



**BULLETIN**  
**FUNDS FOR SCIENTIFIC RESEARCH**  
**Ed. 12/22 – 31.12.2022**  
*a cura della dott.ssa Lucrezia Auditore*  
*(Resp. U.Op. Ricerca BIOMORF)*

**HORIZON Europe Framework Program**  
**(HORIZON)**

**ERC Consolidator Grant**  
(ERC-2023-COG)

**Deadline: 2 February 2023, 17:00**  
**Brussels time**

The ERC Consolidator Grants are designed to support excellent Principal Investigators at the career stage at which they may still be consolidating their own independent research team or programme. Principal Investigators must demonstrate the ground-breaking nature, ambition and feasibility of their scientific proposal.

Size of ERC Consolidator Grants: Consolidator Grants may be awarded up to a maximum of EUR 2 000 000 for a period of 5 years. The maximum size of the grants is reduced *pro rata temporis* for projects of a shorter duration. (This does not apply to ongoing projects).

Additional funding up to EUR 1 000 000 can be requested in the proposal to cover the following eligible costs when these are necessary to carry out the proposed work: (a) "start-up" costs for Principal Investigators moving to the EU or an Associated Country from elsewhere as a consequence of receiving the ERC grant and/or (b) the purchase of major equipment and/or (c) access to large facilities and/or (d) other major

experimental and field work costs, excluding personnel costs.

Additional funding is not subject to *pro rata temporis* reduction for projects of shorter duration.

All funding requested is assessed during evaluation.

Profile of the ERC Consolidator Grant Principal Investigator: the Principal Investigators shall have successfully defended their first PhD at least 7 and up to 12 years prior to 1 January 2023. Cut-off dates: PhD awarded from 1 January 2011 to 31 December 2015 (inclusive).

The eligibility period can be extended beyond 12 years in certain properly documented circumstances.

A competitive Consolidator Grant Principal Investigator must have already shown research independence and evidence of maturity, for example by having produced several important publications as main author or without the participation of their PhD supervisor. Applicant Principal Investigators should also be able to demonstrate a promising track record of early achievements appropriate to their research field and career stage, including significant publications (as main author) in major international peer-reviewed multidisciplinary scientific journals, or in the leading international peer-reviewed journals of their respective field. They may also demonstrate a record of invited presentations in well-established



international conferences, granted patents, awards, prizes, etc.

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**ERC Proof of Concept Grant**  
(ERC-2023-POC)

**Deadlines: 24 January 2023 17:00:00**  
**Brussels time**

**20 April 2023 17:00:00**  
**Brussels time**

**21 September 2023 17:00:00**  
**Brussels time**

The ERC Proof of Concept Grants aim at facilitating exploration of the commercial and social innovation potential of ERC funded research, by funding further work (i.e. activities which were not scheduled to be funded by the original ERC frontier research grant) to verify the innovation potential of ideas arising from ERC funded projects. Proof of Concept Grants are therefore on offer only to Principal Investigators whose proposals draw substantially on their ERC funded research. Size of ERC Proof of Concept Grants: the financial contribution will be awarded as a lump sum of EUR 150 000 for a period of 18 months. The ERC expects that, normally, proof of concept activities should be completed within 12 months. However, to allow for those projects that require more preparation time, the grant agreements will be signed for 18 months. Extensions of the duration of proof of concept projects may be granted only exceptionally. The lump sum will cover the beneficiaries' direct and indirect eligible costs for the project: if the project is implemented properly, the amounts will be paid

regardless of the costs actually incurred.

The lump sum has been designed to cover the beneficiaries' personnel costs, subcontracting, purchase costs, other cost categories, and indirect costs.

Profile of the ERC Proof of Concept Eligible Principal Investigator: all Principal Investigators in an ongoing ERC main grant or in a ERC main grant that has ended less than 12 months before 1 January 2023, are eligible to apply for an ERC Proof of Concept Grant.

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**ERC Advanced Grant**  
(ERC-2023-ADG)

**Deadline date: 23 May 2023, 17:00**  
**Brussels time**

ERC Advanced Grants are designed to support excellent Principal Investigators at the career stage at which they are already established research leaders with a recognised track record of research achievements. Principal Investigators must demonstrate the ground-breaking nature, ambition and feasibility of their scientific proposal.

Size of ERC Advanced Grants: Advanced Grants may be awarded up to a maximum of EUR 2 500 000 for a period of 5 years (the maximum award is reduced pro rata temporis for projects of a shorter duration).

However, up to an additional EUR 1 000 000 can be requested in the proposal to cover (a) eligible "start-up" costs for Principal Investigators moving to the EU or an Associated Country from elsewhere as a consequence of receiving the ERC grant



and/or (b) the purchase of major equipment and/or (c) access to large facilities and/or (d) other major experimental and field work costs, excluding personnel costs. (As any additional funding is to cover major one-off costs it is not subject to *pro-rata temporis* reduction for projects of shorter duration. All funding requested is assessed during evaluation).

