FORSCHUNGSPORTAL
SACHSEN-ANHALT

Forschungsportal-Mailliste EU-Förderinfo: Querschnitt europäische Forschungsförderung
ERC Grants, Fulbright, Gemeinsame Forschungsprojekte mit Korea, Singapur, Taiwan, Israel, Polen, Frankreich
erstellt am 02.08.2024, gültig bis 28.11.2024, Autor: Hagen, Martina; Dipl.-Ing.

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Inhalte

DFG Dutch-German Basic Research Projects in Fields of the Sciences (NWO Domain Science – DFG)

The Deutsche Forschungsgemeinschaft (DFG) and the Dutch Research Council (NWO) are pleased to announce a funding opportunity for joint Dutch-German research projects. The funding opportunity is planned as a three-year pilot for a joint Lead Agency Procedure with the NWO Domain Science. It is open for proposals that fit the scope of the NWO Domain Science and the corresponding DFG review boards.

Scope
Dutch-German research teams are invited to submit their joint research proposals within the scope of basic research in the remit of the NWO Domain Science (Astronomy, Chemistry, Computer Science, Earth Sciences, Life Sciences, Mathematics, Physics) and the corresponding DFG review boards.

Eligibility
Each research project must be conducted jointly by a team of applicants from the Netherlands and Germany. The principal investigators on each side must be eligible to apply to their respective funding organisation: applicants in the Netherlands must meet the eligibility requirements of NWO Open Competition Domain Science – M programme, applicants in Germany must meet the eligibility requirements of the DFG's Research Grants Programme.

Project Requirements
Applicants should demonstrate how bringing together researchers based in the Netherlands and Germany will add value and advance their research. It is expected that each partner contributes substantially to the common project. Projects should be integrated but do not have to be symmetrical in terms of funds applied for. However, work packages are expected to be delivered with a reasonably equal distribution between the partners and schedules should be well coordinated. The teams of applicants should ensure there is a plan for effective delivery and coordination of research among the partners.

Please note that the duration of the projects must not exceed 36 months. Proposals must be written in English. Commercial companies must not be included as research/cooperation partners.

Lead Agency Procedure
This bilateral funding opportunity will be managed via a joint Lead Agency Procedure.

Further Information:

https://www.dfg.de/de/aktuelles/neuigkeiten-themen/info-wissenschaft/2024/ifw-24-64

DFG Joint Israeli-German Basic Research Projects in all Fields of the Sciences and the Humanities; Deadline: 12 November 2024

The Deutsche Forschungsgemeinschaft (DFG) and the Israel Science Foundation (ISF) are pleased to announce the launch of a call for joint Israeli-German research projects which will follow a Lead Agency Procedure. According to this model, the evaluation of joint research proposals will be carried out alternately by one of the funding organisations which in turn will serve as the Lead Agency.
In this first call, the DFG will act as the Lead Agency and will be responsible for the review and evaluation process. In the second call, the ISF will serve as the Lead Agency and so on.
Scope
Israeli-German research teams are invited to submit joint research proposals within the scope of basic research in all fields of the sciences and the humanities.

Lead Agency Procedure

This bilateral call will be managed via a Lead Agency Procedure. The DFG will act as the Lead Agency in this call, i.e. proposals have to be prepared in DFG format according to the DFG guidelines and the DFG will be in charge of organising the review and evaluation of the proposals. The joint proposals have to be submitted to the DFG by the principal investigator (PI) based in Germany. If several PIs are involved, only one PI from Germany should submit the joint proposal.

Eligibility

Each research project must be jointly conducted by a team of Israeli and German applicants. The principal investigators on each side must be eligible to apply to their respective funding agency. Applicants in Germany must meet the eligibility requirements of the DFG's Research Grants Programme (DFG form 50.01, link see below). Applicants in Israel must meet the eligibility requirements of the ISF (link see below).

Project Requirements

Applicants should demonstrate how bringing together researchers based in Israel and Germany will add value and advance their research. It is expected that each partner contributes substantially to the common project. Projects should be integrated but do not have to be symmetrical in terms of funds applied for. However, work packages are expected to be delivered with a reasonably equal distribution between the partners and schedules should be well-coordinated. The teams of applicants should ensure there is a plan for effective delivery and coordination of research among the partners.

Please note that the duration of the projects must not exceed 36 months. Proposals must be written in English. Commercial companies must not be included as research/cooperation partners.

Further information:

https://www.dfg.de/en/news/news-topics/announcements-proposals/2024/ifr-24-71

BMBF Strategischen Projektförderung mit der Republik Korea unter der Beteiligung von Wirtschaft und Wissenschaft (2 + 2-Projekte) zu den Themen „Halbleiter und Assistenzrobotik"; Deadline: 8 October 2024

Die vorliegende Fördermaßnahme erfolgt im Rahmen der Strategie der Bundesregierung zur Internationalisierung von Wissenschaft und Forschung sowie des Aktionsplans des Bundesministeriums für Bildung und Forschung (BMBF) „Internationale Kooperation". Mit den diesjährigen thematischen Schwerpunkten „Halbleiter und Assistenzrobotik" werden in der deutsch-koreanischen Zusammenarbeit hier neben der „Zukunftsstrategie Forschung und Innovation" der Bundesregierung zudem die Ziele des Rahmenprogramms der Bundesregierung „Mikroelektronik. Vertrauens¬würdig und nachhaltig. Für Deutschland und Europa" sowie der Aktionsplan Robotikforschung des BMBF adressiert. Deutschland und Korea haben die Bedeutung der Themen als Schlüsseltechnologien erkannt und beide Länder verfügen in den genannten Bereichen über ausgeprägte Fähigkeiten.

