Roadmap on <https://roadmap2021.esfri.eu/>

⁶⁸ [European Research Infrastructure Consortium \(ERIC\) | European Commission \(europa.eu\)](https://eric.europa.eu/)

<i>Documents</i>	<p>The documents are described in General Annex E. The following exceptions apply:</p> <p>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.</p>
<i>Procedure</i>	<p>The procedure is described in General Annex F. The following exceptions apply:</p> <p>To ensure a balanced portfolio covering as many scientific domains 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 domain⁶⁹ or sub-domain not covered by a higher-ranked proposal, provided that the proposals attain all thresholds.</p>
<i>Legal and financial set-up of the Grant Agreements</i>	<p>The rules are described in General Annex G. The following exceptions apply:</p> <p>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 2 of the Horizon Europe Model Grant Agreement).</p> <p>The funding rate is 80% of the eligible costs to foster the sustainability of the access scheme after the end of the actions.</p>

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;

⁶⁹ As defined in [2021 ESFRI Roadmap](#) .

- 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.

The scientific domains covered under this topic are:

- Environment: atmospheric chemistry and dynamics.
- Physical sciences and engineering: nanoscience.
- Physical sciences and engineering: particle and nuclear physics. While further federation inside communities, such as the hadron physics community, are within the scope of this topic, the neighbouring fields of particle and nuclear physics can further benefit from collaboration and identification of common developments. Transversal links across the particle and nuclear physics communities that were also created within the project funded under the Horizon Europe topic HORIZON-INFRA-2021-SERV-01-07 are expected to be further reinforced.
- Scientific domains not covered by Horizon Europe Research Infrastructures part of Work Programme 2023 to 2025, both challenge- and curiosity- driven.

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](#)⁷⁰.

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 interest⁷¹ that provide such services, including, if applicable, from emerging facilities.

Access could also be open, under certain conditions, to third countries' researchers to work on global scientific challenges. Research infrastructures from third countries⁷² may be involved when appropriate, in particular when 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 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/installations⁷³ 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.

⁷⁰ https://ec.europa.eu/info/sites/default/files/research_and_innovation/2016_charterforaccessto-ris.pdf

⁷¹ 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.

⁷² See the Eligibility conditions for this topic.

⁷³ "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	
<i>Expected EU contribution per project</i>	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.
<i>Indicative budget</i>	The total indicative budget for the topic is EUR 25.00 million.
<i>Type of Action</i>	Research and Innovation Actions
<i>Eligibility conditions</i>	<p>The conditions are described in General Annex B. The following exceptions apply:</p> <p>The following additional eligibility criteria apply: due to the specific nature of this topic, consortia must include at least two different research infrastructures, each of them being an ESFRI infrastructure⁷⁴, a European Research Infrastructure Consortium⁷⁵ (ERIC) or another research infrastructure that is an international European research organisation⁷⁶. Such research infrastructures, and the beneficiaries that own/operate them, must be explicitly identified in the proposals. In case of a distributed research infrastructure, a signed declaration from the legal representative confirming which node(s) will represent the research infrastructure is an alternative to the member that holds the statutory seat (e.g. ERIC) being a beneficiary⁷⁷.</p>
<i>Legal and</i>	The rules are described in General Annex G. The following exceptions

⁷⁴ See lists of ESFRI infrastructures (Landmarks and Projects) in the 2021 ESFRI Roadmap on <https://roadmap2021.esfri.eu/>

⁷⁵ [European Research Infrastructure Consortium \(ERIC\) | European Commission \(europa.eu\)](https://ec.europa.eu/europea/eu/eu-research-infrastructure-consortium-eric)

⁷⁶ 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. The criterion is also fulfilled if the research infrastructure is already validated under Horizon 2020 as ‘international organisation of European interest’

⁷⁷ The participation of two nodes of the same ESFRI infrastructure or ERIC does not count as two different research infrastructures.

<i>financial set-up of the Grant Agreements</i>	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). ⁷⁸ .
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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 European research infrastructures.

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 foster acceptance of the solutions in the local and regional communities.

