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European Commission

CALL FOR EVIDENCE
FOR AN INITIATIVE (without an impact assessment)

This document aims to inform the public and stakeholders about the Commission's work, so they can provide feedback and participate effectively in consultation activities.

We ask these groups to provide views on the Commission's understanding of the problem and possible solutions, and to give us any relevant information they may have.

⚠ You should **finalise this document at the earliest stages of the preparatory process**, so that best use can be made of feedback from stakeholders.

TITLE OF THE INITIATIVE	European Strategy on Research and Technology Infrastructures
LEAD DG – RESPONSIBLE UNIT	RTD.A.4, RTD.E.1
LIKELY TYPE OF INITIATIVE	Communication from the Commission
INDICATIVE TIMING	Q2/Q3 2025
ADDITIONAL INFORMATION	Research Infrastructures, Technology Infrastructures

This document is for information purposes only. It does not prejudge the final decision of the Commission on whether this initiative will be pursued or on its final content. All elements of the initiative described by this document, including its timing, are subject to change.

A. Political context, problem definition and subsidiarity check

Political context

Research infrastructures provide facilities, services and resources for researchers and innovators to conduct cutting-edge research, develop innovative technology and foster innovation. Technology infrastructures provide the facilities, capabilities and resources required to develop, test, upscale and validate technology, accelerating innovations towards societal/market adoption. Europe's world-class ecosystem of research and technology infrastructures is a major strategic asset underpinning scientific and technological excellence and industrial competitiveness.

The significance of these infrastructures has been repeatedly underscored in strategic documents such as the Draghi report ('increased funding and stronger coordination is required to develop world-leading research and technological infrastructures'), the Letta report ('a key pillar of the fifth freedom is the empowerment of our research infrastructures') and the Heitor report ('Research and Technology infrastructures should be prioritised throughout Europe in order to foster the European RD&I ecosystem, attract and retain researchers').

However, to maintain this strong position, Europe needs to tackle the challenges brought by an increasingly competitive international environment and move quickly to capture the opportunities offered by technological advancements. At a time when Europe must effectively deploy all its R&I assets in service of its autonomy and competitiveness, the research and technology infrastructures ecosystem must meet the moment.

President von der Leyen's Political Guidelines emphasise that to lead on innovation we need to provide the infrastructures and innovative laboratories that researchers need to test and develop ideas. As part of her mission, Commissioner Zaharieva has been asked to prioritise the foundations that foster knowledge and innovation, through a long-term strategy with the aim of creating a pan-European ecosystem of infrastructures.

Problem the initiative aims to tackle

The European Research Area (ERA) benefits from a rich landscape of pan-European research infrastructures as prioritised by the European Strategy Forum on Research Infrastructures (ESFRI). However, despite these prioritisation and coordination efforts since the early 2000s, the sustainability of these infrastructures remains a challenge, as does keeping the EU's leading position vis-à-vis our competitors.

The attention to technology infrastructures at EU level is more recent. This has taken the form of a Commission paper in 2019, a 2024-2025 expert group report and a study mapping the policy landscape at EU and national

levels. These reports show a need for a governance mechanism to prioritise and coordinate investments in srategic focus areas at EU level, and to provide support and guidance for access.

Budget limitations are increasingly hindering the creation, operation and upgrades of infrastructures for research and innovation and are limiting access to those infrastructures' facilities and services. The operation of the current landscape is financed by a patchwork of mainly national and regional funding instruments that do not fully align with each other or with broader EU objectives, resulting in missed synergy opportunities.

Collaboration between infrastructures remains limited both within and between Member States, leading to inefficiencies and restricting their accessibility. In particular, there are significant disparities in the availability and quality of technology infrastructures across different regions. This impedes the EU's ability to harness its full R&I potential and diminishes its competitive edge as well as its economic security. Collaboration is also limited across areas and sectors,

Digitalisation and advanced technologies such as AI are driving the evolution of the research and technology infrastructures landscape by unlocking breakthrough scientific discoveries and boosting innovation. Maximising AI's potential for the infrastructure ecosystem requires a strategic approach. Moreover, there is a need for more integrated and longer-term planning and implementation of joint infrastructure technology developments which takes into account their resilience in response to crises.

Precipitated by the geopolitical situation, the ecosystem faces major challenges over energy sustainability, research security and autonomy in the supply chain of critical materials. These challenges require strategic direction at European level if they are to be effectively addressed. At the same time, it is necessary to continue promoting research infrastructures as hubs for international collaboration to effectively address global challenges.

Finally, in coordination with the upcoming startup and scaleup strategy, it is critical that a European approach should strengthen the links between research and technology infrastructures and industry, both civil and defence, to strengthen the backbone of Europe's innovation-driven competitiveness and its economic security.

Basis for EU action (legal basis and subsidiarity check)

Legal basis

The initiative falls under a policy area – research and technological development – where the EU and its Member States share powers (i.e. they have 'shared competence'). In particular, the initiative will contribute to strengthening Europe's scientific and technological base fully realising a European Research Area in which researchers, scientific knowledge and technology circulate freely. The initiative also aims to strengthen EU competitiveness, including in industry, while promoting all research activities deemed necessary by virtue of other chapters of the Treaties, in line with Article 179 of the Treaty on the Functioning of the European Union.