Profile of the ERC Advanced Grant Principal Investigator: ERC Advanced Grant Principal Investigators are expected to be active researchers and to have a track record of significant research achievements in the last 10 years which must be presented in the application.

A competitive Advanced Grant Principal Investigator must have already shown a record which identifies them as an exceptional leader in terms of originality and significance of their research contributions.

Principal Investigators of Advanced Grant proposals will be expected to demonstrate a record of achievements appropriate to the field and at least matching one or more of the following benchmarks: 10 publications as main author (or in those fields where alphabetic order of authorship is the norm, joint author) in major international peer-reviewed multidisciplinary scientific journals, and/or in the leading international peer-reviewed journals and peer-reviewed conferences proceedings of their respective field; 3 major research monographs. This benchmark is relevant to research fields where publication of monographs is the norm.

Other alternative benchmarks that may be considered (individually or in combination) as indicative of an

exceptional record and recognition in the last 10 years: 5 granted patents; 10 invited presentations in well-established internationally organised conferences and advanced schools; 3 research expeditions led by the applicant Principal Investigator; 3 well-established international conferences or congresses where the applicant was involved as a member of the steering and/or organising committee; International recognition through scientific or artistic prizes/awards or membership in well-regarded Academies or artefact with documented use (for example, architectural or engineering design, methods or tools); Major contributions to launching the careers of outstanding researchers; Recognised leadership in industrial innovation.

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**Developing, consolidating and  
optimising the European research  
infrastructures landscape, maintaining  
global leadership (2023)**  
(HORIZON-INFRA-2023-DEV-01)

**Deadline date: 09 March 2023, 17:00:00  
Brussels time**

Projects are expected to contribute to several of the following expected outcomes:

- support to planning and decision making at the national level (e.g. funding bodies, governments) and at European level (e.g. ESFRI) through a sound science case, including expected scientific breakthrough, a gap analysis and a



feasibility/design study for a future research infrastructure to manage, integrate and sustain large medical cohort studies;

- ensuring stewardship and long-term availability of data and samples related to existing and future large medical cohort studies for their re-use for secondary research;
- strengthening and integration of existing capacities in the field;
- new services and access opportunities available to the research community, allowing to better tackle medical challenges.

Scope: this topic aims at supporting the development of new concepts for a research infrastructure at European level, to manage, integrate and sustain large medical cohort studies. The possibility to extend the scope of already existing infrastructures and/or integrate in a sustainable way existing pan-European and national capacities to cover this need and provide RI services for large medical cohort studies should be assessed as a first option, identifying what is missing and the necessary new developments. Such an infrastructure will also enable an appropriate exploitation of past investments by EU framework programmes or other European funders on the development of medical cohorts.

The numerous and diverse medical cohort studies in Europe, initiated at Member States level or in the context of EU-funded projects, require major resource investments to be set up, mature and serve multiple research queries over long period of times. The research potential (e.g.

statistical power or geographical coverage) of individual cohorts can be scaled up, when similar, sufficiently compatible individual cohorts (e.g. in different EU countries) are harmonized and integrated. A research infrastructure could ensure the needed long term sustainability for cohorts and the technical platform for data integration across cohorts as well as a properly implemented data access governance. Proposals for the new RI concept development will tackle all key questions concerning the technical and conceptual feasibility of an effective RI service offer, at EU level, to manage, integrate and sustain large medical cohort studies.

In this respect, proposals should address all following aspects:

- demonstrate relevance in relation to ERA, including to the existing landscape, and the advancement with respect to the state-of-art of the new sustainable integrated service or infrastructure;
- highlight the research challenges the new sustainable integrated service or research infrastructure will make possible to address, including at global level;
- indicate the gaps in the research infrastructure landscape it will cover and the synergies with other existing infrastructures at European and global level, including those co-financed from other EU instruments (e.g.: Cohesion policy);
- indicate, when relevant, the potential impact of this research infrastructure at regional level.



Proposals should also convincingly demonstrate that the project will effectively:

- identify suitable IT technologies and the architecture (e.g. single site or distributed, ...) for the research infrastructure;
- identify scientific user communities (and their related needs) that will benefit from access to RI services, including scientific data and instrumentation, and plan the research services to be offered to users;
- assess and identify suitable governance models and implement strategies for institutional/stakeholders' commitment and engagement;
- develop initial financial plans for the implementation and operation of the infrastructure as well as preliminary ideas for long-term sustainability, including synergies with other funds and programmes (e.g.: ERDF);
- develop plans for an efficient data curation and preservation and for the provision of GDPR compliant access to data managed by the infrastructure, in line with the FAIR principles to the extent possible.

