Draft orientations towards the 'main' work programme 2026-2027

Research Infrastructures

1. INFRADEV: *Consolidation and evolution of the European Research Infrastructure landscape (2026-2027)*

Draft expected impacts:

- Awareness, findability, and accessibility of research infrastructures: from a European portfolio of individual research infrastructures to a European portfolio of **user- and challenge-driven complementary R&I services of European interest**.

- A more capable, sustainable and consolidated **European research infrastructures landscape**, supporting the continuum of research needs, from fundamental and applied research to innovation, and with specific attention to:
  - improved **sustainability** of the research infrastructures ecosystem;
  - **key phases** of the research infrastructures **life cycle** (concept/design, preparation, early implementation, further development);
  - **synergies** across research infrastructures, within and across large scientific and technological fields, and with complementary infrastructures, notably technology infrastructures;
  - closing the innovation gap by increased participation of organisations from **widening countries**;
  - **effective management** of research infrastructures, including in an international context.

- Reinforced **international dimension of** research infrastructures, considering EU priorities and targeted objectives, notably for:
  - addressing **global challenges**, taking account of global initiatives and relevant lead ESFRI/ERICs involvement;
  - **pooling** facilities, data, expertise and other resources;
  - **cooperation** with world regions of specific interest;
  - **research security**.

- Strengthened **Ukrainian** research infrastructure community of users and staff, including individual scientists displaced from Ukraine.

Main expected outcomes:

- Pilots by large ESFRI domains for **AI assisted research infrastructures service navigation** and simplified access pathways, while further developing catalogues of services initiated under Horizon 2020 ESFRI clusters[1] and Horizon Europe INFRASERV projects.

[1] https://cordis.europa.eu/programme/id/H2020_INFRADEV-4-2014-2015/en, https://cordis.europa.eu/programme/id/H2020_INFRAEOSC-04-2018/en

- Consolidated, evolved and optimized **European landscape of research infrastructures**, encompassing:
    - the **design** of new research infrastructures addressing clear gaps in the landscape;
    - the **preparation** phase of ESFRI projects towards their implementation;
    - the **early implementation** of ESFRI landmarks;
    - the strengthening of individual or clustered pan-European research infrastructures and other world-class research infrastructures so that they remain at the **state-of-the-art** for addressing scientific, societal, and technological challenges.

- Reinforced **international dimension**, including through:
    - enlarging the geographical **coverage of scientific fields**;
    - promoting European standards and approaches to **access, data management and open science** globally;
    - facilitating the development of research infrastructure capacities in **less research-intensive world regions** through collaboration with European research infrastructures;
    - contributing to **aligning different funding sources** for international collaboration, in order to reach critical mass for global scientific goals;
    - supporting international **talent mobility**, by building on ongoing international collaboration activities.

- Improved integration of **Ukraine** into the European Research Area to the mutual benefit of the EU and Ukraine, both by supporting cooperation with Ukrainian research infrastructures and institutes and by facilitating remote access to European research infrastructures.

Addressing main policy priorities:

This destination contributes to the Commission's Political Guidelines which state that "to lead on innovation, we need to create the conditions for researchers to thrive. This means providing the infrastructure and innovative laboratories they need to test and develop ideas […]". Notably, it supports the upcoming long-term strategy for European research and technology infrastructures. The strategy aims to create a pan-European ecosystem of research and technology infrastructures and services, increase the complementarity of these infrastructures and their service offer, and promote pooling and prioritisation of investments, leading to improved capacity and reduced investment risks and costs.

It also contributes to the delivery of the ERA Policy Agenda 2025-2027, in particular the ERA Action on strengthening the sustainability, accessibility and resilience of research infrastructures in the ERA and its expected outcomes, including: Long-term EU strategy for research infrastructures; ESFRI Roadmap and key elements for Landscape Analysis; and Monitoring of ESFRI Landmarks.

2. INFRAEOSC*: Enabling an operational, open and FAIR EOSC ecosystem (2026-2027)*

Draft expected impacts:

- Sustaining and enhancing the **EOSC Federation** as a trusted, sustainable and federated infrastructure enabling open sharing of scientific results.
- Contributing to the development of a **web of FAIR research data** and enabling the **uptake of AI** in research.

- Ensure that Open Science **practices and skills are rewarded and taught**, becoming the norm across the European Research Area.

