FORSCHUNGSPORTAL
SACHSEN-ANHALT

Forschungsportal-Mailliste EU-Foerderinfo: Querschnitt europäische Forschungsförderung
Clean Energy, Seafood, Hop on Facility, Climate resilience; Bioökonomie
erstellt am 16.03.2023, gültig bis 20.09.2023, Autor: Dipl.-Ing. Martina Hagen

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1. /DFG/ German-Jordanian Scientific Collaboration in the Field of Water Nexus, Deadline: 31 May 2023, Registration 24 May 2023

Call for the Initiation of International Collaboration between researchers at German Universities of Applied Sciences and researchers in Jordan
With this call, the Deutsche Forschungsgemeinschaft (DFG, German Research Foundation) supports the initiation of international research collaboration between scientists from Jordan and researchers at Universities of Applied Sciences in Germany in the field of water research and connected areas such as food and energy as well as socio-economic aspects.

The initiative particularly focuses on research questions addressing the interconnectivity between water research and the related energy and food sectors. The initiative is also open for the integration of further aspects such as environmental health, societal aspects and information technology into the context of water nexus research.

Aim of the Initiative
The aim of the initiative is for participating researchers to identify joint research interests in the area of the water nexus research and initiate new collaborative ventures.

Structure of the Initiative
The initiative comprises two parts:
(1) The opportunity to submit DFG proposals to support the initiation of international collaborations,
(2) a Status Workshop in Bonn/Germany to convene all researchers funded under this call.

(1) Call for the Initiation of International Collaboration
The Call for the Initiation of International Collaboration serves to establish and facilitate bilateral or multilateral collaborative relationships between researchers from Jordan and Germany. For this purpose, three different modules are available:
¿ Trips abroad (max. three months)
¿ Guest visits in Germany (max. three months)
¿ Exploratory Workshops

The funding remains available for a maximum of 12 months after the approval date, and the individual collaborative measures must be carried out within this time frame.

(2) Status Workshop
A Status Workshop will be organised centrally by the DFG to stimulate scientific interaction among funded project teams and to derive lessons learnt for facilitating German-Jordanian scientific cooperation.
In-person participation in the workshop will be limited to applicants from Germany and their project partners from Jordan who receive funding under this call.

Guest visits of the Jordanian cooperation partners should therefore be applied for and planned in such a way that they will be in Germany when the Status Workshop takes place (about 6 months after applicants receive their decision letters). Information about the exact date of the Status Workshop will be shared in due time. Transportation to the Status Workshop within Germany shall not be applied for in the proposal, neither for the cooperation partners nor for the applicants. These costs, as well as accommodation, will be covered by the DFG separately.

Eligibility
Qualified researchers from Jordan and Germany are invited to take part in the initiative (as a rule they should hold a doctorate and have a track record in their respective research field). Applicants from German research institutions are required to fulfil the DFG eligibility requirements.
All proposals must include at least one applicant from Germany and one cooperation partner from Jordan. However, proposals can only be submitted by eligible researchers who work in the German scientific system. Scientists from Jordan act as cooperation partners and can also receive funding.

Consultation
On 30 March 2023 (1:30 p.m.¿3:30 p.m.) the DFG invites to a virtual Q&A session, with the purpose of answering questions of potential applicants concerning this call such as the modalities and application process, as well as the programme itself. To participate please register under the link below.

Detailed information about the call and DFG collaboration with Jordan, can be obtained at the DFG Head Office, Bonn:
Ute Stotz, phone +49 228 885 2429, ute.stotz@dfg.de
For questions concerning DFG funding of projects in the field of water nexus:
Dr. Daniel Weymann, phone +49 228 885 2760, daniel.weymann@dfg.de
Further information:
https://www.dfg.de/foerderung/info_wissenschaft/ausschreibungen/info_wissenschaft_23_22/index.html

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2. /BMBF*/ MARE:N Küsten-, Meeres- und Polarforschung für Nachhaltigkeit, Termin: 14.4.2023

Die Förderrichtlinie umfasst fünf Schwerpunktbereiche in EU-Meeresbecken und im Atlantischen Ozean:
Planung und Verwaltung der Meeresnutzung auf regionaler Ebene (Marine Spatial Planning, MSP);
Entwicklung von Offshore-Meeresinfrastrukturen mit Mehrfachnutzung zur Unterstützung der blauen Wirtschaft;
Klimaneutrale, ökologisch nachhaltige und ressourceneffiziente Erzeugung mariner Nahrungs- und Futtermittel;
Ökologische Umstellung der Produktion von marinen Lebensmitteln;
Ocean Digital Twin (ODT): Entwicklung von Anwendungsszenarien, indem vorhandene Daten assimiliert und getestet und andere (größere) Infrastrukturmaßnahmen zu ODTs in anderen europäischen Projekten berücksichtigt werden.
Antragsberechtigt sind Hochschulen, Forschungseinrichtungen und Unternehmen der gewerblichen Wirtschaft. Einrichtungen der Kommunen, der Länder und des Bundes sowie Verbände und weitere gesellschaftliche Organisationen sind nur förderfähig, wenn sie einen substanziellen, eigenen Forschungs- und Entwicklungsbeitrag zum Forschungsverbund leisten.
Jeder Projektvorschlag muss von einem Verbund eingereicht werden, das sich aus Partnern von mindestens drei unabhängigen juristischen Personen aus drei an der Förderbekanntmachung beteiligten Ländern zusammensetzt. Dabei sind die nationalen Förderkriterien der jeweiligen Förderorganisation zu erfüllen. Partner (Forschungseinrichtungen oder Unternehmen), die keine Förderung durch die beteiligten Förderinstitutionen beantragen bzw. dazu nicht berechtigt sind, können sich einem Projekt anschließen, wenn ihr Beitrag als wissenschaftlicher Mehrwert belegt ist. Sie können als assoziierter Partner an einem Projekt teilnehmen, müssen aber für ihre Beteiligung selbst aufkommen und erhalten keine finanzielle Unterstützung von den beteiligten Förderinstitutionen.
Die Zuwendungen werden im Wege der Projektförderung als nicht rückzahlbarer Zuschuss gewährt. Für deutsche Projektpartner sind jeweils bis zu 400 000 Euro für maximal 36 Monate zuwendungsfähig. Bei mehreren deutschen Partnern in einem europäischen Forschungsverbund beträgt die maximale

Fördersumme 60 % der Gesamtfinanzierung pro Forschungsverbund.

Mit der Abwicklung der Fördermaßnahme hat das BMBF derzeit folgenden Projektträger beauftragt:
Projektträger Jülich, Forschungszentrum Jülich GmbH
Geschäftsbereich Marine und maritime Forschung, Geowissenschaften und Schifffahrt (MGS)
Fachliche Ansprechpartner:
Frau Dr. Claudia Schultz, Telefon: +49 (0) 228/60884-212, E-Mail: c.schultz@fz-juelich.de
und
Frau Dr. Susanne Fretzdorff, Telefon: +49 (0) 381/20356-288, E-Mail: s.fretzdorff@fz-juelich.de
Weitere Informationen:
https://www.bmbf.de/bmbf/shareddocs/bekanntmachungen/de/2023/03/2023-03-20-Bekanntmachung-FONA.html

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3. /BMBF*/ Bioökonomie International (Bioeconomy International) 2023, Frist: 20. Juni 2023 13 CET, 1. Stufe

Gefördert werden Forschungs-, Entwicklungs- und Innovationsvorhaben (FuEuI-Vorhaben) in Verbünden mit Partnern aus Deutschland und Queensland/Australien, die im Rahmen eines Wettbewerbs ausgewählt werden. Gefördert werden deutsche Partner in diesen internationalen Verbünden.
Den thematischen Rahmen der Förderung setzt die Nationale Bioökonomiestrategie vom 15. Januar 2020 mit ihren Leitlinien und strategischen Zielen. Im Kontext der Umsetzungsziele definiert sie distinkte Bausteine der Forschungsförderung, um die strategischen Ziele der Strategie zu erreichen.
Von den geförderten Verbundvorhaben wird erwartet, dass sie den Bezug zu mindestens einem der in der Strategie genannten Bausteine der Forschungsförderung herstellen:
- Biologisches Wissen als Schlüssel der Bioökonomie (Mikroorganismen; Algen, Pilze, Bakterien, Pflanzen; Insekten etc.);
- Konvergierende Technologien und disziplinübergreifende Zusammenarbeit (Digitalisierung, Künstliche Intelligenz, Nanotechnologie, Automatisierung, Miniaturisierung etc.);
- Grenzen und Potenziale der Bioökonomie;
- Transfer in die Anwendung (Wertschöpfungsnetze etc.);
- Bioökonomie und Gesellschaft (Wechselwirkungen, Zielkonflikte etc.);
- Globale Forschungskooperationen.
Einen Schwerpunkt der Ausschreibung bilden die Themen des Bausteins ,,Biologisches Wissen als Schlüssel der Bioökonomie". Hierzu zählen beispielsweise:
- Arbeiten zum Verständnis und der Modellierung von biologischen Systemen;
- Projektskizzen zur Erforschung und Etablierung neuartiger Produktionsorganismen für die Primärproduktion und industrielle Produktion;
- Forschungsansätze zur Entwicklung beziehungsweise Weiterentwicklung innovativer biotechnologischer Verfahrenskonzepte für biobasierte Produktionssysteme sowie
- Forschungsarbeiten, die auf die nachhaltige Erzeugung biogener Ressourcen abzielen.
Weitergehende Erläuterungen zu förderfähigen Themen können beim zuständigen Projektträger (siehe Nummer 7.1) eingeholt werden.
Die internationale Kooperation innerhalb der Verbundvorhaben und der dadurch entstehende Mehrwert für beide Länder bei der Umsetzung der Nationalen Bioökonomiestrategie stehen im Vordergrund der Fördermaßnahme Bioökonomie International (Bioeconomy International). Mit Blick auf die avisierte Arbeitsteilung, die Kompetenz der Partner sowie die Verwertung der Vorhabenergebnisse muss die Kooperation finanziell, inhaltlich und bemessen auf den erforderlichen Workload ,,auf Augenhöhe" stattfinden. Dabei soll der Nutzen für die beteiligten Partner/Länder ausgeglichen beziehungsweise fair verteilt sein. Des Weiteren bietet die Fördermaßnahme die Möglichkeit, Projektideen umzusetzen, die im Rahmen von vorherigen Anbahnungsmaßnahmen angestoßen und initiiert wurden. Weitere

Informationen zur Nationalen Bioökonomiestrategie sind im Internet erhältlich.
Die Fördermaßnahme Bioökonomie International 2023 besteht aus einem sogenannten bilateralen Modul:
Modul ,,Bioökonomie Deutschland - Queensland/Australien"
Zusammenarbeit mit Partnern aus Queensland
Das Queensland Government führt im Rahmen der ,,Queensland Government's AUD150 million Trade and Investment Strategy 2022-2032", verwaltet durch das ,,Department of Environment and Science (DES)", in Australien eine zu dieser Förderrichtlinie parallele Ausschreibung durch.
Gefördert werden können Vorhaben mit Partnern aus Queensland zu den folgenden Themenfeldern:
- Biobasierte Materialien: Entwicklung oder Weiterentwicklung von Technologien zur Herstellung von Produkten mit höherer Wertschöpfung aus nachhaltig erzeugter Biomasse. Einschließlich, aber nicht beschränkt auf Biotechnologie und synthetische Biologie.
- Nachhaltige Landwirtschaft: Entwicklung oder Weiterentwicklung von Verfahren für eine gesteigerte und nachhaltige Produktion von landwirtschaftlichen Systemen - dies kann z. B. Präzisions-, intelligente und digitale Landwirtschaft umfassen, wenn es einen eindeutigen Bezug zur Bioökonomie gibt.
- Lebensmittel: Innovationen zur Unterstützung nachhaltiger und widerstandsfähiger Lebensmittelsysteme mit besonderem Fokus auf die Verringerung oder Wiederverwendung von Abfällen sowie auf die Verbesserung der Kreislaufwirtschaft.
Das Auswahlverfahren für die unter dem Modul 1 eingereichten Projektskizzen erfolgt gemeinsam mit dem Queensland Government.
Antragsberechtigt sind Hochschulen, außeruniversitäre Forschungseinrichtungen, Landes- und Bundeseinrichtungen mit Forschungsaufgaben sowie Unternehmen der gewerblichen Wirtschaft, insbesondere kleine und mittlere Unternehmen (KMU). Zum Zeitpunkt der Auszahlung einer gewährten Zuwendung wird das Vorhandensein einer Betriebsstätte oder Niederlassung (Unternehmen) beziehungsweise einer sonstigen Einrichtung, die der nichtwirtschaftlichen Tätigkeit des Zuwendungsempfängers dient (Hochschule, außeruniversitäre Forschungseinrichtung, Landes- und Bundeseinrichtungen mit Forschungsaufgaben), in Deutschland verlangt.
Das Antragsverfahren ist zweistufig angelegt.
Weitere Informationen:
https://www.bmbf.de/bmbf/shareddocs/bekanntmachungen/de/2023/03/2023-03-03-Bekanntmachung-Bio%C3%B6konomie.html

4. /HORIZON EUROPE/ Additional activities for the European Partnership Water Security for the Planet (Water4All), deadline: 12. April 2023 17:00 Brussels time

This topic is for the continuation of the European Partnership Water Security for the Planet (Water4All), i.e. EU contribution in WP 2023-2024.
The second instalment of the partnership is expected to contribute to expected outcomes specified in topic HORIZON-CL6-2021-CLIMATE-01-02: European Partnership Water Security for the Planet (Water4All), for continuation and new development of activities.
The objective of this action is to continue to provide support to the European Partnership Water4All identified in the Horizon Europe Strategic Plan 2021-2024 and first implemented under the topic HORIZON-CL6-2021-CLIMATE-01-02: European Partnership Water Security for the Planet, and in particular to fund additional activities (which may also be undertaken by additional partners) in view of its intended scope and duration, and in accordance with Article 24(2) of the Horizon Europe Regulation.
The consortium which applied to and received funding under HORIZON-CL6-2021-CLIMATE-01-02: European Partnership Water Security for the Planet is uniquely placed to submit a proposal to continue the envisioned partnership. Not only did this consortium submit the proposal leading to the identification of the partnership in the Horizon Europe strategic planning 2021-2024, it has also implemented the partnership through co-funded calls in 2021 and 2022 based on this planning and further to topic HORIZON-CL6-2021-CLIMATE-01-02. In this context, the current consortium has particular expertise in relation to the objectives of the Partnership, the activities to be implemented, in particular FSTP calls or

other calls/scope of calls clearly required/envisioned pursuant to initial proposal/partnership, and other relevant aspects of the action. In practice, another consortium could not continue the activities of the Partnership underway without significant disruption to the ongoing activities, if at all.
The scope of the application for this call on the European Partnership Water Security for the Planet should focus on the 2023-27 programmes according to the partnership's co-created strategic research and innovation agenda for seven years, which includes joint calls for research projects, activities to fostering the uptake of R&I results from various stakeholders, living labs and demonstration sites activities to demonstrate the efficiency of innovative solutions, activities to enhance international collaborations and support the achievement of the water related UN SDGs and transfer of in foreign contexts, where specific challenges can be encountered. Actions to ensure coordination and alignment of EU, national and regional programmes, to strengthen the research/policy interface and all horizontal activities to allow the Partnership to operate and to achieve its specific objectives should be also addressed.
It is expected that the partnership continues to organise joint calls on an annual base and therefore it should factor ample time to run the co-funded projects.
Specific activities to strengthen the synergies of Water4All partnership with the related Missions and Partnerships, identified in the proposal submitted by the coordinator of the consortium funded under HORIZON-CL6-2021-CLIMATE-01-02 should be also described.
While the award of a grant to continue the Partnership in accordance with this call should be based on a proposal submitted by the coordinator of the consortium funded under
HORIZON-CL6-2021-CLIMATE-01-02: European Partnership Water Security for the Planet (Water4All) and the additional activities (which may include additional partners) to be funded by the grant should be subject to an evaluation, this evaluation should take into account the existing context and the scope of the initial evaluation as relevant, and related obligations enshrined in the grant agreement.
Taking into account that the present action is a continuation of topic HORIZON-CL6-2021-CLIMATE-01-02 and foresees an amendment to an existing grant agreement, the proposal should also present in a separate document the additional activities and additional partners, if any, to be covered by the award in terms of how they would be reflected in the grant agreement.
The partnership should pool the necessary financial resources from the participating national (or regional) research programmes with a view to implementing joints call for transnational proposals resulting in grants to third parties.
The Commission envisages to include new actions in future work programmes to continue providing support to the partnership for the duration of Horizon Europe.
Further Information:
https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/horizon-cl6-2023-climate-01-1;callCode=null;freeTextSearchKeyword=;matchWholeText=true;typeCodes=1,2,8;statu=1,2,8;statusCodes=31094502;programmePeriod=2021%20-%202027;programCcm2Id=43108390;programDivisionCnCode=null;focusAreaCode=null;destinationGroup=null;missionGroup=null;geographicalZonesCode=null;programmprogrammeDivisionProspect=null;startDateLte=null;startDateGte=null;crossCuttingPriorityCode=null;cpvCode=null;cpvCode=null;performanceOfDelivery=null;sortQuery=startDate;orderBy=asc;onlyTenders=false;topicListKey=topicSstKey=topicSearchTablePageState

5. /HORIZON EUROPE/ New detection methods on products derived from new genomic techniques for traceability, transparency and innovation in the food system, deadline: 12. April 2023 17:00 Brussels time

The successful proposal will be in line with the European Green Deal priorities and the farm to fork strategy for a fair healthy and environmentally friendly food system, as well as with the EU's climate ambition for 2030 and 2050. The farm to fork strategy aims to accelerate the transition to sustainable farming and food systems. It recognises the role that new innovative techniques may play in increasing sustainability, provided they are safe for consumers and the environment while bringing benefits for society as a whole. In addition, one of the strategy´s main priorities is to ensure traceability and

authenticity, and to enhance transparency. In this context, the successful proposals should contribute to ensuring traceability and authenticity, enhancing transparency and promoting innovation in the area of new genomic techniques.
Although existing detection methods may be able to detect even small alterations in the genome, this is sometimes not sufficient to confirm the presence of a genetically modified organism/product (GMO) regulated under Directive 2001/18/CE or Regulation 1829/2003, as the same alteration(s) could have been obtained by conventional breeding, which is not subject to the GMO legislation.
The existing approaches for the detection of GMOs cannot be applied in all cases. Various products obtained with new genomic techniques, as defined by European Commission, Joint Research Centre 2021, do not contain targets (e.g., promoters/terminators for screening purposes or event-specific sequences) on which GMO detection is largely based.
The challenge to identify certain genetically modified products is not always related to the available methodologies, but rather to the difficulty to differentiate against non-regulated products.
Some of the above mentioned challenges have been identified by recent literature and the European Network of GMO Laboratories (ENGL) report of 26 March 2019 (JRC116289) which, referring to gene editing derived plant products, concluded that validation of an event-specific detection method and its implementation for market control will be feasible only for products carrying a known DNA alteration that has been shown to be unique.(i.e. the alteration should be specific for the gene edited organism/product). The same consideration might apply for cisgenesis applications combined with gene editing. Under the current circumstances, market control will fail to detect unknown genome-edited plant products. The report notes that several issues regarding the detection, identification and quantification of genome-edited products will require further consideration, as its findings are currently based on theoretical assessments.
Project results are expected to contribute to all of the following expected outcomes:
- Reliable detection methods to address the challenges described;
- Development and validation of detection tools for enforcement authorities as well as for developers and agri-food operators;
- Empower enforcement authorities, developers and agri-food operators for the authenticity and traceability of products obtained through new genomic techniques;
- Enable informed consumer choices by enhancing transparency and traceability across the food chain;
- Enable innovation in the food system linked to new genomic techniques.
Proposals are expected to contribute to the development and validation of detection methods of products obtained through new genomic techniques, including all of the following activities:
- Examine innovative ways and/or specific markers that would allow for distinction between products resulting from new genomic techniques subject to the GMO legislation and products that are not subject to the GMO legislation. This should not only entail the detection of specific mutations, but also of other markers in the genome that are specific for the genotype containing the mutation/s. The methods should be able to distinguish between identical mutations obtained through different techniques;
- Development and validation of reliable detection methods including when possible quantification. Such methods could focus on products with known mutations (i.e. DNA sequence known) or on products with unknown mutations;
- The proposed detection methods should focus on a wide applicability of all or a subgroup of products, allowing for a screening approach. These methods should be assessed on pure products as well as on mixtures typical of food or feed products in the market. Proposals should always include plant-based products and may include also animal and/or microorganisms-based products.
- The proposal could also focus on the detection of unintended mutations or insertions (foreign DNA, CRISPR-Cas sequences, etc);
- The proposals could also include digital/virtual/AI modelling aspects along with the detection methods alternatives;
- The development and validation of standardized methodologies and the contribution to future standardisation processes is encouraged.
Proposals are encouraged to cooperate with actors such as the European Commission's Joint Research Centre (JRC) Knowledge Centre for Food Fraud and Quality, which provides expertise in food science,

authenticity and quality of food supplied in the EU. Proposals could also foresee the involvement of the European Network of GMO Laboratories (ENGL).
Activities are expected to achieve TRL 4-5 by the end of the project. Proposals should define clearly the TRL starting point for each involved technology and the plan to reach more advanced TRL.
Applicants should seek synergies and capitalise on the results of past and ongoing research projects (including projects under the same topic) in the areas of food and feed chain traceability and new genomic techniques. Therefore proposals should include a dedicated task, appropriate resources and a plan on how they will collaborate with other projects funded under e.g. the topic HORIZON-CL6-2021-ZEROPOLLUTION-01-08. In order to achieve the expected outcomes, international cooperation is encouraged.
Further Information:
https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/horizon-cl6-2023-farm2fork-01-11;callCode=null;freeTextSearchKeyword=;matchWholeText=true;typeCodes=1,2,8;statusCodes=31094502;programmePeriod=2021%20-%202027;programCcm2Id=43108390;programDivisionCode=null;focusAreaCode=null;destinationGroup=null;missionGroup=null;geographicalZonesCode=null;programmeDivisionProspect=null;startDateLte=null;startDateGte=null;crossCuttingPriorityCode=null;cpvCode=null;cpvCode=null;performanceOfDelivery=null;sortQuery=startDate;orderBy=asc;onlyTenders=false;topicListKey=topicListKey=topicSearchTablePageState

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6. /HORIZON EUROPE/ Towards sustainable livestock systems: European platform for evidence building and transitioning policy, deadline: 12. April 2023 17:00 Brussels time

Increasing sustainability, viability and resilience of climate friendly agricultural production are key objectives of the farm to fork strategy. The adoption and enhancement of more biodiversity-friendly farming systems is among the objectives of the EU biodiversity strategy for 2030. In line with these objectives, the successful proposal will support policy makers with science-based evidence on the impacts and externalities of livestock farming as part of the food system and wider ecosystem.
Activities under this topic will contribute to all of the following expected outcomes:
- Assembled collation of comparable and sound data on positive and negative impacts and externalities from the terrestrial livestock sector in accordance with internationally agreed methodology
- Quantitative, qualitative and monetized evidence of the social, economic and environmental impacts and externalities of different livestock production systems (extensive, intensive, organic, different animal species), and their relation to particular food systems (e.g., short supply, circular, market oriented...) as well as trade-offs/synergies assessed at farming and landscape scale
- Recommendations/policy advice on more effective tools in mitigating negative externalities and increasing positive externalities in different terrestrial livestock production systems
- Ensured more intensive and broader communication and dissemination of evidence-based knowledge in the EU and beyond, and make it accessible to all stakeholders groups, citizens and civil society at large.
The current debate on positive or negative impact and values of animal production is based on abundant contradictory data and on the difficulties in quantifying natural processes linked to agricultural production and land use. Negative and positive impacts and externalities, including potential trade-offs, should be deeply investigated in different types of farming systems, practices and environments. The project will build on a wide range of scientific information, reports, expert opinions and other available material such as databases.
The following elements should be incorporated:
- Provide a comprehensive study on the positive and negative impacts and externalities of terrestrial livestock farming systems in different social, economic and environmental contexts across Europe at farm, landscape and regional levels
- Mapping of research and innovation projects as well as complementary initiatives, vision papers and reports on impact and externalities of different terrestrial livestock farming systems (extensive, intensive, organic, different animal species) within different food systems

- Develop methods and indicators to measure the scale, range and degree of identified externalities in different livestock systems
- Generate data on the aggregated effects of environmental, social and economic externalities available to allow the assessment of net global impact. Elaborate potential scenarios at national, regional levels through the use of existing or improved modelling
- Improve the understanding of the co-benefit of livestock systems for biodiversity and ecosystem services, land use/change, circularity, GHG emissions/savings, energy consumption, air/water/soil quality, human diet/health, animal health and welfare, food and nutritional security
- Provide new and improved evidence to support decision makers, public authorities, other organizations and stakeholders in the assessment of the socio-economic and environmental impacts and externalities of terrestrial livestock production systems around Europe, building on the specific elements above
- Communicate sciencebased evidence of the impacts of terrestrial livestock systems on climate, environment, biodiversity and ecosystem services as well as potential for improvement towards sustainable livestock systems. The socio-economic dimension should be considered.

In order to better address some or all of the expected outcomes, international cooperation is encouraged. The project will seek to engage a dialogue with and feed into any relevant structure or organization at European level and beyond such as Standing Committee on Agricultural Research (SCAR), FAO, Livestock Environmental Assessment and Performance Partnership (LEAP, FAO), Global Agenda for Sustainable Livestock (GASL), etc.
Proposals must implement the 'multi-actor approach' and ensure adequate involvement of the main stakeholders involved in terrestrial livestock production systems and their sustainability (e.g., farmers, advisory services, policy makers, producers, land managers, ecology and nature conservation experts, social scientists and other relevant actors).
Further Information:
https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/horizon-cl6-2023-farm2fork-01-6;callCode=null;freeTextSearchKeyword=;matchWholeText=true;typeCodes=1,2,8;statusCodes=31094502;programmePeriod=2021%20-%202027;programCcm2Id=43108390;programDivisionCode=null;focusAreaCode=null;destinationGroup=null;missionGroup=null;geographicalZonesCode=null;programmeDivisionProspect=null;startDateLte=null;startDateGte=null;crossCuttingPriorityCode=null;cpvCode=null;cpvCode=null;performanceOfDelivery=null;sortQuery=startDate;orderBy=asc;onlyTenders=false;topicListKey=topicListKey=topicSearchTablePageState

7. /HORIZON EUROPE/ Cultured meat and cultured seafood - state of play and future prospects in the EU, deadline: 12. April 2023 17:00 Brussels time

In line with the European Green Deal priorities, the farm to fork strategy for a fair, healthy and environment friendly food system, the biodiversity strategy for 2030 and the EU's climate ambition for 2030 and 2050, the successful proposal will support R&I to promote the production, provision and safe consumption of alternative sources of protein, and dietary shifts towards sustainable healthy nutrition, contributing to the transformation of food systems to deliver co benefits for climate (mitigation and adaptation), biodiversity, environmental sustainability and circularity, sustainable healthy nutrition and safe food, food poverty reduction, empowerment of communities, and thriving businesses.
Cell-based agriculture, and especially cultured meat (also called in vitro meat, lab-grown meat, artificial meat, cellular meat or cell-based meat) and cultured seafood, could be considered as a promising and innovative solution to help achieving the objectives of the farm to fork strategy for fair, safe, healthy and environmentally-friendly food systems. However, the potential environmental impact and impact on sustainability aspects need to be thoroughly assessed and safety established.
As such, the objective of this topic is to develop knowledge on the sustainability aspects relevant to this subject (i.e. environmental, economic, and social). It does not aim to help developing the market of cultured meat and cultured seafood in the EU.
Project results are expected to contribute to all of the following expected outcomes:

- Full understanding and up-to-date knowledge provided to food system actors on environmental, economic and social aspects of cultured meat and cultured seafood, including on ethics.
- Additional knowledge provided on potential challenges of and opportunities offered by cultured meat and cultured seafood to reduce greenhouse gas (GHG) emissions, air, water and soil pollution, resource depletion and impact on ecosystems, generation of wastes, and on human health.
Contribution to the farm to fork objectives and Food 2030 priorities: nutrition for sustainable healthy diets, climate, biodiversity and environment, circularity and resource efficiency, innovation and empowering communities (e.g., meeting the needs, values and expectations of society in a responsible and ethical way).
In 2020, cultured meat and cultured seafood knew a boost in interest outside Europe, with the first authorisation for marketing cultivated meat products in Singapore and a large increase in investment. In Europe, this sector is starting to attract investments as well (the EU invested through REACT-EU in lab-grown meat). At present, cell-based food products are not marketed in the EU. Such products require a pre-market authorisation before they can be placed on the EU market and, depending on the techniques used, this authorisation may need to be via either the GMO legislation or the novel food regulation. Once an application for the authorisation of these products is submitted to the Commission, the European Food Safety Authority (EFSA) will carry out the safety evaluation of these products, including whether they are nutritionally disadvantageous.
Few studies have been developed to understand the impact of the cultured meat cycle (production, consumption, waste) on the environment, and its link to social and cultural aspects. Rough estimates based on a life cycle assessment suggest lower GHG emissions, land requirements and water use compared to conventional meat. Conclusions on energy use depend on the methodology used and assumptions made. Cultured meat and cultured seafood also face social and cultural challenges.
Proposals are expected to address the following:
- Study the social aspects related to cultured meat and cultured seafood (potential benefits and risks): including the consumers' perception on cultured meat and cultured seafood, animal welfare, religious and ethical aspects, health aspects (for example impacts on obesity or NCDs, nutrition aspects) beyond safety risks eventually assessed by EFSA, etc.
- Study the economic aspects (potential benefits and risks): including how to reduce the high infrastructure costs and high-cost raw materials, as well as scaling up in a cost-effective way (including through reaching out to start-ups in this field to understand the difficulties and potential); and the "cost of inaction" (economic impact of not having such investments in the EU and Associated Countries).
- Study the environmental aspects (potential benefits and risks) considering the entire life cycle by using the Environmental Footprint methods, including elements on carbon footprint, pollution, impacts on biodiversity, resource use, and considerations on how the released land from livestock production could be utilised within the bioeconomy system, etc. and develop a comparison of the overall environmental impact of cultured meat/seafood vs. conventional meat/seafood. Particular attention should be given to the assessment of the energy intensiveness of cultured meat and cultured seafood production. Livestock co-products, such as leather, pet food, cosmetics, fertilisers, other chemicals, etc., should also be considered, as well as food waste and packaging issues.
- Study technical problems relating to the production of cultured meat and cultured seafood and identify possible solutions that could improve the economic viability, circularity and overall sustainability.
- Identify new sources of ingredients for the cultured meat and cultured seafood to increase the sustainability aspects of the products (including the nutritional value).
- Identify, explore and study scenarios of market penetration and consumer acceptance of cultured meat and cultured seafood and conduct LCA analysis to assess the environmental and sustainability impact/benefits each scenario would result in (considering issues such as the availability of energy for different levels of uptake of this technology).
- Explore the current and possible future impacts for the farmers (including aqua-farmers) and industry, including economic viability, challenges and opportunities for the farming sectors, etc.
- Proposals should involve a multi-disciplinary consortium of independent researchers that should organize conferences and meetings gathering a wide range of food system actors. International cooperation is strongly encouraged. Where relevant, activities should build and expand on the results of

past and ongoing research projects (e.g., Meat4all, CCMeat). The proposals should also consider projects selected under HORIZON-CL6-2021-FARM2FORK-01-12 and HORIZON-CL6-2022-FARM2FORK-01-07. The project should have a clear plan as to how it will collaborate with any other relevant project funded under other relevant topics. They should participate in joint activities, workshops, focus groups or social labs, and common communication and dissemination activities, and show potential for upscaling. Applicants should plan the necessary budget to cover these activities.
This topic should involve the effective contribution of SSH disciplines.
Further Information:
https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/horizon-cl6-2023-farm2fork-01-13;callCode=null;freeTextSearchKeyword=;matchWholeText=true;typeCodes=1,2,8;statusCodes=31094502;programmePeriod=2021%20-%202027;programCcm2Id=43108390;programDivisionCode=null;focusAreaCode=null;destinationGroup=null;missionGroup=null;geographicalZonesCode=null;programmeDivisionProspect=null;startDateLte=null;startDateGte=null;crossCuttingPriorityCode=null;cpvCode=null;cpvCode=null;performanceOfDelivery=null;sortQuery=startDate;orderBy=asc;onlyTenders=false;topicListKey=topicListKey=topicSearchTablePageState

8. /HORIZON EUROPE/ Providing marketing solutions to prevent and reduce the food waste related to marketing standards, deadline: 12. April 2023 17:00 Brussels time

In line with the European Green Deal priorities, the farm to fork strategy for a fair, healthy and environmentally friendly food system, and the EU's climate ambition for 2030 and 2050, and the Commission communication "Safeguarding food security and reinforcing the resilience of food systems", the successful proposals will support R&I to prevent and reduce food losses and waste. They should therefore contribute to the transformation of food systems to deliver co-benefits for climate (mitigation and adaptation), biodiversity, environmental sustainability and circularity, sustainable food consumption, food poverty reduction and empowerment of communities, and thriving businesses.
Projects results are expected to contribute to all the following outcomes:
- Better understanding of the impact of food marketing standards on the generation of food waste along the supply chain, including the food waste generated between stages of the supply chain, and for various commodities.
- Improved market access to foods that do not meet marketing standards but are still safe to eat.
- Better understanding of the purpose and nature of private marketing standards and the underlying reasons for establishing such standards.
Contribution to the Food 2030 priorities: nutrition for sustainable healthy diets, climate, biodiversity and environment, circularity and resource efficiency, innovation and empowering communities.
Food marketing standards are standards individuals and businesses comply with to be able to put food on the market or to sell to a particular buyer. These standards include or may include requirements about technical definitions, classification, presentation, marking and labelling, packaging, production method, conservation, storage, transport related administrative documents, certifications and time limits, restriction of use and disposal, ...
As these standards focus on quality, they are different from food safety standards (foods that do not comply with marketing standards can still be safe to eat).
The marketing standards applied to food marketed in the EU exist at different levels and in different forms:
- International standards.
- EU marketing standards, contained in the Common Market Organisation (CMO) Regulation, the CMO secondary legislation and the "Breakfast Directives".
- National marketing standards set up by governments of Member States
- Private marketing standards.
Proposals should address all the following points:
- Provide estimates of the amounts of food waste resulting from the application of the above-mentioned marketing standards along the food supply chain. In particular, estimates of the amounts of food waste

due to interactions between the stages and actors of the value chain should be provided. These estimates should be differentiated according to the responsible marketing standard(s).
- Assess trade-offs between food waste prevention/reduction objectives and other objectives pursued by marketing standards (e.g. keeping food of unsatisfactory quality off the market, providing clarity and transparency on the market, facilitating the functioning of the internal market; responding to consumers' and society's expectations).
- Assess the underlying reasons for setting up private marketing standards, including aspects related to consumers expectations.
- Identify solutions that would enable to improve the business potential for suboptimal foods not meeting market standards yet still safe to eat. This should include the identification of alternative marketing channels or models (including processing and other destinations), whilst ensuring the highest possible value for their valorisation and considering trade-offs between the different valorisation options. The most promising interventions and good practices already in place for similar foods or food categories should be considered.
- Provide recommendations/solutions to food businesses, owners of marketing standards and regulators on how to prevent/reduce food waste due to marketing standards.
- Some recommendations may help design marketing standards or support future policy development, in order to prevent and reduce food waste.
- Implement the multi-actor approach (see eligibility conditions) by conducting inter- and trans-disciplinary research and involving a wide range of food system actors.
The proposal activities should be performed at least for fruits and vegetables. Applicants may choose to cover additional commodities from the following food types: cereals, fish, meat, dairy and eggs.
The proposal activities should be performed across several Member States, in different parts of the EU.
Proposals should build on past or ongoing research projects and ensure synergy with relevant initiatives, including the Commission's EU Platform on Food Losses and Food Waste and the evaluations already carried out by the European Commission in view of the revision of EU marketing standards and date marking rules. Proposals should include a dedicated task, appropriate resources and a plan on how they will collaborate with other projects funded under this topic and any other relevant topic, e.g. by participating in joint activities, workshops, etc. Selected proposals under this topic will thus need to work together and adapt their initial work plan. Communication and dissemination activities should also be grouped and coordinated in a complementary manner.
Social innovation is recommended when the solution is at the socio-technical interface and requires social change, new social practices, social ownership or market uptake.
This topic requires the effective contribution of SSH.
Further Information:
https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/horizon-cl6-2023-farm2fork-01-14;callCode=null;freeTextSearchKeyword=;matchWholeText=true;typeCodes=1,2,8;sides=1,2,8;statusCodes=31094502;programmePeriod=2021%20-%202027;programCcm2Id=43108390;programDivisionCode=null;focusAreaCode=null;destinationGroup=null;missionGroup=null;geographicalZonesCode=null;programll;programmeDivisionProspect=null;startDateLte=null;startDateGte=null;crossCuttingPriorityCode=null;cpvCode=null;cpvCode=null;performanceOfDelivery=null;sortQuery=startDate;orderBy=asc;onlyTenders=false;topicListKey=topicListKey=topicSearchTablePageState

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9. /HORIZON EUROPE/ A European Collaborative Cloud for Cultural Heritage, deadline: 21. September 2023 17:00 Brussels time

Projects should contribute to all of the following expected outcomes:
- The ECCCH is established as a legal entity, which serves as a Single Entry Point (SEP) and managing body, and is supported by an external independent advisory board that assesses and advises on the technical robustness, effectiveness and usability of the ECCCH platform, its tools and services.
- The European Collaborative Cloud for Cultural Heritage (ECCCH) enhances the ability of cultural heritage actors to interact across disciplinary, institutional, sectorial and political boundaries and cooperate

effectively in advancing research on cultural heritage and in developing innovative solutions for the discovery, recovery, conservation, digitalisation and valorisation of digital, digitised and digitisable cultural heritage objects. This might also facilitate the prevention of illicit trafficking of cultural heritage objects.
- Cultural heritage institutions, curators, conservators, researchers, art managers, educators, other cultural heritage professionals and potential users in Europe are aware of, have access to and use the ECCCH platform, its tools and services for the study, digitisation, conservation, valorisation and access to cultural heritage artefacts and related data, in particular for the sharing and preservation of such data, and are involved in its validation and assessment, in view of continuously improving the ECCCH's performance and use.
- Cultural heritage institutions, curators, conservators, researchers, art managers, educators and other cultural heritage professionals apply new working approaches to collaborate across geographic, cultural, and political borders within Europe (and beyond), develop new business models to manage and valorise intellectual property related to cultural heritage artefacts and their digital twins, and unleash the full potential of a digitally enabled cultural heritage ecosystem connecting cultural heritage actors, activities and objects.
- The governance and management of the ECCCH is widely accepted, trusted and supported by stakeholders at European, national, regional and local level, in particular by Member States, and its sustainability at legal, technical, financial, human resources and scientific level is ensured.
- Participants of past and ongoing EU-funded initiatives, activities and networks are invited to cooperate with the ECCCH-related actions and to contribute with data to the ECCCH and testing of ECCCH tools.
This topic aims at designing and establishing a European Collaborative Cloud for Cultural Heritage (ECCCH) and demonstrating its basic capacities.
The cultural heritage sector is in the middle of a digital transition: digital technologies are revolutionising existing workflows, procedures and practices. To support this transition and further enhance research and innovation collaboration and activities in the field, the action should extend and improve the availability of sophisticated digital instruments and provide a platform for data exchange and collaboration to the cultural heritage sector. It should fulfil the requirements of the practitioners in the field by being inclusive, collaborative, interactive, safe, fidelity- and equality-based, and providing open access.
The overall goal is to define, extend and accelerate the development of a platform for multidisciplinary and multi-sectoral collaboration on cultural heritage, focusing on users' requirements and ease of use, as well as underpinning an open digital ecosystem that provides the tools and services needed to enable and scale-up future research and innovation in the field.
The initial focus is on the design and implementation of the basic architecture and governance of the ECCCH. The design and implementation of the ECCCH should be driven by the needs of its users: The professionals with various disciplinary background working on cultural heritage and in related sectors. The governance body of the effort therefore should include a wide representation from the European cultural heritage sector, research organisations, other related initiatives and from Member States and Associated Countries (see further below).
The project should:
- Provide services to both large and small museums and other cultural heritage institutions, thereby bridging the gap between national, regional and local cultural heritage institutions, both public and private.
- Establish a pan-European network of key stakeholders from cultural heritage institutions, including a robust scientific and professional community and be open to the cooperative efforts of a wide community of users.
- Supervise and steer the overall development strategy for the ECCCH. This includes the collaborative production, enrichment, structuring and dissemination of shared data to support community needs, while at the same time establish clear rules for access and participation and set up a framework for connecting existing communities and initiatives related to research and digital innovation in cultural heritage and cultural and creative industries.
- Provide a unified framework for long-term access and preservation of digital(ised) data, both public and private, based on a user-driven and scalable design as well as a general strategy for stimulating the use of innovative tools and services for the ECCCH.

