Orizont Europa

[Programul de lucru 2021-2022-Infrastructuri de Cercetare](#)- oportunități

Programul de lucru privind infrastructurile de cercetare este structurat în jurul următoarelor cinci destinații:

- **Destinație** - Dezvoltarea, consolidarea și optimizarea infrastructurilor europene de cercetare, menținerea leadershipului global (INFRADEV), pentru a contribui la un spațiu european de cercetare de excelență și de impact, prin consolidarea capacităților de infrastructurilor de cercetare (RI) în Europa, a rolului lor la nivel global;
- **Destinație** - Activarea unui ecosistem EOSC operațional, deschis și echitabil (INFRAEOSC), care vizează furnizarea unui „Web de date și servicii FAIR" pentru Știință: un mediu virtual de încredere care să susțină Știința Deschisă, bazat pe funcțiile cheie de bază orizontale, în corespondența cu e -infrastructuri și servicii accesibile cercetătorilor din diferite discipline din întreaga Europă;
- **Destinație** - Servicii RI pentru a sprijini cercetarea în domeniul sănătății, pentru a accelera transformarea ecologică și digitală și pentru a avansa cunoștințele de frontieră (INFRASERV), cu accent pe furnizarea de servicii integrate RI, pentru a permite cercetarea și abordarea problemelor majore ale societății, în special în domeniul sănătății, în sprijinul transformării ecologice și digitale și pentru asigurarea rezilienței la crize;
- **Destinație** - Următoarea generație de instrumente științifice, instrumente și metode și soluții digitale avansate (INFRATECH), pentru a permite noi descoperiri și pentru a menține infrastructurile de cercetare europene la cel mai înalt nivel de excelență, deschizând în același timp calea către soluții inovatoare pentru provocările societății și noile aplicații industriale, produse și servicii;
- **Destinație** - Conectivitate la rețea în cercetare și educație - Permiterea colaborării fără limite (INFRANET), furnizarea de rețele cu lățime de bandă mare și servicii de rețea pentru a interconecta cercetători, date și resurse de calcul într-un mod nediscriminatoriu, indiferent de locația utilizatorilor și de resurse, care să permită oamenilor de știință să efectueze cercetări de excelență.

Destination	Call/Topic/Deadline date	Topic description
RESEARCH INFRASTRUCTURE SERVICES TO SUPPORT HEALTH RESEARCH, ACCELERATE THE GREEN AND DIGITAL TRANSFORMATION, AND ADVANCE FRONTIER KNOWLEDGE (INFRASERV)	**Research infrastructures services advancing frontier knowledge** TOPIC ID: HORIZON-INFRA-2021-SERV-01-07 Call [Research infrastructure services to support health research, accelerate the green and digital transformation, and advance frontier knowledge (2021) (HORIZON-INFRA-2021-SERV-01)](#)	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 made available to a wider user community; - improved and harmonised RI services and broader use of RI resources across Europe deriving from the exploitation of synergies and complementarities; - a new generation of researchers trained to optimally exploit all the essential tools for their research; - cross-disciplinary fertilisations and a wider sharing of information, knowledge and technologies across scientific fields fostered by closer interactions between researchers active in and around research infrastructures; - better management, including implementing FAIR data principle, of the continuous flow of data collected or produced by research infrastructures In 2021, the scientific domains called under this topic are:

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Actions under this destination will provide efficient and customised research infrastructure services to drive and enable the transition toward a sustainable Europe and a prosperous economy. RI services (e.g. access to unique scientific tools and facilities, samples provision, processing and analysis, data and modelling services) will be directed to support an effective and responsive health system and to accelerate the transition towards a green and digital future.	23 September 2021	• Geosphere, including geo-hazards and geo-resources; • Biosphere: terrestrial biodiversity and ecosystems, including Arctic and forest; • Particle and nuclear physics.
	Research infrastructures services for sustainable and inclusive Global Value Chain and Europe recovery from socio-economic crises TOPIC ID: HORIZON-INFRA-2021-SERV-01-05 Call Research infrastructure services to support health research, accelerate the green and digital transformation, and advance frontier knowledge (2021) (HORIZON-INFRA-2021-SERV-01) 23 September 2021	Project results are expected to contribute to all the following expected outcomes: • scientific evidence for developing the European Recovery Plan and the design of European policies for trade, production, employment and investments in relation to Global Value Chain; • enhanced society's long-term and consistent problem-solving capacities to recover from socio-economic crises; • strengthened EU position on the global market; • contribution to the definition of standards in evolving markets; • provision of evidence on labour market patterns and needed skills. • Proposals will bring together complementary and possibly heterogeneous national and European research infrastructures to provide effective access to an integrated wide range of RI services providing insights into the functioning, characteristics and impacts of Global Value Chains. Research infrastructures services will allow to assess to what extent the configuration of value chains helps to reinforce the resilience of production processes, investments and employment. They will also enable research in and analysis of the consequences of the international fragmentation of production.
	Enabling research infrastructure services for better use of imaging data to address challenges in thematic research areas TOPIC ID: HORIZON-INFRA-2021-SERV-01-06 Call Research infrastructure services to support health research, accelerate the green and digital transformation, and advance frontier knowledge (2021) (HORIZON-INFRA-2021-SERV-01) 23 September 2021	Project results are expected to contribute to some of the following expected outcomes: • improved acquisition, quality, interoperability and analysis of imaging data from different disciplines (e.g.: health & food, climate and environmental research, digital transformation); • wider use of image analysis services based on AI in different scientific areas. Successful proposals will offer services, including AI-based services for improved analysis of imaging data in different thematic areas (e.g. environmental monitoring, life sciences, chemistry, physics,...). Appropriate links and complementarities must be ensured with the existing AI4EU platform and relevant activities under Pillar II of Horizon Europe.
	Research infrastructures services for responding to climate-related risks on the environment TOPIC ID: HORIZON-INFRA-2021-SERV-01-03 Call: Research infrastructure services to support health	Project results are expected to contribute to all of the following expected outcomes: • enhanced and increased society's long-term and consistent problem-solving capacity and evidence-based policy making in areas of climate-related risks, risk management, health and green transition, including a better understanding of socio-economic implications, through the provision of innovative, customised and efficient RI services; • enhanced and integrated cross-disciplinary R&I capacities addressing climate related-risks in Europe and in particular support relevant R&I objectives of Horizon Europe clusters, missions or partnerships;

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	research, accelerate the green and digital transformation, and advance frontier knowledge (2021) (HORIZON-INFRA-2021-SERV-01) 23 September 2021	• harmonisation of data policies and management of IPRs and ethical issues; interoperability across disciplines and with risk management platforms; • researchers in the environment and climate change able to optimally exploit the research infrastructure services relevant for their research. Proposals will bring together key complementary and possibly heterogeneous national and European research infrastructures to provide effective access to an integrated wide range of RI services (e.g.: observations, models and experimental platforms) necessary for highly cross-disciplinary research and innovation addressing climate-related multi-hazards risks in Europe including their social dimension
	Research infrastructures services for a sustainable and resilient agriculture and agro-ecological transitions TOPIC ID: HORIZON-INFRA-2021-SERV-01-02 Call: Research infrastructure services to support health research, accelerate the green and digital transformation, and advance frontier knowledge (2021) (HORIZON-INFRA-2021-SERV-01) 23 September 2021	Project results are expected to contribute to all the following expected outcomes: • provision of innovative, customised and efficient RI services enhancing and increasing society's long-term and consistent problem-solving capacity and evidence-based policy making for resilient and sustainable agriculture systems and its nexus with environment, health and food security, including a better understanding of socio-economic implications; • wider understanding of the main threats (e.g.: emerging pests and diseases, antimicrobial resistance, climate change;) and socio-economic benefits (e.g.: high quality, safe, accessible and affordable food; improved human and animal wellbeing; resilience of local communities;) of a systemic approach to sustainable and resilient agriculture and agroecological transition; • higher levels of integration between RIs services to better support the development of sustainable agroecological systems for a healthy planet as well as the protection and preservation of natural resources and biodiversity under changing climate conditions; • wider catalogues of RI services and capacities enabling researchers to access, generate, share, analyse and interpret various and heterogeneous factors influencing agro-ecological systems and thus paving the way to ambitious and sustainable advancements in the field and foster trans-disciplinarity; • strengthened climate-change resilience, sustainability and the development of smart innovation in agriculture for sustainable rural transformation; • effective support to the Green Deal objectives, the One Planet Summit's commitments, the implementation of the Farm to Fork strategy and enhanced contribution to related SDGs, notably poverty, hunger, ecosystems' sustainability and climate action.
	Research infrastructures services enabling the development of materials for a circular economy **TOPIC ID: HORIZON-INFRA-2021-SERV-01-04** Call: Research infrastructure services to support health research, accelerate the green and digital transformation, and advance frontier knowledge (2021) (HORIZON-INFRA-2021-SERV-01) 23 September 2021	Project results are expected to contribute to all the following expected outcomes: • enhanced and increased society's long-term and consistent problem-solving capacity and evidence-based policy making in areas of sustainable materials and green transition, including a better understanding of socio-economic implications, through the provision of innovative, customised and efficient RI services; • development of a world-class European research and technology ecosystem underpinning the development of materials and materials processing and the related value chains; • optimum exploitation of R&I services relevant for materials research for a circular economy; • enhanced competitiveness of current and emerging industries through the availability of the most advanced research and technology infrastructures R&I services; • breakthrough research and innovation in materials development and materials processing; • materials enabling products with increased durability and/or reusability[1]; • cross-fertilisation and a wider sharing of knowledge and technologies across the various disciplines that contribute to materials for a circular economy;