Main expected outcomes:

- Further develop the Federation of a diverse set of EOSC Nodes integrating and sharing resources.
- Improve and upgrade service provision based on users' needs and preferences to ensure a strong uptake by researchers.
- Stimulate the development and maintenance of open interfaces, alignments, guidelines, crosswalks and APIs that enable interoperability.
- Develop and pilot funding and governance models that will ensure sustainable long-term co-investment at European and national levels.
- Support synergies and interconnection with other European Data Spaces, including standardising technical specifications and developing interoperable services.
- Support concertation actions directed towards greater and more in-depth stakeholder engagement, coordination, governance and monitoring.
- Accelerate the adoption of interoperability and semantic artefact catalogues of FAIR research data. Support AI enabled services, engaging discipline-specific groups, that facilitate interoperability and reuse in a more automated way by automatic annotation, data linkage, data homogenisation, and data transformation, or other similar approaches.
- Support global coordination and alignment of standards and specifications for increased interoperability and reuse of FAIR research data, enabling the EOSC Federation to contribute to the establishment of a global data commons.
- Support the development of AI-ready FAIR research data as well as tools and services that enable the development of scientific AI models, accelerating the uptake of AI in science.
- Support the uptake of European and domain-specific semantic artefact catalogues in national infrastructures and guidelines.
- Support adoption of both general and domain-specific standards to increase adoption of FAIR practices and develop plans to facilitate reuse.
- Establish protocols for dealing with the cost of data management, data stewardship, maintenance and preservation of research outputs (including software and semantic artefacts) and making them eligible within national funding schemes.
- Promote collaborations between national infrastructures and cross-border initiatives to promote consistent FAIR data standards and enhanced international interoperability.
- Further co-develop and evaluate research review mechanisms to ensure FAIR research outputs, use of PIDs and other Open Science practices are appropriately recognised and rewarded.
- Develop machine-actionable means to monitor and assess compliance with the rules for participation, access policies and other policies applying across the EOSC Federation.
- Define a harmonised operational and legal framework to facilitate the secure sharing, accessing and governance of research data (including sensitive data) and services.
- Encourage the development and coordination of national data sovereignty frameworks that align with European and international research initiatives.
- Support and incentivize the use, maintenance and adoption of open standards and APIs to enable resource composability and to increase the interoperability between the research and other communities, including in the public administration and the private sector.

Addressing main policy priorities:

This destination contributes to the Commission's Political Guidelines (see above). Notably, it addresses key recommendations of the Letta report for the creation of a 'fifth freedom' for R&I, which highlights that "a central pillar of this strategy is the creation of a European Knowledge Commons – a centralised, digital platform providing access to publicly funded research, data sets, and educational resources". Also, the Draghi report states that "an important factor that would enhance R&I capacity is the availability of world-leading research and technological infrastructure, capable of serving the whole European ecosystem", while the Heitor report more explicitly claims that "EOSC [...] has potential to become the most generally used infrastructure in Europe".

It also contributes to the delivery of the ERA Policy Agenda 2025-2027, in particular the ERA Action on open science and the development of EOSC and its expected outcomes: Develop a high-value EOSC federation and increase its uptake by research communities; Increase the amount and productivity of FAIR research data in Europe; Propose legislative and non-legislative measures to improve access to and re-use of scientific publications and data; and Assess the impact of open science policies and practices based on an open science policy intelligence platform.

3. INFRASERV*: Research infrastructures services to support a healthier future, a circular and resilient EU economy, an EU global climate and energy vision, accelerate the green and the digital transition, and advance frontier knowledge (2026-2027)*

Draft expected impacts:

- **Large scale test for a step change in EU transnational access policy in the next FP**, from a short-term project-based approach towards a more integrated, longer-term and cross-domain EU access scheme, promoting the vision of a 'one-stop-shop' for access to research infrastructures, their services and resources.

- **Effective access** of European researchers to the best research infrastructure services from national and pan-European research infrastructures, such as ESFRIs/ERICs, while ensuring a proper balance between **curiosity-driven** access and **challenge-driven** access, considering that challenge-driven access must foster the role of research infrastructures in greening society and strengthening its resilience.

- **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 through interdisciplinarity and cross-domain collaboration.

- **Providing Europe with a world class EBRAINS AI empowered brain research infrastructure** that facilitates collaborations in brain research, medicine and brain inspired technology in Europe, as well on a global scale.

Main expected outcomes:

- At least two **large pilots** for **more integrated access schemes** across several domains building, as appropriate, on progress and outcomes of the preparatory action on access from the 2025 Work Programme, acting as '**one-stop-shop**' covering several ESFRI scientific domains and testing a more integrated catalogue of services, that converges access conditions and selection procedures, based

on experience from Horizon 2020 INFRAIA and Horizon Europe INFRASERV. Implementation of preliminary components of AI-assisted research infrastructures service navigation.

- **Targeted access** in **priority areas** or in response to **emerging needs**, including opportunities from new and customised RI services.

- **Trained and up-skilled** researchers through transnational access, with due attention to **early-stage career** researchers and researchers from **Widening** countries.

- World-class **EBRAINS** RI that facilitates collaborations in brain research, medicine and brain inspired technology in Europe, as well as on a global scale.

- AI empowered EBRAINS RI embedding new developments and tools that exploit the potential of AI in brain science and medicine, with new target areas and use cases.

- Accelerated progress in AI by learning from the brain.

Addressing main policy priorities:

This destination contributes to the Commission's Political Guidelines (see above). Notably, it addresses key recommendations of the Letta report which highlights that by "facilitating access to laboratories, digital platforms, and cutting-edge equipment across Europe, we equip our research community to take on complex, multidisciplinary challenges vital to our collective future".