- Propose a convincing consortium structure and outline a business plan ensuring viability during and after the implementation of the grant.
- Ensure continued maintenance of the ECCCH platform and the required storage, beyond the lifetime of the project and position the digital ecosystem as a key to connecting cultural heritage actors, activities and objects in synergy with the other related initiatives in the field.
- Enable semantic representation of multiple data types (various incarnations of 2D and 3D media, video, text), stored in federated repositories according to FAIR principles[4]and encoding data provenance. Previous and current ongoing related European initiatives should be properly taken into account. If appropriate, collaboration with the common European Data Space for Cultural Heritage (the Data Space) should be established.
- Allow for efficient web-based visualisation and analysis, and the creation of annotations over visual data. Controlled use of data is an important goal. Thus, the ECCCH should support authentication (single user/groups of users), identification of ownership, data rights and traceability of modifications (creation of derived data), data quality/fidelity information, and data security facilities. Technologies enabling access and use from geographic areas with low-performance network connections should be provided. The system should allow national communities/institutions to link and potentially configure their own local clouds in case this is necessary.

The project should build an inventory of previously funded EU and national initiatives and existing digital resources in areas relevant to the ECCCH, such as for instance EOSC, the Data Space, Europeana or Gaia-X, establish a comprehensive gap analysis and identify the outputs or resources that could be incorporated in, connected to or facilitate interoperability with the ECCCH, with a view to build on previous investments and already available initiatives.

The proposed open source platform should:

- Build on and expand existing standards and consolidated practices for managing the relevant data, including resources such as ontologies, vocabularies and terminologies. Where appropriate, this work should be conducted in collaboration with the Data Space;
- Be based on a modular, extensible and evolutionary model, that enables the incorporation of other instruments/tools developed by other subsequent consortia (thus providing libraries and Application Programming Interface (API) for designing tools, including HTML5- and WebGL-compliant Graphical User Interface (GUI) and data visualisation libraries);
- Provide instruments for assessing the quality of the data on the platform (and related attributes in the data model), and for monitoring the effectiveness/usage of the tools integrated into the ECCCH;
- Along with basic data management layers, the ECCCH should provide the necessary instruments for developing applications working on and integrating with the cloud. These instruments and related libraries should be properly documented by means of software development guidelines, allowing other consortia to design additional tools to extend the ECCCH.

Demonstrating successfully a selection of essential tools enabling collaborative research and innovation activities of users within the ECCCH that can also serve as good-practice examples for the development of additional professional tools needed for the sustainable functioning of the platform, e.g.:

- Integrating and accessing data, providing interactive and batch functionalities for data and metadata stored on the (federated) semantic repository, as well as sophisticated search and retrieval features, with web-based browsers specific for each data type, with compatible GUI;
- Data management, to structure, encode, store and analyse all knowledge needed to support curation activities (organisation of catalogues, bibliographies, conservation history of specific artworks, loan and travel history, monitor fraudulent use of museum's digital assets, etc.).

All basic infrastructure components should be provided as open-source, with proper documentation and training material to enable other consortia to cooperatively contribute data and tools to the cloud platform, according to the principle of an extensible and evolutionary design of the cloud. The good practice proposed for software documentation should become a reference for other project consortia under topics promoted in future ECCCH calls.

The ECCCH governance should follow basic requirements. In concrete terms, it should be structured and defined around the following needs: data security, scalability, technical robustness, technical and economic sustainability, independent usability evaluation and long-term assessments, networking,

training and community building. To this end, the governance should include a legal entity with a Single Entry Point (SEP), as well as an independent external advisory board. The governance should be properly documented.
The governance body should include representative stakeholders of existing communities and cultural heritage institutions, potentially involving coordinators of other actions funded under the ECCCH calls and, where appropriate, relevant actions funded under the Digital Europe Programme, such as the Data Space. Furthermore, the governance body should ensure the engagement of appropriate representatives of a wide range of Member States and Associated Countries, as well as of related EU initiatives.
The governance body should:
- drive continuous evaluation processes (integration and interoperability aspects, verification of user interface consistency and usability, and evaluation of effectiveness). These evaluations need to be conducted independently of the funded consortium;
- connect technical consortia with the cultural heritage community at large, as well as with an inclusive community of professionals and researchers, through networking and training programs;
- capture community expectations and oversee user-based assessments of ECCCH resources;
- contribute to the future development agenda of the ECCCH and ensure economic, organisational and technical long-term sustainability.
- ensure sustainability after the implementation of the grant.
The proposal should set out active links and coordination with projects funded under the call HORIZON-CL2-2023-HERITAGE-ECCCH-01, and if appropriate also with relevant projects funded under the Digital Europe programme, to take part in common technical coordination activities, and with a view to ensure synergies with current and previous activities in the field. It is expected to provide clear guidelines and technical support on how the deliverables developed by subsequent projects should be designed and implemented, with the goal of ensuring a proper integration in the ECCCH platform. Therefore, the proposal is expected to include a budget for the attendance to regular joint meetings and may consider to cover the costs of any other joint activities without the prerequisite to detail concrete joint activities at this stage. The Commission may take on the role of facilitator for networking and exchanges, including with additional relevant stakeholders, if appropriate.
The proposal should also set up and manage a common ECCCH website, where all projects funded under the ECCCH calls should be granted space. It is critical that any interested party from the EU or Associated Countries can access the ECCCH at fair conditions and pricing and with transparent and mutual obligations with regards to, for instance, security, safety and intellectual property rights. This should include the promotion of examples of collaborative work in representative application areas that relate to a large part of the cultural heritage sector.
Beneficiaries may provide financial support to third parties, in particular cultural heritage institutions with regional or local scope or mandate, in view of promoting the take-up of tools and methodologies as well as for demonstrating and validating the relevant use cases through experiments. The financial support to third parties can only be provided in the form of grants. A maximum of 10% of the budget is expected to be dedicated to financial support to third parties.
The Commission estimates that a project duration of approximately 5 years is appropriate for the project funded under this topic, in order to ensure that results from future ECCCH actions can be properly incorporated.
Please also refer to the Destination introduction text to consider some key characteristics of the vision for the ECCCH.
Further Information:
https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/horizon-cl2-2023-heritage-eccch-01-01;callCode=null;freeTextSearchKeyword=;matchWholeText=true;typeCodes=1,2,8;statusCodes=31094502;programmePeriod=2021%20-%202027;programCcm2Id=43108390;programDivisionCode=null;focusAreaCode=null;destinationGroup=null;missionGroup=null;geographicalZonesCode=null;programmeDivisionProspect=null;startDateLte=null;startDateGte=null;crossCuttingPriorityCode=null;cpvCode=null;cpvCode=null;performanceOfDelivery=null;sortQuery=startDate;orderBy=asc;onlyTenders=false;topicListKey=topicSearchTablePageState

10. /HORIZON EUROPE/ European Excellence Initiative, deadline: 12. April 2023 17:00 Brussels time

This action follows Council Conclusions on the European strategy empowering higher education institutions for the future of Europe of 5 April 2022 and ERA action 13 of the ERA Policy Agenda (annexed to the Council Conclusions on the future governance of the ERA, 26 November 2021) on empowering higher education institutions to develop in line with the European Research Area, in synergy with the European Education Area. The action also contributes to implementation of the Council Conclusions on strengthening research careers (28 May 2021). The objectives of this action are to:
- Raise excellence in science and in value creation through deeper and geographically inclusive cooperation in alliances of higher education institutions, such as - but not limited to - European Universities alliances selected under Erasmus+, with a particular focus on Widening countries;
- Improve global competitiveness and visibility of Europe's higher education institutions, creating critical mass in key areas such as the green transition and Horizon Europe mission areas.
Projects are expected to contribute to the following outcomes:
- Successful institutional reform and upgrade of higher education institutions in the R&I dimension (empowerment to be actors of change), through integrated collaboration between institutions and with other actors in local ecosystems;
- Mainstreamed culture of excellence in science and value creation amongst higher education institutions, and particularly in less research-intensive institutions and countries, in particular Widening countries, through consolidation of geographically inclusive alliances of higher education institutions, achieving long-term collaboration;
- Contribution to accelerated institutional reform in R&I dimension and strengthened R&I capacities in higher education institutions, notably those located in Widening countries, in particular;
- Modernised research careers in higher education sector, interoperable with other sectors;
- Accelerated digital transition of the R&I dimension of the higher education sector across the entire ERA;
- Increased global competitiveness of research in higher education institutions by strongly increased critical mass in terms of upskilling, knowledge creation and knowledge circulation in the green transition and other key European policy areas such as European Missions;
- Contribution to implementation of the relevant ERA Policy Agenda actions in higher education sector.
The European Excellence Initiative in its widening dimension aims to raise excellence in science and in knowledge valorisation of Europe's universities through cooperation. The action will engage with universities and empower them further to be actors of change in R&I.
Through the geographically inclusive cooperation and practice exchange, universities from different capacities would benefit from institutional changes. This would increase attractiveness and accelerate access to excellence.
By developing closer cooperation with economic and industrial partners within local and regional innovation ecosystems, academic researchers and support staff will be provided the opportunity to be trained in knowledge valorisation, entrepreneurship, access to finance, at any stage of their careers, and to take into account the variety of academics' activities in their career assessment.
Cooperation of universities will be supported to create critical R&I mass and pursue specific objectives that contribute to accelerating key R&I areas of own choice, for instance, one or more Mission areas. The European Excellence Initiative in its widening dimension is open to any network or alliance of higher education institutions, such as - but not limited to - European Universities alliances selected under Erasmus+, and allows for variable geometries (where for instances universities participating in alliances for specific themes may team up with other partners to pursue other specific themes or objectives). Under this call the centre of gravity of the action must be in Widening countries. Applicants have to convincingly demonstrate this geographical focus, for instance, by a budget allocation of at least 70% to participants from Widening countries.
Projects should contribute to the implementation of ERA Policy Agenda priorities at the participating higher education institutions, notably the strengthening of research careers in academia and beyond.

Projects should pursue the following objectives:
- Achieving more balanced circulation of talents;
- Reinforcing the role of higher education institutions in innovation ecosystems;
- Mainstreaming practices and tools for open sharing of knowledge and data;
- Advancements towards reform of the assessment system for research, including career assessment;
- Improved links between science and business;
- Promoted gender equality, diversity and fostering inclusiveness through e.g., inclusive gender equality plans and policies;
- The acceleration of society's green and digital transition to support ERA Policy Agenda action 11;
- Integrated international cooperation with entities established in third countries to support ERA Policy Agenda action 9.

Applicants are encouraged to implement the aforementioned European Research Area policy objectives and to consolidate institutional changes by means of a coherent package of activities which could include the following:
- Sharing R&I capacities including infrastructures;
- Developing joint interdisciplinary R&I agendas;
- Outreach to and inspiring local/regional innovation ecosystems;
- Strengthening research careers and interdisciplinary upskilling;
- Reforming research assessment;
- Digitisation of institutions and partners;
- Engaging with citizens, cities, regions and other non-academic actors;
- Training and capacity building for research and innovation management including IPR;
- Exchange of academic and non-academic staff for sharing good practices;
- Global outreach and internationalisation;
- Consolidation of cooperation with partners outside EU Member States and Associated Countries.

Expenditures for research and innovation activities (such as seed funding for collaborative research projects, activities linked to joint doctoral and postdoctoral research, knowledge valorisation activities, etc.) cannot exceed a maximum of 20% of the total budget.
The actions should envisage a duration appropriate to the ambition and complexity of the alliance of higher education institutions. The duration should not exceed 5 years.
Further Information:
https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/horizon-widera-2023-access-03-01;callCode=null;freeTextSearchKeyword=;matchWholeText=true;typeCodes=1,2,8;statusCodes=31094502;programmePeriod=2021%20-%202027;programCcm2Id=43108390;programDivisionCode=null;focusAreaCode=null;destinationGroup=null;missionGroup=null;geographicalZonesCode=null;programmeDivisionProspect=null;startDateLte=null;startDateGte=null;crossCuttingPriorityCode=null;cpvCode=null;performanceOfDelivery=null;sortQuery=startDate;orderBy=asc;onlyTenders=false;topicListKey=topicSearchTablePageState

11. /HORIZON EUROPE/ A European Collaborative Cloud for Cultural Heritage - Innovative tools for digitising cultural heritage objects, deadline: 21. September 2023 17:00 Brussels time

Projects should contribute to all of the following expected outcomes:
- Cultural heritage professionals in Europe, including curators, conservators and researchers of cultural heritage, use a common set of new innovative tools and methods for the digitisation and visualisation of cultural heritage objects (3D and enhanced 2D) with regard to their visible and non-visible properties and characteristics, which are accessible through and connected to the European Collaborative Cloud for Cultural Heritage (ECCCH).
- The European Collaborative Cloud for Cultural Heritage (ECCCH) provides cultural heritage institutions and professionals with enhanced technological and methodological capabilities to study cultural heritage

objects, to share related data of their visible and non-visible properties and characteristics, and to develop new forms of collaboration.
This topic aims at designing and implementing innovative tools and methods for digitisation of (a) visible characteristics and (b) non-visible characteristics of cultural heritage objects, to be incorporated into the European Collaborative Cloud for Cultural Heritage (ECCCH).
As regards digitisation of visible characteristics of cultural heritage objects, technologies are now satisfying the needs for a considerable part of uses and objects. For instance, in the field of digital documentation of cultural heritage, three-dimensional acquisition and reconstruction methods have been developed in the past twenty years, using photogrammetry and laser scanning techniques to capture the characteristics of physical cultural heritage objects. Such methods already provide robust solutions for the digital reconstruction of the geometry and visual appearance of object surfaces. In addition to these methods, in the field of cultural heritage conservation various non-destructive testing (NDT) techniques have become important technical and scientific means of examination. Such techniques allow understanding the phenomena of deterioration and defining the restoration, conservation and documentation needs of cultural heritage objects.
Nevertheless, there are still major needs in cultural heritage that require further research and innovation on more advanced digitisation tools and methods:
- New AI-powered tools and methods that improve the digitisation process of tangible cultural heritage objects. The robustness and efficiency of the 3D digitisation process should be improved, especially in the case of massive digitisation (for example collections of objects). The accuracy and completeness of surface appearance acquisition should also be improved, as well as the mapping of complex reflectance data on digital surfaces. Furthermore, such solutions should yield new improved methods for post-processing and cleaning of the 3D models produced.
- Improved methods for acquiring and processing enhanced 2D representations (e.g. reflectance transformation imaging, multispectral, panoramic), and for better integrating 2D representations with 3D representations.
- Future 3D models need to encode other key attributes in addition to the usual geometric and reflectance data, such as local uncertainty information. New tools and methods are therefore needed to calculate and encode local accuracy limits with high precision in reconstructed 3D models. These tools should be capable of producing measurement-based limits of the similarity between the digital model and the physical object at any surface point, as well as algorithmically estimated accuracy boundaries.
- To model a complex assembly is a costly effort, and today often requires dismounting the assembly - which is often not possible. Specific digitisation solutions should be developed that are capable of mixing various digitisation approaches (e.g. scanning and computer tomography scans) in order to capture dynamic or hidden characteristics of complex assemblies without dismounting them.
As regards the study of non-visible characteristics of complex objects, nowadays different techniques are used, e.g. multispectral imaging, X-rays, infrared reflectance, terahertz imaging, etc. Proposals should focus on innovations at the data acquisition level, with a view to improve the quality and usability of the data generated. An important aspect is the robustness, reliability as well as the ease of use of any tool and method for analysing the visible characteristics and non-visible materials properties of cultural heritage objects under real world conditions. In addition, several recent experimental approaches have shown that multimodal analysis techniques should include a temporal dimension, observing the evolution of features and phenomena over time.
These challenges highlight the need for flexible, transferable, and simple solutions for documenting multimodal analyses. These solutions should include the integration of data acquisitions from different technologies into complex data structures that provide new analysis opportunities for conservation scientists, conservators and curators. This requires the introduction of new visualisation tools that act as virtual environments for scientific exploration, allowing scientists and curators to explore the full material complexity of cultural heritage objects beyond what is visible.
Large datasets are often generated (e.g., many dozens of images in the case of hyperspectral imaging). To address this, new AI solutions should be developed to generate categorised or pre-analysed data, enabling the selection and/or identification of specific elements, images or regions of interest that exhibit important differences for subsequent analysis and validation by the human expert.

The tools and methods introduced should focus on geometric and projective consistency of heterogeneous data from different technologies, with respect to different scales of observation and analysis, over a wide spectral range, to produce an integrated digital representation. Spatially localised characterisation of individual material layers is one of the goals, including coupling multi- or hyperspectral analyses with physicochemical characterisation of materials. New methods for access, exploration, and temporal monitoring of acquired data should be developed, including their interactive visualisation and classification.
The proposed software tools and methods to be developed should go beyond the lab prototype status, should be practical and possible to deploy easily in un-controlled environments (e.g. digitise in a museum room), and should ensure low cost and flexibility of use. The component for data integration into the ECCCH may extend the features of the basic tool developed by the project funded under topic HORIZON-CL2-2023-HERITAGE-ECCCH-01-01, with the goal of streamlining the upload of metadata/paradata and of raw sampled data.
The proposals should demonstrate the potential of the developed tools and methods through representative case studies, conducted in collaboration with relevant stakeholders. These case studies should cover a significant share of the range of cultural heritage objects, materials and conservation/restoration issues. The results of these case studies should produce emblematic data that can serve as models for promoting the re-use of the tool(s) and methods in other contexts and by other users within the ECCCH.
The proposed tool(s) to be developed should be implemented adopting the low-level libraries established by the project funded under topic HORIZON-CL2-2023-HERITAGE-ECCCH-01-01. The tool(s) developed should be compliant with the design of the ECCCH, and should be integrated with the ECCCH before the end of the project, together with proper documentation. All software and other related deliverables should be compliant with the data model and the software development guidelines elaborated by the project funded under topic 'HORIZON-CL2-2023-HERITAGE-ECCCH-01-01'. If appropriate these tools should be developed with a view to a wider deployment, including in the Data Space.
The proposals should furthermore make provisions to actively participate in the common activities of ECCCH initiative. In particular, the proposals should coordinate technical work with other selected projects and contribute to the activities of the project funded under the topic HORIZON-CL2-2023-HERITAGE-ECCCH-01-01.
The proposals should set up its project website under the common ECCCH website, managed by the project funded under topic HORIZON-CL2-2023-HERITAGE-ECCCH-01-01. The proposal is further expected to include a budget for the attendance to regular joint coordination meetings and may consider covering the costs of any other joint activities without the prerequisite to detail concrete joint activities at this stage. Please also refer to the Destination introduction text to consider some key characteristics of the vision for the ECCCH.
Further Information:
https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/horizon-cl2-2023-heritage-eccch-01-02;callCode=null;freeTextSearchKeyword=;matchWholeText=true;typeCodes=1,ypeCodes=1,2,8;statusCodes=31094502;programmePeriod=2021%20-%202027;programCcm2Id=43108390;programmDivisionCode=null;focusAreaCode=null;destinationGroup=null;missionGroup=null;geographicalZonesCode=null;pde=null;programmeDivisionProspect=null;startDateLte=null;startDateGte=null;crossCuttingPriorityCode=null;cpvCode=null;cpvCode=null;performanceOfDelivery=null;sortQuery=startDate;orderBy=asc;onlyTenders=false;topicListKe;topicListKey=topicSearchTablePageState

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12. /HORIZON EUROPE/ Co-designed smart systems and services for user-centred shared zero-emission mobility of people and freight in urban areas (2Zero, CCAM and Cities' Mission), deadline: 27. April 2023 17:00 Brüssels time

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

- Mobility solutions that respond to people's and cities' needs, co-designed with local authorities, citizens and stakeholders, tested and implemented in cities to achieve climate neutrality by 2030.
- Transferrable solutions for mobility of people and goods exploiting the combined potential of electrification, automation and connectivity to significantly and measurably contribute to:
- The Cities Mission's objective of climate neutrality by 2030;
- Reduction of CO2 emissions supporting the 55% reduction goal for 2030;
- Lower energy demand;
- Improved air quality, less noise;
- Reduced congestion, more reliable, predictive travel times and more efficient transport operations;
- More effective use of urban space also considering the other transport modes and multimodal hubs;
- Improved safety particularly for vulnerable road users;
- Improved inclusiveness, especially by facilitating equitable and affordable access to mobility for all users, in particular for people with reduced mobility.
- Economically viable, modular and adaptable solutions that are transferrable among cities committed to achieving climate neutrality by 2030.
- Capacity built among local authorities, users and mobility systems providers to accelerate the take-up of shared, smart and zero emission solutions and to implement their monitoring and evaluation.
- Implementation plans for local and regional transport authorities to replicate the roll-out of innovative smart mobility solutions and related infrastructure (in particular for charging and/or connectivity) in cities beyond those involved in the project.
Contribution to updates of urban and transport policies as well as relevant strategic research and innovation agendas (SRIA), particularly of the 2Zero and CCAM partnerships.
Contribution to no net land take as promoted under the EU Soil Strategy.
Urban mobility is a key sector that cities need to address for accelerating their transition to climate neutrality: citizens, logistics and delivery stakeholders, urban planners, transport operators as well as technology providers should jointly exploit the combined potentials of electric, automated and connected vehicles as well as integrated and shared people mobility and freight transport in their planning and actions. This requires a mutual understanding and alignment of the opportunities of technical solutions from the CCAM and 2Zero partnerships and of needs identified by users and cities striving for the Mission target of climate neutrality.
Proposals should include co-designed innovative passenger mobility and freight transport concepts which are agreed between technology providers and cities, in cooperation with end users, citizens and other stakeholders (for example visitors) to optimise the performance, ease of use and to maximise uptake. They should then be tested and demonstrated in real environments and use cases before being replicated. They should complement current public transport and freight transport services as well as active mobility and micromobility, also with modular and interoperable last mile choices, while being scalable for the roll out, adaptability and co-implementation for different types of cities. At the same time, they should help to identify new challenges, e.g. regarding flexibility, privacy and resilience, in order to set requirements for the further improvement of technologies.
Proposals are expected to develop, test and demonstrate innovative solutions for mobility of people and freight exploiting the combined potential of electrification, automation and connectivity. Proposals must consider and explore the opportunities for technology transfer and synergy potentials with the respective other domain to fully cover passenger and goods mobility, although a primary focus on either people or goods mobility is possible. Solutions should be based on existing technologies and should satisfy cities' and users' needs, targeting implementation of pilot cases at city level to ensure feasibility, buy-in, acceptance and thus a seamless integration of mobility solutions and infrastructure in a citywide transport system.
All the following aspects should be addressed by the proposals:
- Establish a co-design process between local public authorities, city planners, end users (for example inhabitants, visitors, commuters) and automated and zero-emission mobility systems providers to ensure a user-centric and seamless integration of solutions in existing ecosystems.
- Build upon the results of recent collaborative research on, for example, power grid integration, charging infrastructure, vehicle connectivity, automation or smart fleet, road traffic and energy management, safety

of vulnerable road users, and also build upon relevant experience of cities and partnerships.
- Demonstrate integrated and shared, automated and zero-emission solutions and services for people mobility and freight transport. Where needed and duly justified, design of vehicles and functions and the development of specific infrastructures for energy and joint and harmonized data management to extend and optimise their use can be included.
- Develop open while resilient systems and replicable solutions that can be scaled-up within a city environment and flexibly adapted to current and evolving needs and use cases in the context of Sustainable Urban Mobility Plans (SUMP). Mobility services to and from sub-urban areas should be included in proposed solutions, so as to widen the pool of possible users of these solutions, services and systems.
- Co-design implementation plans for local and regional transport authorities to roll-out innovative smart mobility solutions and related infrastructure (in particular for charging and connectivity) and to lower energy demand.
- Evaluate cost and benefits of the systems and services tested along with real-world challenges and opportunities, based on user and city needs, and provide feedback on viability and limitations as well as new requirements to the 2Zero and CCAM partnerships.
- Support the development of skills on the planning and implementation of smart, shared and zero-emission urban mobility systems within the local authorities and co-creation with private stakeholders along SUMP and SULP (Sustainable Urban Logistics Planning) guidelines, e.g. the practitioner briefing on Road Vehicle Automation of the Sustainable Urban Mobility Plans.
- Disseminate results via the 2Zero and CCAM partnerships and the Mission Platform and via relevant events, such as CIVITAS, Transport Research Arena (TRA) conference and other European events.
Proposals should fully exploit technologies developed/under development in the 2Zero and CCAM partnerships when designing, testing and demonstrating solutions and services, such as, e.g., automated and connected functions or digital twins optimising the charging, parking, safe (remote) control, operational design domain of vehicles or the fleet, traffic management and last-mile operations.
To allow for a thorough evaluation of the projects' ambition, progress and effect compared to the state of the art in the European Union and internationally, proposals are expected to provide measurable or predictable indicators of contributions of the tested solutions to the applicable outcomes and impacts expected from the 2Zero and CCAM partnerships as well as the Cities Mission. These should be supported by clear baselines, quantified targets and appropriate review processes for each participating city and include a detailed analysis of present and future potential user groups. The 'CIVITAS Process and Impact Evaluation Framework' and 'Sustainable Urban Mobility Indicators", where appropriate in combination with other sector-specific impact evaluation methodologies, should be used to evaluate the impact of the solutions.
Selected projects may consider including activities to investigate and foster societal readiness, for example by measuring the acceptability of new mobility solutions as well as behavioural change. This could include inter alia methods of co-assessment as well as actions to increase public awareness in order to anticipate and mitigate potential negative rebound effects.
This should be accompanied by mechanisms for common lesson drawing and learning, within the project, between the projects funded under this topic and through the Cities Mission Platform and 2Zero/CCAM partnerships.
Each proposal should envisage pilot demonstrations in at least two cities (lead cities) situated each in a different Member State or Associated Country. Proposals should provide the necessary evidence of the cities' commitment to test and implement the co-designed solutions. To foster replicability and up-taking of the outcomes, each proposal should also engage at least four replication/follower cities.
The consortia awarded under this topic must establish a collaboration agreement, to identify clear links among themselves and ensure complementarity, coordination and exchange on relevant linked activities. The consortia awarded should also foresee active collaboration with relevant and related projects funded under this call in order to address synergies and complementarities between the projects of the Cities Mission portfolio. In particular collaboration with the Mission Platform is essential. The collaboration between consortia awarded as well as with the Mission Platform must be formalised through a Memorandum of Understanding to be concluded as soon as possible after the projects' starting date.

In addition, given the important role of territories in which the participating cities are located, lead cities are encouraged to seek cooperation with and support from their territories, where relevant (metropolis, functional urban area, grouping of interacting municipalities with the cities, region, etc.). Support could take the form of, for example, an integration or link in an existing or future programme of the territory, financial support, or the involvement of representatives of these territories as partners in the project.
This topic requires the effective contribution of SSH (Social Sciences and Humanities) disciplines and the involvement of SSH experts, institutions as well as the inclusion of relevant SSH expertise, in order to produce meaningful and significant effects enhancing the societal impact of the related research activities. Social innovation should also be considered to support the actions under this topic in order to match innovative ideas with social needs. Inclusiveness of vulnerable populations (older people, children) as well as gender perspectives in mobility should be considered.
If projects use satellite-based earth observation, positioning, navigation and/or related timing data and services, beneficiaries are expected to clearly describe if and how the use of Copernicus and/or Galileo/EGNOS are incorporated in the proposed solutions. In addition, if the activities proposed involve the use and/or development of AI-based systems and/or techniques, the technical and social robustness of the proposed systems has to be described in the proposal.
Further Information:
https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/horizon-miss-2023-cit-01-01;callCode=null;freeTextSearchKeyword=;matchWholeText=true;typeCodes=1,2,8;statusCodes=31094501,31094502;programmePeriod=2021%20-%202027;programCcm2Id=43108390;programDivisionCode=null;focusAreaCode=null;destinationGroup=null;missionGroup=null;geographicalZonesCode=null;programmeDivisionProspect=null;startDateLte=null;startDateGte=null;crossCuttingPriorityCode=null;cpvCode=null;performanceOfDelivery=null;sortQuery=startDate;orderBy=asc;onlyTenders=false;topicListKey=topicSearchTablePageState

13. /HORIZON EUROPE/ Positive clean energy district (PED) digital twins - from modelling to creating climate neutral Cities, deadline: 27. April 2023 17:00 Brussels time

Project results are expected to contribute to all the following expected outcomes:
- Increased number of (tangible) city planning actions for positive clean energy districts using the (proto-)PED design, development and management digital twin tools (based on pre-market research learnings) using open-standards based components which can be reused elsewhere.
- Enhanced data gathering approaches with identification relevant (standardised) multi-dimensional data set (e.g. meteorological, load profile, social, geo-spatial, etc.) high-resolution real-time data streams (e.g. renewable energy production, energy consumption), and relevant forecasting data, drawing also on the work of common European data spaces, including the smart communities data space and Destination Earth.
- Consolidated city sensor network specifications (based on optimal density necessary), complemented by appropriate data gathering approaches for soft data.
- Increased integration of existing smaller scale management systems (e.g. Building management systems) with open-standards based operational city platforms using sectorial data (e.g. Building data, mobility, Urban Planning, etc.).
- Increased number of city planning departments / approaches using common data and (replicable) elements and processes.
- Improved performance of AI based self-learning systems for optimization of positive clean energy districts and bottom-up complex models.
Effective support for the Cities Mission should follow a systematic approach appropriate to the highly complex task of delivering climate neutral and smart cities. In order to be manageable, this task should be approached starting from the smallest representative scale, i.e. the District level.
Measuring, analysing and modelling the characteristics and behaviour of a potential Positive clean Energy District (PED) is necessary to get the best possible picture of the status quo and the extent of the challenge. Creating a digital twin can support identification of the most effective set of integrated solutions

and the management of the system in real time in order to adapt/optimise it over time and space.
Proposed projects are expected to go beyond the creation of a digital twin and the integration of (technical) PED solutions. The proposed projects will serve as the scientific base for a reflection on the necessary, replicable elements and processes that are needed to make first a district, and later on the whole city, climate neutral.
Proposals are expected to develop a digital twin that goes beyond the virtual representation of the built environment, by integrating a comprehensive modelling layer of the local energy systems[1] as well as mobility and transport solutions in the project defined district boundaries. The digital twin should support scenario analysis with different boundary conditions to help define the optimal solution matrix. It should draw on existing components and use open standards, technical specifications and open source software where possible.
Projects are expected to address all of the following:
- Develop and test a digital twin of a (project defined) potential Positive clean Energy District (PED) in a European city.
- Prepare an economic impact study for this digital PED twin, a risk analysis and a data security strategy.
- Use the digital twin to improve evidence-based decision-making and to create district development pathways with a clear timeline for associated transformation actions.
- Involve/train necessary public and private actors at district/city level in building and using digital twins for co-creation, communication, public consultation/dialogues and good practice sharing.
- Make use of gamification and/or co-creation approaches to change citizens' awareness of and behaviour towards energy efficient/energy conservation and to make results of the digital twin analysis easily understandable to non-technical audiences.
- Recommend a set of actions that foster a cost effective and secure digitalization of the local energy system.
- Publish practical guidelines, reusable models, algorithms, data models, components and training material that will help other cities to successfully replicate digital twins in their district/cities.
Projects should establish links to the data space for smart communities and sectoral data spaces as relevant (energy, mobility) as well as working with the Data Space Support Centre. Projects should collaborate with Living-in.EU to support efforts on developing the Minimal Interoperability Mechanisms (MIMs) approach to improving interoperability of data, systems and services, and to contribute to standardisation efforts in the area of local digital twins at European and international levels. Participation of partners and potential Positive Energy Districts is encouraged, in particular from Mission Innovation (MI) member countries and linking to the objectives of the MI Urban Transitions Mission.
Collaboration with the Cities Mission Platform is essential and projects should ensure that appropriate provisions for activities and resources aimed at enforcing this collaboration are included in the work plan of the proposal. The collaboration with the Cities Mission Platform should be formalised through a Memorandum of Understanding to be concluded as soon as possible after the projects starting date.
Further Information:
https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/horizon-miss-2023-cit-01-02;callCode=null;freeTextSearchKeyword=;matchWholeText=true;typeCodes=1,2,8;statusCodes=31094501,31094502,31094503;programmePeriod=2021%20-%202027;programCcm2Id=43108390;programDivisionCode=null;focusAreaCode=null;destinationGroup=null;missionGroup=null;geographicalZonesCode=null;programmeDivisionProspect=null;startDateLte=null;startDateGte=null;crossCuttingPriorityCode=null;cpvCode=null;performanceOfDelivery=null;sortQuery=startDate;orderBy=asc;onlyTenders=false;topicListKey=topicSearchTablePageState

14. /HORIZON EUROPE/ Teaming for Excellence, deadline: 12. April 2023 17:00 Brussels time, 1. Step

Disparities in R&I performance are due to, among other reasons, the insufficient critical mass of science and lack of centres of excellence having sufficient competence to engage countries and regions strategically in a path of innovative growth. Teaming is responding to this challenge establishing new

centres of excellence or modernising existing ones with the help of leading EU or AC partnering institutions. This will help countries to increase their R&I intensity and to attain a competitive position in the European R&I system and globally, especially by becoming drivers of change.
Project results are expected to contribute to all of the following expected outcomes:
- Increased scientific capabilities of the coordinating institution and the host country enabling the coordinator and other potential entities from that country to successfully apply for competitive funding in the European Union and globally;
- Improved the R&I culture of the country hosting the co-ordinator (indicators such as research intensity, innovation performance, values towards R&I) through centres of excellence as lighthouses and role models;
- Stimulus for institutional and systemic reforms and R&I investments at national level taking into account the enabling conditions on governance of smart specialisation introduced under cohesion policy programmes as far as applicable;
- Strengthened and mutually benefitting collaboration with partners from leading scientific institutions from abroad;
- Development and promotion of new research strands in relevant domains;
- Developed and enhanced research and innovation capacities and the uptake of advanced technologies;
- Contribution to the achievement of the specific objectives of the supporting national/regional/EU programme as complementary funding;
- Enhanced innovation and integration of planned processes, services and products of the centre;
- Enhanced co-operation and synergies with other European projects.
Teaming is one of the actions that stimulates the European Union to exploit its potential by maximising and spreading the benefits of research and innovation. It is vital for its competitiveness and its ability to address societal challenges.
The Teaming action is designed to support the creation of new centres of excellence or upgrading the existing ones in low R&I performing countries (except those centres of excellence that have already benefitted from previous Teaming calls). It is building on partnerships between leading scientific institutions in the European landscape and the main beneficiary institutions in low R&I performing countries that display the willingness to engage together for this purpose. This can help countries that are lagging behind in terms of research and innovation performance attaining a competitive position in the global value chains. Leading scientific institutions are advanced and established partners that have developed an outstanding reputation in research and innovation excellence in the chosen scientific domain. Institutions that are still in the process of development or modernisation, e.g., those that are still receiving support as coordinators from widening actions under Horizon 2020, are normally not considered leading institutions, unless a proper justification is provided in the proposal.
In order to maximise impact of research and innovation on society, environment and economy at large and to contribute in particular to the achievement of the European Union's objectives, funding must be coherent and work in synergy. This notion is highly relevant for Teaming action, where a complementary source of funding from a national (or regional or European or private source) is required. The implementation of Teaming action is expected to become an influential and meaningful bridge particularly between smart specialisation strategies and excellence in R&I with the aim of strengthening the European Research Area and contributing to the Sustainable Development Goals.
Whatever the source of the required complementary source of funding, a Teaming project, as a notable flagship in its host country, exemplifies not only the achievements in R&I, capacity building or competitiveness, but also sets and facilitates synergies in practice.
The evaluation of the complementary source of funding part may use additional criteria required by, where relevant, the Cohesion Policy programmes and/or legislation. The managers of the complementary funding should apply to the operations the categories, maximum amounts and methods of calculation of eligible costs established under Horizon Europe. In addition, they should be able to apply Art.25 (d) of the revised General Block Exemption Regulation.
Proposals may be evaluated by an additional panel of experts with specific knowledge on complementary funding sources.