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		• enhanced socio-economic impact of investments in research infrastructures from EU countries and from the European Structural and Investment Funds.
NEXT GENERATION OF SCIENTIFIC INSTRUMENTATION, TOOLS AND METHODS AND ADVANCED DIGITAL SOLUTIONS (INFRATECH) The aim of this destination is the development of ground-breaking RI technologies, including scientific instruments, tools, methods, and advanced digital solutions, to enable new discoveries and keep Europe's RIs at the highest level of excellence in science, while paving the way to innovative solutions to societal challenges and new industrial applications, products and services. New instruments and tools (such as advanced sensors, imaging devices, light source detectors, high-tech developments for accelerators, robots/automated solutions) and advanced digital solutions (e.g. digital twins, data analytics and AI tools, etc.) for RI upgrade, will enable solutions to be found even for the most demanding scientific and societal challenges.	**Interdisciplinary digital twins for modelling and simulating complex phenomena at the service of research infrastructure communities** TOPIC ID: HORIZON-INFRA-2021-TECH-01-01 Call: Next generation of scientific instrumentation, tools and methods (2021) (HORIZON-INFRA-2021-TECH-01) 23 September 2021	Project results are expected to contribute to all the following expected outcomes: • availability of a pre-operational prototype of an interdisciplinary Digital Twin, using a combination of the latest digital technologies, relevant to addressing challenges where multi-disciplinarity is the defining element of complexity; • availability of latest modelling and prediction technologies in a number of different areas widely serving research communities and supporting interoperability of data and software, integration and collaboration across different scientific domains, disciplines and across the different research infrastructures involved; • a robust framework enabling Researchers to ensure the quality, reliability, verifiability of the data, information and outputs of such Digital Twins and to exploit to the maximum the existing and new data made available through the Common European Data Spaces and the European Open Science Cloud. Work under this topic should reach a sufficiently high TRL level (6-7) to be considered for integration into operational activities of for example existing research infrastructures, the EOSC platform, and undertaken in related fields. Work under this topic should link to relevant actions, when appropriate, under Digital Europe Programme (e.g. Destination Earth).
ENABLING AN OPERATIONAL, OPEN AND FAIR EOSC ECOSYSTEM (INFRAEOSC)	**Supporting the development and coordination of activities of the EOSC Partnership** TOPIC ID: HORIZON-INFRA-2021-EOSC-01-02 Enabling an operational, open and FAIR EOSC ecosystem	Proposals are expected to cover the following activities: • Further develop and update the Strategic Research and Innovation agenda (SRIA) for EOSC and corresponding detailed roadmaps in early consultation with the wider research community in Europe in full transparency and openness. The agenda should cover all aspects required for the development of the EOSC-Core, Minimum Viable EOSC and the future widening to the public and private sector as well as support the alignment of the contributions to EOSC at national, regional, institutional and scientific community level.