Die Förderrichtlinie hat zum Ziel, im Rahmen von bilateralen Projekten gemeinsame, anwendungsorientierte Forschungs- und Entwicklungsvorhaben (FuE-Vorhaben) von gegenseitigem Interesse zu fördern und damit zu einer Intensivierung der WTZ mit Korea beizutragen. Durch die Zusammenführung von Wissen, Erfahrungen, Forschungsinfrastrukturen und sonstigen Ressourcen beider Seiten soll ein Mehrwert für die beteiligten Partner generiert werden. Der Austausch von Wissen und die gemeinsame Entwicklung sollen langfristig die Grundlage für gegen¬seitigen Marktzugang und eine nachhaltige wirtschaftliche Kooperation schaffen.

Zur Erreichung der oben genannten Ziele werden bilaterale FuE-Vorhaben unter Einbeziehung von Wissenschaft und Wirtschaft (2 + 2-Projekte) gefördert, die das Potenzial für eine hohe Praxisrelevanz und spätere wirtschaftliche Verwertbarkeit der Forschungsergebnisse bieten. In gemeinsamen beziehungsweise auf einander abgestimmten Arbeitspaketen der Akteure aus beiden Ländern, durch gemeinsame Publikationen oder auch Besuche soll die Grundlage für eine dauerhafte Forschungs-, Entwicklungs- und Innovations-Partnerschaft deutscher und koreanischer Hochschulen, Forschungseinrichtungen und Unternehmen geschaffen werden. Gleichzeitig werden durch die gemeinsame Forschungsarbeit und die damit verbundene Vernetzung Synergien nutzbar gemacht, die einen Beitrag zu praxisorientierten Forschungsergebnissen leisten sollen.

Die Fördermaßnahme richtet sich insbesondere an Kooperationen von Hochschulen/außeruniversitären Forschungseinrichtungen mit kleinen und mittleren Unternehmen (KMU). Insbesondere durch die Einbindung deutscher KMU soll eine hohe Praxisrelevanz und spätere wirtschaftliche Verwertbarkeit der Forschungsergebnisse gewährleistet werden, um insgesamt einen Beitrag zu einer nachhaltigeren Wirtschaft zu leisten.

Die geförderten Vorhaben sollen auch der Vorbereitung von Antragstellungen für Anschlussprojekte zum Beispiel beim BMBF, der Europäischen Union (EU) oder Förderorganisationen wie der Deutschen Forschungsgemeinschaft (DFG) dienen.

Die Ergebnisse des geförderten Vorhabens dürfen nur in der Bundesrepublik Deutschland oder dem Europäischen Wirtschaft-

sraum (EWR) und der Schweiz sowie in Korea genutzt werden.

Gegenstand der Förderung

Gefördert werden im Rahmen dieser Förderrichtlinie Forschungsprojekte als Verbundvorhaben, die entsprechend des oben beschriebenen Zuwendungszwecks in internationaler Zusammenarbeit mit Partnern aus Korea eines oder mehrere der nachfolgenden Themen bearbeiten:

Thema 1: Halbleiter

- Leistungshalbleiter (Power Semiconductor)
- Automobil-Halbleiter (Automotive Semiconductor)
- Speichertechnologien (Memory Technologies): neue Technologiekonzepte (MRAM, FE-RAM), (quelloffene) Werkzeuge für die Entwurfsautomatisierung, neue Konzepte auf Komponentenebene (Speicher-Controller, Fehlerkorrektur, Datenkompression, Rechnen im Speicher, Vertrauenswürdigkeit, Sicherheit), vorzugsweise auf der Grundlage von RISC-V
- Sogenanntes Advanced Packaging: Heterointegration, Chiplets, Entwurfswerkzeuge und Standardisierung für Chiplets, geteilte Fertigung
- Fehleranalyse und Testung (Failure Analysis and Testing): KI-Methoden für die automatisierte Fehleranalyse, neue Konzepte für die Inline-Prozesskontrolle
- Grüne Produktion in der Elektronik (Green Production in Electronics): Reduzierung des Energie- und Ressourcenverbrauchs in der Halbleiter-/Elektronikfertigung, Vermeidung von kritischen und/oder ökologisch bedenklichen Materialien.

Thema 2: Assistenzrobotik

- Pflegerobotik (Care Robotics): Pflegeroboter, Roboter für die Altenpflege
- Therapierobotik/Therapeutische Roboter (Therapy Robotics/Therapeutic Robots): Roboter-Therapeut
- Soziale Robotik (Social Robotics): Sozialer Roboter mit künstlicher Emotion und Intelligenz
- Kollaborative Robotik (Collaborative Robotics): Kollaborativer Roboter einschließlich Katastrophenroboter
- Robotik im öffentlichen Raum (Public Robotics): Roboter, die im öffentlichen Raum eingesetzt werden.

Zuwendungsempfänger

Antragsberechtigt sind Hochschulen, außeruniversitäre Forschungseinrichtungen und Unternehmen der gewerblichen Wirtschaft, insbesondere 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), in Deutschland verlangt.

Forschungseinrichtungen, die von Bund und/oder Ländern grundfinanziert werden, können neben ihrer institutionellen Förderung eine Projektförderung für ihre zusätzlichen projektbedingten Ausgaben beziehungsweise Kosten bewilligt bekommen, wenn sie im Förderantrag den Bezug zwischen dem beantragten Projekt und grundfinanzierten Aktivitäten explizit darstellen beziehungsweise beides klar voneinander abgrenzen.

Zu den Bedingungen, wann eine staatliche Beihilfe vorliegt oder nicht vorliegt und in welchem Umfang beihilfefrei gefördert werden kann, siehe FuEuI-Unionsrahmen2.

Kleine und mittlere Unternehmen oder „KMU" im Sinne dieser Förderrichtlinie sind Unternehmen, welche die Voraussetzungen der KMU-Definition der EU3 erfüllen. Der Antragsteller erklärt gegenüber der Bewilligungsbehörde seine Einstufung gemäß Anhang I der AGVO im Rahmen des Antrags.