In the first stage of evaluation the R&I excellence and the conceptual approach for the centres of excellence will be evaluated. Applicants should present a strategic vision on how to develop R&I excellence beyond the state of the art in the chosen domain and on how the co-ordinator will benefit from the partnership with a leading institution from abroad. In addition, the conceptual approach should outline how the access to complementary funding from other sources will be ensured, in the respect of national, regional and/or European strategies or policy priorities (e.g., notably smart specialisation strategies, Green Deal, Digital transformation). Proposals also should sketch out briefly how the autonomy of the envisaged centre will be ensured and the necessary human resources recruited and retained.
Proposals invited to the second stage must include an investment plan for the full project including a binding commitment for the necessary complementary funding.
At a detailed level the full proposal should:
- Present a strategy for how the centre will develop excellence in the chosen relevant R&I domain that will put it at the competitive edge beyond the state of the art enabling future success in competitive calls;
- Demonstrate the growth potential and expected socio-economic outreach of the Centre of Excellence for the benefit of the host country or region;
- Demonstrate how the project will contribute to encouraging and supporting reforms of the R&I system at regional and or/national level;
- Elaborate on the structure of the consortium and how this will create a win-win situation;
- Demonstrate how the newly established/upgraded centre will have full autonomy in decision-making. In particular, the centre of excellence should have the maximum degree of autonomy in terms of taking its own decisions, being in legal, administrative, operational, personnel and academic matters. The Centre should be able to fix and pay competitive salaries for its personnel;
- Elaborate on the steps that will be taken to ensure long-term self-sustainability after the end of the Horizon Europe grant;
- Propose a robust human resource strategy that addresses gender equality (in line with the research institutions respective gender equality plans) and international component, ensuring appropriate management capacities for the effective and efficient running of the centre of excellence;
- In order to assure the autonomy of the centre of excellence, if relevant, the project might benefit of having the centre of excellence coordinating the project within the duration of the Grant;
- Present an investment plan including the letter(s) of commitment for complementary funding from the competent national/regional authorities or private sources to commit financial resources (e.g., resources coming from programmes co-financed by the ERDF (European regional development fund), IPA (Instrument for Pre-Accession Assistance) or other sources) for implementing the future centre, in particular regarding investment in infrastructure and equipment. The letter(s) of commitment for complementary funding of the project will be an integral part of the evaluation of the proposal;
- The grant awarded from the Horizon Europe budget should provide substantial support for the start-up and implementation phase of the future centre of excellence including the recruitment of the managerial, technical and scientific personnel. It should also cover expenses related to team members of the future centre of excellence (e.g., their salaries, recruitment costs, management costs, travel and subsistence costs);
- A minor research component can be accepted not exceeding 10% of the total Horizon Europe grant that may include a preparatory research project. Such small research project embedded in the Teaming action should be aligned with the objectives of the project and e.g., serve the purpose of developing and testing new methodologies and instruments and/or the integration of new scientific personnel. If preparatory research activity is planned to be carried out, the outline of a respective work plan with an appropriate level of detail should be presented;
- The duration of the grant should be up to six years.
Proposals should illustrate quantitatively and qualitatively the expected potential impact of the project and its expected results in terms of new local and international research and innovation partnerships, institutional and/or R&I system changes (various levels), increased research intensity (i.e. new scientific publications directly linked to the project's area, protected IPR). Proposals are encouraged to choose any additional relevant indicators that will be used for measuring the impacts achieved.

Specific attention should be paid to gender equality objectives, in line with the organisations' commitments through their adopted gender equality plans, and in line with European Research Area objectives.
Further Information:
https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/horizon-widera-2023-access-01-01-two-stage;callCode=null;freeTextSearchKeyword=;matchWholeText=true;typeCo
rue;typeCodes=1,2,8;statusCodes=31094502;programmePeriod=2021%20-%202027;programCcm2Id=43108390;pro
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15. /HORIZON EUROPE/ Testing and demonstrating transformative solutions to build resilience towards health risks caused by the effects of climate change, deadline: 20. September 2023 17:00 Brussels time

Projects results are expected to contribute to all of the following expected outcomes:
- regions, local authorities and communities have been involved in development and testing of a whole range of transformative solutions that will help to mitigate the effect of climate change on health and human wellbeing, including making the public health sector more climate resilient and better prepared to mitigate the climate change related health challenges.
- climate resilience solutions that protect human health have been developed, tested and are made largely available
This topic relates to the Mission's objectives to mobilise at least 150 regions in testing the solutions most locally needed to build climate resilience and to deliver at least 75 deep demonstrations of systemic transformations to climate resilience.
The proposals should test and demonstrate solutions that address both the two aspects below, including in the scope at least some of the individual points related to improve prevention and policy-making and at least some points related to improve preparedness of the health system.
Improve prevention and policy-making, by:
- Improved insights into short- and long-term health effects of climate-related stressors, including planetary health considerations (interactions between global climate change, ecosystem, animal and human health as described in the One Health concept). Taking into consideration differences between infectious and non-communicable diseases, and the particularities of each. With regard to the infectious diseases, emphasis should be given on the surveillance and prevention of zoonotic diseases. These improved insights should made available and be integrated by the regional and local authorities in their planning. The European Climate and Health Observatory can contribute to these efforts and, reversely, learnings from the projects supported under this topic would contribute to the Observatory knowledge basis.
- Strengthening comprehensive and user friendly epidemiological surveillance and modelling and forecasting tools, including socio-economic trajectories and adaptation scenarios of exposure and vulnerability to climate determinants. These tools should be suitable for assessing and predicting impact of moderate, extreme and record-breaking events and disasters associated with climate change, including impacts on mental health. Environmental stressors should also be considered when relevant for the prevention of major non-communicable such as cardiovascular and respiratory diseases e.g. combination of heat waves and air pollution or increase in pollens. Surveillance, modelling and forecasting tools should be piloted in the partner regions and communities. Reflecting the One Health concept, the link between animal health impacts due to climate change and subsequent human health impacts should also be considered, when relevant.
- Development of better forecast, early-warning and early response systems and decision-making models for health impacts of climate change which are able to monitor both the impact and the effectiveness of

solutions.
- Development and health impact assessment of adaptation measures and monitoring of effectiveness of solutions to improve resilience of countries, regions and cities, including effective nature-based solutions (NBS).
Improve preparedness of health systems by:
- Development of innovative solutions (technological solutions, NBS, etc) to reduce impact of climate change on human health and wellbeing. Heat and cold waves and floods should be among the stressors considered, but proposals should not limit their work to only these two stressors and might consider the association with environmental conditions such as the association of heat waves and air quality or exposure to pollens. Solutions should be designed with a win-win objective so to not have a negative effect on climate mitigation efforts, after sufficient consideration of positive and negative interactions.
- Preparing training curricula on health and climate change for medical and other healthcare professionals across Europe. The proposed curricula should be trailed in the partner regions, local authorities and communities, training pilot group of professionals.
- Development of innovative, fit-for-purpose, end-user driven early warning and response systems or improving existing ones, including a demonstration of their predictive/response capacity, to ensure a rapid response from health services and civil protection authorities and testing/pilot such systems in the partner regions/local authorities/communities.
- Providing feedback and sharing best practice from pilots to the new Health Emergency Preparedness and Response Authority. Such tests should be accompanied by public awareness campaigns in relation to climate forecasts and health early warning systems, identifying the warning communication chain, role, tasks and responsibilities of science advisors and decision-makers.
Under the Mission approach, collaborations to develop and test effective solutions between regions/local authorities/ communities facing similar challenges are highly encouraged. To this purpose, the proposals must include at least 4 different regions/local authorities/ communities, which should collaborate in addressing the common challenge identified and conducting demonstration activities of the most suitable solutions. These (at least) 4 demonstrations must be located in at least 3 different EU Member States and/or Horizon Europe associated countries, for which the proposed solution is relevant. Involvement in the proposal of regions eligible for Cohesion funds to conduct at least one of the proposed demonstrations shall be regarded as a positive element.
The proposals should clearly identify the biogeographical area, for which the proposed solution is relevant and should explore possible reapplication to other regions, starting from those located in the same biogeographical areas. To support a large impact, the proposed solutions should be widely re-applicable. To this purpose, identification and inclusion of at least three "replicating" regions/local authorities/communities, interested in reapplying the lessons learnt (totally, partially or with the required adjustments) in their territories is strongly encouraged; this could take the form of inclusion in the consortium of one or more partners providing support for the technical exchanges and the knowledge uptake in the "replicating" regions.
In addition to the local/regional authorities owning the climate challenge, the consortium may include other type of partners, such as private or public research organisations, enterprises and NGOs, to ensure that all needed capabilities are available to develop and implement real life actions.
Proposals should build (when relevant) upon previous developed solutions or existing knowledge and adaptation solutions, designed and developed from previous research projects, including from beyond EU, addressing climate change adaptation and funded by European and National programmes, in particular the European Union Framework programmes for Research and Innovation (such as Horizon 2020 and Horizon Europe under their different pillars and clusters), as well as the LIFE programme. Moreover, proposals should look into opportunities to scale up the solutions demonstrated and to foster their broad deployment across in Europe through the LIFE programme, and its integrated projects in particular, and through the ERDF programmes.
Proposals should include a mechanism and the resources to establish operational links with the Climate-ADAPT platform (run by the European Environment Agency (EEA) together with DG CLIMA) that will act as a central element for the monitoring, support and visualisation of the Mission progress in European Regions. To this purpose, projects will feed their results to the Climate-ADAPT and EEA

assessments.
Projects funded under this topic are strongly encouraged to participate in the Mission Community of Practice that will be established amongst the Mission Charter signatories by the Mission Implementation Platform in the course of 2023 and in the networking and joint activities with other projects funded under other topics in the Mission Climate Adaptation as well as in other relevant Missions, as appropriate. These networking and joint activities could, for example, involve the participation in joint workshops, the exchange of knowledge, the development and adoption of best practices, or joint communication activities. To this extent, proposals should provide for dedicated activities and earmark appropriate resources. Beyond the Mission, the projects funded under this topic are also encouraged to exchange and identify cooperation opportunities with other projects funded under Horizon Europe, in particular those funded under Cluster 1 and its destination 2 "Living and working in a health-promoting environment"
The European Commission intends to establish a network and coordination activities amongst all the projects funded for the implementation of the Climate adaptation Mission, under the Horizon 2020 European Green Deal call and under Horizon Europe, and that will be coordinated by the soon to be established Mission Implementation Platform. The projects under this topic will be requested to contribute to this effort. Applicants should acknowledge this request and already account for these obligations in their proposal, making adequate provisions in terms of resources and budget to engage and collaborate with the Mission governance.
To ensure a balanced portfolio covering the different climate risks as identified in the Mission Implementation Plan and to maximize the footprint across all the different biogeographical areas, the best ranked proposals for each biogeographical area will be selected.
Further Information:
https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/horizon-miss-2023-clima-01-03;callCode=null;freeTextSearchKeyword=;matchWholeText=true;typeCodes=1,2,8;stat=1,2,8;statusCodes=31094502;programmePeriod=2021%20-%202027;programCcm2Id=43108390;programDivisionCnCode=null;focusAreaCode=null;destinationGroup=null;missionGroup=null;geographicalZonesCode=null;programmprogrammeDivisionProspect=null;startDateLte=null;startDateGte=null;crossCuttingPriorityCode=null;cpvCode=null;cpvCode=null;performanceOfDelivery=null;sortQuery=startDate;orderBy=asc;onlyTenders=false;topicListKey=topicSstKey=topicSearchTablePageState

16. /HORIZON EUROPE/ Testing and demonstrating transformative solutions increasing climate resilience of the agriculture and/or forestry sector, deadline: 20. September 2023 17:00 Brussels time

Projects results are expected to contribute to all of the following expected outcomes:
- Regions and communities have undertaken action transforming into tangible projects their roadmaps designed with the aim of fostering a systemic approach to climate resilience towards the different and multi-risks locally identified as relevant, with particular emphasis on the development of nature-based solutions, biodiversity and climate mitigation synergies, and ecosystem restoration.
- Regions and communities have taken the leadership and have been involved in development and testing of solutions that can transform the agriculture and the forestry sectors, making them more resilient to foreseen climate change, while making progress in the sustainable transformation required implementing the European Green Deal.
- Solutions contribute to the implementation at the local level of the Common Agriculture Policy and the related National Strategic Plans, and they are well in line with the foreseen measures for drought management and the river basin management plans where those are in place.
- Developed solutions are close to nature, are at least neutral or support biodiversity, improve or at least do not harm water quality and availability (retentiveness in the landscape), making the agriculture/forestry sector and nature at large more resilient to climate change and supporting implementation of the EU Biodiversity Strategy for 2030.

- Solutions making the agriculture and/or forestry business models more resilient to long term effects of climate change have been developed, tested and brought closer to the market.
- Potential economic, social and environmental losses caused by extreme weather events to the agricultural, forestry and other related sectors, are reduced, making them more resilient through better preparation.
- Accompanying measures for enabling conditions, that would boost the outcomes, such as support instruments for environmental services, the use of digital monitoring, access to relevant data and knowledge, facilitation of financing and mobilisation or resources, are piloted.
- Agriculture and other related businesses, in particular those affering to the food-water nexus, are better prepared to cope with the changing climate, also through climate adaptation targeted education, up- and re-skilling programmes.
- Available or emerging climate-resilient solutions particularly relevant for small farms, organic farms or farms in conversion or any type of farms looking for alternative to intensive agriculture are also made known and available to the regions and communities, contributing to the implementation of the Farm to Fork Strategy.

This topic relates to the Mission's objectives to mobilise at least 150 regions in testing the solutions locally most needed to build climate resilience and to deliver at least 75 deep demonstrations of systemic transformations to climate resilience.

The proposal should develop and test at least one innovative solution, combining technological, social and business innovation, leading to an increase of the resilience and adaptation capacity to climate change in the involved regions and communities of the agriculture sector and the related value chains. Nature based solutions and the restoration of cropland and grassland should be explored as priority and at the very heart of the development whenever possible.

The proposed solution should address at least some of the following aspects:

- Improving resilience of the agriculture and /or forestry sector, improving the capacity of the sector to withstand dry periods and extreme droughts while protecting the ecological flows, preserving biodiversity in and around the catchment channels, preserving longitudinal connectivity of the flowing streams, slowing the falling level of the groundwater table and reversing the loss of biodiversity. This should include for example exploring value of culture rotation and other means to improve soil quality, improving soil structure by circular approaches, establishment and maintenance of landscape features (such as hedges reducing wind erosion), innovative silvo-pasture, management of genetic resources in an agro-ecological perspective and other agro-ecology approaches in farmland, in particular in relation to droughts and water multi-usage and management;
- Exploiting agro-ecology as an approach to enhance the climate resilience of the farming system, its functionality and sustainability, while bringing sustainable solutions and multiple benefits, such as more stable yields from adapted food crops, water efficiency, enhanced farmer livelihoods from income generation, increased biodiversity, improved water quality and water use efficiency, the ecological status of waters, improved soil structure and health, reduced erosion, and/or a higher level of carbon sequestration.
- Exploring integration of available smart farming approaches (and improvements of the same based on updated data) and the use of technologies such as the AI, remote sensing and the Internet of Things (IoT) to improve climate resilience through the modification and improvement of nutrient and crop protection processes, such as fertilization, pest control and irrigation, to ensure sufficient crop yields both in terms of quality and quantity, while also reducing emissions, water consumption and preserving biodiversity.
- Development of more natural ecosystems, generating combined benefits for climate mitigation, reduction of water flooding and soil erosion, (by increasing green infrastructures, tree planting, or increasing of permeable green surfaces) and maintaining or restoring rivers, peatland, wetland and natural floodplain.
- Further demonstrate and increase awareness of the value of maintaining and restoring existing natural systems, preservation of cultural landscapes and socio-ecological systems as providing a rich spectrum of climate services compared to other anthropogenic solutions, including integration of cultural heritage considerations as the legacy from the past, to be experienced in the present, and for transmitting to future generations. In line with the Mission Implementation Plan and the new EU Climate Adaptation Strategy,

implementing nature-based solutions with adequate social and environmental standards on a larger scale would increase climate resilience. Blue-green (as opposed to grey) infrastructures represent multipurpose, "no regret" solutions, which simultaneously provide environmental, social and economic benefits and help build climate resilience, whose uptake can be facilitated by better quantification and communication of their benefits. Nature based Solutions (NBS) essential role for sustaining healthy water, oceans and soils was recognised, together with their potential to reduce costs, provide climate-resilient services, and improve compliance with Water Framework Directive requirement for good ecological status, if they were to play a bigger role in land-use management and infrastructure planning. The forthcoming Nature Restoration Law will also play an important role in requiring MS to plan restoration activities across a range of ecosystems.
As climate impacts, adaptive capacities and disaster risk reduction capabilities differ greatly across regions, the proposed development and innovation should address specific needs identified at regional and local scale (both at the rural, urban-rural interface and eventually in urban context) with tailor-made responses and measures, fully acknowledging place-based governance, socio-economic and identity characteristics and other place-based data.
In line with the Mission objective to build systemic climate resilience, the proposal should address the multi-risks locally identified, design and implement a systemic solution to reduce the identified vulnerabilities of the agriculture and/or forestry sector to climate change and to mitigate its negative potential impacts.
Under the Mission approach, collaborations to develop and test effective solutions between regions/local authorities/communities facing similar challenges are highly encouraged. To this purpose, the proposals must include at least 4 demonstrations taking place in different regions/local authorities/ communities, which should collaborate in addressing the common climate change challenges identified and in testing the most suitable solutions. These at least 4 demonstrations must be located in at least 3 different EU Member States and/ or Horizon Europe associated countries. Involvement in the proposal of regions eligible for Cohesion funds to conduct at least one of the proposed demonstrations shall be regarded as a positive element.
The proposals should clearly identify the biogeographical area, for which the proposed solution is relevant and to which the proposal is focussed. Moreover, the proposal should explore possible reapplication to other regions, starting from those located in the same biogeographical areas.
To support a large impact, the proposed solutions should be widely re-applicable. To this purpose, identification and inclusion of at least three "replicating" regions/local authorities/communities, interested in reapplying the lessons learnt (totally, partially or with the required adjustments) in their territories is strongly encouraged; this could take the form of inclusion in the consortium of one or more partners providing support for the technical exchanges and the knowledge uptake in the "replicating" regions.
In addition to the local/regional authorities owning the climate challenge, the consortium may include other type of partners, such as private or public research organisations, enterprises and NGOs, to ensure that all needed capabilities are available to develop and implement real life actions.
Proposals should build (when relevant) upon previous developed or existing knowledge and adaptation solutions, designed and developed from previous projects, including from beyond the EU, addressing climate change adaptation and funded by European and national programmes, in particular the European Union Framework programmes for Research and Innovation (such as Horizon 2020 and Horizon Europe under their different pillars and clusters), as well as the LIFE programme. Moreover, proposals should look into opportunities to scale up the solutions demonstrated and to foster their broad deployment across in Europe in particular through the LIFE programme and its integrated projects, and through the European Regional Development Fund programmes.
The European Institute of Innovation and Technology (EIT) and its Knowledge and Innovation Communities (KICs), with their experience in delivering holistic, transformative, citizen-driven and systemic adaptation solutions and innovations to specific global challenges, should contribute to this topic and the proposal should build on the activities of the EIT Climate-KIC or EIT Food.
Proposals should include a mechanism and the resources to establish operational links with the Climate-ADAPT platform (run by the European Environment Agency (EEA) together with DG CLIMA) that will act as a central element for the monitoring, support and visualisation of the Mission progress in

European Regions. To this purpose, projects will feed their results to the Climate-ADAPT and EEA assessments.
Projects funded under this topic are strongly encouraged to participate in the Mission Community of Practice that will be established amongst the Mission Charter signatories and and in networking and joint activities with other projects funded under other topics in the Mission Climate Adaptation as well as in other relevant Missions and partnerships, as appropriate. These networking and joint activities could, for example, involve the participation in joint workshops, the exchange of knowledge, the development and adoption of best practices, or joint communication activities. To this extent, proposals should provide for dedicated activities and earmark appropriate resources. Beyond the Mission, the projects funded under this topic are also encouraged to exchange and identify cooperation opportunities with other projects funded under Horizon Europe, in particular those funded under Cluster 6, the Mission A Soil Deal for Europe and the future partnership on agro-ecology living labs.
The European Commission intends to establish a network and coordination activities amongst all the projects funded for the implementation of the Climate adaptation Mission, under the Horizon 2020 European Green Deal call and under Horizon Europe, and that will be coordinated by the soon to be established Mission Implementation Platform. The projects under this topic will be requested to contribute to this effort. Applicants should acknowledge this request and already account for these obligations in their proposal, making adequate provisions in terms of resources and budget to engage and collaborate with the Mission governance.
To ensure a balanced portfolio covering the different climate risks as identified in the Mission Implementation Plan and to maximize the footprint across all the different biogeographical areas, the best ranked proposals for each biogeographical area will be selected.
Further Information:
https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/horizon-miss-2023-clima-01-01;callCode=null;freeTextSearchKeyword=;matchWholeText=true;typeCodes=1,2,8;stat=1,2,8;statusCodes=31094502;programmePeriod=2021%20-%202027;programCcm2Id=43108390;programDivisionCnCode=null;focusAreaCode=null;destinationGroup=null;missionGroup=null;geographicalZonesCode=null;programmprogrammeDivisionProspect=null;startDateLte=null;startDateGte=null;crossCuttingPriorityCode=null;cpvCode=null;cpvCode=null;performanceOfDelivery=null;sortQuery=startDate;orderBy=asc;onlyTenders=false;topicListKey=topicStKey=topicSearchTablePageState

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17. /HORIZON EUROPE/ Testing and demonstrating transformative solutions to protect critical infrastructure from climate change, mainstreaming nature based solutions, deadline: 20. September 2023 17:00 Brussels time

Projects results are expected to contribute to all of the following expected outcomes:
- Regions, local authorities and communities have taken the leadership and have been involved in identifying weaknesses and interlinkages between critical infrastructures, and development and testing of solutions that will make their existing or new critical infrastructure more resilient to climate change, in line with the most recent guidelines for climate proofing.
- Nature based solutions (with adequate social and environmental standards) protecting infrastructure from adverse effects of climate change have been developed, tested and brought closer to the market, increasing evidence for their viability and business potential. Green, climate neutral and zero pollution technology solutions are broadly supported and opportunities for further inter-sectorial cooperation are fostered.
- Potential economic and social losses caused by extreme weather events and interruption of service due to critical infrastructures becoming unavailable are reduced, making the economy and the society as a whole more resilient through better preparation.
- Businesses, public and private actors are made more prepared to cope with the changing climate, also through climate adaptation targeted education and training, up- and re-skilling programmes.

- Prevention and management of emergency events linked to adverse climate effects is improved, thanks to "by design" integration of digital monitoring and relevant data sources in the solutions.
This topic relates to the Mission's objectives to mobilise at least 150 regions in testing the solutions most locally needed to build climate resilience and to deliver at least 75 deep demonstrations of systemic transformations to climate resilience.
It complements the Climate Adaptation Mission topic 2021-CLIMA-02-03, which focussed on modelling aspects, as it mainly addresses demonstration of solutions on the ground, therefore providing a relevant context to eventually take further promising approaches already identified.
The proposal should identify weaknesses and interlinkages of critical infrastructures, in order to develop and test innovative solutions, combining technological and social innovation, leading to an increase of the resilience and adaptation capacity to climate change in the involved regions, local authorities and communities, assuring that nature-based solutions are explored as priority and at the very heart of the development whenever possible.
In line with the Mission Implementation Plan and moreover with the new EU Climate Adaptation Strategy, implementing nature-based solutions on a larger scale would increase climate resilience. Blue-green (as opposed to grey) infrastructures represent multipurpose, "no regret" solutions, which simultaneously provide environmental, social and economic benefits and help build climate resilience, which uptake can be facilitated by better quantification and communication of their benefits. Nature based solutions (NBS) essential role for sustaining healthy water, oceans, ecosystems and soils was recognised, together with their potential to reduce costs, provide climate-resilient services, and improve compliance with Water Framework Directive requirement for good ecological status, if they were to play a bigger role in land-use management and infrastructure planning. The resilience of nature-based solutions to climate change should also be taken into account.
As climate impacts, adaptive capacities and disaster risk reduction capabilities differ greatly across regions, the proposed scientific development and innovation should address specific needs identified at regional and local scale with tailor-made responses and measures, fully acknowledging place-based governance, socio-economic and identity characteristics and other place-based data. The successful methodologies and protocols are expected to be adapted to other regions, for further uptake.
In line with the Mission objective to build systemic climate resilience, the proposal should address the local vulnerabilities in order to mitigate the potential risks on the infrastructure being it as potential natural disasters, extreme weather events or long-term changes in average climate), as well as their potential negative impacts on critical assets and infrastructures and the interdependencies between those.
For example, the acceleration of deployment of renewable energy is not without consequences on other environmental and geopolitical challenges. The interdependency of water and energy is set to intensify in the coming years, with significant implications for both energy and water security. Coal and gas power plants require a lot of water, but also renewable sources could increase water stress or be challenged by it, either during operation or during the construction stage. For instance, hydropower requires water to be operated, so that droughts and water shortages that are likely to increase in the future may significantly affect its generation capacity in certain regions; on the other side, the expected increased water availability in certain regions might increase hydropower generation potential. Simultaneously, hydropower reservoirs can help in mitigating floods and store water, providing it during droughts. While wind or solar technologies require little water for their operation (but a significant amount, per unit of installed power capacity, during their manufacturing process), biofuels, concentrated solar power, carbon capture, renewable hydrogen produced through electrolysis or even low-carbon technologies like nuclear are water-intensive. Understanding these interlinkages and developing and testing solutions is therefore critical for the resilience of our economy and society, and to reduce sources of conflict.
Similarly, the achievement of a more interconnected Europe faces key challenges in the development of the interconnected transport networks and corridors, as changing groundwater levels, coastal storms frequency and their spatial incurrence, extreme temperatures, accelerated coastal erosion linked to sea level rise can have very negative effects on stability of rail and road infrastructures in coastal areas (clearly, this also affecting the development and lay down of energy and water networks laid in the proximity of coastal areas).

On that basis, the proposal should design and test solutions with the potential to reduce negative impacts both of long terms climate change and also of sudden extreme events attributable to climate change. More specifically, the proposed solution should address:
- Protecting critical infrastructure from climate impacts and making it ready to withstand the changing climate and its consequences, in particular in terms of maintaining efficiency of operations, minimizing downtime, reducing maintenance costs and protecting the capital invested;
- Solutions for building and/or managing new critical infrastructure and/or upgrading/regenerating/revitalising/refurbishing existing ones through green/blue/hybrid infrastructure and if needed different governance structures, in particular in relation to climate-proofing it towards extreme events. Lifecycle ecological and CO2 footprint considerations, from sourcing the materials, including water and energy needed, through transportation of the material, building, maintenance and utilisation, should be embedded in the decision concerning the type of infrastructure approach to pursue;
- Inclusion of digital and space solutions and services to better predict, monitor and report on climate events, in particular towards improved forecasts of adverse events and triggering adequate risk management and emergency procedures, to protect both business and population, in particular the most vulnerable and marginalised, taking into consideration the interconnections between critical infrastructures and their operation;
Under the Mission approach, collaborations to develop and test effective solutions between regions/local authorities/ communities facing similar climate risks and similar infrastructure challenges are highly encouraged. To this purpose, the proposals must include at least 4 demonstrations taking place in at least 4 different regions/cities/communities, which should collaborate in addressing the challenge. These (at least) 4 demonstrations must be located in at least 3 different EU Member States and/or Horizon Europe associated countries. Involvement in the proposal of regions eligible for Cohesion funds to conduct at least one of the proposed demonstrations shall be regarded as a positive element. In agreement with the authorities responsible for the territories where the actions will be implemented, the consortium should develop a scalability plan including the diffusion of the innovative solutions, and a process for commitments (including funding and governance) in assuring their large-scale deployment and long-term operation beyond the time-life of the project itself. The consortium should seek guarantees for the non-reversibility, sustainability and continuity of the action after the end of the project.
The proposals should clearly identify the biogeographical area, for which the proposed solution is relevant and should explore possible reapplication to other regions, starting from those located in the same biogeographical areas. To support a large impact, the proposed solutions should be widely re-applicable. To this purpose, identification and inclusion of at least three "replicating" regions/local authorities/communities, interested in reapplying the lessons learnt (totally, partially or with the required adjustments) in their territories is strongly encouraged; this could take the form of inclusion in the consortium of one or more partners providing support for the technical exchanges and the knowledge uptake in the "replicating" regions.
In addition to the local/regional authorities owning the climate challenge, the consortium may include other type of partners, such as private or public research organisations, enterprises, and NGOs to ensure that all needed capabilities are available to develop and implement real life actions.
Proposals should build (when relevant) upon previous developed or existing knowledge and adaptation solutions, designed and developed from previous projects, including from beyond EU, addressing climate change adaptation and funded by European and national programmes, in particular the European Union Framework programmes for Research and Innovation (such as Horizon 2020 and Horizon Europe under their different pillars and clusters), as well as the LIFE programme. Moreover, proposals should look into opportunities to scale up the solutions demonstrated and to foster their broad deployment across Europe through the LIFE programme, and its integrated projects in particular, and through the European Regional Development Fund programmes.
Proposals should include a mechanism and the resources to establish operational links with the Climate-ADAPT platform (run by the European Environment Agency (EEA) together with DG CLIMA) that will act as a central element for the monitoring, support and visualisation of the Mission progress in European Regions. To this purpose, projects will feed their results to the Climate-ADAPT and EEA assessments.

Projects funded under this topic are strongly encouraged to participate in the Mission Community of Practice that will be established amongst the Mission Charter signatories by the Mission Implementation Platform in the course of 2023 and in the networking and joint activities with other projects funded under other topics in the Mission Climate Adaptation as well as in other relevant Missions, as appropriate. These networking and joint activities could, for example, involve the participation in joint workshops, the exchange of knowledge, the development and adoption of best practices, or joint communication activities. To this extent, proposals should provide for dedicated activities and earmark appropriate resources.
The European Commission intends to establish a network and coordination activities amongst all the projects funded for the implementation of the Climate adaptation Mission, under the Horizon 2020 European Green Deal call and under Horizon Europe, and that will be coordinated by the soon to be established Mission Implementation Platform. The projects under this topic will be requested to contribute to this effort. Applicants should acknowledge this request and already account for these obligations in their proposal, making adequate provisions in terms of resources and budget to engage and collaborate with the Mission governance. Beyond the Mission, the projects funded under this topic are also encouraged to exchange and identify cooperation opportunities with other projects funded under Horizon Europe, in particular those funded under Cluster 3, and its Destination 1 "Resilient Infrastructures".
To ensure a balanced portfolio covering the different climate risks as identified in the Mission Implementation Plan and to maximize the footprint across all the different biogeographical areas, the best ranked proposals for each biogeographical area will be selected.
Further Information:
https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/horizon-miss-2023-clima-01-02;callCode=null;freeTextSearchKeyword=;matchWholeText=true;typeCodes=1,2,8;stat=1,2,8;statusCodes=31094502;programmePeriod=2021%20-%202027;programCcm2Id=43108390;programDivisionCnCode=null;focusAreaCode=null;destinationGroup=null;missionGroup=null;geographicalZonesCode=null;programmprogrammeDivisionProspect=null;startDateLte=null;startDateGte=null;crossCuttingPriorityCode=null;cpvCode=null;cpvCode=null;performanceOfDelivery=null;sortQuery=startDate;orderBy=asc;onlyTenders=false;topicListKey=topicSstKey=topicSearchTablePageState

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18. /HORIZON EUROPE/ Hop on Facility, deadline: 28. September 2023 17:00 Brussels time, 1. Step

The Hop On Facility allows for legal entities from low R&I performing countries to join already selected collaborative R&I actions, subject to the agreement of the respective consortium and provided that legal entities from such countries are not yet participating in it. The scheme aims to improve the inclusiveness of Horizon Europe by involving more research institutions from Widening countries under Horizon Europe Pillar 2 and EIC Pathfinder actions.
Main selection criteria are excellence and added value of the new partner performing a relevant additional task in the project. All consortium partners need to agree on the accession of the new partner whereas the R&I relevance and complementarity needs to be demonstrated. The accepted application will trigger a GA amendment with the service in charge of the related topic.
Project results are expected to contribute to the following expected outcomes:
- At system level, it mobilises excellence in the Widening countries, increases visibility of the participants from the Widening countries, improves knowledge circulation, and reduces lack of participation of the Widening countries in specific thematic domains;
- At organisation level, it opens up silos of established closed consortia, improves research excellence of the Widening country's institutions in specific fields, enlarges outreach of the participants' R&I actions and provides access to new talent pools;
- At the level of the beneficiary, new competencies and skills for working in transnational projects including research management and dissemination and exploitation are acquired.