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The European Open Science Cloud (EOSC) is an ecosystem of research data and related services. 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 Foundation21 and the Open Source Initiative22. All projects that will be financed under this destination are expected to participate in concertation activities in the framework of the EOSC Partnership.	(2021) (HORIZON-INFRA-2021-EOSC-01) 23 September 2021	• Facilitate an effective cooperation between and organise the concertation of EOSC-relevant projects, monitoring their results and ensuring that relevant outcomes are identified and serve as a baseline for future developments.
	Enabling discovery and interoperability of federated research objects across scientific communities TOPIC ID: HORIZON-INFRA-2021-EOSC-01-05 Call: Enabling an operational, open and FAIR EOSC ecosystem (2021) (HORIZON-INFRA-2021-EOSC-01) 23 September 2021	Project results are expected to contribute to all the following expected outcomes: • improved findability, accessibility, interoperability and re-usability ("FAIRness") of data and other research outputs by coordinating the implementation of frameworks and the alignment of FAIR data practices on metadata, persistent identifiers, etc.; • wide uptake of and compliance with FAIR data principles and practices by national and European research data and metadata providers and repositories, leading to the development of the Web of FAIR data and related services; • contribute to the Horizon Europe EOSC Partnership.
	Supporting an EOSC-ready digitally skilled workforce TOPIC ID: HORIZON-INFRA-2021-EOSC-01-01 Call: Enabling an operational, open and FAIR EOSC ecosystem (2021) (HORIZON-INFRA-2021-EOSC-01) 23 September 2021	Project results are expected to contribute to all the following expected outcomes: • availability of highly and appropriately skilled professionals enabling the practice of Open Science with adequate knowledge of standards, applications and tools and best practices for delivering, managing, re-using, sharing and analysing FAIR data, as well as other digital research objects; • researchers are able to transform the way they carry out research and exploit research outputs, leading to better quality and more productivity of research; • contribute to the Horizon Europe EOSC Partnership.
DEVELOPING, CONSOLIDATING AND OPTIMISING THE EUROPEAN RESEARCH INFRASTRUCTURES LANDSCAPE,	**Consolidation of the research infrastructure landscape – Individual support for ESFRI projects** TOPIC ID: HORIZON-INFRA-2021-DEV-02-02	This topic targets the research infrastructure projects retained in the 2016 ESFRI Roadmap, for the excellence of their scientific case and for their strategic importance for the European Research Area and the structuring of the European research infrastructure ecosystem. The recent ESFRI Monitoring exercise carried out for the update of the ESFRI Roadmap 2021 assessed the overall progress towards implementation of these 2016 ESFRI projects and highlighted a number of key aspects that could hamper their implementation and start of the operation phase.

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MAINTAINING GLOBAL LEADERSHIP (INFRADEV)	Developing and consolidating the European research infrastructures landscape, maintaining global leadership (2021) (HORIZON-INFRA-2021-DEV-02) 20 January 2022	Based on the recommendations stemming from these monitoring exercises, support can be provided for activities, such as enlargement of the membership; establishment of the governance structure; securing the funding; finalisation of the distributed architecture; development of ICT and data management solutions (including possible open access to data); development of access policies and users' strategies; consolidation of the international dimension; addressing staff and procurement related issues. 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).
	Preparatory phase of new ESFRI research infrastructure projects TOPIC ID: HORIZON-INFRA-2021-DEV-02-01 Call: Developing and consolidating the European research infrastructures landscape, maintaining global leadership (2021) (HORIZON-INFRA-2021-DEV-02) 20 January 2022	This topic supports the preparatory phase of new ESFRI research infrastructure projects identified in the 2021 update of the ESFRI Roadmap. These ESFRI projects have been selected for the excellence of their scientific case and for their strategic importance for the European Research Area and the structuring of the European research infrastructure ecosystem. Proposal consortia should involve all the stakeholders necessary to move the project forward, to take the decisions, and to make financial commitments, before construction can start (including, but not limited to, national/regional ministries/governments, research councils or funding agencies from the countries that have already declared their commitment in the application to ESFRI). Operators of research facilities, research centres, universities, and industry may also be involved whenever appropriate.