Art und Umfang, Höhe der Zuwendung

Die Zuwendungen werden im Wege der Projektförderung als nicht rückzahlbarer Zuschuss und in der Regel mit maximal 1 000 000 Euro je Verbundprojekt für die deutsche Seite sowie in der Regel für eine Laufzeit von bis zu 36 Monaten gewährt.

Further information:

https://www.bmbf.de/bmbf/shareddocs/bekanntmachungen/de/2024/07/2024-07-25-Bekanntmachung-Korea.html

BMBF Forschungs- und Innovationszusammenarbeit mit Taiwan; Deadline: 15 September 2024

Um die Innovations- und Wettbewerbsfähigkeit am Standort Deutschland zu stärken und einen Zugewinn an technologischer Souveränität in Europa zu erzielen, baut das BMBF seine Forschungszusammenarbeit mit dem National Science and Technology Council Taiwan (NSTC) auf dem Gebiet der Halbleiter- und Mikroelektronikentwicklung aus. Grundlage dafür ist das gemeinsame Interesse an der Förderung von wissenschaftlicher Forschung und technolo¬gischer Entwicklung sowie des Austauschs zwischen den wissenschaftlichen Gemeinschaften beider Standorte.

Ziele dieser Richtlinie sind

▪ neue Kooperationsbeziehungen zwischen Deutschland und Taiwan in innovativen Forschungsbereichen der Mikroelektronik zu etablieren und bestehende Forschungskooperationen zu festigen,

▪ im Rahmen gemeinsamer Forschungs- und Innovationstätigkeit nachhaltige Wissens- und Innovationsnetzwerke mit Taiwan zu knüpfen,

▪ einen verbesserten gegenseitigen Zugang zu Forschungsressourcen und relevanten Netzwerken sowie heraus¬ragenden Institutionen und Forschenden zu ermöglichen,

▪ die Förderung von Talenten und Fachkräften zur Erhöhung der Design-, Fertigungs- und Digitalkompetenz am hiesigen Forschungsstandort,

▪ die Qualifizierung neuer Forschungsansätze in der Mikroelektronik mit hohem wissenschaftlich-technischem Potenzial für industriegetriebene Anschlussprojekte sowie perspektivisch einen Transfer in die Industrie und eine wirtschaftliche Verwertung in Deutschland,

▪ die Steigerung der Innovationskraft in der Mikroelektronik am Standort Deutschland zur nachhaltigen Stärkung der internationalen Wettbewerbsfähigkeit der deutschen Wissenschaft und Wirtschaft sowie der technologischen Souveränität.

Die neuen Kooperationsbeziehungen sollen dem Aufbau oder dem nachhaltigen Ausbau von Nachwuchsforschungsgruppen in beziehungsweise mit Taiwan dienen und im Rahmen gemeinsamer Forschung wissenschaftliche Ergebnisse zum beiderseitigen Nutzen produzieren. Durch die Bearbeitung gemeinsamer Forschungsvorhaben und dem damit verbundenen Aufbau internationaler Netzwerke von wissenschaftlichem Nachwuchs soll eine Grundlage für eine langfristige Zusammenarbeit gelegt und die Bleibeperspektiven für wissenschaftlichen Nachwuchs in den Partnerregionen verbessert werden.

Zur Untersuchung der Zielerreichung können unter anderem folgende Indikatoren herangezogen werden:

▪ Anzahl neuer internationaler Forschungskooperationen beziehungsweise Wissens- und Kooperationsnetzwerke zwischen Deutschland und Taiwan,

▪ Zugang zu Forschungsressourcen, relevanten Netzwerken sowie herausragenden Institutionen in Taiwan,

▪ Ausbildung des wissenschaftlichen Nachwuchses durch Abschlussarbeiten (Bachelor und Master) und Promotionen, sowie wissenschaftliche Forschungsaufenthalte in Taiwan,

▪ Anhebung der technologischen Reifegrade der erforschten Ansätze und Lösungen,

▪ Anzahl beziehungsweise Lauffähigkeit der Demonstratoren,

▪ Anzahl wissenschaftlicher Konferenzbeiträge zur Mikroelektronik auf internationalen Konferenzen/breite exzellente Forschung (Wissenschaftsindex),

▪ Anzahl von durchgeführten beziehungsweise besuchten Veranstaltungen und Workshops zum Austausch, zur Kooperation und wissenschaftlichen Vernetzung.

Zur Erfassung der Zielerreichung sollen oben genannte Indikatoren von den Antragstellern mit Blick auf ihre Messbarkeit ausformuliert werden. Dies wird bei der Bewilligung festgehalten sowie zu geeigneten Zeitpunkten erhoben (gegebenenfalls auch nach Abschluss des Vorhabens).

Zuwendungszweck

Zuwendungszweck ist die Förderung deutscher Partner in vorwettbewerblichen, bilateralen FuE Vorhaben zwischen Hochschulen und Forschungseinrichtungen an den Standorten Deutschland und Taiwan in der Mikroelektronik. Fachlich-inhaltlich sollen Forschungskooperationen gefördert werden, die auf neue Forschungsansätze und -methoden innerhalb der gesamten Mikroelektronik abzielen. Der thematische Fokus innerhalb der Mikroelektronik wird mittels jährlicher Förderaufrufe gesetzt.

Übergeordnete Anforderungen

Die Arbeiten in den FuE-Vorhaben sollen vor allem Chip- und Systeminnovationen mit hoher wissenschaftlicher und zukünftig wirtschaftlicher Relevanz vorantreiben. Die Vorhaben sollen einen klaren Bezug zur Entwicklung von Mikroelektronikhardware aufweisen. Die geplanten FuE-Arbeiten müssen in dem Forschungsbereich den Stand der Technik deutlich übertreffen. Gefördert werden Vorhaben, die sich durch ein hohes wissenschaftlich-technisches Risiko sowie eine große Breitenwirksamkeit auszeichnen. Der tatsächliche Nutzen und die Breitenwirksamkeit des Lösungsvorschlags, insbesondere im Vergleich zu bestehenden Ansätzen, ist differenziert darzulegen.