The Hop On Facility integrates one additional participant from a Widening country to an ongoing project under Pillar 2 or the EIC pathfinder scheme while topping up a relevant task or work package and the cost incurred by the additional participant. This will happen on a voluntary basis without affecting the freedom of choice for the consortium and the principle of excellence. The Hop On Facility is open to all topics under Pillar 2 and the EIC pathfinder. Applications with activities that contribute to the policy objective of the transition towards a green and digital economy are especially encouraged.
The action will be part of an existing project with a valid Grant Agreement. Applications must demonstrate the R&I added value of the new partner and present a visible and distinct work package for the acceding partner. The proposal should include a detailed description of the profile of the new partner and its role in the existing project. The additional partner and task should be presented in a dedicated proposal template with the Description of the Action (DOA) of the ongoing action uploaded as an annex. Selected consortia will be invited to submit an amendment request for accession of a new partner, modification of the description of the action and upgrade of the budget.
The budget increase must be exclusively for the benefit of the new partner with the exception of a coordination fee of up to 10% of the increased budget to be allocated to the coordinator of the consortium. The coordinator may request the coordination fee and provide an explanation on the additional integration efforts for the new partner.
Further Information:
https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/horizon-widera-2023-access-06-01;callCode=null;freeTextSearchKeyword=;matchWholeText=true;typeCodes=1,2,8;statusCodes=31094502;programmePeriod=2021%20-%202027;programCcm2Id=43108390;programDivisionCode=null;focusAreaCode=null;destinationGroup=null;missionGroup=null;geographicalZonesCode=null;programmeDivisionProspect=null;startDateLte=null;startDateGte=null;crossCuttingPriorityCode=null;cpvCode=null;cpvCode=null;performanceOfDelivery=null;sortQuery=startDate;orderBy=asc;onlyTenders=false;topicListKey=topicListKey=topicSearchTablePageState

19. /HORIZON EUROPE/ Urban greening and re-naturing for urban regeneration, resilience and climate neutrality, deadline: 27. April 2023 17:00 Brussels time

Project results are expected to contribute to all the following expected outcomes:
- Regenerated, rehabilitated, climate-proofed, resilient, environmentally, socially and economically upgraded built environment and in particular areas such as large estate social housing districts, deprived districts and neighbourhoods, neglected or abandoned areas, derelict industrial sites, brownfields or other dysfunctional urban sites through greening and re-naturing interventions;
- Improved liveability, functionality, quality of life and social cohesiveness of the urban areas by means of greener, renatured, regenerated, more bio-diverse, safer, mixed/multi-use and shared urban (public) spaces and built environments, whilst catering for climate change mitigation, adaptation, resilience and energy poverty of various social groups, including women and children, elderly and people with low socioeconomic status by:
- Increasing the share of newly created and/or restored public green spaces, (such as green/blue infrastructures, parks, gardens, forests, green corridors, community allotments, green roofs, restored degraded urban ecosystems, nature-based solutions) by at least 25% over the total targeted under regeneration area, compared to the baseline at the start of the project;
- Evidence-based urban regeneration, re-purposing and rehabilitation plans, blueprints, practical recommendations and guidelines, regulations and standards, focusing on greening and renaturing solutions for pollution abatement, cleaner air, water and soil and climate mitigation and adaptation plans compatible and coherent with the corresponding regional ones;
- increased citizens satisfaction by at least 20% compared to the baseline at the start of the project due to increased greening/re-naturing of the urban space and improved quality of life, air, water, soil;
- Integrated, transdisciplinary, adaptive, transparent and participative urban planning practices and decision making processes to facilitate the integration and take-up of greening, renaturing and biodiversity-enhancing approaches and solutions in urban climate plans enabling for considerations of

cross-scalar (cities/region) compatibility and coherence of climate planning frameworks and cross-sectorial interdependencies;
- Innovative methods, digital tools and data-driven models enabling identification, prioritization and visualization of place-based holistic solutions and scenario analysis, assessment of feasibility and cost-effectiveness and prediction of their short, mid and long term impact;
- Mutually compatible and supportive EU sectorial and urban/region cross-scalar planning for climate mitigation, adaptation and neutrality at both city and region level;
- Increased social awareness about urban climate-related vulnerabilities (such as flooding, heat-waves, droughts etc.), and the urgency for climate mitigation and adaptation and zero pollution strategies and solutions;
- Innovative monitoring frameworks and key performance indicators, accounting, as appropriate, for the established ones, to monitor the performance and assess the performance and impact of the deployed solutions regarding climate mitigation, adaptation and regeneration against a well-defined baseline at the start of the project;
- Contribution, as appropriate, to the implementation of the European Green Deal, the Climate-neutral and smart cities Mission (hereafter referred to as the Cities Mission), the Adaptation to climate change Mission (hereafter referred to as the Climate Mission), as well as other urban relevant policies and initiatives such as the Zero Pollution Action Plan, Biodiversity Strategy, Fit for 55 Strategy, EU Urban Mobility Framework, Water Framework Directive, Circular Economy Action Plan, European Urban Initiative, Urban Agenda for the EU, New Leipzig Charter, Europe's Digital Decade, the European partnership on Driving Urban Transitions for a sustainable future (DUT) and the New European Bauhaus Initiative.
Cities are at the forefront of tackling climate change and pollution and managing impacts through mitigation and adaptation measures. However, while in the last decade local and regional authorities gained a better understanding of the inter-related climate challenges and urgencies of their territories, less has been undertaken to effectively implement and assess climate mitigation and adaptation specific approaches and, in consequence, to adopt them into the local urban/regional policies, strategies and planning documentations, such as municipal/regional master planning, Urban Agendas, Sustainable Urban Mobility Plan (SUMPs), Sustainable Energy and Climate Action Plan (SECAP), Sustainable Energy Action Plan (SEAP), smart specialisation strategies etc.
To meet the objectives of the European Green Deal, the Paris and Glasgow agreement and the UN (United Nations) Sustainable Development Goals, cities in close cooperation with their surrounding region, should engage in decisive actions to tackle the climate change, biodiversity and pollution imperatives and enhance their climate resilience.
It is widely acknowledged that urban "greening" and renaturing approaches and solutions, if properly designed and maintained, can address simultaneously climate change mitigation and adaptation challenges by reducing GHG emissions and atmospheric concentrations, energy demands for e.g. mobility, wastewater treatment, heating and cooling. They can also contribute to significant regeneration and upgrading of built environment whilst delivering multiple co-benefits in terms of biodiversity conservation and enhancement, cleaner air, water and soil, noise reduction, flood risks mitigation, public health and well-being.
The objective of this topic is to explore and demonstrate how to operationalize collaborative climate mitigation and adaptation urban planning approaches deploying "greening" and renaturing solutions for regeneration, re-purposing, rehabilitation and pollution abatement purposes. The co-created plans should be in line with the guiding principles of the European Green Deal and the New European Bauhaus initiative.
To this end, it invites for demonstration actions in at least four 'lead' cities accompanied by at least four 'replicator' cities, representing good geographical, climate and socio-economic diversity across Europe and situated each in a different Member State or Associated Country, where existent urban structure and fabric allow rehabilitation, regeneration, re-purposing or (re)conversion of areas such as large scale social housing districts, deprived districts and neighbourhoods, neglected or abandoned areas and brownfields, derelict industrial sites or dysfunctional urban places through greening and renaturing.
Actions are expected to:

- Set-up in each participating city collaborative platforms (such as living labs) depicting multi-level, and multi-disciplinary governance structures and engaging local authorities, citizens, stakeholders and relevant actors and expertise for the co-design, testing and demonstration of co-created urban rehabilitation, regeneration, re-purposing or (re)conversion plans deploying greening and re-naturing approaches to foster more climate neutral, resilient, liveable, sustainable and functional cities with thriving nature, communities and economic activities;
- Ensure that the regional dimension concerning climate adaptation is properly accounted for through the continuous and seamless involvement of competent regional authorities responsible for the design and implementation of the regional climate mitigation and adaptation measures to ensure cross-scalar (city/region) compatibility and coherence of the urban/regional climate mitigation and adaptation plans.
Actions should also foresee assessment, quantitative and qualitative, ex-ante and ex-post, of the impact of combining and integrating different greening and re-naturing interventions and actions both at local and at regional level based on robust monitoring schemes and using, as appropriate, existing methodologies and indicators.
The 'lead' demonstration cities must, further to the development of the above mentioned plans, also foresee actual implementation of the co-created interventions during the life of the project. To this end, concrete implementation actions and associated costs should be described under a dedicated Work Package or a task.
The replicator/follower cities, under the proactive guidance and mentoring of the lead cities, should develop their co-created plans, measures and interventions with not obligation for their actual implementation during the life of the project.
To support the integrated planning process and facilitate involvement of citizens in the decision-making process, actions should make effective use of digital tools (e.g. digital twins) integrating cross-domain static, real time and historic data from observations, modelling and simulation whilst making use of open standards and technical specifications.
Actions should engage in clustering activities with other like-minded projects funded under this topic, other relevant projects and projects supported under the Climate-neutral and smart cities and Climate Adaption Missions to promote synergies and complementarities.
Although concrete actions for such activities would only be identified in an early stage in the projects' lifetime, appropriate provisions and resources enabling their implementation should be put aside at the proposal level in a clearly identifiable work package. Furthermore, actions should engage in ambitious outreach, communication, dissemination and training activities to foster replication, upscaling and up-taking of the projects' outputs beyond the projects consortia.
To maximise impacts, in carrying out these activities, actions are strongly recommended to work in coordination and complementarity with the 'Climate-neutral and smart cities' and the (soon to be established) 'Climate Adaptation' Mission Platforms. Opportunities for collaboration and synergies should also be explored and, as appropriate, pursued with other relevant initiatives, such as the European partnership on Driving Urban Transitions for a sustainable future (DUT), the upcoming European Urban Initiative of Cohesion Policy, the Urban Agenda for the EU , the CSA project selected from the call HORIZON-MISS-2021-CIT-01-02, the Covenant of Mayors, the CIVITAS initiative, the Living-in.EU initiative and the New European Bauhaus Community and NEBLab.
Further Information:
https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/horizon-miss-2023-clima-cities-01-01;callCode=null;freeTextSearchKeyword=;matchWholeText=true;typeCodes=1,2,peCodes=1,2,8;statusCodes=31094502;programmePeriod=2021%20-%202027;programCcm2Id=43108390;programDivisionCode=null;focusAreaCode=null;destinationGroup=null;missionGroup=null;geographicalZonesCode=null;proe=null;programmeDivisionProspect=null;startDateLte=null;startDateGte=null;crossCuttingPriorityCode=null;cpvCode=null;cpvCode=null;performanceOfDelivery=null;sortQuery=startDate;orderBy=asc;onlyTenders=false;topicListKeytopicListKey=topicSearchTablePageState

20. /HORIZON EUROPE/ Maintaining access to regular health and care services in case of cross-border emergencies, deadline: 13. April 2023 17:00 Brussels time

This topic aims at supporting activities that are enabling or contributing to one or several expected impacts of destination 4 "Ensuring access to innovative, sustainable and high-quality health care". To that end, proposals under this topic should aim for delivering results that are directed, tailored towards and contributing to several of the following expected outcomes:
- Decision- and policymakers have access to modelling tools and foresight studies (including cost studies on the non-access to health and care services) on health and care systems for anticipating regular and unplanned health and care demand during large-scale cross-border emergencies.
- Decision- and policymakers and health and care providers can better facilitate and manage access to regular health and care delivery during cross-border emergencies.
- Decision- and policymakers and health and care providers avail of management frameworks including organisational models for handling unplanned health and care demand linked to cross-border emergencies, while maintaining necessary regular health and care provision.
- Health and care professionals have access to training on how to deliver regular health and care services (including by means such as telemedicine) during cross-border health emergencies.
- Health and care professionals, citizens and patients access advanced digital tools enabling managed access to regular health and care services, complemented by other modes of health and care delivery (e.g., telemedicine, self-care, prioritised care).
- Patients can be involved in the co-design and co-production of health and care delivery models during cross-border emergencies and can benefit from better access to regular health and care services during such periods.
- Health and care providers and health and care professionals have access to knowledge and data on, and innovative solutions to combat, decreasing demand for regular health and care services resulting from an ongoing emergency (e.g. patients are avoiding visits to hospitals because they are worried about additional infections or do not want to add extra burden on the health and care systems).
Since the outbreak of the COVID-19 pandemic, health and care systems have been facing unprecedented challenges. Many systems were overwhelmed and fell short on available supplies, staff, and critical infrastructure. Beyond the initial challenges posed by the pandemic, its prolonged duration has strained health and care facilities and providers, and had a negative impact on regular health and care provision. Disruptions in routine and non-emergency medical care access and delivery have been observed. It is hence timely to take stock and identify lessons for maintaining care delivery.
Another recent emergency situation that has had a great impact on health and care systems is the war in Ukraine and the resulting migration to bordering countries. Also under these circumstances, it is important to have the right tools for maintaining access to regular health and care services, while also accommodating the more urgent needs of migrants, for example.
The goal is to be better prepared for the multiple challenges faced by health and care systems during emergencies, and ensure that necessary access to regular health and care services can be maintained. Proposals for research and innovation should focus on health and care systems, and actions are expected to address several of the following:
- Analysis and evaluation of different epidemics or other emergencies response measures in Member States and Associated Countries aimed at maintaining access to regular health and care services. Cost studies on not maintaining access to health and care services during cross-border emergencies.
- Development of innovative tools and models for maintaining access to regular health and care services during cross-border emergencies - for example developing modelling and foresight tools to assess and anticipate impact of cross-border emergencies on regular health and care delivery; developing novel technical solutions or organisational management models, including training, for regular care delivery in future cross-border emergencies; demonstrating applicability of novel modelling tools, management frameworks and organisational models in selected areas of regular health and care services (e.g. chronic diseases, mental health disorders, trauma care).
- Development and implementation of digital tools and of effective communication strategies based on digital health literacy studies - for example developing, implementing and generating evidence of benefit of novel digital systems connecting health and care professionals, citizens and patients at-scale, helping maintain access to health and care services during emergencies (including but not limited to smart appointment management, chronic disease self-management applications, primary care and/or referral

caseload prioritisation and management incl. triage, increasing clinical practice efficiency, management of health care professionals' caseload, integrated telecare suites complemented by new computational methods such as AI/machine learning, etc.).
This topic requires the effective contribution of social sciences and humanities (SSH) disciplines and the involvement of SSH experts, institutions as well as the inclusion of relevant SSH expertise, in order to produce meaningful and significant effects enhancing the societal impact of the related research activities. Interdisciplinary research is thus encouraged, including the involvement of SSH disciplines considered essential for health and care planning and delivery in different social contexts and for the evaluation of health economical aspects.
All projects funded under this topic are strongly encouraged to participate in networking and joint activities, as appropriate. Therefore, proposals should include a budget for the attendance to regular joint meetings and may consider covering the costs of any other potential joint activities without the prerequisite to detail concrete joint activities at this stage. The details of these joint activities will be defined during the grant agreement preparation phase.
Synergies should be sought with potentially complementary research initiatives, data stewards, custodians and research infrastructures such as the European Observatory on Health Systems and Policies, the Population Health Information Research Infrastructure, the future European co-funded partnerships, such as the partnership on Transforming Health and Care Systems (THCS), and relevant EU health policy initiatives such as the European Health Data Space (EHDS) and the nascent Health Emergency Response Authority (HERA).
Applicants envisaging to include clinical studies should provide details of their clinical studies in the dedicated annex using the template provided in the submission system. See definition of clinical studies in the introduction to this work programme part.
Further Information:
https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/horizon-hlth-2023-care-04-01;callCode=null;freeTextSearchKeyword=;matchWholeText=true;typeCodes=1,2,8;statusCodes=1,2,8;statusCodes=31094502;programmePeriod=2021%20-%202027;programCcm2Id=43108390;programDivisionCode=null;focusAreaCode=null;destinationGroup=null;missionGroup=null;geographicalZonesCode=null;programmeProgrammeDivisionProspect=null;startDateLte=null;startDateGte=null;crossCuttingPriorityCode=null;cpvCode=null;pcpvCode=null;performanceOfDelivery=null;sortQuery=startDate;orderBy=asc;onlyTenders=false;topicListKey=topicSettKey=topicSearchTablePageState

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21. /HORIZON EUROPE/ Pandemic preparedness and response: Sustaining established coordination mechanisms for European adaptive platform trials and/or for cohort networks, deadline: 13. April 2023 17:00 Brussels time

This topic aims at supporting activities that are enabling or contributing to one or several expected impacts of destination 3 "Tackling diseases and reducing disease burden". To that end, proposals under this topic should aim for delivering results that are directed, tailored towards and contributing to all of the following expected outcomes:
- The research community sustains appropriate coordination mechanisms 1) among different EU-wide adaptive platform trials and/or 2) among established cohorts in Europe and beyond with a view for better pandemic preparedness and response,
- The adaptive platform trial and/or the cohort networks maximise coordination and harmonisation of their respective studies within their relevant network for maximum research efficiency and optimal evidence generation.
- The European adaptive platform trial and/or the cohort networks coordinate with the European Pandemic Preparedness Partnership, and are well connected to each other and to relevant other regional and global initiatives.
The COVID-19 pandemic research response has illustrated the importance of clinical research preparedness, as well as the benefit gained from the coordination between European clinical research

initiatives. Two key pillars of such clinical research in pandemic preparedness and response are the clinical (interventional) trials and the cohort (observational) studies.
The large-scale European COVID-19 clinical trials have been gathered under a network for COVID-19 therapeutic trials and a network for COVID-19 vaccine trials and strong common coordination mechanisms between the trials have been established. The recently launched Ecraid is a European clinical research network that has been in development since before the COVID-19 pandemic. The EU-funded projects conducting cohort research in Europe and globally have also come together to establish stronger coordination between them.
This topic aims at maintaining and strengthening existing strategic coordination mechanisms across adaptive platform trials and across cohort studies in Europe and beyond for avoiding redundancies, promoting complementarities and facilitating cooperation among EU-funded clinical research for infectious diseases. Proposals should strengthen the leading role of the EU in clinical research preparedness for future epidemics and pandemics, through ensuring coordination of the European adaptive platform trials and of the European cohort studies. The coordination mechanisms support the longer-term perspective of preparedness for future infectious disease epidemics and pandemics, where the networks enable the conduct of perpetual platform trials and of perpetual strategic cohorts with the in-built agility to pivot to emerging diseases when an epidemic strikes.
Proposals should describe a coordination mechanism for adaptive platform trials and/or for cohort research. The coordination mechanism builds on existing coordination efforts for these networks, providing strategic support and vision for the perpetual trials and cohort studies belonging to the networks in the context of pandemic preparedness. Within the adaptive platform trial network, the coordination mechanism supports reflections e.g. on the diversity of the trial target populations (e.g. primary care or hospitalised patients) or on different possible medical countermeasures (e.g. therapeutics, vaccines), etc. Within the cohort network, the coordination mechanism supports reflections e.g. on diversity in type of cohorts and research questions to be addressed, or on harmonised approaches to data collection and analysis, etc.
Proposals should address proper connections with relevant European initiatives and organisations, such as the European Pandemic Preparedness Partnership, the European Health Preparedness and Emergency Response Authority (HERA), as well as the European Medicines Agency (EMA) and the European Centre for Disease Prevention and Control (ECDC). Synergies with successful proposals under the HORIZON-INFRA-2023-DEV-01-01 topic should be sought, and collaboration with other relevant research infrastructures should be envisaged. Proposals should also be open to engage with global initiatives such as the Global Research Collaboration for Infectious Disease Preparedness (GloPID-R), the Global Health EDCTP3 Joint Undertaking, or the World Health Organization (WHO).
Proposals should address the following areas:
- Fostering a trusted and proactive environment within the coordination mechanism that supports the timely exchange of research results, allows for discussion on challenges encountered in their research and finding solutions together to ensure cooperation and synergy within each network;
- Developing a common approach for the European clinical research to enable pragmatic solutions to shared challenges across European clinical trials and/or cohorts for pandemic preparedness and response, guaranteeing the best interest of European trial or study patients or volunteers;
- Promoting an optimal use of resources, based on a sound scientific approach and maximising the value added for the generation of scientific evidence, through a common baseline approach towards protocol development, harmonised and FAIR data collection and analysis leveraging existing initiatives;
- Involving relevant European stakeholders, such as representatives from regulatory authorities, industry, policymakers, patient organisations, etc., as well as relevant non-European networks and stakeholders;
- Promoting the visibility and attractiveness of European adaptive platform trials and/or cohorts for clinical investigators in Europe and beyond; as well as active communication with the science community, patient advocacy groups and other stakeholders, to develop trust, and also promote innovative approaches;
- Partners within the coordination mechanism should develop a plan to ensure its sustainability.
Coordination with the European Pandemic Preparedness Partnership and the European Health Preparedness and Emergency Response Authority (HERA) is expected.

Further Information:
https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/horizon-hlth-2023-disease-03-05;callCode=null;freeTextSearchKeyword=;matchWholeText=true;typeCodes=1,2,8;statusCodes=31094502;programmePeriod=2021%20-%202027;programCcm2Id=43108390;programDivisionCode=null;focusAreaCode=null;destinationGroup=null;missionGroup=null;geographicalZonesCode=null;programmeDivisionProspect=null;startDateLte=null;startDateGte=null;crossCuttingPriorityCode=null;cpvCode=null;cpvCode=null;performanceOfDelivery=null;sortQuery=startDate;orderBy=asc;onlyTenders=false;topicListKey=topicListKey=topicSearchTablePageState

22. /HORIZON EUROPE/ Novel approaches for palliative and end-of-life care for non-cancer patients, deadline: 13. April 2023 17:00 Brussels time

This topic aims at supporting activities that are enabling or contributing to one or several expected impacts of destination 3 "Tackling diseases and reducing disease burden". To that end, proposals under this topic should aim for delivering results that are directed, tailored towards and contributing to all of the following expected outcomes:
- Reduced health-related suffering and improved well-being and quality of life of patients in need of palliative and end-of-life care and their professional and family caregivers.
- Patients have early and better access to palliative or end-of-life care services of higher quality and (cost) effectiveness.
- Patients and their professional and family caregivers are able to engage meaningfully with the improved evidence-based and information-driven palliative care joint decision-making process.
- Health care providers and health policymakers have access to and use the improved clinical guidelines and policy with respect to pain and/or other symptoms management, psychological and/or spiritual support, and palliative or end-of-life care for patients.
- Reduced societal, healthcare and economic burden associated with increasing demands of palliative or end-of-life care services that is beneficial for citizens and preserves sustainability of the health care systems.
The complexity of health conditions related to life-threatening and chronic diseases, acute and chronic pain, late or long-term side effects as consequences of diseases and also their treatments affect quality of life of patients and their families and pose an immense societal and economic burden. Palliative and end-of-life care approaches improve quality of life of patients and professional and family caregivers through the prevention and relief of suffering by means of early identification, assessment and treatment of pain and other factors such as physical, psychosocial and spiritual problems. Although a variety of interventions are in use, they are often not adequately validated or adapted to the specific needs of patients affected by complex diseases or their co- or multimorbidities. Therefore, a need exists to strengthen the evidence base for available patient-centred effective interventions improving quality of life and outcomes of patients of all ages in the domains of palliative and end-of-life care.
Proposals should address all of the following activities:
- Demonstrate the effectiveness and cost-effectiveness of newly proposed or specifically adapted pharmacological and/or non-pharmacological interventions to improve well-being and quality of life of patients suffering from life-threatening and chronic diseases (including disabilities). Whenever relevant, serious late and long-term side effects of disease treatments or symptoms that occur at the end of life of patients should be considered. The legal and ethical aspects of the proposed interventions should be taken into consideration and be fully addressed.
- Prove the feasibility of integrating the proposed interventions in current pain management, palliative and/or end-of-life care regimes and healthcare systems across Europe. The complex human, social, cultural and ethical aspects that are necessarily managed by those care regimes and healthcare systems should be reflected from patients' as well as those of their professional and family caregivers' perspectives. The views and values of patients and their caregivers (including families, volunteers, nurses and others) should also be appropriately taken into account in patient-centred care decisions.

- Identify and analyse relationships between sex, gender, age, disabilities and socio-economic factors in health and any other relevant factors (e.g. ethical, familial, cultural considerations, including personal beliefs and religious perspectives, etc.) that could affect health equity to the proposed interventions, including equitable access.
- Analyse the barriers and opportunities to re-invigorating and enhancing timely social inclusion and active engagement of patients in need of palliative and end-of-life care and their caregivers.
- Provide implementation strategies and guidelines of patient-centred communication for health and social care professionals as well as standards for evidenced based communication trainings for caregivers, considering the potential of social innovation approaches or tools.
- When relevant, provide policy recommendations for pain management, psychological and/or spiritual support, and palliative or end-of-life care of patients.

Randomised clinical trials and observational studies, targeting different age groups, should be considered for this topic. Proposals should give a sound feasibility assessment, provide details of the methodology, including an appropriate patient selection and realistic recruitment plans, justified by available publications and/or preliminary results.
This topic requires the effective contribution of social sciences and humanities (SSH) disciplines and the involvement of SSH experts, institutions as well as the inclusion of relevant SSH expertise, in order to produce meaningful and significant effects enhancing the societal impact of the related research activities. Proposals should consider a patient-centred approach that empowers patients, increase health literacy in palliative and end of life care, promotes a culture of dialogue and openness between health professionals, patients and their families, and unleashes the potential for social innovation.
All projects funded under this topic are strongly encouraged to participate in networking and joint activities, including internationally, as appropriate. These networking and joint activities could, for example, involve the participation in joint workshops, the exchange of knowledge, the development and adoption of best practices, or joint communication activities. This could also involve networking and joint activities with projects funded under other clusters and pillars of Horizon Europe, or other EU programmes, as appropriate. Therefore, proposals are expected to include a budget for the attendance to regular joint meetings and may consider covering the costs of any other potential joint activities without the prerequisite to detail concrete joint activities at this stage. The details of these joint activities will be defined during the grant agreement preparation phase. In this regard, the Commission may take on the role of facilitator for networking and exchanges, including with relevant stakeholders, if appropriate.
Applicants envisaging to include clinical studies should provide details of their clinical studies in the dedicated annex using the template provided in the submission system. See definition of clinical studies in the introduction to this work programme part.
Further Information:
https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/horizon-hlth-2023-disease-03-01;callCode=null;freeTextSearchKeyword=;matchWholeText=true;typeCodes=1,2,8;sta
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23. /HORIZON EUROPE/ Resilience and mental wellbeing of the health and care workforce, deadline: 13. April 2023 17:00 Brussels time

This topic aims at supporting activities that are enabling or contributing to one or several expected impacts of destination 4 "Ensuring access to innovative, sustainable and high-quality health care". To that end, proposals under this topic should aim for delivering results that are directed, tailored towards and contributing to several of the following expected outcomes:
- Health and care workers receive support (including mental health support), access to tools and guidance that enhances their wellbeing and ability to adapt to changing working conditions, as a result of new

technologies, new work models or unexpected adverse events, including during public health emergencies and when under ethical stress.
- Decision- and policymakers, employers and social partners in the health and care sectors have knowledge of the specific risks for the resilience, mental health and well-being of health and care professionals and informal carers. They have access to solutions (regulatory, organisational, technological, educational, HR, health services) to prevent and manage them, based on the integrated development of work processes and wellbeing at work and on the study of effects of clustered work stressors on work ability and recovery from work.
- Funders of health and care provision have access to evidence, novel approaches and cost-effective recommendations for interventions supporting the mental health and well-being of health and care workers at individual, organisation and sector levels.
- Policymakers cooperate with relevant stakeholders, including health and care professionals associations and social partners to foster specific solutions to improve resilience and well-being of health workers and carers including informal carers, and fight the accumulation of stressors.
A resilient workforce in the health and care sectors is essential for the sustainability and prosperity of our societies. However, careers in the health and care sector can be physically and mentally taxing by submitting health professionals and carers to psychosocial risks (for example heavy workload, stressful working conditions, risk of exposure to infectious agents, precariousness, ethical stress etc.). Many health professionals and carers also commute to work or have migrated to work in a new country. This adds to the struggle of health and care systems to attract new people to their workforce, but also to maintain the ones already working. A combination of factors such as changes in work organisation, budgetary and administrative pressures faced by health and care systems, systemic shortages of health professionals, precarious working conditions, structural inequalities and leaps in technological innovation may leave health and care workers with feelings of helplessness, physical or mental vulnerability or moral injury. Technological innovations (including digitisation, big data and artificial intelligence applications) provide opportunities for a more efficient provision of health and care services, and for lightening the workload of health and care workers. However, they also create new risks, potentially affecting the mental wellbeing of the workforce. For example, new skills, requirements, new organisational models, performance monitoring by algorithms, lack of control or accountability in workplace decisions, ethical questions, are elements that can increase stress and hamper the ability of health and care workers to function in their jobs on a daily basis.
The COVID-19 pandemic has put a strain on health and care workers' resilience and exacerbated mental health issues that were already a problem pre-pandemic, ranging from anxiety due to increased workload to burnout and post-traumatic stress disorder. Informal carers suffer from similar stress, potentially caused by different factors, such as the need to provide care which keeps them away from employment and puts them at an increased risk of poverty. Lack of acknowledgement that one's mental health is deteriorating, barriers to seeking help or the stigma that still surrounds mental illness may impede people from addressing such problems early enough. Different socio-economic groups are affected to different extents: in emerging virus outbreaks prior to the COVID-19 pandemic lower educational level among other things was associated with higher risk for adverse psychological outcomes among health workers.
Successful proposals should address several of the following activities:
- Collect and analyse new evidence and data generation - on occupation-specific factors building the resilience, mental health well-being of health and care workers, or informal carers. Where appropriate, evidence should be gathered and analysed on the interplay of such factors with non-occupation specific factors (e.g. genetic, social etc.). Where relevant, such evidence should be target-group specific, considering variation of challenges for professionals working in various settings (primary care, hospitals, residential care institutions, disadvantaged geographic locations).
- Develop action-oriented recommendations to policymakers, employers, social partners and relevant civil society organisations at the appropriate levels (EU, national, regional, local) based on evidence generated by the proposed action. Such recommendations should suggest (cost-)effective policy interventions or elements for further research aiming to promote the resilience, mental health and well-being of health and care workers. They should be based on cost-benefit studies and ex-ante evaluations of proposed interventions.

- Develop, or identify, innovative solutions (including digitally enabled ones), organisational models and management approaches to support health policymakers, employers and formal or informal health and care workers in promoting resilience, mental health and well-being in the workplace.
- Develop financing and resource allocation models to ensure access to support and mental health services for health and care workers and informal carers.
- Carry out testing and validation activities for new or improved solutions improving conditions for health and care workers or informal carers according to specific factors influencing their mental well-being.
Proposals can identify one or more worker groups or informal carers as target of R&I activities, based on credible scientific criteria.
This topic requires the effective contribution of social sciences and humanities (SSH) disciplines and the involvement of SSH experts, institutions as well as the inclusion of relevant SSH expertise, health and care professionals associations and (informal) carers associations, in order to produce meaningful and significant effects enhancing the societal impact of the related research activities.
All projects funded under this topic are strongly encouraged to participate in networking and joint activities, as appropriate. Therefore, proposals should include a budget for the attendance to regular joint meetings and may consider covering the costs of any other potential joint activities without the prerequisite to detail concrete joint activities at this stage. The details of these joint activities will be defined during the grant agreement preparation phase.
With women making up over 70% of EU health care professionals and employees in the care sector and a great part of informal carers, an appropriate gender approach is essential in research and policy interventions, to prevent or mitigate workplace inequalities and imbalances. Researchers and policymakers should also take into account the inclusion dimension, as a significant share of health professionals or care workers typically come from minority groups, whether through declared or undeclared work.
Proposals should consider potential synergies and avoid overlaps with ongoing calls or actions funded under EU or national programmes for example the future cofunded partnership on Transforming Health and Care Systems (THCS).
Proposals are encouraged to take into account, when relevant, the EU Strategic Framework on Health and Safety at Work (2021-2027), the report on mental health and most importantly, the recommendations and analysis presented in the Expert Panel on effective ways of investing in health (EXPH) opinion on supporting the mental health of the health workforce and of other essential workers.
Applicants envisaging to include clinical studies should provide details of their clinical studies in the dedicated annex using the template provided in the submission system. See definition of clinical studies in the introduction to this work programme part.
Further Information:
https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/horizon-hlth-2023-care-04-02;callCode=null;freeTextSearchKeyword=;matchWholeText=true;typeCodes=1,2,8;status1,2,8;statusCodes=31094502;programmePeriod=2021%20-%202027;programCcm2Id=43108390;programDivisionCoCode=null;focusAreaCode=null;destinationGroup=null;missionGroup=null;geographicalZonesCode=null;programmerogrammeDivisionProspect=null;startDateLte=null;startDateGte=null;crossCuttingPriorityCode=null;cpvCode=null;pcpvCode=null;performanceOfDelivery=null;sortQuery=startDate;orderBy=asc;onlyTenders=false;topicListKey=topicStktKey=topicSearchTablePageState

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24. /HORIZON EUROPE/ Interventions in city environments to reduce risk of non-communicable disease (Global Alliance for Chronic Diseases - GACD), deadline: 13. April 2023 17:00 Brussels time

This topic aims at supporting activities that are enabling or contributing to one or several expected impacts of destination 3 "Tackling diseases and reducing disease burden". To that end, proposals under this topic should aim for delivering results that are directed, tailored towards and contributing to most of the following expected outcomes:

- Health care practitioners and providers in low- and middle-income countries (LMICs) and/or those in high-income countries (HICs) serving vulnerable populations have access to and use specific guidelines to implement health interventions that decrease risk factors of non-communicable diseases (NCDs) associated with city[1] environments.
- Public health managers and authorities have access to improved insights and evidence on the NCDs caused or impacted by city environments and which factors influence the implementation of preventive actions that address risk behaviours in concerned city populations. They use this knowledge to design improved city planning policies to diminish health associated risks.
- Adopting an implementation science approach to studying interventions in different city contexts, researchers, clinicians and authorities have an improved understanding how specific interventions can be better adapted to different city environments and how the interventions could be scaled within and across cities taking into account specific social, political, economic and cultural contexts.
- Public health managers and authorities use evidence-based strategies and tools for promoting population health in equitable and environmentally sustainable ways, enabling cities to better address the challenges of rapid urbanisation, growing social inequalities, and climate change.
- Communities, local stakeholders and authorities are fully engaged in implementing and taking up individual and/or structural level interventions and thus contribute to deliver better health.

The European Commission is a member of the Global Alliance for Chronic Diseases (GACD). This topic is launched in concertation with the other GACD members and aligned with the 8th GACD call.
The topic is focused on implementation research with the potential to reduce the risks of NCDs in cities in LMICs and/or vulnerable populations in HICs. Proposals should focus on implementation science around evidence-based interventions that promote healthy behaviours, and that have the potential to profoundly reduce the risk of chronic diseases and multi-morbidity.
Non-communicable diseases, such as diabetes, cardiovascular disease, neurological diseases, respiratory diseases, certain cancers, and mental health disorders, are the leading cause of morbidity and mortality in both LMICs and HICs. The COVID-19 pandemic has brought these chronic diseases further into the spotlight, as the majority of those who have experienced severe illness and/or death have had one or more underlying NCD. Reducing the burden of NCDs is therefore critical to building more resilient, equitable, and healthier societies.
Air, water, and soil pollution; lack of greenspace; urban heat islands; lack of safe infrastructure for walking, cycling, and active living; and wide availability of tobacco, alcohol, and unhealthy foods and beverages drive the NCD epidemic in city environments. More than half of the world's population currently live in cities and this number is projected to rise to 68% by 2050. There is an urgent need to equip local authorities and policymakers with strategies for maximising the health-promoting potential of cities, while minimising or reversing environmental degradation and health inequities.
Cities provide tremendous social, cultural, and economic opportunity, and have the potential to become engines of good health and support climate change adaptation. Innovative health-focused programmes, policies, and infrastructure, such as public smoking bans, bikeable streets, greenspace, and vehicle emission laws, can shape the behaviours of millions of people and decrease exposure to environmental contaminants. Applicants to the current call are invited to conduct implementation research that leads to improved understanding of how specific interventions can be better adapted to different city environments and/or scaled within and across cities, taking into account unique local social, political, economic, and cultural contexts.
The proposed implementation research must be focus on addressing NCD risk factors associated with city environments and related health inequities. In all cases, the selected study population(s) must live in cities, which may include informal settlements near urban centres, peri-urban environments, and city centres. The study population may include people with existing NCDs, those without existing NCDs, or a combination of both. Applicants are encouraged to take a life course approach, adapting the intervention to one or more key life stage(s) critical for reducing lifelong NCD risk.
Proposals should address all of the following activities:
- Select one or more city/ies in which the research will be conducted. Applicants must justify why a particular context is considered a city.

- Select one or more evidence-based interventions known to reduce NCD risk factor(s) associated with city environments. Applicants should justify the choice of intervention(s) and provide evidence of the intervention's effectiveness, acceptability, feasibility, and potential for long-term health and other impacts. Applicants may also wish to consider implementation research focusing on the WHO Best Buys, though this is not a requirement.
- Adapt these intervention(s) for selected study population(s) based in one or more city/ies, taking into account the unique social, political, economic, and cultural context(s). Applicants should justify why these adaptations will not compromise the known effectiveness of the selected intervention(s).
- Provide a research plan for investigating how to promote the uptake and/or scale-up of the intervention(s) in the selected study population(s), using validated implementation research frameworks.
- Specifically address issues of equitable implementation to ensure interventions reach the populations that need them the most.
- Have an appropriate strategy for measuring both implementation research outcomes and real-world effectiveness outcomes and indicators (related to NCD prevention and, if feasible, planetary health and/or non-health sectors).
- Demonstrate a commitment to stakeholder engagement.
- Demonstrate a commitment to planetary health in that the proposed intervention, implementation strategies and research practices minimise the consortium's ecological footprint.
- Provide a sustainability plan or describe a pathway to sustain the proposed intervention after the funding ends.