[Programul de lucru Widening participation and strengthening the European Research Area](#)- oportunități

Programul de lucru privind lărgirea participării și întărirea spațiului european pentru cercetare este structurat în jurul următoarelor trei destinații:

Destinația 1: Acces îmbunătățit la excelență

Destinație 2: Atragerea si mobilizarea celor mai bune talente

Destinația 3: Reforma și îmbunătățirea sistemului de cercetare și inovare din U.E.

Destination	Call/Topic	Topic Description
REFORMING AND ENHANCING THE EU RESEARCH AND INNOVATION SYSTEM Destination 3 is built around four strands corresponding to the four objectives set out in the ERA Communication: 1. Prioritise investments and reforms; 2. Improve access to excellence; 3. Translate R&I results into the economy and 4. Deepen the ERA. The principle of excellence, meaning that the best researchers with the best ideas that respond best to the societal challenges obtain funding, remains the cornerstone for all investments under the ERA.	**Societal trust in science, research and innovation** TOPIC ID: HORIZON-WIDERA-2021-ERA-01-44 Call: [European Research Area (HORIZON-WIDERA-2021-ERA-01)](#) 23 September 2021	Projects are expected to contribute to the following expected outcomes: • Recommendations for policy makers, research funding and performing organisations, higher education institutions and other research and innovation actors for tackling societal mistrust in science, research and innovation; • Recommendations for strengthening the co-creation of R&I contents by society, and for the spreading of good practices and evidence of their effects. These targeted outcomes in turn contribute to medium and long-term impacts: • Increased public trust in science; • Increased alignment of strategic research with society needs, expectations and values The action should involve a broad range of potential users and stakeholders and the general public in co-creation (e.g. civil society, businesses, research/academia, public authorities and policy makers), develop policy guidance and recommendations, and implement innovative means of communicating and disseminating the findings and messages. As such, Responsible Research and Innovation could be a relevant research approach
	Support to changes in the assessment of research and researchers to reward the practice of open science TOPIC ID: HORIZON-WIDERA-2021-ERA-01-45 Call [European Research Area (HORIZON-WIDERA-2021-ERA-01)](#)	Projects are expected to contribute to the following expected outcomes: • Consolidated information on initiatives for reforming the assessment of research and researchers, taking better account of open science practice. • Connection of existing initiatives at European level, facilitating mutual learning, and stimulating consensus building among the stakeholders. • Pilots on new metrics, methods and institutional changes for reforming the assessment of research and researchers, which lead to better rewarding the practice of open science, as well as related issues such as gender equality, science education, and academia-industry collaboration.

	23 September 2021	
	Developing a STE(A)M roadmap for Science Education in Horizon Europe TOPIC ID: HORIZON-WIDERA-2021-ERA-01-70 Call: European Research Area (HORIZON-WIDERA-2021-ERA-01)	Projects are expected to contribute to the following expected outcomes: • Better knowledge on policy deficiencies and better understanding of needs; • Identify synergies between second and third level education, and between education and business; • Contributions to future Policy actions; • Promoting an integrated learning continuum between second and third level education and between education and business; • Convince students and citizens about the opportunities within policy areas such as the Green Deal, Digitisation and Health. The action should consider current policy initiatives and identify gaps and overlaps or duplication of effort. Reference and consideration should be given to previously funded projects. Applicants should develop links with Scientix, as well as with projects funded under SwafS-26-2020 (Innovators of the future: bridging the gender gap), and consider links with other policy domains.

Sursa informațiilor: https://ec.europa.eu/info/funding-tenders/opportunities/portal/

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