Projects could pilot the harmonization of a limited number of European strategic cohorts, that are sustained in the long-term for generating evidence in a given field, aiming at integrating their respective data sets so as to enable cross-cohort queries. Synergies with successful proposals under

the HORIZON-HLTH-2023-DISEASE-03-05 topic should be sought.

When relevant, environmental (including climate-related) impacts and the optimisation of resource and energy use, as well as the gender dimension of cohort studies, should be integrated in the concept development of the new research infrastructures.

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**Research infrastructure services to support health research, accelerate the green and digital transformation, and advance frontier knowledge (2023)**  
(HORIZON-INFRA-2023-SERV-01)

**Deadline date: 09 March 2023, 17:00:00  
Brussels time**

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;
- the access programmes to research infrastructures in the EU and Associated Countries enhance their openness at European level, embracing the support, with national funding, to a share of transnational users in their normal operation;
- 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 the EU and Associated Countries deriving from the exploitation of synergies and complementarities;
- a new generation of researchers trained to optimally exploit all the essential tools for their research;
- cross-disciplinary fertilisations and a wider sharing of information, knowledge and technologies across scientific fields fostered by closer interactions between researchers active in and around research infrastructures;
- better management, including implementing FAIR data principle, of the continuous flow of data collected or produced by research infrastructures.

Scope: this topic aims at piloting the co-funding, with Member States and Associated Countries, of programmes of access to research infrastructures at EU level. The programme should provide trans-national access (on-site or remote) and/or virtual access to services offered by a set of similar or complementary advanced national or pan-European research infrastructures, to enable curiosity-driven interdisciplinary research. Proposals can address all scientific domains.

Proposals should explain how the EU funding in support of the common access programme will be complemented by other national or international funding sources providing the remaining co-funding rate, and pool the necessary financial resources

to implement joint calls for the provision of access to research infrastructures.

The access programme to research infrastructures may be implemented either directly by the consortium, with the provision of trans-national and virtual access by beneficiaries, third parties or external providers of purchased services, or, alternatively, through the mechanism of financial support to third parties. Proposals should clearly specify which of the two options (direct implementation or through financial support to third parties) they will use to implement the co-fund action. In both cases national or international access programme managers, including the legal entities of distributed European RI, are expected to be core partners in the consortia.

In the case of financial support to third parties, the applicants to the open calls, launched under the action to provide financial support to third parties, should be the users together with the research infrastructures they need, including nodes of distributed ESFRI or ERIC infrastructures. The financial support should cover the costs incurred by the infrastructures/nodes to provide access (actual costs, calculated on the basis of unit costs, or a combination of the previous two), as well as the travel and subsistence of users if visits are needed to use the infrastructures, plus any specific work from RI staff and users necessary to customise the RI services. 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.

Access also includes ad hoc users' training and scientific and technical support for preparing and running the user projects. 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 RIs, 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 may also be supported.

While the main goal of this topic is access provision to existing services, limited development of new services, relevant to the specific scientific challenges, can also be supported, including joint/cross-RI 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 involved RIs. The long term R&D for new instrumentation, tools, methods and advanced digital solutions will continue to be supported under destination INFRATECH.

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

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 duly take into account major European or international initiatives

relevant in the domain. Whenever appropriate, they should foster the use and deployment of (open) global standards.

Proposals should make available to researchers a wide and rich portfolio of research infrastructure services, including data services, which are relevant for frontier research in the chosen scientific area. To this extent, they should involve the necessary interdisciplinary set of research infrastructures of European interest that provide such services. The relevance of the service portfolio will be taken into account in the Excellence score.

Access could also be open, under certain conditions, to third countries' researchers to work on global scientific challenges. Research infrastructures from third countries may be involved when appropriate, in particular when they offer complementary or more advanced services than those available in Europe.

Proposals should include an outreach and engagement plan to actively advertise their services to the research communities in the chosen area.

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

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



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

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**Research infrastructure services to support health research, accelerate the green and digital transformation, and advance frontier knowledge (2023)**  
(HORIZON-INFRA-2023-SERV-01)

**Deadline date: 09 March 2023, 17:00:00  
Brussels time**

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

For all areas:

- 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 RI 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 RI services to underpin the competitiveness of the European industry and of SMEs active in the field of risk assessment and

DIPARTIMENTO DI SCIENZE BIOMEDICHE,  
ODONTOIATRICHE E DELLE IMMAGINI  
MORFOLOGICHE E FUNZIONALI

management of environmental impact on human health.

For RI 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 RI services across Europe to underpin the competitiveness of the European industry and of biotech SMEs developing paediatric medicines and treatment and diagnostic devices;
- joining 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 RI services for climate-change risks

- enhanced and integrated cross-disciplinary RI capacities addressing climate related-risks in Europe and in particular support relevant R&I objectives of Horizon Europe clusters 5 and 6, or of the mission on climate adaptation;
- 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.