The proposed interventions of focus may fall under one or both of the following themes:
Theme 1: Behavioural change interventions
These interventions comprise of innovative approaches to helping people live in cities maintain good physical and mental health despite infrastructural, environmental, climate, and social challenges. Behavioural interventions might include, but are not limited to, programmes and policies that target alcohol and tobacco use, sleep, exercise promotion, healthful nutrition (e.g. in school canteens), addressing the psychosocial impacts of climate change and climate change related disasters, and reducing exposure to environmental contaminants.
Theme 2: Interventions that focus on modifying the built environment
These interventions focus on modifying the built environment to improve its health-promoting potential. Proposals should aim to inform urban design such that it reduces NCD risks; for example, by improving a city's walk- or bike-ability, increasing green space to reduce the health impacts of air pollution or extreme heat, reducing environmental toxins, addressing homelessness or unsafe housing, improving accessibility of healthy foods, decreasing widespread advertising for tobacco and alcohol, or reducing noise and air pollution from road traffic. For proposals that focus on modifying the built environment, applicants should demonstrate that the intervention will be able to withstand expected impacts from climate and/or improve resilience to the health impacts of climate change in city environments.
Applicants should be able to show that the city government or community-based organisation that they partner with has a dedicated budget for the construction, maintenance, and/or scale up of the proposed intervention(s), especially for large infrastructure projects. Applicants should also be able to show that the timelines of the research and construction of infrastructure projects will align such that it will be possible to answer the proposed implementation research questions over the proposed duration, and such that the research results will be available in time to inform stakeholder decisions about how the project is implemented, improved, and/or scaled up.
Proposals should include a plan on how to measure implementation research outcomes and the intervention's real-world efficacy in preventing NCDs. In case health outcomes might not be apparent over the duration of the study period, and applicants may therefore instead include plans to measure the intervention's impact on upstream health indicators, such as those related to the social determinants of health, or to measure other proxy health outcomes. Where feasible and relevant, applicants should also describe a plan for evaluating the planetary health and/or climate impacts of an intervention's implementation. Applicants are also encouraged to develop a plan for measuring outcomes or indicators relevant to non-health or environmental impacts, especially when working on projects with multi-sectoral themes (for example, themes that cut across health and transportation, social services, waste

management, etc.).
Projects should consider the structural and social determinants of health and discuss their potential impact on the effective implementation of the intervention(s) in city environments. Of interest is also the EU Mission on Climate-Neutral and Smart Cities.
Projects should be gender-responsive and consider socioeconomic, racial or other factors that relate to equitable impacts of the intervention or barriers to equitable implementation. The aim should be to adapt and scale-up the implementation of these intervention(s) in accessible and equitable ways in order to prevent or delay the onset of chronic diseases in real-life settings. Poverty, racism, ethnic discrimination, physical and mental ableism, ageism, and other inequities are directly associated with reduced potential for health promotion and disease prevention. If there is a focus on a particular population in this context, then the reason for this should be justified.
This topic requires the effective contribution of social sciences and humanities (SSH) disciplines and the involvement of SSH experts, institutions as well as the inclusion of relevant SSH expertise, in order to produce meaningful and significant effects enhancing the societal impact of the related research activities.
Proposals should present a strategy to include the relevant policymakers, local authorities, as well as other stakeholders such as community groups, or other individuals or organisations involved in the implementation of the intervention, from the development to the implementation knowledge translation phase.
Applicants are encouraged to propose activities to increase research capacity and capability in the field of implementation research among researchers, health professionals, and public health leaders through skill building, knowledge sharing, and networking. In this regard, they may propose plans for capacity building within their proposal, especially, but not exclusively, for early career researchers and for members from lower resourced environments, such as LMICs or indigenous communities.
Further Information:
https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/horizon-hlth-2023-disease-03-03;callCode=null;freeTextSearchKeyword=;matchWholeText=true;typeCodes=1,0;statuses=1,0;statusCodes=31094502;programmePeriod=2021%20-%202027;programCcm2Id=43108390;programDivisionCode=null;focusAreaCode=null;destinationGroup=null;missionGroup=null;geographicalZonesCode=null;programmeDivisionProspect=null;startDateLte=null;startDateGte=null;crossCuttingPriorityCode=null;cpvCode=null;cpvCode=null;performanceOfDelivery=null;sortQuery=startDate;orderBy=asc;onlyTenders=false;topicListKey=topicSearchTablePageState

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25. /HORIZON EUROPE/ Pandemic preparedness and response: Understanding vaccine induced-immunity, deadline: 13. April 2023 17:00 Brussels time

This topic aims at supporting activities that are enabling or contributing to one or several expected impacts of destination 3 "Tackling diseases and reducing disease burden". To that end, proposals under this topic should aim for delivering results that are directed, tailored towards and contributing to all of the following expected outcomes:
- The scientific and clinical communities have an increased knowledge of vaccine-induced immunity and, in particular, a better understanding of factors that affect the magnitude, breadth, nature and duration of immunity to vaccine antigens.
- The scientific and clinical communities have an increased knowledge of the durability and breadth of vaccine-induced immunity in vulnerable populations and older age groups.
- The scientific and clinical communities have an increased knowledge of correlates of protection for pathogens with epidemic potential to allow the development of effective vaccines.
- The scientific and clinical communities have an increased knowledge of the characteristics that influence vaccine effectiveness to allow for novel approaches for the development of vaccines for emerging and re-emerging infections, including antigenic variants, in the context of epidemic and pandemic preparedness.
As shown by the COVID-19 pandemic, vaccines are a critical component needed to bring infectious disease pandemics under control. The availability of effective vaccines that are able to induce a strong and durable

immune response are critical to respond to health threats caused by infectious disease epidemics or pandemics. A proactive approach to understanding the factors that affect vaccine durability and strength is necessary to ensure development of effective vaccines for future infectious disease outbreaks.
Proposals should study vaccine-induced immunity in the general population and vulnerable groups.
Proposals should look both at the magnitude and breadth of initial immune responses and the duration of immunity after vaccination with different vaccine types (mRNA, vector, inactivated, subunit, attenuated,...).
Proposals should assess how sex (e.g. male vs female, pre- vs postmenopausal), age (childhood vs adolescent vs elderly) and/or lifestyle (e.g. obesity, drug addiction, diet, sport) affect the immune response. Proposals may also examine genetic and other molecular factors that may influence immune response in humans. Proposals should pursue a multi-omics approach in order to foster a deep understanding of vaccine induced immunity.
Proposals should identify correlates of protection that can be used to develop vaccines against viruses meeting the criteria for pathogens with high pandemic potential as identified by HERA.
Proposals should also assess how pre-existing conditions or chronic infections influence the immune response.
Proposals should aim to improve the global vaccine research and development pipeline for emerging and re-emerging viral infections, and to strengthen the current leading role of the EU in vaccine development, and therefore contributing to the work of the European Health Emergency Preparedness and Response Authority (HERA).
This topic requires the effective contribution of social sciences and humanities (SSH) disciplines and the involvement of SSH experts, institutions as well as the inclusion of relevant SSH expertise, in order to produce meaningful and significant effects enhancing the societal impact of the related research activities.
Further Information:
https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/horizon-hlth-2023-disease-03-17;callCode=null;freeTextSearchKeyword=;matchWholeText=true;typeCodes=1,0;stat
es=1,0;statusCodes=31094502;programmePeriod=2021%20-%202027;programCcm2Id=43108390;programDivision
nCode=null;focusAreaCode=null;destinationGroup=null;missionGroup=null;geographicalZonesCode=null;programm
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cpvCode=null;performanceOfDelivery=null;sortQuery=startDate;orderBy=asc;onlyTenders=false;topicListKey=topic
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26. /HORIZON EUROPE/ Health impacts of endocrine-disrupting chemicals: bridging science-policy gaps by addressing persistent scientific uncertainties, deadline: 13. April 2023 17:00 Brussels time

This topic aims at supporting activities that are enabling or contributing to one or several expected impacts of destination 2 'Living and working in a health-promoting environment'. To that end, proposals under this topic should aim for delivering results that are directed towards and contributing to all of the following expected outcomes:
- Public authorities including EU risk assessment bodies and regulators are supported with scientific evidence to implement the comprehensive European Union Framework on Endocrine Disruptors, Chemicals Strategy for Sustainability Towards a Toxic-Free Environment, EU legislation on plant protection products and EU occupational safety and health legislation;
- Public authorities improve their risk assessment, management and communication through access to FAIR data and more robust evidence on the causal links between exposure to endocrine disruptors and health outcomes for which insufficient data exist;
- Research community has better data on the role of endocrine disruptors and other co-factors (e.g., lifestyle, behavioural, socio-economic) to enable a better understanding of their individual or combined health impacts;
- Public authorities and the scientific community take advantage of latest methodologies for advancing the understanding of health impact of exposures;

- Public authorities, employers and citizens rely on practical evidence-informed guidelines for exposure prevention and reduction;
- Citizens are engaged and informed about the health impact of exposures to endocrine disruptors and risk-preventing behaviours are promoted.

The function and regulation of the endocrine system in humans and other species is of high biological complexity. Endocrine disrupting chemicals (EDCs or endocrine disruptors) are chemical substances that alter the functioning of the endocrine system and negatively affect the health of humans and animals. They may either be of synthetic or natural origin.

EDCs are of increasing importance in chemical regulations in the European Union. According to the Comprehensive European Union Framework on Endocrine Disruptors, adopted in 2018, the EU strategic approach on endocrine disruptors for the years to come should be based on the application of the precautionary principle. This approach would aim at, inter alia, minimising overall exposure of humans and the environment to endocrine disruptors, paying particular attention to exposures during important periods of development of an organism, such as foetal development and puberty, possibly integrating a life course approach, as well as accelerating the development of a thorough research basis for effective and forward-looking decision-making. This includes research for the further management of chemicals (including multi-constituent chemicals as well as chemical mixtures), the understanding of the mechanistic effects of endocrine disruptors and their dose-response relationships (including at the molecular and cellular level through the use of new approach methodologies, such as 'multiomics', cheminformatics, in vitro 2D and 3D models, in vivo models and computational approaches), and the collection, sharing, harmonisation and combination of robust data sources.

Closing existing knowledge gaps in the understanding of EDC effects will support more effective and evidence-based regulations at the European level.

Bringing together, inter alia, (molecular) epidemiologists, exposure scientists, toxicologists, endocrinologists, health care practitioners and risk assessors, research actions under this topic should focus on the understanding of the impact of exposures at critical life stages as regards development of diseases later in life, focusing on the several health endpoints for which there is currently less information available. Advantage should be taken of existing biobanks and disease registries and/or cohorts, with carefully planned measurement strategies and clearly worked-out hypotheses. The nature of the dose-response relationships and whether effects are threshold-dependent should be addressed in the study designs. Similarities between endocrine systems and certain health outcomes across species should be exploited to improve understanding of functioning of the endocrine system. Finally, research should attempt at identifying predictive biomarkers (e.g. from liquid biopsies such as saliva, urine, blood) that would allow the tracing of endocrine disrupter-mediated health effects in a shorter period of time than normally would be required for epidemiological studies.

Research actions under this topic should provide forward-looking mechanistic information on potential hazards and health risks of exposures to EDCs, through innovative molecular epidemiological, multifactorial models and systems biology approaches, exploiting the use of state of the art non-animal methodologies when relevant, and should include several of the following activities:
- Studying the impact of EDCs on target organs and in multi-organ models, and physiological barriers, such as the placenta, the blood-brain barrier, the blood-saliva barrier, intestinal, pulmonary and immune cells as well as their interaction with microbiota. This should include the provision of a thorough understanding of dose-response relationships;
- Elucidating health endpoints for which insufficient data exist, such as disturbances in the development and functioning of the nervous and cardiovascular systems, the immune system, bone development and disease, obesity, diabetes, hormone-dependent cancers and fertility (e.g. minipuberty, prepuberty and puberty);
- Providing better biological and imaging biomarkers to predict EDC-mediated health outcomes, including the quantitative probabilities of having an adverse effect based on such biomarkers;
- Gaining better insights into the developmental origins of health and disease, especially for those where less data are available. Assessing the occurrence and relevance of multi- and transgenerationally inherited effects, including molecular and epigenetic mechanisms that drive multigenerational effects;

- Gaining better insights into the most sensitive windows of susceptibility, during which exposure are of particular importance for health effects;
- Better understanding of the effects of chemicals and chemical mixtures on the underlying mechanistic crosstalk between endocrine axes, endocrine pathways and other key biological systems, including immune, neurological and metabolic functions;
- Improving the understanding of chemical mixture effects, including with other toxins and at low doses. The role of the microbiome in the activation or detoxification of these chemicals should be explored where relevant.
- Investigating biological effects of realistic mixtures to get a more detailed understanding of the endocrine effectome, taking advantage of computational toxicology and development of up-to-date models;
- Performing comparative analysis between species, assessing similarities to human endocrine system and health outcomes and exploiting non-mammalian species as test organisms, e.g. non-mammalian vertebrates and invertebrates to predict effects or raise concern about potential effects in humans or vice versa;
- Exploiting systems biology approaches in order to understand how exposure to an EDC results in an altered phenotype, a process that implies complex interactions across multiple levels of biological organisation.

Aspects such as gender, regional variations, socioeconomics and culture should be considered, where appropriate. Proposals should ensure that chemical monitoring data are shared in IPCHEM through involvement with the European Commission's Joint Research Centre (JRC). Proposals should also consider involving JRC with respect to the value it could bring in providing an effective interface between the research activities and regulatory aspects and/or to translating the research results into validated test methods and strategies fit for regulatory purpose. In that respect, the JRC will collaborate with any successful proposal and this collaboration, when relevant, should be established after the proposal's approval.

Applicants should be acquainted with planned activities under the European partnership for the assessment of risks from chemicals PARC. PARC will be informed about successful proposals. Successful proposals will be invited to establish synergies with PARC and take advantage of the partnership as a facilitator for open data and methodology sharing with risk assessors and their scientific networks.

This topic requires the effective contribution of social sciences and humanities (SSH) disciplines and the involvement of SSH experts, institutions as well as the inclusion of relevant SSH expertise, in order to produce meaningful and significant effects enhancing the societal impact of the related research activities.

In order to optimise synergies and increase the impact of the projects, all projects selected for funding from this topic will form a cluster and be required to participate in common networking and joint activities. Without the prerequisite to detail concrete joint activities, proposals should allocate a sufficient budget for the attendance to regular joint meetings and to cover the costs of any other potential common networking and joint activities.

Further Information:
https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/horizon-hlth-2023-envhlth-02-03;callCode=null;freeTextSearchKeyword=;matchWholeText=true;typeCodes=1,0;statuses=1,0;statusCodes=31094502;programmePeriod=2021%20-%202027;programCcm2Id=43108390;programDivisionCode=null;focusAreaCode=null;destinationGroup=null;missionGroup=null;geographicalZonesCode=null;programmeDivisionProspect=null;startDateLte=null;startDateGte=null;crossCuttingPriorityCode=null;cpvCode=null;cpvCode=null;performanceOfDelivery=null;sortQuery=startDate;orderBy=asc;onlyTenders=false;topicListKey=topicSearchTablePageState

27. /HORIZON EUROPE/ Development and harmonisation of methodologies for assessing digital health technologies in Europe, deadline: 13. April 2023 17:00 Brussels time

This topic aims at addressing digital transition challenges through supporting activities that are enabling or contributing to one or several expected impacts of destination 6 "Maintaining an innovative,

sustainable and globally competitive health industry". More specifically, this topic aims at supporting activities that are contributing to the following impact area: "High quality digital services for all". To that end, proposals under this topic should aim to deliver results that are directed towards and contributing to all of the following expected outcomes:
- Policymakers in the EU have at their disposal a methodological framework and standardised approaches for assessing digital health technologies, that helps them make evidence-based decisions regarding the introduction of digital health technologies in their health and care systems with added value for patients and society.
- Regulators have access to robust, scientifically underpinned evaluation methodologies.
- EU citizens gain faster access to safe and well-performing person-centred digital technologies and are empowered through these tools.
- Health technology developers are better informed and dispose of more guidance on the evidence needed to demonstrate the added value of digital health technologies and have better insights on market predictability.
- (Digital) Health Industry/digital health technology developers and HTA bodies can contribute to the development of EU harmonised Health Technology Assessment (HTA) rules based on common principles.
- Improved cross-border use and interoperability of digital health tools and services throughout the EU and Associated Countries.
- Increased trust in digital health technologies and better integration of digital health tools and services in health and care systems.
Digital health technologies have been driving a revolution in health and care ranging from general use of computers to algorithms designed to assist radiologists and radiotherapists in detecting and treating diseases, from robotic surgery to artificial intelligence, machine learning, computer aided decision models, and from mobile apps helping patients to self-manage their disease to electronic health records.
Digital health technologies are expected to further contribute to better people-centred health and care systems and have the vast potential to improve our ability to accurately prevent, diagnose and treat diseases.
However, assessing the added value and health benefits for patients and society pose a number of challenges in particular of methodological and technical nature. Best practice for common approaches in methodology for digital health are lacking, especially in the digital health tools that include artificial intelligence algorithms. A framework for the assessment of the digital transformation of health services and its impact is vital to generate the evidence required for decision-making on stimulating, using and/or funding digital health strategies at various levels in the health and care systems.
The Expert Panel on effective ways of investing in Health (EXPH) recommended in its report 'Assessing the impact of digital transformation of health services', further investment in the development of assessment methodologies and in a European repository for evaluation methods and evidence of digital health services.
To date, such assessment frameworks are relatively scarce, especially those addressing the transformative aspects of healthcare delivery on the organisational and operational level.
The proposals are expected to develop and harmonise methodologies for assessing digital health technologies (including mhealth apps and telehealth, as well as Artificial Intelligence powered health technologies) in order to facilitate assessment of their added value at individual, health system and society levels and facilitate the cross-border deployment of digital health services within the EU. Existing Health Technology Assessment (HTA) methodology is well developed for health technologies such as medicinal products, but also for some categories of medical devices; however digitalisation raises new methodological challenges to the standardisation of assessment criteria such as privacy, cybersecurity, data storage and handling, interoperability, usability etc. Also including aspects like learning curves, iterative development of innovations, variability between settings, determining optimal timing of evaluations in the development process (maturity) are not yet solved.
Proposals are expected to build on existing frameworks such as (but not restricted to) 'Model for Assessment of Telemedicine' (MAST framework - Kidholm et al., 2012) and the results of previous EU-funded projects in particular (but not restricted to) COMED, project that already identified HTA challenges of telehealth and mhealth, and mHealth hub.

Proposals should consider involving the JRC to take advantage of its expertise on assessment frameworks of innovative health technologies and its activities at the interface between research and regulatory aspects and/or in translating assessment results into best practice recommendations anchored in EU policies. In that respect, the JRC is open to collaborate with any successful proposal after its approval.
The proposals should address all of the following activities:
- Develop and/or expand a general methodological framework and standardised approaches to assess digital health technologies with a particular focus on criteria such as privacy, cybersecurity, data quality, data storage and handling, interoperability etc.;
- Comply with the relevant requirements proposed in the European Health Data Space (EHDS) legal provisions;
- Test the robustness of the developed methodologies on minimum 3 different digital health technology use cases;
- Pilot the development of common specifications to the harmonisation of assessment frameworks (pre-market and post-market phases) throughout the EU and Associated Countries;
- Include end-users of digital health technologies (be it professionals, care users or citizens), developers of digital health technologies, producers of health services, regulators and governments;
- Collect best practice for common approaches in methodology for digital health technology assessment and develop an open access European repository for evaluation methods, studies, results and evidence of digital health technologies and services;
- Contribute to a framework to evaluate and monitor whether the uptake and use of digital health services contribute to the overall goals of the health and care system;
Applicants envisaging to include clinical studies should provide details of their clinical studies in the dedicated annex using the template provided in the submission system. See definition of clinical studies in the introduction to this work programme part.
Further Information:
https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/horizon-hlth-2023-ind-06-07;callCode=null;freeTextSearchKeyword=;matchWholeText=true;typeCodes=1,0;statusCo,0;statusCodes=31094502;programmePeriod=2021%20-%202027;programCcm2Id=43108390;programDivisionCode=null;focusAreaCode=null;destinationGroup=null;missionGroup=null;geographicalZonesCode=null;programmeDivrammeDivisionProspect=null;startDateLte=null;startDateGte=null;crossCuttingPriorityCode=null;cpvCode=null;perfode=null;performanceOfDelivery=null;sortQuery=startDate;orderBy=asc;onlyTenders=false;topicListKey=topicSearcy=topicSearchTablePageState

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28. /HORIZON EUROPE/ Towards structuring brain health research in Europe, deadline: 13. April 2023 17:00 Brussels time

This topic aims at supporting activities that are enabling or contributing to one or several expected impacts of destination 3 "Tackling diseases and reducing disease burden". To that end, proposals under this topic should aim for delivering results that are directed, tailored towards and contributing to most of the following expected outcomes:
- Policymakers, funders and other relevant stakeholders identify and agree on the governance structure and implementation modalities, allowing for an efficient establishment of a potential future partnership.
- Policymakers, funders and other relevant stakeholders build on the knowledge gathered in past studies performed at EU and national level.
- Policymakers, funders and other relevant stakeholders identify and agree on common research priorities and research needs, also taking into consideration developments at the international level where relevant.
- Policymakers, funders and other relevant stakeholders develop and align national and regional research strategy plans with long-term sustainability in mind.
- Policymakers and funders commit to providing financial support that will allow for a comprehensive, impact-driven structuring of the field of European brain health research.
Member States and Associated Countries have agreed to step up their coordination in the area of brain research, which could take the form of a European partnership on Brain Health in the second Strategic

Plan of Horizon Europe.
Proposals should address all of the following aspects:
- Develop a structured system of exchange of information between policymakers, funders, and other relevant bodies in order to establish synergies and avoid duplication of efforts. The aim is to structure brain health research in Europe and pave the way for a possible future partnership.
- Develop a strategic research and innovation agenda, taking into account the efforts already undertaken by EU-supported actions. The strategic research and innovation agenda will identify a number of measurable, scientific-technological priorities and socio-economic objectives, supported by an appropriate analysis.
- Develop plans for a governance structure of a future partnership, as well as implementation modalities with long-term sustainability in mind, and under the leadership of an EU Member State or Associated Country.
- Ensure a broad geographical representation of European countries and plan for inclusion of all main related research initiatives, as well as key organisations and associations. In this way, the coordination action should reflect the 'umbrella' role of a future initiative that will structure brain health research in Europe, and make it more impactful.
- Consider international initiatives by engaging with global organisations, as well as with global initiatives and research organisations in the field.
- Elaborate on platforms and tools for use by the research community, including on how they can best complement, integrate with each other. In this context, infrastructures already developed at the European or national level that enable sharing of samples, quality data and advanced analytical tools should be included in the analysis. Reflections should also be made on how the future initiative can contribute to the development of the European Health Data Space.
This coordination action implies the preparation and organisation of meetings, as well as support to information exchange with relevant stakeholder groups and with the public.
This topic requires the effective contribution of social sciences and humanities (SSH) disciplines and the involvement of SSH experts, institutions as well as the inclusion of relevant SSH expertise, in order to produce meaningful and significant effects enhancing the societal impact of the related research activities.
Further Information:
https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/horizon-hlth-2023-disease-03-06;callCode=null;freeTextSearchKeyword=;matchWholeText=true;typeCodes=1,0;statuses=1,0;statusCodes=31094502;programmePeriod=2021%20-%202027;programCcm2Id=43108390;programDivisionCode=null;focusAreaCode=null;destinationGroup=null;missionGroup=null;geographicalZonesCode=null;programmeDivisionProspect=null;startDateLte=null;startDateGte=null;crossCuttingPriorityCode=null;cpvCode=null;cpvCode=null;performanceOfDelivery=null;sortQuery=startDate;orderBy=asc;onlyTenders=false;topicListKey=topicSearchTablePageState

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29. /HORIZON EUROPE/ Evidence-based interventions for promotion of mental and physical health in changing working environments (post-pandemic workplaces), deadline: 13. April 2023 17:00 Brussels time

This topic aims at supporting activities that are enabling or contributing to one or several expected impacts of destination 2 'Living and working in a health-promoting environment'. To that end, proposals under this topic should aim for delivering results that are directed, tailored towards and contributing to most of the following expected outcomes:
- Public authorities and regulators are supported with evidence-based guidance to design occupational health policies;
- Public authorities, employers, organisations and social partners (e.g. trade unions and employer organisations) are better supported with tools, evidence-based intervention options and guidelines to promote mental and physical well-being and health in the workplace;

- Public authorities and the scientific community have access to FAIR data and robust evidence on direct links between psychosocial and physical risk factors at the workplace (considering also individual differences such as age, gender, cultural background, bodily/cognitive abilities) and specific health outcomes;
- Public authorities, regulators and social partners are informed by evidence on the costs, benefits, sustainability and expected challenges of available solutions;
- Public authorities and employers take advantage of the best available knowledge (including new innovations and ways for action) to support interventions and solutions on the design of the built working environment and promote healthier behaviours at the workplace;
- Public authorities and employers develop adequate measures to prevent and reduce the negative outcomes of exposure to psycho-social and physical risk factors in the workplace and support recovery;
- Workers are more protected against work-related hazards and informed about effective prevention approaches based on specific and appropriate measures and health enhancing behaviours;
- Workers living with a chronic disease and/or recovering from a mental of physical health problem are supported to continue/return to work.

The digital and green transitions (referred to as 'twin transition') have been changing the workplace at a rapid pace, leading to new forms of work (e.g. hybrid work, gig economy jobs) or changes in the forms of management and work organisation (e.g. through algorithmic decision-making and digital worker performance monitoring) for workers across the spectrum. These changes have varying impacts on the working conditions, income and health and occupational safety both for skilled and unskilled workers. Furthermore, they contribute to the high costs of work-related illnesses and accidents for employers and the European economy in general.

Mental health and ergonomic-related problems affect a significant number of EU workers. Musculoskeletal disorders (MSDs) are one of the most common work-related health problems in the EU and workers and managers commonly identify stress, depression and anxiety as serious psychosocial outcomes of workplace exposures. Changes in the organisation of work can bring flexibility that allows more people to enter the labour force, but may also lead to psychosocial problems (for example, insecurity, compromised privacy and rest time, inadequate OSH and social protection, as well as stress due to excessive or atypical working hours, performance monitoring by algorithms and similar AI applications).

Some workplaces have either become exclusively virtual or they have evolved into a 'hybrid' model (e.g. multilocational working, home office), some work tasks and processes performed virtually and others requiring physical presence. A significant number of jobs are performed at clients' premises or require workers to commute long distances and/or cross borders regularly. Such workers are facing additional legal, social, environmental and economic issues. Data on how these affect their mental/physical health and well-being is scarce.

The emergence and persistence of the COVID-19 pandemic has accelerated the pace of change, causing, in some cases, additional challenges for workers' mental health (differentially affecting certain segments of the working force) and intensifying already existing physical risk factors (e.g. ergonomic risks). The European Pillar of Social Rights Action Plan aims to promote a healthy, safe and well-adapted work environment in the EU and relies on Horizon Europe for research and innovation supporting economic and social resilience and sustainability. The EU strategic framework on health and safety at work 2021-2027 recognises the needs, challenges and opportunities that technological innovation and the pandemic bring for the working population and calls for strengthening the evidence-base for policymaking and implementation.

To address the issues described above, research actions under this topic should include several of the following activities:

- Provide adequate and robust data on the impact (positive and negative) that the ongoing changes in the workplace are having on the mental and physical health of different categories of workers and working sectors (e.g. teleworkers, cross-border commuters, gig economy workers, and vulnerable groups such as women, migrants and young and older workers with increased demonstrated risk for MSDs), including gender and intersectional analyses, where appropriate;
- Generate evidence (including data) not only on mental health, but also on mental well-being at the workplace and how changing work organisation due to the twin transitions and the pandemic affects

workers' work-life balance and work ability;
- Generate evidence (including data) on the importance of risk factors (such as stress caused by new working environments, static postures and physical inactivity, physically strenuous and highly repetitive work arising from the workplace design) in the development of chronic and acute diseases;
- Increase the understanding of the links between different health-promoting factors in the working-built environment and physical and mental health outcomes, and how these may be mutually reinforcing;
- Explore the health impacts of changing working times, including excessive and atypical working hours and work in different time zones that blur work from leisure time, limiting recovery. Effects should consider a wide range of diseases;
- Provide recommendations for effective interventions to prevent occupational risks and support the mental and physical health and well-being at individual (worker), organisation (employer) and policy (government) levels for different sectors/types of work, including an analysis on their cost-effectiveness, sustainability and barriers to implementation at national and/or EU level;
- Advance the development of a scientific framework addressing Occupational safety and health (OSH) across policies and sectors and support new and sustainable (future-proof) tools, guidelines and policies concerning the evaluation and design of physical and psychosocial work environment;
- Provide tools and approaches to anticipate new OSH risks, also taking account of lessons learnt from the COVID-19 pandemic, for instance in relation to digital technologies and associated new ways of working.
This topic requires the effective contribution of social sciences and humanities (SSH) disciplines and the involvement of SSH experts, institutions as well as the inclusion of relevant SSH expertise, in order to produce meaningful and significant effects enhancing the societal impact of the related research activities. Researchers should carefully integrate distributive considerations in their analysis by considering, where relevant, disaggregated effects for different socio-economic groups.
Projects are expected to contribute to the New European Bauhaus (NEB) initiative by interacting with the NEB Community, NEBLab and other relevant actions of the NEB initiative through sharing information, best practice, and, where relevant, results.
In order to optimise synergies and increase the impact of the projects, all projects selected for funding from this topic will form a cluster and be required to participate in common networking and joint activities. Without the prerequisite to detail concrete joint activities, proposals should allocate a sufficient budget for the attendance to regular joint meetings and to cover the costs of any other potential common networking and joint activities.
Applicants envisaging to include clinical studies should provide details of their clinical studies in the dedicated annex using the template provided in the submission system. See definition of clinical studies in the introduction to this work programme part.
Further Information:
https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/horizon-hlth-2023-envhlth-02-02;callCode=null;freeTextSearchKeyword=;matchWholeText=true;typeCodes=1,0;statuses=1,0;statusCodes=31094502;programmePeriod=2021%20-%202027;programCcm2Id=43108390;programDivisionCode=null;focusAreaCode=null;destinationGroup=null;missionGroup=null;geographicalZonesCode=null;programmeDivisionProspect=null;startDateLte=null;startDateGte=null;crossCuttingPriorityCode=null;cpvCode=null;cpvCode=null;performanceOfDelivery=null;sortQuery=startDate;orderBy=asc;onlyTenders=false;topicListKey=topicSearchTablePageState

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30. /HORIZON EUROPE/ Clinical trials of combined Advanced Therapy Medicinal Products (ATMPs), deadline: 13. April 2023 17:00 Brussels time

This topic aims at supporting activities that are enabling or contributing to one or several expected impacts of destination 5 "Unlocking the full potential of new tools, technologies and digital solutions for a healthy society". To that end, proposals under this topic should aim for delivering results that are directed towards and contributing to several of the following Expected Outcomes:
- Healthcare providers increase their knowledge on the potential of combined ATMPs and get access to innovative treatment options with demonstrated health benefits for unmet medical needs;

- Developers and manufacturers of combined ATMPs obtain scientific evidence on the proposed therapeutic approach;
- Patients benefit from new advanced therapies delivered through the combined ATMPs;
- EU companies get a better market position in the field of combined ATMPs.
The subjects of this topic are combined ATMPs (Advanced Therapy Medicinal Products) according to the definition of the ATMP-regulation (EU 1394/2007, Article 2d). Such combined ATMPs are composed of an ATMP and one or more medical devices or one or more active implantable medical devices, and their cellular or tissue part must either contain viable cells or tissues, or non-viable cells or tissues liable for exerting the primary action on the human body.
The combined ATMPs should be more effective than current state-of-the-art solutions on the European market owing to improved features like personalisation, accuracy, reliability and usability and contribute to long-term sustainability (faster and affordable) of European health systems.
Research should focus on advanced stages of clinical development with regulatory work on the Medical Device part completed and safety studies of the combination product in an advanced stage.
Proposals should address all of the following activities:
- Phase 2 clinical trials and above of combined ATMPs focussing on:
- technologies ready to undergo interventional clinical trials in patients/end users assessing the usability and clinical performance, and/or
- technologies that have demonstrable safety/performance profiles and should undergo clinical validation in view of their inclusion into guidelines for specific clinical pathways.
- Delivery of safe and clinically validated combined ATMPs that are compliant with current European regulatory requirements. The related regulatory work should be considered as an essential component and the proposed work should involve consultation/interaction with competent regulatory agencies such as the European Medicines Agency (EMA) or national regulatory agency. Applicants are encouraged to seek regulatory and/or Health Technology Assessment (HTA) advice as appropriate.
The topic invites proposals that include innovative treatments for any medical condition excluding rare diseases that are ready to be assessed for clinical efficacy (performance and clinical benefit) in a specific indication on a big number of patient cohorts; already existing market solutions are not in the scope of this topic.
Sex and gender aspects, age, socio-economic, lifestyle and behavioural factors and any other non-health related individual attributes should be taken into consideration. SME participation is strongly encouraged.
Applicants envisaging to include clinical studies should provide details of their clinical studies in the dedicated annex using the template provided in the submission system. See definition of clinical studies in the introduction to this work programme part.
Further Information:
https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/horizon-hlth-2023-tool-05-01;callCode=null;freeTextSearchKeyword=;matchWholeText=true;typeCodes=1,0;statusCodes=31094501,31094502;programmePeriod=2021%20-%202027;programCcm2Id=43108390;programDivisionCode=null;focusAreaCode=null;destinationGroup=null;missionGroup=null;geographicalZonesCode=null;programmeDivisionProspect=null;startDateLte=null;startDateGte=null;crossCuttingPriorityCode=null;cpvCode=null;performanceOfDelivery=null;sortQuery=startDate;orderBy=asc;onlyTenders=false;topicListKey=topicSearchTablePageState

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31. /HORIZON EUROPE/ Better integration and use of health-related real-world and research data, including genomics, for improved clinical outcomes, deadline: 13. April 2023 17:00 Brussels time

This topic aims at supporting activities that are enabling or contributing to one or several expected impacts of destination 5 "Unlocking the full potential of new tools, technologies and digital solutions for a healthy society". To that end, proposals under this topic should aim for delivering results that are directed towards and contributing to most of the following expected outcomes:

- Researchers, innovators and healthcare professionals benefit from better linkage of health data from various sources, including genomics, based on harmonised approaches related to data structure, format and quality, applicable across certain disease areas and across national borders.
- Researchers, innovators, healthcare professionals and health policymakers have access to advanced digital tools for the integration, management and analysis of various health data re-used in a secure, cost-effective and clinically meaningful way enabling the improvement of health outcomes.
- By linking and using effectively more data and new methods and tools, including artificial intelligence, researchers, innovators and healthcare professionals are able to advance our understanding of the risk factors, causes, development and optimal treatment in disease areas where genomics integrated with other health data, spanning from clinical to e.g. lifestyle, offer potential for novel and more comprehensive information.
- Healthcare professionals and health policymakers benefit from data-driven solutions and reinforced evidence base for decisions addressing health and care challenges.
- Citizens can be offered data-driven patient-focused health interventions, resulting in improved disease prevention, diagnosis, treatment and monitoring towards better patient outcomes and well-being.
- Citizens' trust in the sharing and re-use of health data for research and healthcare increases due to the application of advanced technologies and data governance preserving data privacy and security.

Health data bear vast information potential in many disease areas, to significantly improve the outcomes and efficiency of healthcare delivery, unlock new research and innovation avenues, and inform public health policy across Europe. There is a huge need of integration, use and deployment of health data from multiple sources for effectively addressing the challenges of medical research underpinning diagnostics, therapy guidance and implementation decisions on new therapies. Such integration requires linking data of different types, disease areas and provenance which are scattered in repositories and databases across Europe.

This topic aims to support proposals focusing on the integration of health data from multiple sources (e.g. electronic health records, genomics, medical imaging, laboratory and diagnostic results, pathogen data, public health registries and other clinical research data) by linking real-world and clinical research data. The data integration should be exemplified in several use-cases, i.e. well-justified groups of diseases (excluding cancer), within and/or across medical domains, and pave the way towards improved health outcomes. At least one of those use cases should build on the use of whole genome sequence data.

The consortium should ensure wide coverage of EU and associated countries, contributing significantly to health data standardisation, while catering for the diversity of health data sources.

To enhance synergies and avoid overlaps of activities, the proposals are expected to align with and complement the relevant European initiatives, in particular the European Health Data Space (EHDS), the 1+Million Genomes initiative (1+MG) and the European Open Science Cloud.

The applicants have to demonstrate that the necessary data sources are, or will be, effectively, timely and legally available for the proposed research activities.