Bei der Planung der Vorhaben sollen zudem die folgenden Aspekte berücksichtigt und adressiert werden:

1. detailliertes Konzept für einen gegenseitigen Studierendenaustausch (in der Regel ein Aufenthalt pro Studierenden und Projekt für eine Dauer von sechs Monaten);

2. Vertrauenswürdigkeit durch Transparenz und gute wissenschaftliche Praxis,

3. wirksame Einbindung individueller Forschungsexpertise und Vorarbeiten;

4. starke Interaktionen, intensiver Austausch und wissenschaftliche Vernetzung;

5. Identifizierung von konkreten Anwendungsperspektiven und Verwertungspotenzialen sowie Konzepte zum Transfer der Ergebnisse in die wirtschaftliche Nutzung.

Vorhaben der reinen Grundlagenforschung sind von der Förderung ausgenommen.

Antragsberechtigt sind staatliche und nichtstaatliche Hochschulen und außeruniversitäre Forschungseinrichtungen mit Sitz in Deutschland.

Further information:
https://www.bmbf.de/bmbf/shareddocs/bekanntmachungen/de/2024/07/2024-07-19-Bekanntmachung-Mikroelektronik.html

BMWK Grenzüberschreitende Kooperationen im Netzwerk IraSME; Deadline: 25 September 2024

The IraSME network has opened its 34th call for R&D proposals (deadline: 25 September 2024). The participating countries/regions in the 34th call for proposals are: Brazil, Flanders (Belgium), Germany, Luxembourg, Türkiye, and Wallonia (Belgium). The Czech Republic will probably join the call in September 2024.

What we fund:
- Development of new products, processes or technical services which exceed the international state of the art.
- Technical development up to the level of a prototype (prior to market launch).
- R&D with significant technical risks for each funded partner.
- Bottom-up approach: Open to all fields of technology; applicants decide what they intend to develop in order to increase their company's innovation capabilities and general competitiveness
- Minimum constellation: 2 companies from 2 participating countries/regions, except Brazil (companies must team up with an EMBRAPII unit)

Further information:
https://www.ira-sme.net/34th-call-for-proposals-open/

BMWK ZIM:11. Joint R&D Projects with France; Deadline: 5 November 2024

The 11th joint call for proposals between Germany and France is open. German medium-sized companies are invited to submit applications for joint R&D projects with their French cooperation partners.

The funding is provided from the national programmes – in Germany through the Central Innovation Programme for SMEs (ZIM), in France by Bpifrance (Banque publique d'investissement), the French facility for financing and economic development.
- The funding takes the form of a zero interest-rate loan, which must be repaid in the event of a technical success.
- Eligible costs: industrial research and experimental development

Further Information:
https://www.zim.de/ZIM/Redaktion/DE/Artikel/International/frankreich.html

BMWK Joint R&D projects with Poland; Deadline: 30 September 2024

Die 2. gemeinsame Ausschreibung für innovative deutsch-ponische Forschungs- und Entwicklungsprojekte ist ab heute geöffnet. Deutsche mittelständische Unternehmen werden aufgefordert, mit ihren polnischen Kooperationspartnern Anträge für gemeinsame Projekte einzureichen.

Die Fördermittel werden jeweils aus den nationalen Programmen bereitgestellt – in Deutschland durch das Zentrale Innovationsprogramm Mittelstand (ZIM). Auf polnischer Seite steht NCBR für Fragen bezüglich des polnischen Förderinstruments zur Verfügung

Weitere Informationen zu Polen können über die Website von NCBR und die Website der GTAI abgerufen werden.

Abgabefrist für die Anträge wird der 30. September 2024 sein. Anträge werden fortlaufend begutachtet.

Die Bekanntmachung und das gemeinsame Antragsformular zu der aktuellen Ausschreibung finden Sie unter Internationale Ausschreibungen/Polen.

Interessierte Unternehmen und Forschungseinrichtungen sollten frühzeitig Kontakt zu den ausgewiesenen Ansprechpartnern beim Projektträger AiF Projekt GmbH aufnehmen.

Um die Zusammenarbeit mit ausländischen Kooperationspartnern zu erleichtern, hat das Bundesministerium für Wirtschaft und Klimaschutz mit verschiedenen Ländern Vereinbarungen zur gegenseitigen Öffnung der Förderprogramme getroffen. Die Verfahren der Begutachtung und Bewilligung der FuE-Projekte sind unter den beteiligten Ländern abgestimmt. Die Projektpartner werden nach den Förderrichtlinien des jeweiligen Landes unterstützt – die deutschen Unternehmen nach der aktuellen ZIM-Richtlinie, die für transnationale Kooperationen einen um bis zu 10 % erhöhten Fördersatz vorsieht.