For RI services for sustainable Arctic/polar regions

- enabling/facilitating science for understanding and predicting key processes in polar regions in the context of climate change;
- enhanced and further integrated RI capacities in polar regions in support of EU Arctic Policy, European Green Deal and international climate initiatives.

For RI services for healthy ocean and waters

- enabling/facilitating R&I for clean oceans and waters, as well as for climate change;
- enhanced and further integrated RI capacities in support of the development phase of the Mission "Restore our Ocean and waters by 2030", European Green Deal and international climate initiatives.

For RI services for sustainable aquaculture, fisheries and blue economy

- enabling/facilitating R&I for sustainable aquaculture, fisheries and the blue economy;
- enhanced and further integrated RI capacities in support of the Common Fisheries Policy, the Farm to Fork Strategy, the sustainable blue economy and the European Green Deal.

For RI services for renewable energy technologies and systems

- enabling research and innovation to increase energy efficiency and foster a wider use of renewable energy, supporting the objective of the European Green Deal of a climate neutrality by 2050, the 'Fit for 55' energy targets and the SET-Plan action on integrating renewable technologies in the energy systems;
- wider access for academic and industrial researchers to enhanced and further integrated RI services in support of the green transition.

For RI services for innovative applications of nanoscience and nanotechnology

- enabling research and innovation on innovative nanoscience and nanotechnology applications to support European scientific and industrial competitiveness, including on innovative solid state, biological and soft materials, needed for the green and digital transition;
- cross-fertilisation and transfer of knowledge and technologies across diverse scientific disciplines and material classes;
- wider access for academic and industrial researchers to enhanced and further integrated RI services for fostering the application of nanoscience and nanotechnology to address emerging socio-economic needs;
- enhanced competitiveness of European industry in the field through access to the broadest spectrum of advanced research tools;
- positioning the top-level research infrastructures in the field as reliable innovation partners for



world-wide researchers and European innovators;

- enhanced safety of R&D activities on nanomaterials and their use, reducing possible health and environmental risks.

For RI services to enhance the EU capacity for the development of semiconductors

- enabling research and innovation in support to the competitiveness and autonomy of the European semiconductor industry and to the European Chips Act;
- wider access for academic and industrial researchers to enhanced and further integrated RI services in the field;
- transfer of knowledge and technologies between academic-research institutions and the semiconductor industry in order to advance further the digital transition.

For RI services for shaping the future generation society

- scientific evidence for the successful implementation of Next Generation EU, including the societal dimension of the recovery from the crisis as well as the ongoing economic, social and environmental transformations;
- insight on the ways different societal groups, including the young people, can get actively involved and contribute to the development of EU missions;
- contribution to the definition and support to the development of the EU Youth strategy;
- provision of evidence on specific patterns and skills to foster active inclusion of various societal groups

as active citizens and actors of positive change.

Scope: this topic aims at providing trans-national access (on-site or remote) and/or virtual access to integrated and customised RI 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 RIs, 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.

While the main goal of this topic is access provision to existing services, limited development of new services, relevant to the challenges, can also be supported, including joint/cross-RI 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 RIs. The long-term R&D for new instrumentation, tools, methods and advanced digital solutions will continue to be supported under destination INFRATECH.



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

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

Proposals should make available to researchers a wide and comprehensive portfolio of complementary research infrastructure services, including data services, and customised workflows to enable R&I addressing the set challenge. To this extent, they should involve, as beneficiaries, affiliated entities, third parties, or external providers of purchased services, the necessary interdisciplinary set of research infrastructures of European interest that provide such services. The inclusiveness of the portfolio of services offered by the proposal will be taken into account in the Excellence score. Proposals including only few of the research infrastructure services relevant to the scope will be scored lower.

Access could also be open, under certain conditions, to third countries' researchers to work on global challenges. Research infrastructures from third countries may be involved when appropriate, in particular when they offer complementary or more advanced services than those available in Europe.

Proposals should consider the inclusion of infrastructures that can facilitate a rapid transition of research findings to innovations and therefore, to society.

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/installations 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.

In 2023, this topic will target the following scientific challenges and EU priority areas:

*RI services to enable research linking environmental factors to human health*

Human health is strongly dependant on exposure to environmental factors as well as socio-economic and lifestyle factors. Proposals should integrate and give access to a wide range of monitoring and experimental RI 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.

Types of services to be offered to users of the infrastructures would include, amongst others: collecting samples and data on environmental risk factors including on socio-economic, occupational and life style factors; high throughput measurements to quantify substances (and/or energy types) of concern including not targeted measurements of chemical mixtures (or other pollutants) as well as exposure markers; integration of diverse data types including human omics data to develop exposure markers; harmonisation and access to advanced bioinformatics tools to investigate the environmental and human health interactions; support for experimental work such as state of the art research models to test for stressor and outcome correlations; access to relevant data available from population cohorts; access to available and relevant data bases on environmental factors (e.g. pollutants, temperature, noise); GDPR-compliant access to relevant sensitive human data including from human biomonitoring i.e. measurements in biosamples.