The proposals should address all of the following activities:

- Identification of the barriers to health data integration and access as needed for the selected use cases, and of specific existing tools, technological solutions and coordination and standardisation agreements addressing those barriers. Issues to be covered include semantic ontologies, data standards and formats, data quality, data storage, management and access modalities, as well as enhanced findability of relevant datasets through improved metadata standards and data catalogues.
- New approaches to assemble large, easily findable and lawfully accessible high-quality datasets integrating multiple types of health data leading to improved clinical outcomes (e.g. new care solutions, personalised disease management, advanced diagnostic tools), taking into account data FAIRification and inter-operability needs.
- New techniques, support tools, mechanisms and modalities to enable GDPR compliant access to sensitive personal data, including genomics, allowing for their re-use across borders and integration of different types of data relevant to human health. Legal and ethical frameworks should duly consider the heterogeneity in national and sectorial rules and procedures for data access and re-use.
- Data management approaches for cross-border distributed data storage and processing, enabling remote collaboration, electronic consent management, data provenance tracking, and scalability of data

management resources, ensuring data privacy and security, and resulting in robust support to advanced, innovative clinical workflows. Joint data governance is expected to be piloted among several clinical centres across Europe.
- Development of a data analytics platform applying distributed learning and artificial intelligence approaches to query and aggregate efficiently, effectively and securely data from multiple sources for multiple use cases (groups of diseases), to monitor patients' health status, analyse causal inference, support diagnosis and health policymakers, and establish recommendations for patients and other stakeholders.
The proposals should adhere to the FAIR data principles and build on existing and justified tools and harmonisation efforts, such as widely used standards for encoding the different types of health data and inter-operability for cross-sector collaborations. Also the data collection, management and/or modelling should build on ongoing EU and international efforts to avoid possible duplication of efforts and fragmentation. In particular, projects are expected to take into account the legislation, if available, on the EHDS, so as to align project activities with pertinent EHDS infrastructure efforts that provide for the secondary use of health data as regards e.g. cross-border access to data, cross-border infrastructures, data quality and utility labelling. The achievements of the relevant past and ongoing EU-funded projects and initiatives, and good practices developed by the European research infrastructures, should be duly considered and used. Close involvement of patients and end-users is crucial to ensure that the project outcomes are relevant, widely accepted and feasible in real-world settings.
The tools developed by the projects are expected to be widely accessible and amenable to necessary updates after the project's end for further use by interested parties. Datasets generated during the project should be accessible to researchers and innovators. For example, genomic data and linked patient level data are expected to be made accessible for secondary use through the 1+MG data infrastructure.
This topic requires an effective contribution of social sciences and humanities (SSH) disciplines and the involvement of SSH experts, in order to produce meaningful and significant effects enhancing the societal impact of the related research activities.
All projects funded under this topic are strongly encouraged to participate in networking and joint activities. These networking and joint activities could, for example, involve the participation in joint workshops, the exchange of knowledge, the development and adoption of best practices, or joint communication activities. This could also involve networking and joint activities with projects funded under other clusters and pillars of Horizon Europe, or other EU programmes. Therefore, proposals are expected to include a budget for the attendance to regular joint meetings and may consider covering the costs of any other potential joint activities without the prerequisite to detail concrete joint activities at this stage. The details of these joint activities will be defined during the grant agreement preparation phase. In this regard, the Commission may take on the role of facilitator for networking and exchanges, including with relevant stakeholders.
Applicants envisaging to include clinical studies should provide details of their clinical studies in the dedicated annex using the template provided in the submission system. See definition of clinical studies in the introduction to this work programme part.
Further Information:
https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/horizon-hlth-2023-tool-05-04;callCode=null;freeTextSearchKeyword=;matchWholeText=true;typeCodes=1,0;statusCodes=31094502;programmePeriod=2021%20-%202027;programCcm2Id=43108390;programDivisionCode=null;focusAreaCode=null;destinationGroup=null;missionGroup=null;geographicalZonesCode=null;programmeDivisionProspect=null;startDateLte=null;startDateGte=null;crossCuttingPriorityCode=null;cpvCode=null;performanceOfDelivery=null;sortQuery=startDate;orderBy=asc;onlyTenders=false;topicListKey=topicSearchTablePageState

32. /HORIZON EUROPE/ Harnessing the potential of real-time data analysis and secure Point-of-Care computing for the benefit of person-centred health and care delivery, deadline: 13. April 2023 17:00 Brussels time

This topic aims at supporting activities that are enabling or contributing to one or several expected impacts of destination 5 "Unlocking the full potential of new tools, technologies and digital solutions for a healthy society". To that end, proposals under this topic should aim for delivering results that are directed towards and contributing to all of the following expected outcomes:
- Healthcare professionals benefit from secure, highly performant Point-of-Care computing technologies and devices able to process and analyse vast amounts of real-time data at the point of care, combined with extended reality and visualisation techniques, to enable continuous monitoring and/or fast real-time health status checks in clinical settings and workflows.
- Patients and clinicians benefit from wider access to real-time diagnosis, screening, monitoring and treatments using novel imaging and/or robotics systems and/or Point-of-Care devices that are seamlessly integrated in care environments and workflows.
- Quicker reaction times and improved patient safety in care settings.
- Researchers and healthcare professionals have more opportunities to use, extract value from and contribute to the uptake of real-time health data and/or Point-of-Care computing; existing technologies and methods are expected to progress from their current technology readiness levels (TRL), from TRL 3-4 to at least TRL 7.
- Health and care settings benefit from reduced energy consumption of Point-of-Care tools, devices and systems, and/or data analysis.
The proposals are expected to develop and test innovative tools, devices and systems for point-of-care applications, including but not limited to robotics, photonics, bio-sensing, artificial intelligence etc. These would provide clinicians with real-time imaging, data analysis and interactive visual presentation for understanding and diagnosing diseases, facilitating risk-assessment, prevention, and carrying out medical interventions with improved patient safety. The proposals should demonstrate advancement and integration of technologies from proof-of-concept to prototype demonstration in operational environment. Devices and systems should be designed, developed and tested vis-à-vis defined use cases, based on the appropriate involvement of clinicians and other stakeholders, ensuring they can be seamlessly integrated into existing digital infrastructures and clinical workflows. The use cases in care settings could include but are not limited to surgery workflows, Intensive Care Unit workflows and integration of remote patient monitoring into clinical workflows. Data quality, integration and interoperability, as well as issues of cybersecurity and data protection have to be addressed. Design should take gender specificities into account. Clinical studies should be an integral part of the work proposed, with developmental iteration steps and consultation of regulators included as appropriate. Establishing synergies with AI Testing and Experimentation Facilities, European Digital Innovation Hubs and other similar initiatives is encouraged. Proposals must include a short description of initial business plan as part of the exploitation activities.
The proposals should address all of the following activities:
- Development and clinical validation of compact, cost- and energy-efficient, extended reality-enabled and other Point-of-Care devices and systems, with fast/real-time response times as required, reliable and capable of integration into clinical settings and workflows.
- Development and validation of instruments, continuous monitoring systems and/or analysis algorithms, including artificial intelligence approaches, for the analysis of biological samples, enabling detection of biomarkers in body fluids and tissues in clinical settings.
- Development and validation of imaging systems with a high spatial resolution down to the cellular level allowing for immediate clinical interventions. Single imaging modalities or the combination of different imaging modalities should be made compatible with other imaging tools and with state-of-the-art and/or novel medical technologies and devices, for example those used to remove tissues in precision surgery (e.g. robotic surgery).
- Advancements in the use of Point-of-Care computing, data modelling, extended reality and/or machine learning/AI technologies applied to diagnosis and risk assessment in cases requiring very fast, near to real-time response times in clinical settings and workflows. In addition, projects should showcase how distributed systems bringing computation and storage physically close to where data is generated and used can most effectively deliver actionable outputs for person-centred health care, contributing to improved patient safety, in the areas of for example healthy living support, remote patient monitoring,

surgery workflows or acute care.
This topic requires the effective contribution of social sciences and humanities (SSH) disciplines and the involvement of SSH experts, institutions as well as the inclusion of relevant SSH expertise, in order to produce meaningful and significant effects enhancing the societal impact of the related research activities.
Applicants envisaging to include clinical studies should provide details of their clinical studies in the dedicated annex using the template provided in the submission system. See definition of clinical studies in the introduction to this work programme part.
Further Information:
https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/horizon-hlth-2023-tool-05-05;callCode=null;freeTextSearchKeyword=;matchWholeText=true;typeCodes=1,0;statusCodes=31094501,31094502;programmePeriod=2021%20-%202027;programCcm2Id=43108390;programDivisionCode=null;focusAreaCode=null;destinationGroup=null;missionGroup=null;geographicalZonesCode=null;programmeDivisionProspect=null;startDateLte=null;startDateGte=null;crossCuttingPriorityCode=null;cpvCode=null;performanceOfDelivery=null;sortQuery=startDate;orderBy=asc;onlyTenders=false;topicListKey=topicSearchTablePageState

33. /HORIZON EUROPE/ Developing a Data Quality and Utility Label for the European Health Data Space, deadline: 13. April 2023 17:00 Brussels time

This topic aims at supporting activities that are enabling or contributing to one or several expected impacts of destination 5 "Unlocking the full potential of new tools, technologies and digital solutions for a healthy society". To that end, proposals under this topic should aim to deliver results that are directed towards and contributing to all of the following expected outcomes:
- Data Users (researchers, innovators, regulators, policymakers, clinicians) are able to identify the most relevant datasets that meet their specific needs through a label describing accurately and in a standard way the quality and utility dimensions of the datasets, as proposed in the legal provisions of the European Health Data Space (EHDS).
- Data holders have clear specifications for dataset quality and utility labelling to comply with the requirements proposed in the EHDS legal provisions. In addition to that, data holders have access to a maturity model with the requirements a dataset needs to fulfil to achieve higher levels of data quality and utility.
- European and National public funders ensure that the datasets, for which they provided funding for the creation and curation of, are more widely available, furthering their reuse for secondary uses as proposed in the EHDS legal provisions (research, innovation, regulatory work, policymaking, personalised medicine).
- The European Commission has access to a set of specifications for the data quality and utility label supporting the implementation of the EHDS legal provisions.
A vast quantity of health datasets exist across Europe, from multiple sources (individual care, medical registries, social, environmental behavioural, wellbeing, clinical trials, research, administrative, etc.), and of varying quality. This represents a tremendous opportunity for the reuse of this data for purposes other than for the one for which they were originally collected and spur the development of better prevention strategies, diagnoses, treatments and care plans.
The European Health Data Space (EHDS) will provide a common EU framework for secondary use of health data such as research, innovation, regulatory purposes, policymaking and personalised medicine. It will enable data users to have access to large amounts of health data through health data access bodies empowered with the EHDS legal provisions to overcome existing limitations regarding the processing of health data for secondary uses.
To support data users in the discovery and selection of datasets for their purposes, there is a growing need to develop a data quality and utility framework to articulate the characteristics and the potential usefulness of datasets. This framework will also support data holders in identifying and addressing areas of improvement which can, in turn, allow for wider and better use of these datasets.
Several initiatives have developed or are developing guidelines and recommendations for health data quality, however, these typically focus on specific data types (i.e. 1+ Million Genome Initiative[1]) or areas

of applications (i.e. European Medicines Agency - EMA and Heads of Medicines Agencies' Big Data Steering Group activities to support medicines regulation[2]). Similarly, previous studies and initiatives have addressed specific dimensions of 'data quality' for health data but none are offering a framework suitable for the breadth of data types and encompassing the quality and utility elements proposed in the EHDS legal provisions. The proposed framework should take into account the various needs of data users whilst at the same time avoid becoming an excessive burden on data holders which will need to produce the data quality and utility label.
Proposals should address all of the following activities:
- Perform a mapping of existing data quality and utility principles/initiatives/frameworks (i.e. EMA/HMA Big Data Stakeholders Group Data quality efforts, TEHDAS Data Quality Working Group, EOSC-LIFE Health Data Research UK's data quality and utility framework, and relevant data principles, resources and tools (FAIR, FAIR Cookbook, etc.);
- Conduct various stakeholder consultations, integrating all relevant data users and data holders of health data, EHDS Health Data Access Bodies (HDABs) and other relevant actors to validate data user needs and adequately take into account relevant initiatives when developing the proposed framework;
- Develop a framework (set of technical specifications) for the data quality and utility label that supports the implementation of the EHDS legal provisions and the roll out of the label by the data holders and EHDS Health Data Access Bodies;
- Pilot and evaluate the use of the proposed framework (as a label and as a maturity model) on a datasets sample representing the wide-ranging data types (such as electronic health records, genomics datasets, medical registries, administrative data, etc.) and taking into account the needs of all data users identified.
- Develop recommendations for the successful implementation and adoption of the data quality and utility label and maturity model across European Member States considering the maturity levels regarding secondary of health data.
The consortium should be composed of representatives from data users, data holders, health data access bodies, and other relevant stakeholders to the scope of secondary use of health data, adequately covering the diversity of heath data types and users' needs across European Member States.
Further Information:
https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/horizon-hlth-2023-tool-05-09;callCode=null;freeTextSearchKeyword=;matchWholeText=true;typeCodes=1,0;statusCodes=31094501,0;statusCodes=31094502;programmePeriod=2021%20-%202027;programCcm2Id=43108390;programDivisionCode=null;focusAreaCode=null;destinationGroup=null;missionGroup=null;geographicalZonesCode=null;programmeDivisionProspect=null;startDateLte=null;startDateGte=null;crossCuttingPriorityCode=null;cpvCode=null;performanceOfDelivery=null;sortQuery=startDate;orderBy=asc;onlyTenders=false;topicListKey=topicSearchTablePageState

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34. /HORIZON EUROPE/ Environmentally sustainable and climate neutral health and care systems, deadline: 13. April 2023 17:00 Brussels time

This topic aims at supporting activities that are enabling or contributing to one or several expected impacts of destination 4 "Ensuring access to innovative, sustainable and high-quality health care". To that end, proposals under this topic should aim for delivering results that are directed, tailored towards and contributing to all of the following expected outcomes:
- Policy and decision makers, providers of health and care, health and care workers and citizens have increased knowledge on how today's health and care systems are not environmentally sustainable, what the possible costs of that are (today and future) and where improvements are possible with maintained or improved quality of care (optimal patient safety not being jeopardised) and possible investments needed.
- Policy and decision makers and providers of health and care services have access to innovative solutions, organisational models (including financing models), and guidelines and recommendations that reduce the pollution and carbon emissions stemming from health and care systems, so that health and care provision can become more sustainable and cost-effective while maintaining or improving quality of care thanks to the reduction of energy and materials use, decreased carbon emissions, reduced waste and discharges,

and efficient resource management.
- Monitoring and reporting of carbon emissions and pollution is mainstreamed through a life-cycle approach and with standard methods in the health and care systems.
The health care sector is responsible for 4-5% of global total carbon emissions, and generates significant demands for energy and materials, as well as dangerous waste streams that may cause air, soil and water pollution. At the same time, health and care provision generally experiences less pressure to decarbonise and improve its circularity than other sectors of the economy. With the European Green Deal, the EU commits to reducing net greenhouse gas emission by at least 55% by 2030, and to reach no net emissions by 2050, and the health and care systems are not exempt. Research and innovation can support by ensuring a smooth transformation while maintaining or improving quality of health and care services. Health and care systems are undergoing structural changes, for example by strengthening primary care and community-based care, strengthening digitalisation and making sure patients are treated or cared for at the most efficient level. This offers the possibility to connect structural changes with an environmental transformation.
During COP26, 18 countries (including two EU Member States) have committed to cutting all carbon emissions from their health systems over the next 10 to 30 years and during the same period in total fifty countries (including six EU Member States) have committed to creating climate resilient, low carbon, sustainable health systems.
In February 2022, the WHO published a report on the waste that had been generated as a result of the COVID-19 pandemic, even more emphasising the need to improve waste management systems of the health and care systems. The report states that 30% of healthcare facilities word-wide, and 60% in the least developed countries, are not fit to handle the waste generated even when not taking the extra waste generated by the pandemic into account. Not only does this pose environmental risks such as water and air pollution, but it also poses a risk to health workers' safety by increasing the risk of being exposed to stick injuries, burns and pathogenic microorganisms.
Research and innovation activities under this topic should be specific to health and care sectors. They should include cost studies when relevant (environmental impacts and benefits to be quantified through the life cycle thinking approach (e.g. LCA/SLCA), to be effectively implemented in line with the European Green Deal and the Zero Pollution Action Plan) and piloting research results onsite in hospitals or other care settings while generating accessible knowledge could be included. Apart from that, successful proposals should address several of the following:
- Research and innovative solutions for decarbonisation of hospitals and other care providers: improvements in new and existing building stock, decarbonisation of energy supply to premises, reduction in energy demand of hospital sites and other care facilities (for example heating and cooling, hot water, laundry, cooking, transport systems).
- Research and innovative solutions for increased circularity of hospitals or other care providers that integrate the zero-pollution ambition: such as solutions to reduce waste, improved waste management practices (with a possible focus on water effluents and Antimicrobial Resistance (AMR)), increased circularity (for example sustainable use of linen).
- Research and innovative solutions for decarbonisation and greening of supply chains and material inflows: reduction of single-use plastics, substitution of anaesthetic gases and inhalers with high global warming potentials (GWPs), substitution of conventional pharmaceuticals with green(er) alternatives, low-carbon supply chains of food, waste reduction, management models on for example prescription of pharmaceuticals.
- Development of a framework to measure and benchmark the environmental footprint of the health and care sectors or improving infrastructures for relevant collecting, sharing, accessing and processing of data.
Projects with interdisciplinary teams representing the health and care sectors, and the environmental sector or other relevant sectors are welcome.
This topic requires the effective contribution of social sciences and humanities (SSH) disciplines and the involvement of SSH experts, institutions as well as the inclusion of relevant SSH expertise, in order to produce meaningful and significant effects enhancing the societal impact of the related research activities.
All projects funded under this topic are strongly encouraged to participate in networking and joint activities, as appropriate. Therefore, proposals should include a budget for the attendance to regular joint

meetings and may consider covering the costs of any other potential joint activities without the prerequisite to detail concrete joint activities at this stage. The details of these joint activities will be defined during the grant agreement preparation phase.
Applicants are encouraged to consider how their proposals can contribute in the context of the European Green Deal, and to take into account the principles of the Circular Economy Action Plan, the Zero Pollution Action Plan as well as the Technical guidance on the climate proofing of infrastructure in the period 2021-2027.
Applicants envisaging to include clinical studies should provide details of their clinical studies in the dedicated annex using the template provided in the submission system. See definition of clinical studies in the introduction to this work programme part.
Further Information:
https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/horizon-hlth-2023-care-04-03;callCode=null;freeTextSearchKeyword=;matchWholeText=true;typeCodes=1,0;statusCodes=31094502;programmePeriod=2021%20-%202027;programCcm2Id=43108390;programDivisionCode=null;focusAreaCode=null;destinationGroup=null;missionGroup=null;geographicalZonesCode=null;programmeDivisionProspect=null;startDateLte=null;startDateGte=null;crossCuttingPriorityCode=null;cpvCode=null;performanceOfDelivery=null;sortQuery=startDate;orderBy=asc;onlyTenders=false;topicListKey=topicSearchTablePageState

35. /HORIZON EUROPE/ European Partnership on Personalised Medicine, deadline: 13. April 2023 17:00 Brussels time

This topic aims at supporting activities that are enabling or contributing to one or several expected impacts of destination 4, notably "Ensuring access to innovative, sustainable and high-quality healthcare". To that end, proposals under this topic should aim for delivering results that are directed, tailored towards and contributing to all of the following expected outcomes:
- European countries and regions, along with international partners, are engaged in enhanced collaborative research efforts for the development of innovative personalised medicine approaches regarding prevention, diagnosis and treatment;
- Healthcare authorities, policymakers and other stakeholders develop evidence-based strategies and policies for the uptake of personalised medicine in national or regional healthcare systems;
- Health industries, policymakers and other stakeholders have access to efficient measures and investments to allow swift transfer of research and innovation into market;
- Health industries and other stakeholders can accelerate the uptake of personalised medicine through the adoption of innovative business models;
- Healthcare authorities, policymakers and other stakeholders use improved knowledge and understanding of the health and costs benefits of personalised medicine to optimise healthcare and make healthcare systems more sustainable;
- Healthcare providers and professionals improve health outcomes, prevent diseases and maintain population health through the implementation of personalised medicine;
- Stronger and highly connected local/regional ecosystems of stakeholders, including innovators, are in place and facilitate the uptake of successful innovations in personalised medicine, thus improving healthcare outcomes and strengthening European competitiveness;
- Citizens, patients and healthcare professionals have a better knowledge of personalised medicine and are better involved in its implementation;
- Stakeholders cooperate better and establish a network of national and regional knowledge hubs for personalised medicine.
Personalised medicine is a medical model using characterisation of individuals' phenotypes and genotypes (e.g. molecular profiling, medical imaging and lifestyle data) for tailoring the right health strategy. Personalised medicine shows great promise and has already led to ground-breaking developments in treatment of many diseases. Through this approach, better health outcomes can be achieved by preventing disease and providing patient-centred care tailored to the needs of citizens. There

have been important investments in personalised medicine over the last decades. However, producing knowledge, translating it into clinical applications and accelerating innovation uptake are complex, time-consuming and involve multiple stakeholders. There is a need to facilitate the uptake of health technology innovations and ensure a rapid and effective implementation of personalised medicine on a larger scale in Europe. To this end, the creation of a research and innovation (R&I) partnership with a focus on personalised medicine represents a unique strategic opportunity to bring together stakeholders, create synergies, coordinate R&I actions and leverage the efforts to accelerate the evolution of healthcare toward personalised medicine.
The partnership should build on knowledge gained from supportive initiatives like the International Consortium of Personalised Medicine (ICPerMed), the European Research Area Network for Personalised Medicine (ERA-PerMed), several Coordination and Support Actions (CSAs) funded by the EC under Horizon 2020, the one million genomes initiative as well as with an increasing number of associated and related initiatives, research infrastructures and capacities in Europe and beyond.
The partnership should facilitate exchange of information and good practices among countries, provide robust guidance and tools, will network institutional stakeholders and involve regional ecosystems. It should stimulate service, policy and organisational innovations, as well as the integration of biomedical and technological innovations for the benefit of the European citizens and the European industry. The partnership should bring together a broad range of actors with a common vision of future personalised medicine. Through the objectives of Horizon Europe, the partnership should contribute to achieving the following European Commission priorities:
- Promoting our European way of life
- An economy that works for people
- A Europe fit for the digital age
- A European green deal
The partnership will also contribute to priorities of the "Communication on effective, accessible and resilient health systems" (COM(2014) 215 final), the "Communication on enabling the digital transformation of health and care in the Digital Single Market; empowering citizens and building a healthier society" (COM(2018) 233 final) and the Europe's Beating Cancer Plan.
Thanks to its capacity to bring together different stakeholders (e.g. research funders, health authorities, healthcare institutions, innovators, policymakers), to create a critical mass of resources and to implement a long-term Strategic Research and Innovation Agenda (SRIA), the partnership should address the following objectives:
- Putting Europe at the forefront of research and innovation through the support of multidisciplinary actions open to international cooperation;
- Establishing a European national and regional network of research and innovation systems dedicated to personalised medicine;
- Translating basic research into clinical applications that make a difference for patients, their families and healthcare professionals;
- Filling scientific knowledge gaps, producing evidence and developing guidance and tools in priority areas for the development and the deployment of personalised medicine;
- Integrating big data and digital health solutions in research and personalised healthcare;
- Strengthening the European healthcare industry and accelerating the uptake of personalised medicine solutions;
- Developing appropriate ecosystems for the implementation of successful personalised medicine approaches and a swift uptake of relevant innovations by healthcare systems;
- Providing socio-economic evidence of the feasibility of personalised medicine approaches for its uptake by sustainable healthcare systems;
- Improving health outcomes for citizen and patients and ensuring a wide access to advanced personalised medicine intervention approaches to all.
The European Partnership for Personalised Medicine is to be implemented through a joint programme of activities ranging from research to coordination and networking activities, including training, demonstration, piloting and dissemination activities, to be structured along the following main building blocks:

- Joint implementation of the SRIA;
- Joint annual calls for R&I activities, applied R&I, pilots;
- Capacity building activities;
- Activities to enhance the skills of the relevant personalised medicine workforce, and improve citizen relevant awareness and literacy;
- Deployment activities through pilots, innovation procurement and financial support mechanisms,
- Flanking measures.

The Partnership is open to all EU Member States, as well as to countries associated to Horizon Europe and will remain open to third countries wanting to join. It should include the following actors:
- Ministries in charge of R&I policy, as well as national and regional R&I and technology funding agencies and foundations;
- Ministries in charge of health and care policy, as well as national and regional healthcare authorities, organisations and providers.

The Partnership may also encourage engagement with other relevant Ministries and will involve other key actors from civil society and end-users, research and innovation community, innovation owners, healthcare systems owners/organisers and healthcare agencies.
The Partnership's governance structure should enable an upfront strategic steering, effective management and coordination, daily implementation of activities and ensure the use and uptake of the results. The governance should leave sufficient space for involving the key stakeholders, including but not limited to R&I community, patients and citizens, healthcare professionals, formal and informal care organisations, and innovation owners.
Financial commitments and in-kind contributions are expected to be provided for the governance structure, the joint calls and other dedicated implementation actions and efforts for national coordination.
To encourage national coordination and avoid an excess of grant signatories it is recommended to limit their number to two per country. However, in duly justified cases this number could differ, including for countries with decentralised administration to allow for participation of regional authorities in charge of R&I policy and health and care policy.
To ensure coherence and complementarity of activities and leverage knowledge and investment possibilities, the Partnership is expected to establish relevant collaborations with other European partnerships and missions as set out in the working document on 'Coherence and Synergies of candidate European Partnerships under Horizon Europe' as well as to explore collaborations with other relevant activities at EU and international level. On top of this, the proposal should consider synergies with EU programmes, including but not limited to EU4Health, DEP, ESF+, ERDF, InvestEU, RRF and TSI.
The Partnership should align with EU-wide initiatives on open access and FAIR data.
Cooperation with international organisations, and non-European institutions and experts should be considered. Applicants should describe in their proposal the methodology for their collaboration and the aims they want to achieve with this kind of collaboration.
Proposals should pool the necessary financial resources from the participating national (or regional) research programmes with a view to implementing joint calls for transnational proposals resulting in grants to third parties.
Further Information:
https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/horizon-hlth-2023-care-08-01;callCode=null;freeTextSearchKeyword=;matchWholeText=true;typeCodes=1,0;statusCodes=31094501,31094502;programmePeriod=2021%20-%202027;programCcm2Id=43108390;programDivisionCode=null;focusAreaCode=null;destinationGroup=null;missionGroup=null;geographicalZonesCode=null;programmeDivisionProspect=null;startDateLte=null;startDateGte=null;crossCuttingPriorityCode=null;cpvCode=null;performanceOfDelivery=null;sortQuery=startDate;orderBy=asc;onlyTenders=false;topicListKey=topicSearchTablePageState

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36. /HORIZON EUROPE/ Pandemic preparedness and response: Broad spectrum anti-viral therapeutics for infectious diseases with epidemic potential, deadline: 13. April 2023 17:00 Brussels time

This topic aims at supporting activities that are enabling or contributing to one or several expected impacts of destination 3 "Tackling diseases and reducing disease burden". To that end, proposals under this topic should aim for delivering results that are directed, tailored towards and contributing to all of the following expected outcomes:
- The scientific and clinical communities have an increased knowledge on viruses with epidemic potential and in particular a better understanding of different potential mechanisms of action for the development of broad-spectrum anti-viral therapeutics for these viruses.
- The scientific and clinical communities have access to novel approaches for the development of anti-viral therapies for emerging and re-emerging infections in the context of epidemic and pandemic preparedness.
- The scientific and clinical communities have access to experimental broad-spectrum anti-viral candidates against emerging or re-emerging viral infections for further clinical investigation.
- A diverse and robust pipeline of broad-spectrum anti-viral drug candidates is available for emerging and re-emerging viral infections, increasing therapeutic options for clinical deployment in case of an epidemic or pandemic.
As shown by the COVID-19 pandemic, infectious diseases remain a major threat to health and health security in the EU and globally. Viral disease emergence is expected to accelerate due to among other, climate change, and thus a proactive approach to the development of anti-viral therapeutics in preparedness for future infectious disease outbreaks is needed. The availability of broad-spectrum anti-viral therapies would provide a critical preparedness measure against future health threats, due to infectious disease epidemics or pandemics.
Proposals should develop and advance broad-spectrum anti-viral compounds and develop novel approaches to the development of such compounds, which target viruses with high epidemic or pandemic potential for the EU, such as those included in the list of priority diseases of the World Health Organization (WHO), with particular attention to those meeting the criteria identified by the Health Emergency Preparedness and Response Authority (HERA).
Proposals should cover viruses for which there are no currently available effective therapeutics or for which the therapeutics available are sub-optimal, and are expected to incorporate state-of-the-art screening technology and innovative approaches to identify new targets for antiviral compound development. Emphasis should be put on the research and development of broad-spectrum antivirals, which may include repurposing of previously approved or in-pipeline drugs. Proposals could also include elucidation of mode-of-action for candidate anti-viral therapeutics.
Proposals should aim to diversify and accelerate the global therapeutic research and development pipeline for emerging and re-emerging viral infections, and to strengthen the current leading role of the EU in therapeutic research and development.
Proposals should address all of the following areas:
- Preclinical work and proof-of-concept/first-in-human studies and early safety and efficacy trials for testing new or improved anti-viral therapeutics, with a clear regulatory and clinical pathway. Phase IIb/III phase trials will not be supported.
- Innovative delivery systems and suitable safety profiles for broad use should be considered when possible. Attention should be paid to critical social factors such as sex, gender, age, socio-economic factors, ethnicity/migration, and disability.
- Application of novel approaches and widely applicable workflows (e.g. artificial intelligence) for rapid and reliable identification of broad-spectrum anti-viral therapeutics.
Applicants are expected to engage with regulatory bodies in a timely manner to ensure adequacy of the actions from a regulatory point of view.
Applicants envisaging to include clinical studies should provide details of their clinical studies in the dedicated annex using the template provided in the submission system. See definition of clinical studies in the introduction to this work programme part.
Further Information:

https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/horizon-hlth-2023-disease-03-04;callCode=null;freeTextSearchKeyword=;matchWholeText=true;typeCodes=1,0;statuses=1,0;statusCodes=31094502;programmePeriod=2021%20-%202027;programCcm2Id=43108390;programDivisionCode=null;focusAreaCode=null;destinationGroup=null;missionGroup=null;geographicalZonesCode=null;programmeDivisionProspect=null;startDateLte=null;startDateGte=null;crossCuttingPriorityCode=null;cpvCode=null;cpvCode=null;performanceOfDelivery=null;sortQuery=startDate;orderBy=asc;onlyTenders=false;topicListKey=topicSearchTablePageState

37. /HORIZON EUROPE/ Planetary health: understanding the links between environmental degradation and health impacts, deadline: 13. April 2023 17:00 Brussels time

This topic aims at supporting activities that are enabling or contributing to one or several expected impacts of destination 2 'Living and working in a health-promoting environment'. To that end, proposals under this topic should aim for delivering results that are directed, tailored towards and contributing to most of the following expected outcomes:
- Climate and environmental policies are supported with better knowledge on the Earth natural systems and human health interactions;
- Sustainable planetary health policies which foster co-benefits to human health and the health of ecosystems are supported with robust evidence;
- Cross sectorial and multidisciplinary scientific collaborations, including expertise in public health and One Health, are established;
- Public authorities rely on indicators about the impacts on human health of changes or degradation of natural systems to support adaptation and mitigation strategies to natural hazards;
- Policymakers have better tools to improve the predictive capability and preparedness as well as to envision prevention strategies to deal with the impacts on human health of changes or degradation of ecosystems;
- Citizens are engaged and informed about the impact of natural systems' degradation on human health and behaviours aiming at the conservation of ecosystems are promoted.
Globally, life quality and expectancy have increased to unprecedented levels over the last decades due to the significant public health, agricultural, industrial and technological achievements of the 20th century. On the other hand, the ongoing trend of environmental degradation and global climate and environmental changes has introduced new pressures, which involve large impacts on human health and might put at risk the recent public health gains.
Among others, climate change, biodiversity loss, biological invasions, environmental pollution, changes in land use and degradation, deforestation, thawing permafrost (in polar regions, and particularly in the Arctic), overfishing, new animal diseases and acidification of water bodies can result in reduced food and water availability and safety and increased exposure to factors causing infectious and non-communicable diseases. Additionally, changes in weather and climate extremes have been observed across the globe, resulting in an increase of the frequency and intensity of extreme weather events such as heavy precipitation and floods, heat waves and hot extremes, droughts and tropical cyclones.
There is increasing evidence showing that many of these environmental stressors and changes can cause profound short- and long-term negative impacts on human health and well-being, contributing to increased morbidity and mortality worldwide. Understanding and acting upon these challenges calls for a multidisciplinary, cross-sectorial and trans-border approach ranging from the local to the global scale. The effects can be direct due to increases in floods, heatwaves, water shortages, landslides, exposure to ultraviolet radiation, exposure to pollutants, among others, or indirect and complex, as climate change -mediated or ecosystem-mediated. In addition, it is imperative that the solutions and initiatives chosen to prevent environmental degradation are safe for human health and the environment.
Planetary health is a concept focused on the interdependencies between human health and the state of earth's complex natural systems. A key focus is on understanding how the current trend of human-related

environmental degradation can affect the health and well-being of current and future generations. The Rockefeller Foundation-Lancet Commission on Planetary Health published a report in 2015, laying the foundation for the development of this important new field of study. In 2020 the Helsinki declaration was published, resulting from a conference where participants discussed how to implement the planetary health approach in Europe in the context of the European Green Deal. Planetary health is also a priority topic in the research agenda in environment, climate and health proposed by the Coordination and support action HERA.
Applicants are invited to submit proposals providing actionable evidence for policymakers to take preventive actions to protect the human health and wellbeing by exploring the links between human health and environmental degradation in an integrated and comprehensive manner. More fragmented contributions focused on less studied aspects such as the links between climate change and health and, between biodiversity and health, will also be considered.
To advance the knowledge on planetary health to support policymaking in this area, the applicants should address several of the following activities:
- Provide strengthened evidence for health and wellbeing impacts of planetary changes, considering a systems thinking framework or a fragmentary approach focused on the impacts of climate change and biodiversity loss on human health (for biodiversity loss, proposals should not focus on the connection between the biodiversity loss and ecosystem degradation with the prevention of zoonotic emerging diseases since this topic will be covered by CL6-2023-BIODIV: Interlinkages between biodiversity loss and degradation of ecosystems and the emergence of zoonotic diseases);
- Provide improved understanding and modelling of human-ecological systems interactions and ecosystem-mediated effects on human health and well-being, including the attribution of health outcomes to environmental change;
- Provide a methodology to identify and prioritise threats for public health caused by environmental degradation, with a view to improving preparedness of health systems to these threats, through structured processes that move from evidence to recommendations and decisions;
- Investigation how infections agents that might have the capacity to adapt to other host species can spread via the environment, and how this type of insight might lead to enhanced monitoring strategies;
- Lay the foundations for integrated surveillance systems considering already established monitoring systems (e.g. systematic wastewater monitoring) and using available and newly collected health, socioeconomic, and environmental data for defined populations over longer time periods. This would provide early detection of emerging disease outbreaks (e.g. zoonotic diseases, potential permafrost release of new and old pathogens) or changes in nutrition and non-communicable disease burden and support the assessment of the integrated health, environmental, and socioeconomic effect of policies and technologies.
- Explore strategies to reduce environmental damage and harmful emissions (e.g. air pollution) including assessment of health co-benefits through engagement with relevant HE partnerships and missions;
- Explore implications of planetary health for health systems and public health and identify opportunities to mitigate adverse health impacts of environmental degradation;
- Improve risk communication to policymakers, public authorities, industry and the public and support evidence-informed decisions by policymakers, by increasing capacity to do systematic reviews and provide rigorous policy briefs;
- Advance knowledge and actions to reduce the burden of non-communicable diseases while reducing the environmental pressure in areas like nutrition, physical activity, and mobility, and to assess the integrated health, environmental, and socioeconomic effect of those actions (i.e. behaviour change interventions, policies or new technologies);
- Provide better understanding on adaptation to climate and other environmental changes to protect human health, including the interactions between different planetary boundaries and the need to integrate adaptation and mitigation strategies;
- Improved health impact assessment approaches accounting for environmental externalities and estimating the cost and benefits of interventions versus no action.
This topic requires the effective contribution of social sciences and humanities (SSH) disciplines and the involvement of SSH experts, institutions as well as the inclusion of relevant SSH expertise, in order to

produce meaningful and significant effects enhancing the societal impact of the related research activities. Researchers should carefully integrate distributive considerations in their analysis by considering, where relevant, disaggregated effects for different socio-economic groups.
In order to optimise synergies and increase the impact of the projects, all projects selected for funding from this topic will form a cluster and be required to participate in common networking and joint activities. Without the prerequisite to detail concrete joint activities, proposals should allocate a sufficient budget for the attendance to regular joint meetings and to cover the costs of any other potential common networking and joint activities.
Applicants envisaging to include clinical studies should provide details of their clinical studies in the dedicated annex using the template provided in the submission system. See definition of clinical studies in the introduction to this work programme part.
Further Information:
https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/horizon-hlth-2023-envhlth-02-01;callCode=null;freeTextSearchKeyword=;matchWholeText=true;typeCodes=1,0;statuses=1,0;statusCodes=31094502;programmePeriod=2021%20-%202027;programCcm2Id=43108390;programDivisionCode=null;focusAreaCode=null;destinationGroup=null;missionGroup=null;geographicalZonesCode=null;programmeDivisionProspect=null;startDateLte=null;startDateGte=null;crossCuttingPriorityCode=null;cpvCode=null;cpvCode=null;performanceOfDelivery=null;sortQuery=startDate;orderBy=asc;onlyTenders=false;topicListKey=topicSearchTablePageState

38. /HORIZON EUROPE/ Expanding the European Electronic Health Record exchange Format to improve interoperability within the European Health Data Space, deadline: 13. April 2023 17:00 Brussels time

This topic aims at supporting activities that are enabling or contributing to one or several expected impacts of destination 6 "Maintaining an innovative, sustainable and globally competitive health industry". More specifically, this topic aims at supporting activities that are contributing to the following impact area: "High quality digital services for all." To that end, proposals under this topic should aim to deliver results that are directed, tailored towards and contributing to all of the following expected outcomes, and provide appropriate qualitative and quantitative indicators to measure their progress and specific impact:
- European Health Record (EHR) stakeholders (e.g. developers, suppliers, integrators, and operators) have at their disposal and use fit-for-purpose standards, guidelines, and toolsets for prioritised health information domains to address interoperability of EHRs in line with the principles set in the EEHRxF Recommendation, contributing also to security and privacy.
- Stakeholders have at their disposal better quality and better integrated health datasets within the European Health Data Space, to foster innovations in the health sector and leverage the potential of new analytics solutions such as AI and big data, get new insights and detect trends from aggregated data, including for cross-border health threats.
- Citizens are provided with an expanded access to their health data, also across borders, and innovative digital services for high-quality health and care across the EU.
EHR interoperability has yet to become a reality in a number of use cases and health information domains. It is a complex, multi-dimensional challenge. EHRs across the Member States are diverse; so are languages, cultures, and practices in the health sector. Different technical specifications, technologies and clinical terminologies are used, involving a range of stakeholders, within and across care settings.
Proposals should address all of the following:
- Research, develop and validate harmonised interoperability formats for sharing data in specific priority health information domains that should be selected with reference to the EU policies and priorities. The output formats should enable EHR interoperability across the Member States and address cross-border health data exchange by design and in line with the principles set in the EEHRxF Recommendation.
- Leverage and scale up the potential of EHR through enhanced interoperability to improve the quality, safety, and efficiency of patient care, enforce patients' right to data portability, enhance care coordination,

guide crisis planning, reduce medical errors, and lower costs. For example, based on the lessons learnt from COVID-19, enable incorporating EHR data into the early stages of clinical crisis planning and leveraging it to identify potential cross-border health threats based on analysis of patients' data trends.
- Address semantic interoperability for prioritised information domains so that the transmitted health record contains standardised coded data.
- Maximise synergies with relevant initiatives, activities and programmes, building upon previous and linking to on-going actions.
- Closely coordinate and collaborate with various stakeholders, from patients and healthcare professionals to EHR providers, healthcare industry (including SMEs), policymakers and legislators to progress towards a more comprehensive EHR interoperability.
Applicants envisaging to include clinical studies should provide details of their clinical studies in the dedicated annex using the template provided in the submission system. See definition of clinical studies in the introduction to this work programme part.
Further Information:
https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/horizon-hlth-2023-ind-06-02;callCode=null;freeTextSearchKeyword=;matchWholeText=true;typeCodes=1,0;statusCo,0;statusCodes=31094502;programmePeriod=2021%20-%202027;programCcm2Id=43108390;programDivisionCode=null;focusAreaCode=null;destinationGroup=null;missionGroup=null;geographicalZonesCode=null;programmeDivrammeDivisionProspect=null;startDateLte=null;startDateGte=null;crossCuttingPriorityCode=null;cpvCode=null;perfode=null;performanceOfDelivery=null;sortQuery=startDate;orderBy=asc;onlyTenders=false;topicListKey=topicSearcy=topicSearchTablePageState

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39. /HORIZON EUROPE/ The Silver Deal - Person-centred health and care in European regions, deadline: 13. April 2023 17:00 Brussels time

This topic aims at supporting activities that are enabling or contributing to one or several impacts of destination 1 "Staying healthy in a rapidly changing society". To that end, proposals under this topic should aim for delivering results that are directed at, tailored towards and contributing to all of the following expected outcomes:
- Citizens and patients will get effective, preventive, integrated, coordinated, evidence-based and people-centred high-quality health and care services to identify and tackle or prevent multi-morbidities, frailty, biologically or mentally reduced capacities, (sensory) impairments, dementia and/or neurodegeneration, fostering mental and physical health, wellbeing and quality of life. These could include, but are not limited to, assistive technologies, nutrition and physical activity, adaptation of work and workplace, health-promoting age-friendly working, home and community environments, better equality of access to health and care services through community-based and integrated care models, also digitally enabled.
- Primary and community-based health and care services will be better equipped to early identify people at risk of developing non-communicable diseases (NCDs) and multi-morbidities. They will have integrated and cost-effective intervention tools to help prevent, monitor and manage progression of age-related diseases, conditions and disabilities, while promoting healthy lifestyles, ageing in place, as well as physical and mental wellbeing among the elderly.
- Older people, including those receiving long-term care, will be empowered to take an active role in the management of their own physical and mental health, as well as increase their social interactions and wellbeing through better health literacy, educational programmes, trainings and platforms, including with the help of innovative and digitally enabled solutions.
- Citizens, all relevant stakeholders, public authorities, cities and rural environments, as well as health care providers will be engaged to ensure the introduction to and the integration of age-friendly, mental and physical health promoting innovative care pathways and digitally enabled solutions into the daily life and wellbeing of the ageing population, with the aim of leaving no-one behind.