Further Information:

https://www.zim.de/ZIM/Redaktion/DE/Meldungen/2024-Internationale-Ausschreibungen/2024-04-02-2-ausschreibung-deutschland-polen.html

BMWK Joint R&D projects with Singapore: 6th Call; Deadline: 5 September 2024

Germany and Singapore are pleased to announce a call for proposals for joint R&D projects aimed at developing innovative products, processes, or technology-based services in all technological and application areas which have strong market potential.
The funding in Germany is made available through BMWK's Central Innovation Programme for SMEs (ZIM). Enterprise Singapore and BMWK (Coordinator: AiF Projekt GmbH) will assist project partners during project proposal, evaluation and monitoring phase.
Further information:
https://www.zim.de/ZIM/Redaktion/DE/Meldungen/2024-Internationale-Ausschreibungen-en/2024-03-01-6-ausschreibung-deutschland-singapur-en.html

BMWK Joint R&D projects with Israel: 15th call; Deadline: 30 October 2024

Germany and Israel are announcing a Call for Proposals for joint R&D projects, focusing on developing innovative products and applications in all technological and application areas. Applicants are expected to develop ready-to-market solutions for products, technology-based services or methods, which have strong market potential for Germany, Israel and Europe. Partners apply for their R&D project for a EUREKA label, a pan European network for market-oriented R&D.
Minimum requirement concerning the project consortium is the participation of at least one company of each of the participating countries.
The program is managed in cooperation and in line with the procedures of the EUREKA initiative.
Further information:
https://www.zim.de/ZIM/Redaktion/DE/Meldungen/2024-Internationale-Ausschreibungen-en/2024-05-21-15-ausschreibung-deutschland-israel-eureka-en.html

BMWK Joint R&D projects with Taiwan: 7th Call; Deadline: 30 September 2024

Call for proposals for joint R&D projects between German and Taiwanese partners, focusing on developing innovative products, processes, or technology-based services in all technological and application areas, which have strong market potential.
Further information:
https://www.zim.de/ZIM/Redaktion/DE/Meldungen/2024-Internationale-Ausschreibungen-en/2024-02-01-7-ausschreibung-deutschland-taiwan-en.html

HORIZON EUROPE Expanding Academia-Enterprise Collaborations (Interconnected Innovation Ecosystems); Deadline: 19 September 2024 17:00:00 Brussels time

The New European Innovation Agenda's flagship on accelerating and strengthening innovation in European Innovation Ecosystems across the EU and addressing the innovation divide aims to accelerate innovation and unlock excellence across the EU through various tools. It focuses on creating the basis for the emergence of connected regional innovation valleys across the EU, notably involving regions with a lower innovation performance, by building on strategic areas of regional strength and specialisation, in support of key EU priorities.

Proposals for topics under this destination should set out a credible pathway to strengthening robust interconnected innovation ecosystems and creating a favourable environment to promote the scalability potential of businesses, including in the deep tech sector.

Projects results are expected to contribute to four (4) or more of the following expected outcomes:
- Improved integration of research institutions, Higher Education Institutions, vocational schools, and similar organisations into Europe's innovation ecosystems by establishing better links with start-ups and start-up networks, accelerators and incubators, business angels and investor communities;
- Improved flows of knowledge, skills, and talents between educational institutions and other innovation ecosystem actors at various levels of development, including in the deep tech[1]field in line with the New European Innovation Agenda[2];
- Improved skills of all involved ecosystem actors to increase innovation potential, inter-sectoral mobility, and market uptake of new technologies; Targeted are skills necessary and responsive to innovation and labour market needs on digital, green, and entrepreneurial skills, networking skills, risk taking, and in particular in the deep tech field;
- Improved connections of educational institutions to high-quality remote testing, validation, and up-scaling of innovations delivered by research and technology infrastructures across the EU;
- Improved competence of students, graduates, researchers, and workforce to launch, run, and lead successful and profitable start-ups, including in the deep tech field;
- Enhanced availability of local talents equipped with skills to support business acceleration and digitalisation[3];
- Enhanced entrepreneurial activity in developing innovation ecosystems and their upscaling and interconnectedness across the EU supported by citizens and local initiatives in order to build innovative solutions to current and future challenges;
- Increased engagement and connectedness with other ecosystem actors (e.g. other educational institutions, Technology Transfer Offices, Research and Technology Organisations, local and regional enterprises, private companies, start-ups, early-stage companies, accelerators, incubators, etc.) within and between regions;
- Increased youth (self) employability and gender balance in collaborations.

Further information:
https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/horizon-eie-2024-connect-02-01?isExactMatch=true&status=31094502&frameworkProgramme=43108390&startDate=1717192800000&order=ASC&pageNum

HORIZON EUROPE Multi learning and support scheme for national and regional innovation programs (Interconnected Innovation Ecosystems); Deadline: 19 September 2024 17:00:00 Brussels time

Today's urgent challenges are inherently complex and systemic and will not be solved by individual actors or territories in isolation. Fostering enabling innovation ecosystems across the European Union (EU) requires a systemic approach that is inclusive and collaborative, involves diverse actors, institutions and places, maximises the value of innovation to all, and ensures equitable diffusion of its benefits.

Proposals for topics under this destination should set out a credible pathway to strengthening robust interconnected innovation ecosystems and creating a favourable environment to promote the scalability potential of businesses, including in the deep tech sector.

The proposals are expected to include specific activities that will allow applicants to:
- Enhance the quality of support provided at national and regional levels to the most promising innovative start-ups and SMEs;
- To improve or set up national and regional funding programmes that could qualify for certification under the Plug-in scheme of the EIC Accelerator;

- To share best practices in terms of design, functioning, operation, and monitoring of such programmes;
- To broaden access to information and communicate to the applicants (start-ups and SMEs) on the opportunities to access the national and regional funding programmes and have their chance to be selected under Plug-in scheme to apply to step 2 of the EIC Accelerator.

Projects results are expected to contribute to at least four (4) of the following expected outcomes:
- Reduced fragmentation of innovation ecosystems and national/regional start-up support schemes;
- Increased cooperation, learning, and exchange of knowledge between national and regional innovation support public authorities and agencies in order to ensure that their innovation funding schemes respond to the requirements of the Plug-in certification for step 2 of the European Innovation Council (EIC) Accelerator;
- Improved ongoing and/or set up of new national and regional innovation funding programmes whose criteria are fit to pass the certification for the Plug-in scheme;
- The use, requirements, and access to the Plug-in scheme are well communicated to the innovation ecosystem stakeholders, particularly start-ups and Small and Medium-sized Enterprises (SMEs);
- A more homogeneous, equal, and aligned approach in the evaluation of projects under national and regional support schemes;
- Enhanced cooperation among national and regional public authorities and agencies and SMEs and start-ups, particularly between innovation 'leaders'/'strong' innovators and 'moderate'/'emerging' innovator countries[1];
- Stable pipeline of high-quality projects to the EIC Accelerator Step 2.