Actions should customise and further develop RI services to meet the needs of ongoing research in the field. Appropriate links and complementarities should be ensured with relevant ongoing initiatives and resources, such as pertinent ESFRI roadmap efforts, e.g. EIRENE, the European Human Exposome cluster, the IPCHEM database, the EC Knowledge Centre on

Cancer, the European Microwave Signature Laboratory, the candidate European Partnership for the Assessment of Risks from Chemicals (PARC), and other H2020 and Horizon Europe relevant projects including the ones emerging from the 2023 and 2024 'Environment and health' calls of Cluster 1 - Health.

Proposals could consider, for their inclusion in the service portfolio, relevant services and expertise offered by the European Commission's Joint Research Centre (JRC), and in particular by its Molecular Ecotoxicology and Microbiology laboratory. The laboratory is equipped with advanced instruments, such as the MinION™ for nanopore sequencing, and digital polymerase chain reaction (PCR), and provides access to the next generation sequencing (NGS) facility at the JRC. Furthermore, the laboratory has in house in vitro tests and cell culture facilities for detection of pollutants particularly concerning human health.

For this area an EU contribution between EUR 12.00 and 14.50 million should allow the related outcomes to be addressed appropriately.

*RI services for improving clinical research in the paediatric field*

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 RI services to enable and accelerate R&I towards innovative biomedical products and therapies for children, including newborns. 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, RI 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 be FAIRificated to become accessible under the European Open Science Cloud.

For this area an EU contribution between EUR 12.00 and 14.50 million should allow the related outcomes to be addressed appropriately.

*RI services for climate-change risks*

Climate change and land use are increasing the frequency and severity of natural hazards notably floods, storm surges, landslides, droughts, desertification, cryosphere melting and fires as well as their negative impacts in Europe. Research to advance the understanding of the interlinked processes and to develop new knowledge and tools necessary to better predict, mitigate and adapt to these risks requires an unprecedented integrated and strongly cross-disciplinary approach as well as access to very diverse research infrastructures (such as observatories, experimental facilities, modelling capacities or data infrastructures).

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-hazard risks in the EU and Associated Countries, including their social dimension. Actions will in particular offer, when appropriate, fit-for-purpose access modalities facilitating the joint selection and or coherent scheduling of cross-disciplinary user project(s) by several research infrastructures, ad-hoc support and training of (new) users, customised R&I data, data products, scientific services including joint services by complementary infrastructures. Actions will develop interoperability among the research infrastructures as well as with relevant initiatives and programmes and facilitate the use of external data and services, such as Copernicus services, to further develop



their portfolio of multi- and cross-disciplinary scientific services.

Actions should design customised and/or new RI services taking into account the needs of ongoing research in the field and of existing disaster risk management knowledge platforms and networks (e.g. the JRC Disaster Risk Management Knowledge Centre). Due attention to the latest development of Horizon Europe priorities, its Missions and Partnerships will ensure appropriate links and complementarities. Actions should provide for a flexible approach to address ad-hoc R&I specific requests and to respond to long-term or recurrent needs.

Proposals could consider, for their inclusion in the service portfolio, relevant services and expertise offered by the European Commission's Joint Research Centre (JRC), and in particular by its Molecular Ecotoxicology and Microbiology laboratory, for the detection of antimicrobial resistance genes, viral RNA in water by quantitative PCR, metagenomics analysis of water samples, as well as in-house bioassays systems for detection of chemical pollutants' mixture analysis.

For this area an EU contribution between EUR 12.00 and 14.50 million should allow the related outcomes to be addressed appropriately.

*RI services for sustainable Arctic/polar regions*

Polar regions are facing rapid changes and new challenges due to climate change, biodiversity loss and increasing economic interest. Major research efforts are ongoing to understand and predict these changes including their impact on other regions, identify solutions and provide evidenced-based information such as needed by the European Green Deal and the EU Arctic

policy. However, extreme conditions and low population density limit the opportunities to access in-situ platforms and make difficult the collection of data, the monitoring of complex processes.

Proposals should provide access to a wide portfolio of complementary research infrastructures and their services needed to address the scientific challenges of polar regions. Building on past integration of access to terrestrial stations, fixed and mobile observing platforms, research vessels operating in Polar Regions including icebreakers, core repositories and data infrastructures, proposals should further integrate, customise or combine services and adapt modalities of access to facilitate interdisciplinary research on complex processes in Polar Regions. Proposals should ensure appropriate links with relevant European and international initiatives and with projects developing under Horizon Europe and ongoing coordination efforts such as in the EU Polar Cluster. When appropriate, research infrastructure services should benefit from Copernicus, GEOSS and EMODNET initiatives. Similarly, relevant data generated by the projects should be made available to these initiatives.