The proposals should provide appropriate indicators to measure performance and progress towards the relevant expected outcomes.
This topic aims to implement strategies and actions in line with the Green Paper on Ageing, the EU Long-term care report, the 'Healthier Together' - EU Non-Communicable Diseases Initiative, the new EU Care Strategy, which strive to address demographic change and enable better health and care for Europe's growing ageing societies, as well as to harness the potential of the Silver Economy. NCD prevention is highly relevant to reduce the need for long-term care. New tools and integrated care models are needed, reinforcing primary, community- and home-based health and long-term care provision, through better early detection and management of diseases among older people in an increasingly ageing society and overburdened health and care systems.
The topic encourages the participation of small and medium-sized enterprises (SMEs), as well as of European, national and regional authorities and civil society, in order to strengthen the scientific and technological expertise of SMEs in the health and care domain, promote the European Health- and Age-Tech; and improve the uptake of innovative health and care solutions in the EU and Associated Countries.
The applicants should ensure that the developed solutions, technologies and adoption policies are driven by the needs of citizens and patients of old age and ensure their involvement. Co-creation, co-design with end-users and particular consideration of the diversity of the needs, mental and physical abilities, living and socio-economic conditions as well as life-situations of older people are required, including provision of training to citizens, patients, formal and informal carers.
The proposed research and innovation should focus on all of the following aspects:
- Consolidate high-quality effective, integrated, innovative and digitally enabled person-centred health and long-term care services and solutions, both in primary care, hospital and home settings, around older people's needs for physical and mental health, care and wellbeing, strengthened disease prevention, rehabilitation and for staying active and healthy as people age. Such integrated and holistic solutions could include, but are not limited to, integrated care solutions, serious games, connected wearables, ambient sensors, social robots, assistive technologies, age-friendly environments, diagnostic screenings, self-monitoring devices, robotics and others, tackling age-related physical and mental diseases and co-morbidities.
- Develop and provide evidenced-based new approaches, coordinated care models and pathways, for delivering effective, person-centred health and long-term care solutions at the system and community level. These should be based on the needs of healthy and vulnerable older people for increased physical, mental and nutritional resilience vis-à-vis inequality of access to health and care, rapidly changing societies and health and care systems, and ensure better skills, empowerment and improved health and digital literacy through appropriate trainings and activities.
- Support adoption and market innovation of novel health and care solutions, co-created with and designed for older age-related health conditions. The support could be provided through large-scale testing and deployment piloting, guidance on relevant HTA and CE procedures, demonstrating cost-effectiveness, as well as through stakeholder involvement and policy collaboration on European, local, regional, and international level, exchange of best practices (twinnings), and, when relevant, collaboration with the EC-funded large-scale pilots on Active and Healthy Living and the Reference Sites Collaborative Network.
This topic addresses consortia including research partners and innovative technology providers, such as SMEs and/or organisations that can offer the range of activities required to address the objectives of the topic; the latter could for example be based on Digital Innovation Hubs, digital health accelerators, incubators and knowledge hubs, Centres offering Pilot Lines or similar technology, business and/or knowledge transfer organisations.
The proposals should be highly integrated, ambitious, go beyond simple networking and provide appropriate indicators to measure progress, impact, cost-effectiveness and adoption in the Europe. Dissemination and involvement of policymakers, both at national and regional level, as well as civil society organisations in a European wide geographical balanced matter is essential, as the results of this action are expected to have European wide impact.

Selected projects under this topic are strongly encouraged to participate in joint activities as appropriate. These joint activities could, for example, take the form of clustering of projects and involve joint coordination and dissemination activities such as the participation in joint workshops, the exchange of knowledge, the development and adoption of best practices and adoption strategies on regional, national and European level. The details of these joint activities will be defined during the grant preparation phase with the European Commission. Applicants should plan a necessary budget to cover this collaboration.
This topic requires the effective contribution of social sciences and humanities (SSH) disciplines and the involvement of SSH experts, institutions as well as the inclusion of relevant SSH expertise, in order to produce meaningful and significant effects enhancing the societal impact of the related research activities.
Applicants envisaging to include clinical studies should provide details of their clinical studies in the dedicated annex using the template provided in the submission system. See definition of clinical studies in the introduction to this work programme part.
Further Information:
https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/horizon-hlth-2023-stayhlth-01-01;callCode=null;freeTextSearchKeyword=;matchWholeText=true;typeCodes=1,0;statusCodes=31094502;programmePeriod=2021%20-%202027;programCcm2Id=43108390;programDivisionCode=null;focusAreaCode=null;destinationGroup=null;missionGroup=null;geographicalZonesCode=null;programmeDivisionProspect=null;startDateLte=null;startDateGte=null;crossCuttingPriorityCode=null;cpvCode=null;cpvCode=null;performanceOfDelivery=null;sortQuery=startDate;orderBy=asc;onlyTenders=false;topicListKey=topicSearchTablePageState

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40. /HORIZON EUROPE/ Pragmatic clinical trials on minimally invasive diagnostics, deadline: 12. April 2023 17:00 Brussels time

Proposals under this topic should aim to deliver results that are directed and tailored towards and contribute to all of the following expected outcomes:
- Cancer patients and their caregivers have access to optimised and affordable, minimally-invasive diagnostic interventions that increase their quality of life, across European regions, Member States and Associated Countries;
- Healthcare professionals and academia deliver better outcomes through routine healthcare, including quality of life, for men and women with cancer who often suffer from sex-related co-morbidities and side-effects;
- National healthcare providers, policymakers and authorities in European regions, Member States and Associated Countries will have the evidence to implement optimised and affordable minimally-invasive diagnostics in their healthcare systems, including in everyday medical practice.
While cancer research and innovation have generated novel treatment options, cancer patients across Europe need access to minimally-invasive, patient-centred diagnostic interventions which keep up with increasing demand in a complex and fragmented oncology healthcare landscape with increasing healthcare costs.
Furthermore, the COVID-19 pandemic with its detrimental impact on cancer control has demonstrated the need for different clinical trial designs with fewer inclusion and exclusion criteria that would allow for the evaluation of real-world effectiveness, driving better and affordable diagnostic solutions that are widely accessible across European regions, Member States and Associated Countries.
Healthcare professionals and academia generate clinical evidence, by evaluating effectiveness in randomised or cluster-randomised academic investigator-initiated pragmatic clinical trials, on how to best perform and deploy evidence-based, minimally-invasive diagnostic interventions.
Pragmatic clinical trials focus on choosing between care options. Pragmatic trials evaluate effectiveness, the effect of diagnostics in routine (real-world) clinical practice.
Proposals should address all of the following:
- Design and conduct randomised or cluster-randomised academic investigator-initiated pragmatic clinical trials to deliver effective and evidence-based diagnostic interventions for implementation by healthcare systems at the level of local communities, European regions, Member States and Associated Countries,

taking into account stratification, such as biology, molecular features, sex, gender, cancer stage, and age. Clinical trial design and conduct could be aided by computational, simulation and visualisation tools and technologies where appropriate.
- The chosen diagnostic intervention(s) should be adapted to the particular needs of the target population and to the specificities of the provision of care at local, regional, or national level, duly reflecting the diversity across Member States and Associated Countries. Furthermore, affordability and accessibility should be taken into account.
- The successful proposals should clearly justify and describe the evidence supporting the chosen diagnostic intervention.
- The primary and secondary endpoints of the pragmatic clinical trial should support overall survival, patient-reported outcomes and quality of life issues considered important by and for cancer patients and their caregivers.
- Such endpoints should be defined together with patients and their caregivers through research that uses open knowledge, (social) innovation systems and support end-user engagement, such as living labs or other participative research models.
- These pragmatic clinical trials should include stakeholders such as physicians, academia, patients and their caregivers, patient representatives, SMEs, insurance companies, charities and foundations, research organisations, civil society, regional and national research, innovation and health authorities.
- Successful pragmatic clinical trials, including their analyses, should be completed within 5 years from the start of the project. Translational research is not within the scope of this topic.
- In all instances, sex- and gender-related issues must be taken into account. All data should be disaggregated by sex, gender, age and other relevant variables, such as by measures of socio-economic status or ethnicity.
This topic requires the effective contribution of SSH disciplines and the involvement of SSH experts, institutions as well as the inclusion of relevant SSH expertise, in order to produce meaningful and significant effects enhancing the societal impact of the related research activities.
The successful proposals are expected to liaise with and build on resources made available by the Knowledge Centre on Cancer (KCC) in order to foster EU alignment and coordination.
The Commission will facilitate Mission-specific coordination through future actions, notably fostering exchanges with other proposals funded under this topic. Hence, successful applicants will be asked to join the 'Diagnosis and Treatment' cluster for the Mission on Cancer. In this regard, the Commission will take on the role of facilitator, including with relevant initiatives and stakeholders, if appropriate.
Therefore, proposals should include a budget for networking, attendance at meetings, and potential joint activities without the prerequisite to give details of these at this stage. Examples of these activities are the organisation of joint workshops, the exchange of knowledge, the establishment of best practices, or the initiation of joint communication activities with projects funded under other clusters and pillars of Horizon Europe, or other EU programmes, as appropriate.
Further Information:
https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/horizon-miss-2023-cancer-01-03;callCode=null;freeTextSearchKeyword=;matchWholeText=true;typeCodes=1,0;status=1,0;statusCodes=31094502;programmePeriod=2021%20-%202027;programCcm2Id=43108390;programDivisionCode=null;focusAreaCode=null;destinationGroup=null;missionGroup=null;geographicalZonesCode=null;programmeProgrammeDivisionProspect=null;startDateLte=null;startDateGte=null;crossCuttingPriorityCode=null;cpvCode=null;pcpvCode=null;performanceOfDelivery=null;sortQuery=startDate;orderBy=asc;onlyTenders=false;topicListKey=topicSetKey=topicSearchTablePageState

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41. /HORIZON EUROPE/ Mapping the hurdles for the clinical applications of Advanced Therapy Medicinal Products (ATMPs), deadline: 13. April 2023 17:00 Brussels time

This topic aims at supporting activities that are enabling or contributing to one or several expected impacts of destination 6 "Maintaining an innovative, sustainable and globally competitive health industry". To that end, proposals under this topic should aim to deliver results that are directed towards and

contributing to all of the following expected outcomes:
- Challenging aspects of regulation, policy, safety, efficacy, manufacturing, organisation, infrastructure, decision-making, and commercialisation are identified for speeding up the equitable clinical applications of ATMPs.
- European regulatory frameworks are adapted to novel scientific progress, especially those related to platform approaches, genome editing, interface with medical devices, artificial intelligence.
- Competent authorities in the Member States can propose adapted pricing and reimbursement schemes that allow European citizens to benefit from novel ATMPs.
- Academic and SME developers and manufacturers of ATMPs have an increased knowledge of the regulatory aspects.
- The decentralised manufacturing of ATMPs is consistent across health care centres.
New pioneering treatments called Advanced Therapy Medicinal Products (ATMPs), including cell and gene therapies, have the potential to bring new cures to patients affected by diseases with limited or no available treatments. However, several hurdles impede or slow down the access of ATMPs to patients in the EU and Associated Countries. These include e.g. regulatory challenges, underlying scientific uncertainties, differences in assessing the values of ATMPs by the various Health Technology Agencies (HTA), difficulties to perform randomised-controlled clinical trials or to obtain long-term safety and effectiveness data, the lack of harmonised approaches to the reimbursement of the high upfront costs by health systems, manufacturing processes, etc.
The proposals should address all of the following activities:
- Map the regulatory, safety and efficacy assessment, manufacturing, organisational and infrastructural needs to improve the translation of ATMPs from preclinical development to clinical use.
- Address the gaps and uncertainties in regulatory and policy aspects pertinent to complex innovative ATMPs.
- Address predictivity of preclinical data for safety and efficacy testing of ATMPs. Improved novel models could be proposed.
- Tackle decision-making processes relating to ATMPs, such as for instance the assessment of their values, the demonstration of the long-term safety and effectiveness, or new pricing and reimbursement frameworks.
- Propose opportunities for an improved knowledge of the regulatory processes among academic ATMP developers.
- Involve regulatory authorities, Health Technology Agencies (HTA), clinicians, ethics committees, and patients, with the aim to ensure higher clinical use of ATMPs. The findings of the project will be available to competent authorities, ATMP developers and manufacturers as well as to national/regional funding agencies.
Further Information:
https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/horizon-hlth-2023-ind-06-05;callCode=null;freeTextSearchKeyword=;matchWholeText=true;typeCodes=1,0;statusCo,0;statusCodes=31094502;programmePeriod=2021%20-%202027;programCcm2Id=43108390;programDivisionCode=null;focusAreaCode=null;destinationGroup=null;missionGroup=null;geographicalZonesCode=null;programmeDivrammeDivisionProspect=null;startDateLte=null;startDateGte=null;crossCuttingPriorityCode=null;cpvCode=null;perfode=null;performanceOfDelivery=null;sortQuery=startDate;orderBy=asc;onlyTenders=false;topicListKey=topicSearcy=topicSearchTablePageState

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42. /HORIZON EUROPE/ Integrated, multi-scale computational models of patient patho-physiology ('virtual twins') for personalised disease management, deadline: 13. April 2023 17:00 Brussels time

This topic aims at supporting activities that are enabling or contributing to one or several expected impacts of destination 5 "Unlocking the full potential of new tools, technologies and digital solutions for a healthy society". To that end, proposals under this topic should aim for delivering results that are directed

towards and contributing to several of the following expected outcomes:
- Clinicians and other healthcare professionals have access to and/or use validated multi-scale computational models of individual patients for delivering optimised and cost-effective patient management strategies superior to the current standard of care.
- Healthcare professionals benefit from enhanced knowledge of complex disease onset and progression by recourse to validated, multi-scale and multi-organ models.
- Clinicians and patients benefit from new, improved personalised diagnostics, medicinal products, devices, and therapeutic strategies tailored to the individual patient patho-physiology.
- Citizens and patients have access to validated 'virtual twin' models enabling the integration of citizen-generated data with medical and other longitudinal health data, and benefit from early detection of disease onset, prediction of disease progression and treatment options, and effective disease management.
This topic will contribute to the consolidation of existing virtual twin models and support research to move towards a more integrated human virtual twin, with the aim to accelerate translational research towards cost-effective development of new health technologies. Furthermore, 'virtual twin' patient models hold the potential of transforming clinical processes and healthcare with longitudinal monitoring, making personalised medicine, disease prevention and individualised patient management a reality.
Proposals are expected to contribute to the virtual human twin roadmap and ecosystem supported under the Digital Europe Programme, with models aligned and interoperable with those linked to the repository developed thereunder.
The proposals should address all of the following activities:
- Develop multi-scale and multi-organ, dynamic, interoperable, modular computational models, capable of accurately simulating the individual patient patho-physiology, spanning different anatomical scales, from the molecular to cell, tissue, organ and systems level, as necessary. Proposals should be multidisciplinary and focus on groups of communicable and/or non-communicable diseases with commonalities within the same or across different medical domains, including co-morbidities. SME(s) participation is encouraged with the aim to strengthen the scientific and technological basis of SME(s) and valorise their innovations towards citizen and patient benefit.
- Advance the state of the art in multi-scale modelling by employing diverse modelling methodologies, including but not limited to: mechanistic modelling, artificial intelligence, agent-based and network physiology as a means for modelling the healthy state, disease onset, progression, treatment and recovery. Availability of the necessary diverse data types (e.g. data from lab tests, medical imaging, wearables, sensors, medical check-ups, mHealth devices, longitudinal health monitoring etc.) should be demonstrated and the sex/gender dimension should be investigated.
- Integrate standardised spatiotemporal multi-scale models as a basis for developing personalised 'virtual twin' models taking account of patient individual characteristics, medical and health status history for advancing personalised disease management. Proposals should ensure that the development of 'virtual twin' models is driven by the end-users/citizens/healthcare professionals needs and their active involvement throughout the development process. Furthermore, applicants should utilise appropriate IT solutions for model visualisation and demonstrate their accessibility and usability for clinical uptake.
- Validate multi-scale patient-specific models and generate evidence that results can deliver clinically meaningful, real-world observations for the human diseases under study. Applicants should implement proof-of-concept, feasibility studies in relevant end user environments and/or real-world settings, and collect evidence of utility vis-à-vis current clinical practice. Dynamic 'virtual twin' models and simulations as clinical decision support tools will need be shown to improve prognosis, medical diagnosis, treatments and health outcomes across the continuum of diseases evolution, including co-morbidities and long-term care as appropriate. An exploitation strategy and a business plan, including regulatory and industrial input, should be developed for accelerating clinical and/or market uptake.
The proposals should adhere to the FAIR data principles and adopt data quality standards, GDPR-compliant data sharing, access and data integration procedures based on good practices developed by the European research infrastructures. In relation to the use and interpretation of data, special attention should be paid to systematically assess for bias and/or discrimination (sex/gender, ethnic, minority and vulnerable groups aspects). Proposals are invited to consider adopting recommendations for

in-silico models construction and validation.
This topic requires the effective contribution of social sciences and humanities (SSH) disciplines and the involvement of SSH experts, institutions as well as the inclusion of relevant SSH expertise, in order to produce meaningful and significant effects enhancing the societal impact of the related research activities.
All projects funded under this topic are strongly encouraged to participate in networking and joint activities, as appropriate. These networking and joint activities could, for example, involve the participation in joint workshops, the exchange of knowledge, the development and adoption of best practices, or joint communication activities. This could also involve networking and joint activities with projects funded under other clusters and pillars of Horizon Europe, or other EU programmes. Therefore, proposals are expected to include a budget for the attendance to regular joint meetings and may consider covering the costs of any other potential joint activities without the prerequisite to detail concrete joint activities at this stage. The details of these joint activities will be defined during the grant agreement preparation phase. In this regard, the Commission may take on the role of facilitator for networking and exchanges, including with relevant stakeholders.
Further Information:
https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/horizon-hlth-2023-tool-05-03;callCode=null;freeTextSearchKeyword=;matchWholeText=true;typeCodes=1,0;statusCodes=1,0;statusCodes=31094502;programmePeriod=2021%20-%202027;programCcm2Id=43108390;programDivisionCode=null;focusAreaCode=null;destinationGroup=null;missionGroup=null;geographicalZonesCode=null;programmeDivisionProspect=null;startDateLte=null;startDateGte=null;crossCuttingPriorityCode=null;cpvCode=null;performanceOfDelivery=null;sortQuery=startDate;orderBy=asc;onlyTenders=false;topicListKey=topicSearchTablePageState

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43. /HORIZON EUROPE/ Enhance primary cancer prevention through sustainable behavioural change, deadline: 12. April 2023 17:00 Brussels time

Enhance interventions and scale these up in different geographical, socio-economic and cultural settings as well as in different environmental conditions. Proposals should aim to deliver results through sustainable behavioural change, which are directed and tailored towards and contribute to all of the following expected outcomes:
- Citizens, including people at high risk of developing cancer, cancer patients and survivors benefit from health promotion and primary prevention programmes that reflect behavioural change and psycho-social approaches tailored to the specific needs of different population groups both in urban and rural areas;
- Citizens, including people at high risk of developing cancer, cancer patients and cancer survivors benefit from easy-to-understand and accessible, tailored recommendations and support programmes on sustainable behavioural changes, including psycho-social care, that are easy to implement in their daily lives, including through the use of digital tools to facilitate healthier choices;
- Regional, local and national policymakers and authorities, promote healthy environments as well as design and implement the most suitable, sustainable health promotion and prevention programmes, which take account of behavioural change and psycho-social requirements.
With about 40% of cancer cases being preventable, prevention represents the most cost-efficient and sustainable cancer control strategy. The Mission on Cancer and Europe's Beating Cancer Plan aim to exploit the potential of primary cancer prevention by addressing key risk factors and health determinants. Achieving sustainable behavioural change can play a major role in enhancing the impact of health promotion and preventive measures and thus contribute to reducing the number of preventable cancer cases. Despite having access to peer-reviewed existing evidence and recommendations on cancer prevention, widely accepted by policymakers across the EU, their uptake to effectively change behaviour needs to be enhanced.
In the past, evidence on how to achieve behavioural change has not been sufficiently taken into account when designing health promotion and primary prevention programmes. This is because behavioural change is a complex challenge, which is subject to manifold influences that could be better understood at individual and systems level, through public engagement and interdisciplinary approaches.

This requires a systemic approach involving all the main actors at different levels who can facilitate sustainable behavioural change including public authorities, policymakers, health care providers, employers, educational institutions, industry, non-governmental consumer and patient organisations, citizens and media.
Investments are needed to establish, scale-up or improve health promotion and cancer prevention programmes through increased awareness among citizens about cancer risk factors and related behavioural change, with a focus on hard-to-reach and vulnerable groups of the population.
Proposals should further address all of the following:
- Develop, test and evaluate the effective impacts of innovative primary cancer prevention programmes, possibly through the use of novel, including digital, solutions, for different population groups which should be involved in the design;
- Provide evidence-based cost-benefit analyses of the proposed programmes;
- Identify and address specific bottlenecks and barriers that prevent the uptake of sustainable behavioural change for different target populations, taking into account sectorial, socio-economic, cultural and geographical conditions as well as gender and age;
- Identify the most appropriate actors and develop incentives promoting sustainable behavioural change, such as increasing the uptake of the European Code against Cancer;
- Assess and validate parameters and factors facilitating or impeding behavioural change, and measure their impact;
- In addition, attention should be paid to health determinants, including occupational and environmental factors (e.g. pollution). Furthermore, education, socio-economic status, gender, age, and inequalities to access prevention programmes, which affects for example elderly people, people with disabilities, or minorities and people living in rural areas should be taken into consideration.
- Approaches on how to best reach and involve disadvantaged socio-economic population groups, vulnerable groups, and people living in rural areas, should be developed.
This topic requires the effective contribution of SSH disciplines and the involvement of SSH experts, institutions as well as the inclusion of relevant SSH expertise, in order to produce meaningful and significant effects enhancing the societal impact of the related research activities.
Due consideration should be given to EU-funded initiatives such as: the Climate-neutral and Smart Cities Mission, the Soil Health and Food Mission, as well as the successful proposals resulting from the topics HORIZON-MISS-2022-CANCER-01-01 (Improving and upscaling primary prevention of cancer through implementation research), known by mid-2023, and HORIZON-CL6-2021-FARM2FORK-01-15 (Transition to healthy and sustainable dietary behaviour). Activities should, where appropriate, complement the EU Non-Communicable Diseases Initiative "Healthier together".
Successful applicants will be asked to liaise with these and other initiatives where applicable]. The successful proposals are expected to liaise with and build on resources made available by the Knowledge Centre on Cancer (KCC) in order to foster EU alignment and coordination.
The Commission will facilitate Mission-specific coordination through future actions, notably fostering exchanges with other proposals funded under this topic. Hence, successful applicants will be asked to join the 'Prevention' cluster for the Mission on Cancer, established in 2022. In this regard, the Commission will take on the role of facilitator, including with relevant initiatives and stakeholders, if appropriate.
Therefore, proposals should include a budget for networking, attendance at meetings, and potential joint activities without the prerequisite to give details of these at this stage. Examples of these activities are the organisation of joint workshops, the exchange of knowledge, the establishment of best practices, or the initiation of joint communication activities with projects funded under other clusters and pillars of Horizon Europe, or other EU programmes, as appropriate. The details of joint activities will be defined during the grant agreement preparation phase and during the life of the project.
Further Information:

https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/horizon-miss-2023-cancer-01-02;callCode=null;freeTextSearchKeyword=;matchWholeText=true;typeCodes=1,0;status=1,0;statusCodes=31094502;programmePeriod=2021%20-%202027;programCcm2Id=43108390;programDivisionCode=null;focusAreaCode=null;destinationGroup=null;missionGroup=null;geographicalZonesCode=null;programmeProgrammeDivisionProspect=null;startDateLte=null;startDateGte=null;crossCuttingPriorityCode=null;cpvCode=null;pvCode=null;performanceOfDelivery=null;sortQuery=startDate;orderBy=asc;onlyTenders=false;topicListKey=topicSetKey=topicSearchTablePageState

44. /HORIZON EUROPE/ Pandemic preparedness and response: In vitro diagnostic devices to tackle cross-border health threats, deadline: 13. April 2023 17:00 Brussels time

This topic aims at supporting activities that are enabling or contributing to one or several expected impacts of destination 5 "Unlocking the full potential of new tools, technologies and digital solutions for a healthy society". To that end, proposals under this topic should aim for delivering results that are directed, tailored towards and contributing to all of the following expected outcomes:
- The scientific and clinical communities, including health care providers and payers, as well as regulators, health systems and patients benefit from innovative diagnostic solutions that are better suited to tackle cross-border health threats.
- The scientific and clinical communities have access to novel and improved methodologies for detection of pathogens with pandemic potential in humans and for timely discovery of other health threats, such as chemical, radiological and nuclear threats, including considerations on detection in animals and environmental conditions (One Health approach).
- A diverse and robust pipeline of in vitro diagnostics is available, increasing options for clinical deployment in case of an epidemic or pandemic.
As shown by the COVID-19 pandemic, infectious diseases remain a major threat to health and health security in the EU and globally, this is also the case for other health threats that can be linked for instance to terror attacks. New cross-border health threats are expected to emerge in the coming years and therefore it is essential to promote advanced research of medical countermeasures that can be used to detect, prevent and treat in case of a new health emergency. One of the most important aspects in crisis preparedness times is to ensure the availability of diagnostics that can contribute to detecting and characterising health threats.
Proposals should develop and advance on new in vitro diagnostics relevant for detecting and characterising cross-border health threats and develop novel approaches to the development of medical countermeasures targeting threats identified by HERA.
Proposals should cover pathogens with pandemic potential in humans or other health threats, such as chemical, radiological and nuclear threats for which there are no existing diagnostics or where clinical practice could benefit from innovation. Emphasis should be put on the development of new diagnostics, innovative catch-all methodologies, or on the improvement of existing health technologies advancing diagnostics and characterisation of health threats, applying the One Health approach when relevant.
Proposals should aim to diversify and accelerate the global diagnostic research and development pipeline to tackle cross-border health threats, and to strengthen the current leading role of the EU in research and development, and therefore contributing to the work of the European Health Emergency Preparedness and Response Authority (HERA).
Attention should be paid to critical social factors such as sex, gender, age, socio-economic factors, ethnicity/migration, and disability.
Proposals should include a clear regulatory path to market in order to ensure future compliance with the legal requirements. Proposals should address several of the following areas:
- Proof-of-concept/early studies linked e.g. to performance evaluation of new diagnostics that facilitate screening, detection of the presence or exposure to a cross-border health threat or determination of infectious/disease status through human samples, included but not limited to the list of high impact health threats identified by HERA, as well chemical, radiological and nuclear threats for which there is a lack of in vitro diagnostics or existing diagnostics have a sub-optimal performance.

- Data-driven diagnostic and prognostic platforms with AI and other advanced data analytics functionalities, adaptable to respond to new and multiple pathogens/threats, e.g. covering prototype viruses.
- Innovative systems linked to high sensitivity/specificity profiles adaptable for broader use should be considered, such as portable, faster, more compact or accurate devices and technologies, including the possibility to develop point of care or self-tests.
- Innovative diagnostics sampling methods or samples bringing a significant improvement, such as less invasive sampling methods.

This topic requires the effective contribution of social sciences and humanities (SSH) disciplines and the involvement of SSH experts, institutions as well as the inclusion of relevant SSH expertise, in order to produce meaningful and significant effects enhancing the societal impact of the related research activities.
Proposals should consider the involvement of the European Commission's Joint Research Centre (JRC) in regard to its experience on the performance evaluation of in vitro diagnostic devices, with respect to the value it could bring in providing an effective interface between research activities and regulatory aspects and/or to translating research results into validated test methods and strategies fit for regulatory purpose. In that respect, the JRC will consider collaborating with any successful proposal and this collaboration, when relevant, should be established after the proposal's approval.
Applicants envisaging to include clinical studies should provide details of their clinical studies in the dedicated annex using the template provided in the submission system. See definition of clinical studies in the introduction to this work programme part.
Further Information:
https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/horizon-hlth-2023-tool-05-08;callCode=null;freeTextSearchKeyword=;matchWholeText=true;typeCodes=1,0;statusCodes=31094501,31094502;programmePeriod=2021%20-%202027;programCcm2Id=43108390;programDivisionCode=null;focusAreaCode=null;destinationGroup=null;missionGroup=null;geographicalZonesCode=null;programmeDivisionProspect=null;startDateLte=null;startDateGte=null;crossCuttingPriorityCode=null;cpvCode=null;performanceOfDelivery=null;sortQuery=startDate;orderBy=asc;onlyTenders=false;topicListKey=topicSearchTablePageState

45. /HORIZON EUROPE/ Establish best practices and tools to improve the quality of life for childhood cancer patients, survivors and their families in European regions, deadline: 12. April 2023 17:00 Brussels time

Proposals under this topic should aim to deliver results that are directed and tailored towards and contribute to all of the following expected outcomes
- Childhood cancer patients, survivors and their families benefit from enhanced quality of life through better supportive care, personalised counselling approaches, and digital tools that are accessible and affordable. Consequently, they can better achieve their values and personal life goals.
- Health care professionals, supportive workers and councillors enhance the quality of life for childhood cancer patients, survivors and their families.

Best practices and tools to improve the quality of life for survivors of childhood cancer exist at national, regional and local level. These practices and tools should be scaled up or deployed in regions in at least three different Member States or Associated Countries in order to serve as demonstrators for wider uptake.
Proposals should address all of the following:
- Best practices and validated tools (such as digital tools) related to for example education, sports, employment, medical follow-up including mental and physical health and well-being, or reproductive matters, should be tested and scaled up in regions in at least three different Member States or Associated Countries;

- Address hurdles, factors and situations that impede implementation of good practices and tools in real-life settings with the intention to make the life of childhood cancer survivors easier and better. Effectiveness and general applicability should be assessed and evaluated to provide enhanced real solutions in practice;
- Attention should be paid to social and health determinants, including sex, gender, age and other relevant variables, such as socio-economic status, living in rural or remote areas and education;
- Several best practices and tools should be chosen and scaled up together with childhood cancer survivors and their families. The use of participative research models, such as oncology-centred living labs or other approaches to deliver (social) innovation should be considered.
This topic requires the effective contribution of SSH disciplines and the involvement of SSH experts, institutions as well as the inclusion of relevant SSH expertise, in order to produce meaningful and significant effects enhancing the societal impact of the related research activities.
The successful proposal is expected to liaise with and build on resources made available by the Knowledge Centre on Cancer (KCC) in order to foster EU alignment and coordination.
Successful applicants should closely monitor and take into account the outcomes of the project supported under topic HORIZON-MISS-2021-CANCER-02-02, (Develop and validate a set of quality of life and patient preference measures for cancer patients and survivors).
The Commission will facilitate Mission-specific coordination through future actions. Hence, successful applicants will be asked to join the 'Quality of life' cluster for the Mission on Cancer together with the aforementioned project. In this regard, the Commission will take on the role of facilitator, including with relevant initiatives and stakeholders, if appropriate.
Therefore, proposals should include a budget for networking, attendance at meetings, and potential joint activities without the prerequisite to give details of these at this stage. Examples of these activities are the organisation of joint workshops, the exchange of knowledge, the establishment best practices, or the initiation of joint communication activities with projects funded under other clusters and pillars of Horizon Europe, or other EU programmes, as appropriate.
Further Information:
https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/horizon-miss-2023-cancer-01-04;callCode=null;freeTextSearchKeyword=;matchWholeText=true;typeCodes=1,0;status=1,0;statusCodes=31094502;programmePeriod=2021%20-%202027;programCcm2Id=43108390;programDivisionCode=null;focusAreaCode=null;destinationGroup=null;missionGroup=null;geographicalZonesCode=null;programmeProgrammeDivisionProspect=null;startDateLte=null;startDateGte=null;crossCuttingPriorityCode=null;cpvCode=null;pcpvCode=null;performanceOfDelivery=null;sortQuery=startDate;orderBy=asc;onlyTenders=false;topicListKey=topicSettKey=topicSearchTablePageState

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46. /HORIZON EUROPE/ Supporting the uptake of innovative Health Technology Assessment (HTA) methodology and advancing HTA expertise across EU, deadline: 13. April 17:00 Brussels time

This topic aims at supporting activities that are enabling or contributing to one or several expected impacts of destination 6 "Maintaining an innovative, sustainable and globally competitive health industry". To that end, proposals under this topic should aim to deliver results that are directed, tailored towards and contributing to all of the following expected outcomes:
- Identification of the most innovative HTA methods developed by EU-funded projects, which respond to the needs of HTA bodies and are ready to be used in real-life settings. Endorsement by HTA bodies of such innovative methods would allow for advancing HTA methodology and improve evidence-based decision making, and patient access to novel health technologies
- Dissemination among EU HTA bodies of robust innovative HTA methods and tools developed by EU-funded projects.

- Harmonisation of HTA expertise across EU though the development of a training programme developed in collaboration with academia. The training should address HTA expertise in general, as wells as expertise in joint HTA to be carried out at EU level in accordance with Regulation (EU) 2021/2282, based on the methodological guidelines elaborated by the Coordination Group on HTA.
- Contribution to a successful implementation of the HTA Regulation as well as to building an EU methodological HTA framework fit for purpose and fit for the future.

HTA bodies have the responsibility to assess the added value of new health technologies and advise on its reimbursement and use within a healthcare system. Due to the rapid pace at which technology advance and in order to support decision making in an appropriate manner, HTA experts have to adapt/revise regularly their methodology. Whilst EU-funded projects in the field of HTA have addressed some of the research needs of the HTA bodies (e.g. methods of analysis, use of real-world data, use of patient reported outcomes), translation of their results/recommendations into HTA work remains limited.

Advancing HTA methodology and expertise could benefit from a more systematic dialogue between HTA bodies and academia. Therefore, this action could represent an excellent opportunity for both those generating and those using the evidence to come together and discuss the key HTA methodological issues.

Under the newly adopted Regulation (EU) 2021/2282, the Coordination Group on HTA will have to adopt methodological guidelines for joint HTA work (e.g. joint clinical assessments, joint scientific consultation), to regularly review, and where necessary update them. The project could provide input to issues identified by the Coordination Group as important for future updates/revisions of HTA methodology for joint HTA work.

The topic is divided into two strands of activities, with applicants tackling both in their proposals:

- Implementation of innovative HTA methods: EU-funded research projects (e.g. COMED, IMPACT-HTA, HTx, GetReal, EHDEN) developed innovative methods aiming at addressing HTA bodies' needs. Identifying which of these methods are ready to be used in real-life settings is a first crucial step towards broader uptake and dissemination. Successful implementation of innovative methods in actual HTA practices will contribute to provide a timely response to HTA challenges (e.g. use of real-world data in HTA) also providing a sound scientific resource for updates of methodological guidelines by the Coordination Group on HTA for joint activities as requested by the Regulation (EU) 2021/2282. HTA bodies/agencies participating in such activities will gain expertise in those methods that could be later transferred to other bodies/agencies using the training framework developed in the second strand of work.
- Advancing HTA expertise across the EU and Associated Countries should be carried out through a training programme tailored to the needs of HTA bodies, which may include twinning activities between HTA bodies/agencies to develop expertise and facilitate knowledge sharing among HTA bodies/agencies in the EU. The training programme is expected to contribute to the harmonisation of HTA practices in the EU that will in turn contribute to a greater consistency of health technology assessments across the EU and Associated Countries. Thus, the training programme should also support the engagement of HTA experts from Member States and EEA countries in carrying out joint HTA work starting January 2025 (i.e. implementation date of the Regulation on HTA), with the aim to produce high-quality and robust joint clinical assessments. The training programme should include all the necessary elements for carrying out robust assessments at national and EU level. Regarding the latter, the training programme should also promote the dissemination of the methodological guidelines to be adopted by the Coordination Group on HTA (based on the methodology developed and fine-tuned by EUnetHTA joint actions and EUnetHTA21 service contract).