Further information:
https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/horizon-eie-2024-connect-02-02?order=ASC&pageNumber=1&pageSize=50&sortBy=startDate&isExactMatch=true&status=31094502&frameworkProgramm

HORIZON EUROPE Future Engagement Model for the EOSC Federation (Opening, Integrating and Interconnecting Research Infrastructures); Deadline: 19 September 2024 17:00:00 Brussels time

The European Open Science Cloud (EOSC) is an ecosystem of research data and related services. It encompasses rules of engagement, standards, abstractions, technologies, and services, which will enable and enhance seamless access to and reliable re-use of FAIR[[Findable, Accessible, Interoperable, Reusable]]research outputs (i.e. data and other digital objects), including those generated or collected by other research infrastructures, and covering the whole research data life cycle (generation, storage, sharing and publishing, discovery, access, processing, management, analysis, re-use, etc.). The EOSC will contribute to the European Strategy for Data, including its thematic common interoperable data spaces, and the provision of secure and FAIR-enabling European cloud services.

Building on this progress, the INFRAEOSC destination aims to continue to develop the EOSC in a more cohesive and structured manner so that it becomes a fully operational enabling ecosystem for the whole research data lifecycle. This ecosystem includes FAIR research data commons (e.g. data, services, tools), based on key horizontal core functions, with corresponding e-infrastructures and service layers accessible to researchers across disciplines throughout Europe, leading to a "Web of FAIR Data and Services" for Science. The EOSC ecosystem will contribute a data space for science, research and innovation articulated with the other data spaces described in the European Strategy for Data.

Proposals are expected to cover the following activities:

The Coordination and Support Action (CSA) should explore concrete use cases of federations of Research Infrastructures and data/service providers to the EOSC Core Platform (EU Node). The CSA should contribute to the further evolution of the Rules of Participation and Acceptable Use Policies based on the identification of specific commitments and needs of the different contributors of the EOSC federation, and contribute to the related development of guidelines and recommendations on various aspects (incl. interoperability framework), and with this further promote the EOSC Core Platform (EU Node). This work should be done in close collaboration with relevant stakeholders, such as the contractors providing the Managed Services for the European Open Science Platform (EU Node)[1], Research Infrastructures, thematic EOSC communities and EOSC national nodes.

To this end, the CSA should engage with and further build the EOSC federation community, and assist in the development of a common framework on the various aspects of the federation, including the following dimensions:
- Legal
- Business model and incentive structure
- Interoperability framework, including the support for FAIR principle and handling of PIDs across EOSC federation

- EOSC Authentication and Authorization Infrastructure
- EOSC Security Coordination
- EOSC Rules of Participation.

The work of this CSA should build on the (federation) services offered by the European Commission's EOSC Core Platform and provide feedback and input for the evolution of the EOSC Core Services and the EOSC Exchange to ensure a wider uptake. In this context, the CSA will also assist with the update and promotion of the EOSC Interoperability Framework and assist in the set-up a process for its updates.

- The CSA should execute at least two use cases to demonstrate and promote the use of the federation services provided by the EOSC Core Platform (EU Node) and document the experience and lessons learned. The use cases should be driven by real-life user needs and consider the long-term sustainability of such federations. The use cases should include Research Infrastructures able to federate within EOSC and users which gain novel capabilities for their research work.
- Through the outcomes of the use cases, the CSA should propose to the EC and current EOSC governance a set of operational Rules of Participation and common set of policies and minimum requirements to be applied consistently across the EOSC federation.
- This set of rules, policies and requirements should be detailed in such a way they can be introduced in the operation of ESFRI, ERICs and other international, national or institutional RIs at the subdomain, domain and interdisciplinary levels as concerns the EOSC federation.
- They should be developed, maintained, and updated in accordance with the progressive deployment of the EOSC Core, EOSC Exchange and EOSC sustainability models and be based on latest input by the Task Forces of the EOSC Association and any additional, relevant input by the research community.

Further Information:
https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/horizon-infra-2024-eosc-02-01?isExactMatch=true&status=31094502&frameworkProgramme=43108390&startDate=1717192800000&order=ASC&pageNum

HORIZON EUROPE Assessing the state of research infrastructures in Ukraine (Consolidating and Developing the Landscape of European Research Infrastructures); Deadline: 19 September 2024 17:00:00 Brussels time

The challenges for the near future are to consolidate and optimise the European Research Infrastructure landscape and enhance its capacity to support frontier research and address the emerging and new scientific and societal objectives associated with the transition towards a sustainable and resilient Europe. In addition, there is the need to define and implement an effective and sound RI strategy in Europe, in close cooperation with ESFRI, MSs and ACs, which is complemented by and interlocks with the long-term ambition of creating an integrated Technology Infrastructure (TI) landscape, the latter is supported in Pillar II of Horizon Europe Programme (HE). Such a strategy would also help in exploiting synergies between RI and TI financed from Horizon and massive investments in infrastructures from ERDF.

This topic supports the assessment of the state of RIs in Ukraine, the identification of key needs and the development of an investment roadmap for RI reconstruction, closing the skills gap and facilitating well-connected R&I communities.

To this extent, proposals should address the following aspects:
- Assess the situation of RIs in Ukraine, including the damage to Ukrainian RI capacities caused by the war;
- Building on EU experience in research infrastructure roadmapping, in particular in the context of ESFRI, identify priorities for development, re-construction and or re-orientation of the RI capacity in Ukraine, including digital ones, taking into account political priorities such as the green and digital transition and resilience;
- Identify areas that would require the development of specific RI concept and design, in view of future integration into the European RI landscape;
- Involving RIs policy makers, RIs and RIs stakeholders in EU and Ukraine to develop the strategy for investment in short and long-term;
- Support training of Ukrainian RI staff, including through study visits and staff exchange with equivalent EU RIs as well as exchange of best practice activities.