Complementarity and synergies with relevant other areas under this topic should be considered.

For this area an EU contribution between EUR 12.00 and 14.50 million should allow the related outcomes to be addressed appropriately.

*RI services for healthy ocean and waters*

The Mission 'Restore our Ocean and Waters by 2030' aims to deliver on precise targets for protecting and restoring ecosystems and biodiversity, for zero pollution, and for moving towards climate-



neutrality, within the EU's ocean, seas and waters. Research and innovation underpinning the solutions and technologies to reach these ambitious objectives will mobilise RI capacities in Europe and beyond and will require complementarity and synergies between national and European efforts, including from other parts of Horizon Europe and for access to the most needed and unique research infrastructures.

Proposals should provide access to a wide portfolio of complementary research infrastructures and their services in support of the research and innovation contributing to the implementation plan of the Mission and of the European Partnership 'A climate neutral, sustainable and productive Blue Economy'. Building on past integration of access to facilities such as marine and freshwater experimental facilities, analytical platforms, fixed and mobile observing platforms and research vessels, proposals should further integrate, customise or combine services and adapt modalities of access to facilitate the development phase of the Mission, Partnership and relevant research and innovation activities for a clean environment and for climate actions. Proposals should ensure appropriate links with relevant European and international initiatives and with projects developing under Horizon Europe. When appropriate, research infrastructures services should benefit from Copernicus, GEOSS, EMODNET and the European Digital Twin of the Ocean (DTO) initiatives. Similarly, relevant data generated by the projects should be made available to these initiatives.

Proposals could consider, for their inclusion in the service portfolio, relevant services and expertise offered by the

European Commission's Joint Research Centre (JRC), and in particular by its Molecular Ecotoxicology and Microbiology laboratory. The laboratory is equipped with advanced instruments, such as the MinION™ for nanopore sequencing, and digital polymerase chain reaction (PCR), and provides access to the next generation sequencing (NGS) facility at the JRC for microbiome analysis and skilled experts in the field of molecular based methodologies. Complementarity and synergies with relevant other areas under this topic should be considered.

For this area an EU contribution between EUR 12.00 and 14.50 million should allow the related outcomes to be addressed appropriately.

*RI services for sustainable aquaculture, fisheries and blue economy*

Sustainable fisheries and aquaculture are part of the Farm to Fork Strategy and also contribute to the Sustainable Blue Economy Strategy. At the same time, advances in biotechnology tools (e.g. -omics, bioinformatics) increasingly expose the potential of aquatic bioresources. However, research and innovation is needed to ensure sustainability and resilience of the blue economy as well as to unlock its potential.

Proposals should provide access to a wide portfolio of complementary research infrastructures and their services needed to address the scientific challenges in support of the Common Fisheries Policy, the Farm to Fork Strategy and the Sustainable Blue Economy Strategy. Building on past integration of access to facilities such as inland and marine aquaculture experimental platforms, marine biological resources and analytical platforms, relevant marine data and



observing platforms, proposals should further integrate, customise or combine services and adapt modalities of access to facilitate interdisciplinary research addressing EU priorities. Proposals should ensure appropriate links with relevant European and international initiatives, with projects developing under Horizon Europe and with the European Partnership for a climate neutral, sustainable and productive blue economy. When appropriate, research infrastructures services should benefit from Copernicus, GEOSS, EMODNET and the European Digital Twin of the Ocean (DTO) initiatives. Similarly, relevant data generated by the projects should be made available to these initiatives.

Complementarity and synergies with relevant other areas under this topic should be considered.

For this area an EU contribution between EUR 12.00 and 14.50 million should allow the related outcomes to be addressed appropriately.

#### *RI services for renewable energy technologies and systems*

Increased energy efficiency and wider use of renewable energy play a key role in achieving the European Green Deal goal of a climate neutrality by 2050 and the 'Fit for 55' energy targets. The wide and concerted efforts that researchers and innovators are devoting in finding new solutions to accelerate the green transition, should be supported and enabled by the most advanced research and testing facilities.

Under previous Framework Programme research infrastructures for various types of renewable energy, for energy efficiency and smart grids have served their respective communities enabling advanced R&D. Building on these experiences these

different facilities and testing platforms should now make a further step and integrate their services to create a unique entry point to a wide and integrated catalogue of complementary services for all researchers and innovators working for a more green and efficient energy.