The proposals should address all of the following activities:

- Identification of innovative methods and tools, in particular those developed in EU-funded projects able to address HTA bodies' needs (in different areas: relative effectiveness assessment, cost-effectiveness assessment, etc.)
- Identifications of barriers to the uptake of these methods (and potential associated tools, e.g. open-source software to run cost-effectiveness analyses)
- Use cases (based on the needs identified by HTA bodies) to facilitate the endorsement by HTA bodies of innovative methods
- Development of an implementation plan including supporting tools and training modules (by researchers, alone or in collaboration with HTA bodies, to be delivered to HTA bodies/agencies)

- Recommendations for broader dissemination.
Further Information:
https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/horizon-hlth-2023-ind-06-01;callCode=null;freeTextSearchKeyword=;matchWholeText=true;typeCodes=1,0;statusCodes=31094502;programmePeriod=2021%20-%202027;programCcm2Id=43108390;programDivisionCode=null;focusAreaCode=null;destinationGroup=null;missionGroup=null;geographicalZonesCode=null;programmeDivisionProspect=null;startDateLte=null;startDateGte=null;crossCuttingPriorityCode=null;cpvCode=null;performanceOfDelivery=null;sortQuery=startDate;orderBy=asc;onlyTenders=false;topicListKey=topicSearchTablePageState

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47. /HORIZON EUROPE/ Relationship between infections and non-communicable diseases, deadline: 13. April 2023 17:00 Brussels time

This topic aims at supporting activities that are enabling or contributing to one or several expected impacts of destination 3 "Tackling diseases and reducing disease burden". To that end, proposals under this topic should aim for delivering results that are directed, tailored towards and contributing to the following expected outcomes:
- All players along the health care value chain are provided with new knowledge for a better understanding of the links (e.g. causalities) between infectious diseases (IDs) and non-communicable diseases (NCDs) and comorbidities, including knowledge on host risk factors that impact the development of disease progression for NCDs and/or IDs.
- Researchers and clinicians are provided with a robust evidence base that will contribute to the development of new or improved tools to diagnose and prevent the development and aggravation of non-communicable disease(s) as well as early treatment and management of patients suffering from co-morbidities following an infectious disease.
- Healthcare practitioners have access to knowledge to guide them on preventive measures, on early identification of diseases onset and of those patients at risk of developing severe disease progression, and on the optimal treatment of patients.
When NCDs are related to infectious diseases with pandemic potential, healthcare practitioners will be provided with new evidence to help them make informed decision on the management of the diseases in the future. Public health authorities will be better prepared to issue targeted recommendations linked or not to the use of specific medical countermeasures in crisis times.
Scope:
Increasing evidence suggests that several infections might influence the development of many non-communicable diseases (e.g. multiple sclerosis, Alzheimer, post-covid-19 condition), or that NCD may be influenced by concurrent presence in the same individual of one (or more) infections. On the other hand, NCDs might represent risk factors for IDs.
The proposals are expected to elucidate and provide a better understanding of causative links between infections and non-communicable diseases onsets, and/or the impact of infections on the exacerbation of existing NCDs or vice versa, in children and/or adults. The analysis of genetics, immune status, immune or inflammatory responses, microbiome, lifestyle and/or other relevant factors (e.g. differences in age, sex/gender, vaccination status, ethnicity) should be integrated to get information for prevention, early diagnosis, risk factors, and to better understand causative links as well as the progression of those non-communicable diseases.
In determining the connection between one or multiple concomitant infection(s) and the development of non-communicable disease(s), the proposals might address any infection including those with pandemic potential (viral, bacterial, or fungal) with non-communicable diseases of major importance. Research on cancer is excluded as it will be covered by the Mission on Cancer.
Special attention should be given to vulnerable individuals, such as those with known existing preconditions.

Preclinical research, observational studies and/or clinical studies can be considered for this topic. Proposals could include patient follow-up to identify conditions that may appear only after a patient has recovered from the infectious disease. Those proposals including clinical evaluation should give a sound feasibility assessment, provide details of the methodology, including an appropriate patient selection and realistic recruitment plans, justified by available publications and/or preliminary results.
The applicants are encouraged to incorporate artificial intelligence (AI) tools that enable advanced quality data analysis and for assessing and predicting the risk of developing a disease and/or the risk of disease progression/severity where relevant.
Projects funded under this topic that focus on COVID-19 and post COVID-19 condition (also known as long-COVID) are strongly encouraged to collaborate and build links with (one of) the relevant EU-funded projects, such as ORCHESTRA. They should also pay special attention and link to the newly established European COVID-19 data sharing platform.
Further Information:
https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/horizon-hlth-2023-disease-03-07;callCode=null;freeTextSearchKeyword=;matchWholeText=true;typeCodes=1,0;statuses=1,0;statusCodes=31094502;programmePeriod=2021%20-%202027;programCcm2Id=43108390;programDivisionCode=null;focusAreaCode=null;destinationGroup=null;missionGroup=null;geographicalZonesCode=null;programmeDivisionProspect=null;startDateLte=null;startDateGte=null;crossCuttingPriorityCode=null;cpvCode=null;cpvCode=null;performanceOfDelivery=null;sortQuery=startDate;orderBy=asc;onlyTenders=false;topicListKey=topicSearchTablePageState

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48. /HORIZON EUROPE/ Global coordination of exposome research, deadline: 13. April 2023 17:00 Brussels time

This topic aims at supporting activities that are enabling or contributing to one or several expected impacts of destination 2 'Living and working in a health-promoting environment'. To that end, proposals under this topic should aim for delivering results that are tailored towards and contributing to all of the following expected outcomes:
- Environment and health research community, research-policymaking authorities, research funders and other relevant stakeholders work together at the European and international level towards establishing a medium-long-term Global Human Exposome Network;
- Environment and health research community, authorities working at the science-policy interface and research funders provide options for functioning, financing and governance of a medium-long-term Global Human Exposome Network also considering the strengthening of the coordination of the European Human Exposome Network;
- Relevant stakeholders profit from a strengthened coordination and collaboration globally among different fields of research and innovation with relevance to deciphering the human exposome;
- A roadmap and a R&I agenda for international cooperation in specified areas of exposome research and innovation, including, among others, recommendations for exchange of knowledge and data, policy uptake, technological and conceptual approaches and promotion of global level coordinated initiatives on the exposome are made available to the relevant international stakeholders;
- The coordination of research initiatives, infrastructures, facilities and resources in the area of the Exposome in Europe is supported and reinforced;
- The interoperability and harmonisation between data and studies is increased facilitating the exchange and use of information across research disciplines and groups.
The concept of the exposome refers to the totality of environmental exposures from conception onwards, including its external (e.g. diet, lifestyle, occupational and environmental factors) and internal components (e.g. epigenomics, metabolomics). Developing a comprehensive Human Exposome Project would present a fundamental shift in looking at health, by moving research away from 'one exposure, one disease' understanding to a more complex picture upon which to build solid, cost-effective preventive actions and

policies. At its most complete, the efforts could resemble in scope the Human Genome Project.
The European Human Exposome Network (EHEN), a cluster of 9 projects funded since 2020 for five years from Horizon 2020, is currently the world's largest network of projects studying the impact of environmental exposure on human health with an exposome angle. Together, the network of projects aims to study the combination of exposures to pollutants and other stressors, across different life stages and socio-economic conditions, via a number of exposure vehicles such as consumption patterns, lifestyle and working and living environment, and their collective effect on human health.
At the international level, some related activities are ongoing in, e.g., the US (National Institute for Environmental Health Sciences) and Japan. Currently, there is only sporadic cooperation initiatives between the ongoing research at the EU level and important research groups outside Europe. However, in order to fulfil the promise of deciphering the human exposome, a large-scale effort similar to the Human Genome Project could be envisaged, for which a preparatory coordination and support action would be highly useful to identify and discuss the research needs and specific areas of potential cooperation at the global level. Additionally, both at the European and global level better coordination is essential to foster new opportunities to collect, harmonise, combine and analyse large data sets emanating from new and evolving technologies. This offers also new possibilities to understand the pathways leading from a multitude of environmental exposures to the global health burden of common chronic diseases. Standardisation and interoperability of data is also needed to assure access to quality data sources at the European and global level.
On the policy side, the outcomes of advancing the exposome research can touch upon and contribute to a better implementation of a wide range of policies and EU priorities such as the EU Chemicals Strategy, Zero Pollution Action Plan, the European Green Deal and climate policies, among others. The benefits of cooperation would also extend to international initiatives such as activities of the World Health Organization related to environment and health and the United Nations activities on climate and environment.
Accordingly, proposals should cover, among others, most of the following activities:
- Proposal for a common agreed conceptual framework for the exposome;
- Proposal for options for a global governance structure for a Global Human Exposome Network taking advantage of and connecting to the existing research infrastructures and services in the area of the Exposome at the European level;
- Agreed technologies needed to decipher the external and internal exposome, support longitudinal studies and potential for international cooperation;
- Proposal for data mining, analysis, opportunities for harmonisation, interoperability, and standardisation in data collection, knowledge storage and transfer, and bioinformatics needs at the European and global level;
- Cooperation between population and patient cohorts, integrating a large number of variables and comprehensive environmental datasets, and biobanks, also covering the perinatal period;
- Facilitation of the regulatory uses of results including for regulatory science and risk assessment.
Proposals should interact with existing research infrastructures, services and research projects in the area of the exposome (namely the European Human Exposome Network but also other related projects and actions supported through Horizon 2020 and Horizon Europe) and build on and integrate the work being developed in these initiatives. The composition of the applicant consortia should ensure a broad and balanced geographical representation of Member States and Associated Countries and the proposals should involve also Widening Member States and Associated Countries. International cooperation beyond EU with interested parties is required.
Further Information:

https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/horizon-hlth-2023-envhlth-02-04;callCode=null;freeTextSearchKeyword=;matchWholeText=true;typeCodes=1,0;statuses=1,0;statusCodes=31094502;programmePeriod=2021%20-%202027;programCcm2Id=43108390;programDivisionCode=null;focusAreaCode=null;destinationGroup=null;missionGroup=null;geographicalZonesCode=null;programmeDivisionProspect=null;startDateLte=null;startDateGte=null;crossCuttingPriorityCode=null;cpvCode=null;cpvCode=null;performanceOfDelivery=null;sortQuery=startDate;orderBy=asc;onlyTenders=false;topicListKey=topicSearchTablePageState

49. /HORIZON EUROPE/ Modelling and simulation to address regulatory needs in the development of orphan and paediatric medicines, deadline: 13. April 2023 17:00 Brussels time

This topic aims at supporting activities that are enabling or contributing to one or several expected impacts of destination 6 "Maintaining an innovative, sustainable and globally competitive health industry". To that end, proposals under this topic should aim to deliver results that are directed, tailored towards and contributing to all of the following expected outcomes:
- Developers and regulators have access to robust modelling and simulation tools to accelerate the effective development of orphan and/or paediatric medicinal products.
- Clinical researchers, developers and regulators use accurate computational models to improve the statistical robustness in clinical trials intended for small populations and guide cost-effective clinical trial designs.
- Clinical researchers and regulators have access to accurate in-silico tools for assessing the actionable use of real-world data and for successfully estimating the risk-benefit effects in clinical trials for small populations.
- Regulators develop guidance for the use of validated computational models to support a robust extrapolation framework and facilitate the safety and efficacy assessment in the process of regulatory appraisal of orphan and/or paediatric medicinal products.
In its "Regulatory Science Strategy to 2025", the European Medicines Agency included specific recommendations to optimise the capabilities of modelling and simulation in the medicines development process and in particular to benefit special populations and neglected patient populations.
Orphan drug development faces numerous challenges, including low disease prevalence, patient population heterogeneity and strong presence of paediatric patient populations. Consequently, clinical trials for orphan and/or paediatric medicines are often smaller than traditional large-scale randomised ones and they require the development of efficient trial designs relevant to small.
Model-based approaches are significantly advantageous in small populations, as extrapolation tools for rationalising and increasing the statistical robustness in clinical trial designs and pharmacometric studies. The topic will support research and innovation activities focusing on the development of diverse modelling and simulation methods, as tools for addressing some of the regulatory needs in the clinical development cycle of new orphan and paediatric medicinal products. The topic is not intended to implement new preclinical/clinical studies but to use the existing knowledge/data for assessing and optimising the performance of mature in-silico models in the regulatory context with the goal of improving the clinical trial designs for small populations. Availability of the relevant data to address the requirements of the topic is an indispensable condition that must be demonstrated at the proposal submission.
Proposals should involve national healthcare product regulatory bodies and the European Medicines Agency (EMA) in order to catalyse an effective collaboration between the researchers and the regulators. The active involvement of patient representatives is required in all phases of the research and innovation activities. Furthermore, SME(s) participation is encouraged with the aim to strengthen their scientific and technological basis.

The proposals should address all of the following activities:
- Establish a multidisciplinary approach for assessing the utility of mature computational models, as tools for supporting the optimal design of innovative clinical trials for small populations and as fit-for-purpose solutions for enabling the regulatory scientific advice and marketing authorisation assessment of orphan and/or paediatric medicines, including their pharmacovigilance follow-up.
- Calibrate and optimise mature computational models for enhancing their clinical performance, by using relevant sources of patient data (e.g. natural history and observational clinical studies, medical records, registries, pharmacovigilance and longitudinal studies etc.). The models should include a variety of modelling methods and in particular hybrid solutions linking quantitative mechanistic modelling with advanced statistical modelling (e.g. quantitative systems pharmacology, disease mechanistic models, physiology-based pharmacodynamic/pharmacokinetic models, Bayesian modelling, artificial intelligence algorithms etc.).
- Assess validated in-silico models for their capability to increase the statistical robustness, improve the risk/benefit assessment in small population clinical trials, and for their accuracy to predict and extrapolate the therapeutic and dose effects, taking into account the patient's genotypes/phenotypes, disease characteristics/stage variables and/or clinical/surrogate endpoints for delivering robust evidence of safety and efficacy of the orphan and paediatric medicines under study. The assessment of the in-silico models should be demonstrated in use cases representing well-justified group(s) of rare and/or paediatric diseases with commonalities, such as shared molecular denominators/disease pathways within the same and/or across different medical areas, excluding cancer and infectious diseases.
- Benchmark of diverse computational models by showcasing their simulation performance in virtual patient cohorts and by demonstrating that the models' synthetic data estimates match to actual clinical trial data. This should lead to an assessment of the performance and credibility of a model simulation in the context of their specific use for regulatory purposes. Benchmark studies should be performed in the use cases mentioned above. Availability of clinical trials data and other relevant data is an indispensable requirement that must be demonstrated at the proposal submission.
- Set-up the criteria for the performance and credibility assessment of any relevant computational models for small population clinical trials to progress on their regulatory qualification and acceptability. Further develop and disseminate standards for the design, performance assessment and reporting of modelling and simulation tools with an emphasis on those of high regulatory value for accelerating the clinical development of orphan and paediatric medicinal products.
The proposals should adhere to the FAIR data principles, adopt data quality standards, data integration operating procedures and GDPR-compliant data sharing/access good practices developed by the European research infrastructures, where relevant. Proposals are invited to consider adopting recommendations for in-silico models construction and validation. Data-intensive proposals, particularly those using data from patient registries, should take stock of the tools and services provided by the European Platform on Rare Disease Registration (EU RD Platform). For example, retrospective registry data are expected to be made accessible via EU RD platform, if reasonably feasible.
All projects funded under this topic are strongly encouraged to participate in networking and joint activities. These networking and joint activities could, for example, involve the participation in joint workshops, the exchange of knowledge, the development and adoption of best practices, or joint communication activities. This could also involve networking and joint activities with projects funded under other clusters and pillars of Horizon Europe, or other EU programmes. Therefore, proposals are expected to include a budget for the attendance to regular joint meetings and may consider covering the costs of any other potential joint activities without the prerequisite to detail concrete joint activities at this stage. The details of these joint activities will be defined during the grant agreement preparation phase. In this regard, the Commission may take on the role of facilitator for networking and exchanges, including with relevant stakeholders.
Further Information:

https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/horizon-hlth-2023-ind-06-04;callCode=null;freeTextSearchKeyword=;matchWholeText=true;typeCodes=1,0;statusCodes=31094502;programmePeriod=2021%20-%202027;programCcm2Id=43108390;programDivisionCode=null;focusAreaCode=null;destinationGroup=null;missionGroup=null;geographicalZonesCode=null;programmeDivisionProspect=null;startDateLte=null;startDateGte=null;crossCuttingPriorityCode=null;cpvCode=null;performanceOfDelivery=null;sortQuery=startDate;orderBy=asc;onlyTenders=false;topicListKey=topicSearchTablePageState

50. /HORIZON EUROPE/ Addressing poorly-understood tumour-host interactions to enhance immune system-centred treatment and care interventions in childhood, adolescent, adult and elderly cancer patients, deadline: 12. April 2023 17:00 Brussels time

Proposals under this topic should aim to deliver results that are directed and tailored towards, and to contribute to all of the following expected outcomes:
- Researchers and health professionals understand tumour-host processes that spur cancer development and progression in patients and how this forms the basis for the future design and optimisation of treatment or care interventions for poorly-understood cancers and their subtypes, including in children, adolescents, adults and the elderly.
- Researchers, innovators, and professionals from different disciplines and sectors ensure accessibility and re-usability of their data, models, tools and technology to support the UNCAN.eu platform, which is currently in preparation.
- Health policy makers are aware of an improved understanding of tumour-host interactions in cancer patients that would allow the co-design of cancer-related innovation and health policies in the Member States, Associated Countries and beyond, including those aimed at delivering treatment and care developing care solutions for and with cancer patients.
This topic will contribute to the achievement of the Mission's objective to better understand cancer by studying tumour-host interactions underpinning the development and progression of cancer, including in advanced localised or metastatic disease. The focus should be on poorly-understood cancers and their subtypes in children, adolescents, adults and the elderly.
Despite important progress and recent successes with, for example immune system-centred therapeutic interventions understanding of tumour-host interactions in cancer patients remains incomplete. Challenges include uncovering which patients benefit from interventions or risk potentially debilitating side-effects, as well as ensuring affordability of interventions across Europe, across all age groups. This requires a new dimension and level of investment in innovative research with a view to intercept disease. It also requires investing in high-risk, high-reward research projects to deliver a proof-of-concept of potentially disruptive new approaches. These approaches include monitoring treatment and disease progression and disclosing disease pathways, such as through single-cell -omics technologies, innovative disease models, advanced imaging technologies, or artificial intelligence and machine learning.
Proposals should address all of the following:
- Obtain a systematic understanding of processes underpinning tumour-host interactions in poorly-understood cancers and their subtypes in childhood, adolescent, adult and elderly cancer patients. Applicants should take into account social, ethnical, cultural and gender aspects, with a focus on the transition from a healthy state to cancer initiation and progression, including in advanced localised or metastatic disease (where relevant), using any relevant in silico, in vitro, in vivo, ex vivo, preclinical, or clinical disease models as well as computational, simulation and visualisation tools and technologies where appropriate.
- Combine knowledge and high-quality data from biomedical and clinical studies, and real-world data, using advanced digital tools and technologies such as computer modelling and artificial intelligence with the objective to understand relevant tumour-host interactions and their impact on treatment and care solutions for cancer patients.

- Demonstrate access to and use of multiple comprehensive databases in and beyond health research or health domains. Proposals should build on longitudinal clinically annotated, stratified patient cohorts, case-control studies, biobanks, registries and many other initiatives, use state-of-the art digital and other tools for data analyses and modelling, wherever possible.
- Based on results obtained, propose socially acceptable, affordable novel treatment or care interventions or health technologies for uptake into health systems in the areas of treatment or care, using approaches that involve the end-user using participative research models.
This topic requires the effective contribution of SSH disciplines and the involvement of SSH experts, institutions as well as the inclusion of relevant SSH expertise, in order to produce meaningful and significant effects enhancing the societal impact of the related research activities.
Due consideration should be given to EU-funded initiatives such as: HealthyCloud, EOSC-Life, the Photonics21 partnership - including its Photon Hub Europe support service, the Innovative Health Initiative partnership, the European Health Data Space (EHDS) Joint Action, 1+ Million Genomes (1+MG) / Beyond One Million Genomes (B1MG), the EBrains research infrastructure and the EIT Health Knowledge Innovation Community initiatives. Links with the research infrastructure projects EOSC4cancer and canSERV, as well as projects funded by other EU programmes are encouraged.
Successful applicants will be asked to liaise with these and other initiatives where applicable. The successful proposals are expected to liaise with and build on resources made available by the Knowledge Centre on Cancer (KCC) in order to foster EU alignment and coordination.
The Commission will facilitate Mission-specific coordination through future actions, notably fostering exchanges with other proposals funded under this topic. Hence, successful applicants will be asked to join the 'Understanding' cluster for the Mission on Cancer established in 2022. In this regard, the Commission will take on the role of facilitator, including with relevant initiatives and stakeholders, if appropriate.
Therefore, proposals should include a budget for networking, attendance at meetings, and potential joint activities without the prerequisite to give details of these at this stage. Examples of these activities are the organisation of joint workshops, the exchange of knowledge, the establishment of best practices, or the initiation of joint communication activities with projects funded under other clusters and pillars of Horizon Europe, or other EU programmes, as appropriate. The details of joint activities will be defined during the grant agreement preparation phase and during the life of the project.
Further Information:
https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/horizon-miss-2023-cancer-01-01;callCode=null;freeTextSearchKeyword=;matchWholeText=true;typeCodes=1,0;status=1,0;statusCodes=31094502;programmePeriod=2021%20-%202027;programCcm2Id=43108390;programDivisionCode=null;focusAreaCode=null;destinationGroup=null;missionGroup=null;geographicalZonesCode=null;programmeProgrammeDivisionProspect=null;startDateLte=null;startDateGte=null;crossCuttingPriorityCode=null;cpvCode=null;pcpvCode=null;performanceOfDelivery=null;sortQuery=startDate;orderBy=asc;onlyTenders=false;topicListKey=topicSetKey=topicSearchTablePageState

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51. /HORIZON EUROPE/ European Partnership on Rare Diseases, deadline: 19. September 2023 17:00 Brussels time

This topic aims at supporting activities that are enabling or contributing to several expected impacts of destination 3 "Tackling diseases and reducing disease burden". To that end, proposals under this topic should aim for delivering results that are directed, tailored towards and contributing to all of the following expected outcomes:
- The EU is reinforced as an internationally recognised driver of research and innovation in rare diseases (RD) and thereby substantially contributing to the achievement of the Sustainable Development Goals related to rare diseases;
- Research funders align, adopt and implement their RD research policies allowing for the optimal generation and translation of knowledge into meaningful health products and interventions responding to

the needs of people living with a rare disease across Europe and globally.
- The RD research community at large benefit from and use an improved comprehensive knowledge framework integrating the EU, national/regional data and information infrastructures to improve translational research.
- People living with a rare disease benefit from a more timely, equitable access to innovative, sustainable and high-quality healthcare, taking stock of highly integrated research and healthcare systems.
- Researchers, innovators - as well as people living with a rare disease and their advocates (as co-creators) - effectively constitute and operate into an integrated research and innovation ecosystem to deliver cost-effective diagnosis and treatments.
- Public and private actors, including civil society (e.g. NGOs, charities), establish coordinated and efficient multi-stakeholder collaborations at EU and national (including regional) levels, allowing for more effective clinical research, for example aiming at improved success rates of therapeutic development.
The Partnership should contribute to priorities of the "Communication on effective, accessible and resilient health systems" (COM(2014) 215 final), the "Communication on enabling the digital transformation of health and care in the Digital Single Market; empowering citizens and building a healthier society" (COM(2018) 233 final) and support the objectives of the new EU4Health Programme (COM(2020) 405 final, Regulation (EU) 2021/522).
This partnership should also contribute to achieving the objectives of the Pharmaceutical Strategy for Europe, in terms of fulfilling unmet medical needs (e.g. for rare diseases with so called "orphan medicinal products") and ensuring that the benefits of innovation reach patients in the EU.
Thanks to its capacity to bring together different stakeholders (e.g. research funders, health authorities, healthcare institutions, innovators, policymakers), the Partnership will create a critical mass of resources and to implement a long-term Strategic Research and Innovation Agenda (SRIA).
The co-funded European Partnership on rare diseases should be implemented based on the priorities identified in the SRIA and through a joint programme of activities ranging from coordinating and funding transnational research to highly integrative and community-driven 'in-house' activities such as innovation strategies for the efficient exploitation of research results, EU clinical trial preparedness activities, optimisation of research infrastructures and resources, including networking, training and dissemination activities. It should be structured along the following main objectives:
- Launch joint transnational calls for RD research and innovation priorities as defined in the SRIA, resulting in financial support to third parties, based on the annual work plans;
- Develop a European Clinical Research Network to accelerate the clinical trial readiness of the RD research community in Europe, to improve the research and innovation potential of RD stakeholders and facilitate the cost-effective clinical development of new therapies;
- Develop and consolidate the capacity building of the RD data ecosystem by supporting the federated access/sharing of FAIR research data, information resources to ensure the effective and fast translation of the research results to safe and effective health innovations;
- Integrate basic, pre-clinical and clinical research to reduce the burden for people living with a rare disease.
- Support research in relevant medical fields and intervention areas (prevention, diagnosis, treatment), while improving the utilisation of existing health technologies in clinical practice;
- Support the scientific work of the International Rare Disease Research Consortium.
The Partnership is open to all EU Member States, as well as to countries associated to Horizon Europe and will remain open to third countries wishing to join. The Partnership should include or engage with the following actors:
- Ministries in charge of R&I policy, as well as national and regional R&I and technology funding agencies and foundations;
- Ministries in charge of health and care policy, as well as national and regional healthcare authorities, organisations and providers (including providers members of the European Reference Networks);
- Research infrastructures;
- Patients organisations;
- Industry;

- Charities.
The Partnership may also encourage engagement with other relevant Ministries and research funders. It should involve other key actors from civil society and end-users, research and innovation community, innovation owners, health and care systems owners/organisers and health and care agencies.
The Partnership's governance structure should enable an upfront strategic steering, effective management and coordination, daily implementation of activities and ensure the use and uptake of the results. Importantly, the EU Member States, as public funders should have a leading role in the governance and strategic steering of the whole Partnership, including in the co-design and the strategic orientations of the 'in-house' activities, such as consolidating the research & innovation ecosystem, clinical trial preparedness for the community, contribution to ERA, training activities etc.). Moreover, the management structure should allow the coordinated input of key stakeholders, including but not limited to the research and innovation community, patients and citizens, health and care professionals, formal and informal care organisations, and innovation owners.
To ensure coherence and complementarity of activities and leverage knowledge and investment possibilities, the Partnership is expected to establish relevant collaborations with other Horizon Europe partnerships (institutionalised and co-funded) and missions as set out in the working document on 'Coherence and Synergies of candidate European Partnerships under Horizon Europe' as well as to explore collaborations with other relevant activities at EU and international level. The proposal should also consider synergies with EU programmes, including but not limited to EU4Health, the Digital Europe Programme (DIGITAL), the European Social Fund Plus (ESF+), the European Regional Development Fund (ERDF), InvestEU, the Recovery and Resilience Facility (RRF) and the Technical Support Instrument (TSI).
Cooperation with international organisations, and non-European institutions and experts may be considered. Participation of third countries is encouraged. Their commitments to the Partnership would not be eligible for the calculation of EU funding. Applicants should describe in their proposal the methodology for their collaboration and the aims they want to achieve with this kind of collaboration.
Proposals should pool the necessary financial resources from the participating national (or regional) research programmes with a view to implementing joint calls for transnational proposals resulting in grants to third parties. Financial support provided by the participants to third parties is one of the activities of this action in order to be able to achieve its objectives.
Collaboration with the EU agency involved in authorising orphan medicinal products, the European Medicines Agency (EMA), should be considered to enhance the sharing of knowledge and data regarding orphan medicinal products and rare diseases, while national agencies producing knowledge on orphan medicinal products and rare diseases may also join the Partnership, e.g. as beneficiaries.
When defining calls for proposals, this Partnership needs to consider the effective contribution of social sciences and humanities (SSH) disciplines and the involvement of SSH experts, institutions as well as the inclusion of relevant SSH expertise, in order to produce meaningful and significant effects enhancing the societal impact of the related research activities.
Collaboration with the European Commission's Joint Research Centre (JRC) must be considered to materialise the sharing of (meta)data regarding registries for rare diseases, exchanging data for clinical studies and research based on a unified pseudonymisation tool provided by the European Platform on Rare Disease Registration (EU RD Platform) and related tools and services, as well as in other areas of mutual interest, such as training and capacity building.
The total indicative budget for the partnership is up to EUR 150 million and subject to the effective implementation of the commitments made by the members of the consortium. The Commission envisages to include new actions in its future work programmes to provide continued support to the partnership for the duration of Horizon Europe.
The expected duration of the partnership is seven to ten years.
Further Information:

https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/horizon-hlth-2023-disease-07-01;callCode=null;freeTextSearchKeyword=;matchWholeText=true;typeCodes=1,0;statuses=1,0;statusCodes=31094502;programmePeriod=2021%20-%202027;programCcm2Id=43108390;programDivisionCode=null;focusAreaCode=null;destinationGroup=null;missionGroup=null;geographicalZonesCode=null;programmeDivisionProspect=null;startDateLte=null;startDateGte=null;crossCuttingPriorityCode=null;cpvCode=null;cpvCode=null;performanceOfDelivery=null;sortQuery=startDate;orderBy=asc;onlyTenders=false;topicListKey=topicSearchTablePageState

52. /HORIZON EUROPE/ Onsite digital technologies to monitor nutrients and chemical or biological stressors in soil and plants with relevance for food safety and nutrition, deadline: 20. September 2023 17:00 Brussels time

Activities under this topic will help to progress towards the objectives of the Mission 'A Soil Deal for Europe', in particular its operational objective 2, "Co-create and upscale place-based innovations to improve soil health in all places".
Project results should contribute to all of the following outcomes:
Increased scale-up, availability and use of onsite digital tools (e.g., light-based technologies, remote sensing, Artificial Intelligence (AI)) to monitor nutrients, micro-nutrients, chemical and biological stressors in soil, plants and subsequently in food in various stages of the production process (from farm to processing stages).
- Improved capacities for food safety risk mitigation and management throughout the various food production stages.
Onsite digital technologies and applications are emerging in food production and have the potential to detect chemical and biological stressors in soil and plants to help assessing, managing and eventually eliminating potential food safety risks that these stressors may pose. There is a need to improve the development and application of digital tools in primary production and food industries and boost their technological scale-up as a means to address more effectively the soil-food nexus. Moreover, those technologies will help the food industry to track safety and quality of post-harvested food grown in soils.
Proposed activities should:
- Advance and/or develop onsite digital technologies and applications (e.g., light-based technologies, remote sensing, AI) to analyse (detect and quantify) nutrients that could support appropriate interventions at the various food production stages (from farm to processing stages) to enrich soil or remove excess nutrients and micronutrients.
- Advance and/or develop onsite digital technologies and applications (e.g., light-based technologies, remote sensing, AI) to analyse (detect and quantify) chemical (contaminants, anti-nutrients, pollutants) and biological contaminants (bacteria, viruses, fungi, parasites) in soil, plants and food with the aim to mitigate/manage the potential of food safety risks associated with their presence.
- Advance and/or develop digital technologies and applications for in-field detection of soil parameters with relevance for food safety and nutrition to improve soil management practices (e.g., targeted fertilization, soil remediation).
- Advance and/or develop innovative digital technologies including exploratory modelling for calibration and prediction, to detect nutrients and micronutrients, chemical and biological contaminants which have a bearing on food quality and safety.
- Identify challenges to the scale-up of existing digital technologies related to the soil-food nexus.
Proposals should also include a dedicated task, appropriate resources and a plan on how they will collaborate with other projects funded under this topic, and ensure as well synergies with projects funded under topics HORIZON-MISS-2021-SOIL-02-03: "Linking soil health to nutritional and safe food", and HORIZON-CL6-2023-GOVERNANCE: "Digital technologies supporting plant health early detection, territory surveillance and phytosanitary measures".

Proposals should demonstrate a route towards open access, longevity, sustainability and interoperability of knowledge and outputs through close collaboration with the Joint Research Centre's EU Soil Observatory (EUSO).
Potentially, the projects funded under this topic could cooperate with living labs and lighthouses that will be created in this call and future calls under the Mission.
In this topic, the integration of the gender dimension (sex and gender analysis) in research and innovation content is not a mandatory requirement.
Further Information:
https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/horizon-miss-2023-soil-01-03;callCode=null;freeTextSearchKeyword=;matchWholeText=true;typeCodes=1,0;statusCodes=31094501,31094502;programmePeriod=2021%20-%202027;programCcm2Id=43108390;programDivisionCode=null;focusAreaCode=null;destinationGroup=null;missionGroup=null;geographicalZonesCode=null;programmeDivisionProspect=null;startDateLte=null;startDateGte=null;crossCuttingPriorityCode=null;cpvCode=null;performanceOfDelivery=null;sortQuery=startDate;orderBy=asc;onlyTenders=false;topicListKey=topicSearchTablePageState

53. /Helmholtz Stiftung/ Helmholtz Distinguished Professorship, deadline: 17. July 2023

The fundamental goal of the program is to attract a top-level group of exceptionally qualified, experienced, internationally recognized female scientists to the Helmholtz Association. The strategic objectives of the Helmholtz Distinguished Professorship program are to enhance Helmholtz internationalization, to increase the proportion of female leaders in our research centers, to strengthen cooperation with partner universities, and to establish and expand strategically relevant thematic areas by means of targeted recruitment. With respect to the target group, the central objectives are to support the appointment of outstanding female scientists with an international reputation at the W3 professorship level and to create reliable career prospects by funding permanent appointments. The program's resources also create scope for financing and equipping the newly recruited scientists and expanding the options of the recruiting Helmholtz Centers and partner universities for generating additional
positions.
The call funds Helmholtz Distinguished Professorship positions. The funding volume amounts to 600,000 Euros per scientist and year and increases the basic funding of the recruiting Helmholtz Center. The Helmholtz Center and the German partner university are expected to provide additional financial resources of substantial amount. The funding can be used to finance the position of the female scientist, the members of her research group and relevant equipment. An essential prerequisite for funding is a concept for the use of the funds that details their deployment and additional resources provided by the Helmholtz Center and the partner university. The jointly appointing institutions are strongly encouraged to come up with innovative offers to attract the target group (dual-career measures, onboarding offers, etc.).
The funding is targeted to the scientist who is awarded a Helmholtz Distinguished Professorship and recruited to a Helmholtz Center through this program. If funding is granted, the successful appointment as professor (submission of the certificate of appointment is necessary) is a prerequisite for transferring funds to the budget of the recruiting Helmholtz Center. After notification of the successful appointment and announcement of the start of employment, this funding increase for the respective research programs will be granted accordingly for the duration of the employment contract at the respective Helmholtz Center.1 If the funded scientist leaves the Helmholtz Center, the payment of the person-related funding to the Center ends. In this case, the Helmholtz Center is obliged to inform the Helmholtz Head Office of the leave immediately. Nomination of a replacement candidate is not possible.
The funding program is aimed at highly distinguished female scientists with an international reputation who are currently conducting research at institutions abroad and who are recognized leaders in their respective research field. This may also include female researchers of German nationality who have been employed abroad in the last years (generally for at least the last three years).

A fundamental prerequisite for the funding is that the nominated candidates are not yet employed at the Helmholtz Center. The funding program targets outstanding female scientists who are currently (that is, at the time the application is submitted) conducting research at institutions abroad. Another important prerequisite for the funding is that the nominated candidate has not received an offer for the professorship position at the partner university (so-called "Ruferteilung") until after the Helmholtz Distinguished Professorship selection meeting. Nevertheless, it is recommended to start discussing the joint appointment with the relevant partner university as soon as possible and to reach specific agreements regarding the next steps in the appointment procedure before the selection meeting. In any case, this will accelerate the planned appointment.
Further Information:
https://www.helmholtz.de/forschung/aktuelle-ausschreibungen/ausschreibung/helmholtz-distinguished-professorship-ausschreibung-2023/

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54. /Volkswagen Stiftung/ Perspektiven auf Reichtum: Die (Re-)Produktion von Reichtum, Frist: 17. Juli 2023 23:59 MEZ

In dem Profilbereich ,,Gesellschaftliche Transformationen" fördert die VolkswagenStiftung Forschung, die sich mit vielfältigen Aspekten von Transformationsprozessen auseinandersetzt. Sie ermutigt zu grenzüberschreitenden und multiperspektivischen
Ansätzen und will neue Wege zur Mitgestaltung gesellschaftlicher Transformationen eröffnen.
Extrem ungleiche Einkommens- und Vermögensverhältnisse sind eine wiederkehrende Ursache für Konflikte und ein anhaltendes Hindernis für menschliche Entwicklung. Die wissenschaftliche Erforschung des Phänomens Reichtum ist daher ein zentrales Element zum Verständnis gesellschaftlicher Transformationsprozesse. Mit der Förderinitiative ,,Perspectives on Wealth" möchte die VolkswagenStiftung einen Perspektivwechsel initiieren von der Armutsforschung auf Facetten des Phänomens Reichtum. Der Fokus dieser Ausschreibung richtet sich auf die Genese von Reichtum. Vor dem Hintergrund gesellschaftlicher Transformationsprozesse in Vergangenheit, Gegenwart und Zukunft und der jeweils bestehenden Macht- und Herrschaftsverhältnisse zielt die Ausschreibung darauf ab, konzeptionelle, methodische und empirische Erkenntnisse zum Thema "(Re-)Produktion von Reichtum " zu generieren und dabei auch der Frage nachzugehen, welche (neuen) konzeptionellen Sichtweisen und methodischen Herangehensweisen benötigt werden, um den Perspektivwechsel auf die Reichtumsforschung zu ermöglichen. Da die umfassende Analyse des Phänomens als wichtiger Baustein für das Verständnis gesellschaftlicher Transformationsprozesse erachtet wird, ist die Stiftung darüber hinaus an der Frage interessiert, wie sich Reichtum zu gesellschaftlichen Transformationsprozessen in Vergangenheit, Gegenwart und Zukunft verhält. Dabei geht es darum, bestehende normative Setzungen in verschiedenen Bereichen von Wissenschaft und Gesellschaft (z.B. Kapitalismus-, Nachhaltigkeits- und Transformationsforschung) kritisch zu hinterfragen, um auf dieser Basis neue Erkenntnis- und ggf. Handlungsmöglichkeiten zu eröffnen und diese auch entsprechend zu kommunizieren.
Promovierte Wissenschaftler:innen aller Karrierestufen, die an einer deutschen Universität oder Forschungseinrichtung beschäftigt sind, können eine Förderung beantragen.
In der Förderlinie können nationale und internationale Sommerschulen, Workshops und ähnliche Formate beantragt werden, in denen neue theoretische und/oder methodische Perspektiven der Reichtumsforschung diskutiert und Nachwuchswissenschaftler:innen (insb. Doktorand:innen, aber auch Post-Docs) vermittelt werden. Die Einbeziehung von
internationalen Partner:innen ist möglich. Die Veranstaltungen können weltweit - auch digital - stattfinden.
Weitere Informationen:
https://www.volkswagenstiftung.de/de/foerderung/foerderangebot/perspektiven-auf-reichtum-die-re-produktion-von

55. /Sonstige/ Contact Research Funding Advice of the Otto von Guericke University Magdeburg

For questions about funding opportunities, specific calls for proposals, help with submitting applications and project support, please contact the department for Research Funding Advice/EU-University Network of Otto von Guericke University Magdeburg.
Information on current events, funding structures and contact online at:
https://www.ovgu.de/en/ContactResearchFundingAdvice
https://www.euhochschulnetz-sachsen-anhalt.de/en/