Project results are expected to contribute to all the following expected outcomes:
- roadmap identifying a clear path and plans for recovery and enhancement of the Ukrainian research infrastructure (RI) landscape, in line with the green and digital transition;
- sufficient information is available for guiding the EU reconstruction support for Ukrainian RIs;
- increased integration of Ukrainian RIs in the EU RI landscape;

- upscaled skills and knowledge of Ukrainian RI staff.

Further information:
https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/horizon-infra-2024-dev-02-01?isExactMatch=true&status=31094502&frameworkProgramme=43108390&startDate=1717192800000&order=ASC&pageNumbe

HORIZON EUROPE A European Collaborative Cloud for Cultural Heritage – Innovative tools for digitisation and analysis of dynamic processes, objects and complex combined data (Cultural Heritage); Deadline: 22 January 2025 17:00:00 Brussels time

Europe's rich cultural heritage and strong creative tradition not only reflect our past, but also shape our future. It is by building on this foundation and developing our strengths that we can face the great challenges of our time with confidence, and shape a future based on European values and the respect of human rights. Europe's cultural heritage is well alive because it is the result of the interaction between people and their environment, and above all of the collective effort of EU citizens, who all have the same entitlement to enjoy their human and in particular cultural rights.

This topic aims at developing and implementing a set of innovative tools and methods on the European Collaborative Cloud for Cultural Heritage (ECCCH) for digitisation and analysis of dynamic processes, objects and complex combined data. Concrete applications of these tools and methods should be provided for at least the following uses:

- Digitising dynamic objects, processes and practices
- Monitoring the evolving status of cultural heritage objects over time
- Interacting with, cross-mixing and re-mixing different data types

Projects should contribute to all of the following expected outcomes:

- The European Collaborative Cloud for Cultural Heritage (ECCCH) is widely used by European cultural heritage professionals and researchers for digitising dynamic objects, processes and practices.
- The ECCCH is widely used by European cultural heritage professionals and researchers for monitoring the evolving status of cultural heritage objects over time.
- The ECCCH is widely used by European cultural heritage professionals and researchers for advanced interaction with digital content, enabling new ways to interact, cross-mix and re-mix different data types, enhancing insight capabilities and representation potential.
- European cultural heritage professionals and researchers are provided with clear information as well as targeted training modules on the innovative tools and methods developed.

Further information:
https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/horizon-cl2-2024-heritage-eccch-01-01?isExactMatch=true&status=31094502&frameworkProgramme=43108390&startDate=1717192800000&order=ASC&pa

HORIZON EUROPE A European Collaborative Cloud for Cultural Heritage – Innovative tools for advanced data enrichment (Cultural Heritage); Deadline: 22 January 2025 17:00:00 Brussels time

Europe's rich cultural heritage and strong creative tradition not only reflect our past, but also shape our future. It is by building on this foundation and developing our strengths that we can face the great challenges of our time with confidence, and shape a future based on European values and the respect of human rights. Europe's cultural heritage is well alive because it is the result of the interaction between people and their environment, and above all of the collective effort of EU citizens, who all have the same entitlement to enjoy their human and in particular cultural rights.

This topic aims at developing and implementing a set of innovative tools and methods on the European Collaborative Cloud for Cultural Heritage (ECCCH) for advanced data enrichment. Concrete applications of these tools and methods should be provided for at least the following uses:

- Metadata enrichment
- Embedding scientific and professional value as well as IP and other associated rights throughout the digital content production chain
- Collaboration- and business models based on the multi-actor value chain

Projects should contribute to all of the following expected outcomes:

- The European Collaborative Cloud for Cultural Heritage (ECCCH) is widely used by European cultural heritage professionals and researchers[1]for metadata enrichment of digital cultural heritage objects[2].
- Scientific and professional value as well as intellectual property and other associated rights are effectively embedded in the digital objects of the ECCCH throughout the digital content production chain, thus enabling and boosting cooperation, sharing and re-use.
- European cultural heritage professionals and researchers are aware and make use of new collaboration- and business models based on values and rights embedded in the digital objects throughout the multi-actor value chain.
- European cultural heritage professionals and researchers are provided with clear information as well as targeted training modules on the innovative tools and methods developed.

Further information:
https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/horizon-cl2-2024-heritage-eccch-01-03?isExactMatch=true&status=31094502&frameworkProgramme=43108390&startDate=1717192800000&order=ASC&pa

HORIZON EUROPE A European Collaborative Cloud for Cultural Heritage – Innovative tools for high-value interactions with visitors and heritage objects (Cultural Heritage); Deadline 22 January 2025 17:00:00 Brussels time

Europe's rich cultural heritage and strong creative tradition not only reflect our past, but also shape our future. It is by building on this foundation and developing our strengths that we can face the great challenges of our time with confidence, and shape a future based on European values and the respect of human rights. Europe's cultural heritage is well alive because it is the result of the interaction between people and their environment, and above all of the collective effort of EU citizens, who all have the same entitlement to enjoy their human and in particular cultural rights.

This topic aims at developing and implementing a set of innovative tools and methods on the European Collaborative Cloud for Cultural Heritage (ECCCH) for high-quality interactions with visitors and cultural heritage objects. Concrete applications of these tools and methods should be provided for at least the following uses:

- Creating, sharing and re-using interactive content
- Analysing, designing and testing interactions with visitors

Projects should contribute to all of the following expected outcomes:

- The European Collaborative Cloud for Cultural Heritage (ECCCH) is widely used by European cultural heritage professionals and researchers[1]for creating, sharing and re-using interactive content for high-quality interactions with visitors and cultural heritage objects[2].
- The ECCCH is widely used by European cultural heritage professionals and researchers in the planning, simulation and design of real and virtual exposition spaces.
- The ECCCH is widely used by European cultural heritage professionals and researchers in the analysis of the effective use of real and virtual exposition spaces, incorporating innovative virtual presentation tools and visitor tracking technologies.
- European cultural heritage professionals and researchers are provided with clear information as well as targeted training modules on the innovative tools and methods developed.