Proposals should integrate services provided by the key research infrastructures in the EU and Associated Countries in the fields of solar power (photovoltaic and concentrated solar power), hydrogen, biofuels, offshore renewable energy (ORE), integrated grids and energy storage. Broader access at EU level should be provided to services for research, development and testing of renewable energy systems including grid integration across a range of TRLs. Services can also be customised and combined for an integrated and interdisciplinary support to R&I, along the entire value chain, from materials, technology development to applications.

The provision of effective and integrated RI services will help academic and industrial researchers to address the challenges of the green transition towards higher shares of renewable energy and a more decentralised and low-intensity energy supply. It will also enhance research in areas relevant to the EU missions on Climate change and Emission-free cities, as well as to the Blue Economy Partnership and to the SET-Plan action on integrating renewable technologies in the energy systems.

Proposals should ensure appropriate links with relevant European and international initiatives, including the two above mentioned missions.

For this area an EU contribution between EUR 12.00 and 14.50 million should allow





the related outcomes to be addressed appropriately.

*RI services for innovative applications of nanoscience and nanotechnology*

The advancements in nanoscience and nanotechnology have demonstrated the potential of working at nanoscale for applications in a wide range of industrial sectors, such as electronic, food, and packaging, just to mention few. Nanotechnologies are also crucial for the development of medical devices, including drug delivery systems and biosensors. To enlarge the array of applications and push further the use of nanoscience and nanotechnology for finding effective solutions to emerging socio-economic needs, researchers and innovators need the most advanced research and testing facilities.

The research infrastructures in the field (e.g. experimental installations for micro- and nanofabrication, analytical and modelling/simulation facilities, ...), including those relevant for the synthesis and the nanoscale characterization of solid state, biological and soft materials required for innovative applications, should build on past integration of access to their facilities in previous Framework Programmes and reach an higher and more interdisciplinary level of integration to offer access, through a single entry point, to a coherent and complementary set of services, customising and combining them when necessary, to support academic and industrial research teams. Safety issues of nanomaterials, which could come in close contact with humans and be dispersed in the environment, should be taken into account for reducing the possible health and environmental risks early on in the innovation process.

Proposals could consider, for their inclusion in the service portfolio, relevant services and expertise offered by the European Commission's Joint Research Centre (JRC), and in particular by its Nanobiotechnology Laboratory on the physical and chemical characterisation of advanced (nano)materials, nanosystems and macromolecules.

For this area an EU contribution between EUR 12.00 and 14.50 million should allow the related outcomes to be addressed appropriately.

*RI services to enhance the EU capacity for the development of semiconductors*

The creation of a competitive European ecosystem for the design and the production of semiconductors is a major EU priority, as underlined by EC President Von der Leyen in her State of Union address. Semi-conductors are nowadays the engine of almost anything we use for economic activities, mobility and leisure and the undoubted basis of the digital transition. The recent production crisis caused by the shortage of semi-conductors demonstrated the worrying dependency of Europe from Asia. The new European Chips Act, announced by the Commission, should precisely address the lack of competitiveness and technological sovereignty of the EU in this field. One of the foreseen actions is to link together and strengthened world-class research, design and testing capacities in the EU.

Waiting for new capacities to be built, the existing research infrastructures (e.g. nano-electronics infrastructure, printing facilities for electronics, facilities for ion beam-modification or cosmic radiation hardening of semiconductors, ...), including the ones which in previous Framework Programme have already integrated and



opened their services at EU level, should now come together and create a unique entry point, for academic and industrial researchers, to a wide and integrated catalogue of complementary services enabling R&D on leading-edge semiconductors, including the ones for the next generation of computing paradigms, and new innovative way to produce them. In order to better serve this EU priority and facilitate interdisciplinary research, services should also be customised, combined as necessary, and possibly expanded.

Proposals should ensure appropriate links, synergies and complementarities, also in terms of TRLs, with relevant activities in other parts of Horizon Europe and other initiatives at EU level in this field.

For this area an EU contribution between EUR 12.00 and 14.50 million should allow the related outcomes to be addressed appropriately.

*RI services for shaping the future generation society*

Proposals should provide effective access to an integrated, wide range of RI services enabling research into the transformation towards a future European society in line with the goals envisaged by Next Generation EU. Research infrastructures, such as relevant surveys, social data archives, collections and repositories, will provide physical, remote or virtual access to relevant resources and make available and integrate existing data through a single point of access. This could include in particular data on the perceptions of various societal groups of the main problems and challenges facing the EU in the next decades and the way these groups can be better represented in the decision-making process and involved in the

formulation of policies and actions at EU level, as well as in the implementation of the EU Missions action plans. The specific needs of Young people in Europe, from different backgrounds and belonging to different groups, will be particularly taken into account. By providing services to researchers in this field, research infrastructures will help the implementation of the Next Generation EU priorities and will contribute to the dialogue on the EU Youth strategy. Development of specific skills and competences to better exploit the available resources to address this challenge as well as curation and preparation of data for access (e.g. anonymization) can be included in the services provided by research infrastructures within this topic. The development and implementation of new relevant data-related services can also be supported, provided that these new services are opened and offered already under the actions and that their long-term sustainability is ensured by the participant RIs.