Practical need for EU action

The practical need for EU-level action is driven by the transnational nature of the challenges facing research and technology infrastructures. These infrastructures are increasingly difficult to establish and operate, and the challenges cannot be adequately addressed by individual countries acting in isolation.

Instead, a coordinated approach is essential to pool resources and prioritise investments, reduce redundancies, and put in place common standards and guidelines that facilitate cross-border collaboration and integration.

EU action is vital in creating a supportive environment for research and innovation, where the best of Europe's researchers, innovators and industry, particularly innovative startups and scaleups, have access to the cutting-edge facilities and services that support scientific and technological excellence, industrial competitiveness and economic security.

By facilitating access and fostering collaboration, the EU can accelerate scientific discoveries and the development of new technologies, thereby enhancing its global position.

B. What does the initiative aim to achieve and how

The objective of the strategy is to ensure that researchers, innovators and industry in Europe have access to a comprehensive range of world-class facilities and tailor-made services in support of scientific and technological excellence and industrial competitiveness. This requires strengthening the European ecosystem of research infrastructures and technology infrastructures.

The approach being considered will rely on two pillars, tackling issues specific to research infrastructures and technology infrastructures respectively. At the same time, it will ensure a coherent approach in developing an

effective European ecosystem of research and technology infrastructures by pursuing actions cutting across both infrastructure types.

The proposed actions would address issues such as:
- identifying needs and gaps, matching of user needs, and the availability of facilities and services;
- integrated and sustainable research and technology infrastructure access schemes, which increases the visibility of available services;
- digitalisation of infrastructures that will be enabled d by AI, as well as frameworks for joint infrastructure technology developments between different types of infrastructures.
- mobilisation, pooling and prioritisation of investments, and exploiting synergies and joint investments between institutional, regional, national, European and global funding streams;
- exploring new financing models, promoting cooperation and reducing costs and investment risks;
- promoting infrastructures as vehicles for attracting and growing talent, within the infrastructures and beyond, and as hubs for international collaboration and deep-tech innovation.

Likely impacts

The strategy is expected to lead to enhanced capacity in Europe for scientific discovery and technological development, innovation and market creation.

More specifically, it should lead to:

- improved research and technology infrastructure capacities in Europe;
- better matching of user needs with the availability of, and access to, facilities and services;
- improved mobilisation, pooling and prioritisation of investments at all levels; and
- increased cooperation, continuity and complementarity among infrastructures supporting research and innovation.

By prioritising investments and fostering synergies among funding sources, the strategy should bolster the sustainability of the research infrastructure and technology infrastructure ecosystem. In turn, a vibrant ecosystem strengthens Europe's competitiveness.

Supporting the digitalisation of infrastructures and putting in place more integrated and long-term planning and implementation of joint research infrastructure technology developments should help ensure the infrastructures' functional capacity and their resilience against critical supply chain disruptions.

Promoting research infrastructures as hubs for international collaboration should enhance Europe's role in global scientific networks and the ability to effectively address global challenges and coordinate the necessary measures to ensure research security and crisis resilience.

An improved governance framework will facilitate the pooling of funding and expertise for jointly agreed priorities. It will also strengthen cooperation between the EU, Member States and stakeholders towards common objectives and increase the effectiveness and impact of public funding, and attract and retain highly skilled R&I human capacities.

Future monitoring

The Commission will update European Parliament and the Council regularly on the state of play of the strategy's implementation. Actions in the strategy related to implementing the European Research Area Policy Agenda will be followed up on as part of the ERA monitoring framework (as laid down in the Pact for Research and Innovation in Europe) and as part of the implementation of the ERA Policy Agenda itself. The monitoring of progress in implementing the strategy will also draw on the regular monitoring by the European Strategy Forum on Research Infrastructures and on the governance framework put in place for technology infrastructures.

C. Better regulation

Impact assessment

The Communication will set out a general policy framework and strategic lines of action. As such, it does not require an impact assessment. Some of the policy options for action announced in the Communication will be accompanied by impact assessments where appropriate.

Consultation strategy

The aim of the consultation is to gather more information about the functioning and sustainability of the European research and technology infrastructure landscape. This includes the issues and challenges involved in strengthening the ecosystem of these infrastructures, as well as possible solutions.

The consultations will complement extensive information and evidence already collected in the context of the European Strategy Forum on Research Infrastructures (ESFRI), the European Research Infrastructure Consortia (ERICs), the expert group on technology infrastructures, and in the context of ERA Policy Agenda activities, whether with Member States and associated countries, with the infrastructures themselves, or with other stakeholders.

More specifically, stakeholders are invited to address the following questions.

1. Do you agree with the identified main problems and needs?
2. Are there any additional challenges faced by research infrastructures and technology infrastructures that a European strategy should address, especially in relation to Europe's main competitors?
3. Does the proposed set of actions adequately address these issues? Would other actions be needed at EU level?