⁷⁸ This [decision](https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/horizon/guidance/ls-decision_he_en.pdf) 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

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

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

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

Call: Research Infrastructures 2025	
Specific conditions	
<i>Expected EU contribution per project</i>	The Commission estimates that an EU contribution of between EUR 10.00 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.
<i>Indicative budget</i>	The total indicative budget for the topic is EUR 45.00 million.
<i>Type of Action</i>	Research and Innovation Actions
<i>Eligibility conditions</i>	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, consortia must include at least two different research infrastructures, each of them being an ESFRI infrastructure ⁷⁹ , a European Research Infrastructure Consortium ⁸⁰ (ERIC) or another research infrastructure that is an international European research organisation ⁸¹ . Such research infrastructures, and the beneficiaries that own/operate them, must be explicitly identified in the proposals. In case of a distributed research infrastructure, a signed declaration from the legal representative confirming which node(s) will represent the

⁷⁹ See lists of ESFRI infrastructures (Landmarks and Projects) in the 2021 ESFRI Roadmap on <https://roadmap2021.esfri.eu/>

⁸⁰ [European Research Infrastructure Consortium \(ERIC\) | European Commission \(europa.eu\)](https://european-research-infrastructure-consortium.eu/)

⁸¹ 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. The criterion is also fulfilled if the research infrastructure is already validated under Horizon 2020 as 'international organisation of European interest'

	<p>research infrastructure is an alternative to the member that holds the statutory seat (e.g. ERIC) being a beneficiary⁸².</p> <p>The specific conditions for actions with PCP/PPI procurements in section H of the General Annexes apply to grants funded under this topic.</p>
<p><i>Legal and financial set-up of the Grant Agreements</i></p>	<p>The rules are described in General Annex G. The following exceptions apply:</p> <p>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.</p>

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. 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.

Several research infrastructure and technology communities, such as the accelerator, light source, or astronomy communities, have already developed research infrastructure technology

⁸² The participation of two nodes of the same ESFRI infrastructure or ERIC does not count as two different research infrastructures.

roadmaps that identify key components necessary to maintain Europe's leading position in research infrastructure technologies.

Projects should implement significant parts of, or entire 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, 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	
<i>Expected EU contribution per project</i>	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.
<i>Indicative budget</i>	The total indicative budget for the topic is EUR 30.00 million.
<i>Type of Action</i>	Research and Innovation Actions
<i>Eligibility conditions</i>	<p>The conditions are described in General Annex B. The following exceptions apply:</p> <p>The following additional eligibility criteria apply:</p> <p>If projects make use of weather and/or climate predictions or related data and services, beneficiaries must make use of the European Commission's Destination Earth initiative and engage with the relevant community.</p> <p>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).</p>
<i>Technology Readiness Level</i>	Activities are expected to achieve TRL 7 or higher by the end of the project – see General Annex B.
<i>Legal and financial set-up of the Grant Agreements</i>	<p>The rules are described in General Annex G. The following exceptions apply:</p> <p>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</p>

	Research and Innovation (2021-2027) – and in actions under the Research and Training Programme of the European Atomic Energy Community (2021-2025). ⁸³ .
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Expected Outcome: Project results are expected to contribute to all of the following expected outcomes:

- Innovative use of AI, in line with the GenAI4Eu initiative⁸⁴, to build powerful local impact assessments on top of large-scale scenarios provided by digital twins is 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 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 to manage 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, to setup and manage impact assessments 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;

⁸³ This [decision](https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/horizon/guidance/ls-decision_he_en.pdf) 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

⁸⁴ 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).

- 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) developing new simulation and observation capabilities, new and emerging ICT infrastructures (e.g. EuroHPC), 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	
<i>Expected EU contribution per project</i>	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.
<i>Indicative budget</i>	The total indicative budget for the topic is EUR 40.00 million.
<i>Type of Action</i>	Research and Innovation Actions
<i>Technology Readiness Level</i>	Activities are expected to achieve TRL 6 or higher by the end of the project – see General Annex B.
<i>Legal and financial set-up of the Grant Agreements</i>	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). ⁸⁵

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

- Innovative use of artificial intelligence (AI), in line with the GenAI4EU initiative⁸⁶, 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

Scope: The aim is to use generative artificial intelligence⁸⁷ (AI), in line with the GenAI4EU initiative, to deliver digital twins of complex real-world systems that advance the state-of-art

⁸⁵ This [decision](https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/horizon/guidance/ls-decision_he_en.pdf) 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

⁸⁶ 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).

of European research infrastructures (RIs) 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 the creation of twins, the required data fusions, visualisations and enable execution of the workflows. The focus is on key impact sectors, such as healthcare, transportation, agriculture or manufacturing, in line with the European objectives seeking to leverage AI to address societal challenges, improve public services and drive 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 parts, be demonstrated in an operational environment that can lead to sustainable production and include a cost estimate for the operations.