For this area an EU contribution between EUR 8.00 and 10.00 million should allow the related outcomes to be addressed appropriately.

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**Research infrastructure services to support health research, accelerate the green and digital transformation, and advance frontier knowledge (2023)**  
(HORIZON-INFRA-2023-SERV-01)

**Deadline date: 09 March 2023, 17:00:00  
Brussels time**



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 the EU and Associated Countries deriving from the exploitation of synergies and complementarities;
- a new generation of researchers trained to optimally exploit all the essential tools for their research;
- cross-disciplinary fertilisations and a wider sharing of information, knowledge and technologies across scientific fields fostered by closer interactions between researchers active in and around research infrastructures;
- better management, including implementing FAIR data principle, of the continuous flow of data collected or produced by research infrastructures.

Scope: this topic aims at providing trans-national access (on-site or remote) and/or virtual access to integrated and customised RI services for curiosity-driven research in wide scientific domains, offered by a wide range of complementary and interdisciplinary top level research infrastructures. Scientific domains are identified on the basis of a Multi-Annual

Priority Setting (MAPS) exercise aiming at achieving a balanced coverage of scientific disciplines addressed under the INFRASERV destination as well as complementarities with Horizon 2020 ongoing grants offering access provision. Within identified domains, emerging areas of research can also be served. The MAPS follows the taxonomy used in the ESFRI Roadmap.

In 2023, the scientific domains called under this topic are:

- Biosphere: terrestrial biodiversity and ecosystems, including forest;
- Astronomy and Astroparticle physics;
- Arts and Humanities.

An EU contribution between EUR 12.00 and 14.50 million for the first two domains and between EUR 8.00 and 10.00 million for the third domain, should allow the expected outcomes to be addressed appropriately.

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 RIs 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.

While the main goal of this topic is access provision to existing services, limited development of new services, relevant to specific scientific challenges in the identified domains, can also be supported,



including joint/cross-RI 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 RIs. The long-term R&D for new instrumentation, tools, methods and advanced digital solutions will continue to be supported under destination INFRATECH.

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

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 duly consider major European or international initiatives relevant in the domain. Whenever appropriate, they should foster the use and deployment of (open) global standards.

Proposals should make available to researchers a very wide and comprehensive portfolio of complementary research infrastructure services, including data services, which are relevant for frontier research in the domain. To this extent, they should involve, as beneficiaries, affiliated entities, third parties, or external providers of purchased services, the necessary interdisciplinary set of research infrastructures of European interest that provide such services. The inclusiveness of the portfolio of services offered by the proposal will be considered in the Excellence score. Proposals including only few of the research infrastructure services relevant to the scope will be scored lower.

Access could also be open, under certain conditions, to third countries' researchers

to work on global scientific challenges. Research infrastructures from third countries may be involved when appropriate, in particular when they offer complementary or more advanced services than those available in the EU 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/installations 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 considered during evaluation. In this topic the integration of the gender dimension (sex and gender analysis) in research and innovation content is not a mandatory requirement.

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### **TELETHON 2022 MULTI-ROUND CALL**

Il bando Telethon multi-round call for research projects 2021 – 2024 è finalizzato al finanziamento di progetti di ricerca di base e preclinica focalizzati sulle malattie rare di comprovata origine genetica, di forma monogenica o poligenica, condotti da



ricercatori che lavorano in istituzioni di ricerca, pubbliche o private, italiane senza scopo di lucro.

Non sono ammissibili progetti di ricerca sul cancro, sclerosi multipla, immunodeficienza acquisita, SLA, Malattie multifattoriali.

I progetti, di durata massima di 24 mesi, potranno essere sottomessi in uno dei seguenti track:

1. Track RICERCA DI BASE focalizzato sull'identificazione di meccanismi patologici e/o target. Il budget massimo complessivo per ogni progetto è di 80.000 € annui.

2. Track PROVA DI CONCETTO PRECLINICA focalizzato sull'identificazione e/o la validazione di potenziali approcci terapeutici

Il budget massimo complessivo per ogni progetto è di 120.000 € annui

Per entrambi i track sono previste quattro scadenze specifiche (cioè, quattro round):

1° round - 30 giugno 2022

2° round - 28 febbraio 2023

3° round - 31 ottobre 2023

4° round - 30 giugno 2024

I candidati potranno presentare un progetto di ricerca nell'ambito di un solo track per ciascun round.

Le proposte dovranno essere presentate attraverso il [Portale Telethon](#) dove saranno disponibili anche le Linee Guida che sono parte integrante del Bando.

[Link](#)