Moreover, it addresses major priorities of the digital agenda and of sectoral EU policies that creates a strong legal framework for the re-use of health data for research, innovation, and public health purposes, such as the European Strategy for Data, and the European Health Data Space.

4. INFRATECH*: Next generation of scientific instrumentation, tools, methods, and advanced digital solutions of research infrastructures and foster innovation and co-creation with industry (2026-2027)*

Draft expected impacts:

- Reinforced EU **resilience** with respect to the availability of critical technical RI components and materials, for which Europe is strongly dependent on third countries.

- More robust research infrastructures **innovation ecosystems**, building on past activities on the development of research infrastructure technology roadmaps.

- Reinforced **scientific and industrial competitiveness** through piloting of new modes of co-creation and co-innovation between research infrastructures and industry/SMEs.

- Creation of a fertile ground for **competitive deep-tech, start-ups, and scale-ups** in advanced technologies.

- Accelerated **digitalisation** of research infrastructures throughout their entire life cycle, with due attention to **research security.**

- **Greening of research infrastructures**, by advancing and accelerating the reduction of their environmental footprint including their operation, while contributing to increasing their resilience against energy crises or other resource restrictions such as water.

- **Further evolution of DestinE** as a digital model of the Earth on a global scale, with support provided to core system components; new advancements in AI for the Earth System; future target areas and use cases; and digital twins for DestinE in new thematic areas.

Main expected outcomes:

- **New instrumentation, tools, methods and solutions** for research infrastructure upgrades, strengthening the **resilience** of the research infrastructure landscape and the strategic autonomy of the EU.

- **Digitalisation** of research infrastructure instruments, fostering high FAIR data productivity by research infrastructures, promoting FAIR data literacy and sovereignty of FAIR research data, and harnessing the potential of AI, in synergy with the EOSC objectives and actions.

- **Greening of research infrastructures**, targeting both specific domains or technologies and bottom-up actions. Such actions can include sharing of best practices, implementation of technological solutions, adapting internal processes, evolution of access modes, and supporting advanced communities to incorporate greening challenges and explore synergies with other communities notably for transversal technologies like ICT, robotics or AI.

- Identification of **commonalities in technology** needs across different types of infrastructures and domains, laying the ground for common technology development.

- Testing and optimising modes of **co-creation of advanced technologies** for research infrastructures.

- Exploitation of the rapid advances in **modelling, observations, digital technologies and machine learning/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 Union priorities and evolving end-user needs; multi-disciplinary, horizontal, transversal infrastructure solutions to handle diverse end-to-end workflows spanning various areas.

Addressing main policy priorities:

This destination contributes to the Commission's Political Guidelines (see above). It contributes to *focus more on strategic priorities, on groundbreaking fundamental research and disruptive innovation, and on scientific excellence*. It addresses the resilience of research infrastructures, and research security; competitiveness and leadership in research infrastructures technology areas; and synergies with technology infrastructures where appropriate. It contributes to preparing the grounds for a more stable environment for research infrastructures and industry/SMEs for the co-creation and co-innovation of research infrastructure technologies and beyond. Finally, it accelerates work on climate resilience and

preparedness; focusing our efforts on becoming a global leader in AI innovation; and exploiting the untapped potential of data by supporting the development of AI and other frontier technologies.

5. INFRANET*: Network connectivity in research and education – Enabling collaboration without boundaries (2026-2027)*

Draft expected impacts:

- **Keeping Europe at the forefront of Global Research and Education**, by creating the necessary conditions to support researchers, students and talent in their work and collaborations.

- **Ensuring very high burstable data transfer capabilities**, with reliable and secure end-to-end cross-border connectivity among users, European and international research infrastructures, computing facilities and data repositories, and paving the way for widespread access to common European Data Spaces.

- **Sustain connectivity globally** and foster Europe's international cooperation policy objectives via enhanced connectivity with global Research & Education networks, by ensuring autonomous, resilient, and secure connections.

- **Maintain support to highly visible ongoing initiatives in the domain of international cooperation** by promoting the uptake in use of e-Infrastructures and showing tangible benefits for the EU and its partners

Main expected outcomes:

Activities shall continue building on the FPA to:

- Deliver state-of-the-art **secure and resilient connectivity**.

- Strengthen **above-the-net collaboration service catalogue** including access to commercial Clouds and other services through framework procurements.

- Further develop **Trust and Identity services** based on GÉANT's AAI Core service.

- Evolve the overall **access infrastructure** to all users of the key Research instruments and Research Infrastructures, as well as for example EuroHPC, EOSC and European Data Spaces.

- Evolve **international connectivity and collaboration** with like-minded research partners globally.

Addressing main policy priorities:

This destination contributes to the Commission’s Political Guidelines which states that “to lead on innovation, we need to create the conditions for researchers to thrive. This means providing the infrastructure and innovative laboratories they need to test and develop ideas […]”.