The proposed work is expected to link with recent advances in various generative AI areas, like Large Language Models (LLM), Federated Learning and the European AI factories⁸⁸, 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 the Destination Earth⁸⁹ 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.
- 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.

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⁸⁸ <https://digital-strategy.ec.europa.eu/en/policies/ai-factories>

⁸⁹ <https://digital-strategy.ec.europa.eu/en/policies/destination-earth>

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

DRAFT

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 XX (country TBD).

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 195(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.

Legal entities:

TBD

Indicative timetable: Fourth quarter of 2025

Form of Funding: Grants not subject to calls for proposals

Type of Action: Grant to identified beneficiary according to Financial Regulation Article 195(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 budget⁹⁰

2. Polish and/or Danish Presidency conference on research infrastructures (tbc)

Expected outcomes:

The conference will contribute to the following outcomes:

- Strengthened research infrastructure ecosystem in Europe, as a strategic asset of the European Research Area.
- Streamlined priorities supported by the renewed EU strategy on research infrastructures and the ESFRI Landscape analysis;
- Broader impacts of research infrastructures on society and economy.

Scope:

Taking stock of developments notably as regards a more sustainable funding landscape as well as identifying and increasing the broader impacts of research infrastructure investments, the event would explore their value for the achievement of key political objectives.

The event would also provide an opportunity to take stock of the implementation of the ERA Policy Agenda and discuss upcoming priorities and activities on research infrastructures. It would also look into major investment needs of research infrastructures in Europe with a view to the next cycle of the ESFRI Roadmap and to securing the necessary funding.

⁹⁰ Of which EUR 0.30 million from the 'na' budget.

This grant will be awarded without a call for proposals, according to Article 195(e) of the Financial Regulation and Article 24(3)(b) of the Horizon Europe Regulation, to the legal entity identified below.

Specific conditions

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

Legal entities:

Responsible ministry or agency of the EU Member State holding the Presidency, or a legal entity designated by it.

Indicative timetable: Q2 2025 tbc

Form of Funding: Grants not subject to calls for proposals

Type of Action: Grant to identified beneficiary according to Financial Regulation Article 195(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 0.20 million from the 2025 budget⁹¹

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

⁹¹ Of which EUR 0.20 million from the 'na' budget.

(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:
 - o monitor capacity and performance data;
 - o 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:
 - o analyse availability data;
 - o 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 budget⁹²

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.

⁹² Of which EUR 1.00 million from the 'na' budget.

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 Regulation⁹³. 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 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 0.80 million from the 2025 budget⁹⁴

⁹³ Council Regulation (EC) No 723/2009 of 25 June 2009 on the Community Legal Framework for a European Research Infrastructure Consortium.

⁹⁴ Of which EUR 0.80 million from the 'na' budget.

Budget⁹⁵

	Budget line(s)	2025 Budget (EUR million)
Calls		
HORIZON-INFRA-2025-01		See footnote ⁹⁶
Other actions		
Grant to identified beneficiary according to Financial Regulation Article 195(e)		See footnote ⁹⁷
Public procurement		See footnote ⁹⁸
Expert contract action		See footnote ⁹⁹
Estimated total budget		

⁹⁵ 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.

⁹⁶ To which EUR 399.50 million from the 'na' budget will be added making a total of EUR 399.50 million for this call.

⁹⁷ To which EUR 0.50 million from the 'na' budget will be added making a total of EUR 0.50 million for these actions.

⁹⁸ To which EUR 1.00 million from the 'na' budget will be added making a total of EUR 1.00 million for these actions.

⁹⁹ To which EUR 0.80 million from the 'na' budget will be added making a total of EUR 0.80 million for these actions.