Further information:
https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/horizon-cl2-2024-heritage-eccch-01-04?isExactMatch=true&status=31094502&frameworkProgramme=43108390&startDate=1717192800000&order=ASC&pa

HORIZON EUROPE A European Collaborative Cloud for Cultural Heritage – Innovative tools for the study, conservation and restoration of heritage objects (Cultural Heritage); Deadline 22 January 2025 17:00:00 Brussels time

Europe's rich cultural heritage and strong creative tradition not only reflect our past, but also shape our future. It is by building on this foundation and developing our strengths that we can face the great challenges of our time with confidence, and shape a future based on European values and the respect of human rights. Europe's cultural heritage is well alive because it is the result of the interaction between people and their environment, and above all of the collective effort of EU citizens, who all have the same entitlement to enjoy their human and in particular cultural rights.

This topic aims at developing and implementing a set of innovative tools and methods on the European Collaborative Cloud for Cultural Heritage (ECCCH) based on the digital twins of cultural heritage objects stored in the ECCCH, for the study, conservation and restoration of cultural heritage objects. Concrete applications of these tools and methods should be provided for at least the following uses:

▪ Supporting the study of cultural heritage objects
▪ Supporting conservation and restoration works

Projects should contribute to all of the following expected outcomes:

▪ The European Collaborative Cloud for Cultural Heritage (ECCCH) is widely used by European cultural heritage professionals and researchers for the study of cultural heritage objects, supporting research, innovation and didactic purposes.
▪ The ECCCH is widely used by European cultural heritage professionals and researchers to support conservation and restoration works, both for planning, implementation and documentation.
▪ European cultural heritage professionals and researchers are provided with clear information as well as targeted training modules on the innovative tools and methods developed.

Further information:
https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/horizon-cl2-2024-heritage-eccch-01-05?isExactMatch=true&status=31094502&frameworkProgramme=43108390&startDate=1717192800000&order=ASC&pa

HORIZON EUROPE Towards cement and concrete as a carbon sink (European Innovation Council); Deadline: 16 October 2024 17:00:00 Brussels time

This Pathfinder Challenge seeks to support breakthrough innovations and (alternative) pathways for decarbonized and carbon-negative cement and concrete. Future pathways must meet some important conditions to be ultimately successful. This challenge is supporting the development of breakthrough technologies in one or more of the following domains:

▪ Advanced technologies that change the paradigm of prevailing binder technologies with alternative low-carbon compounds based on alternative feedstocks (e/g magnesia-based, (ultra-) mafic rocks), and curing processes (e/g carbonation curing), and the combination thereof. Widespread adoption of such radical new pathways will also need breakthrough innovations in energy efficient industrial production processes. Such engineered carbon mineralisation pathways (e/g MOMS) can in principle utilize and store large amounts of CO2 with high permanence and (CCUS) value in the final mortar and (reinforced) concrete applications. As the alternative feedstocks often formed the host rocks for valuable ores, some mine waste could contain accessible, abundant, and useful raw materials.
▪ Advanced technologies for a more efficient use of clinker in cement (reducing its clinker fraction), and of cement in concrete compositions (binder efficiency).
▪ Advanced technologies that lower or negate the need for burning fossil fuels to avoid the associated CO2 emissions. For example, novel breakthrough process innovations to manufacture decarbonized lime (e/g at low process temperatures, by non-thermal processes, electrified processes).
▪ Enabling technologies in support of (1), (2) and (3) based on technologies for computational material science or data-driven science (including AI and ML). There is a need for breakthrough simulation and prediction technologies that enhance the understanding of the characteristics and interactions of raw materials, hydration processes and microstructural development of cementitious materials. If generalizable technologies can be adapted to a wide variety and variation of real-world raw materials without the need for extensive local empirical testing, this would greatly enhance and accelerate development cycles, knowledge acquisition, discovery, and implementation.

Further information:
https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/horizon-eic-2024-pathfinderchalle
01-02?isExactMatch=true&status=31094502&frameworkProgramme=43108390&startDate=1717192800000&order=ASC&pageNum

HORIZON EUROPE Strengthening the sustainability and resilience of EU Space infrastructure (European Innovation Council); Deadline: 16 October 2024 17:00:00 Brussels time

The overall goal of this Challenge is to support the development of innovations that will strengthen the protection of EU space infrastructure.

The projects, supported under this challenge are expected to develop break-through concepts in one or more of the following areas:

- Game-changing technologies for controlled space debris mitigation (to reduce their generation) and active debris removal (by managing existing space debris, de-orbiting, relocation, etc.) including ones that prevent spacecraft system damage. This includes among others propellantless propulsion technologies such as space-based lasers, laser pushed lightsails, physical sweeper in orbit, laser electric propulsion, tethers or water propulsion for moving all sized debris
- In-space Recycling & Re-use of orbital assets- with a focus on recycling and re-using dysfunctional orbital assets. The overall aim is recycling, partial and/ or complete re-use of assets in-space.
- Game- changing innovations and innovative space applications for protecting EU space infrastructure that focus on concepts that enable detection, identification and avoidance of natural and human-made hazards in space.

Breakthrough ideas and concepts proposed under this challenge should be designed and validated in a laboratory environment. They should address "old" debris and active debris removal (ADR) including end-of-life (EoL) disposal. The concepts may also include debris mitigation measures to be integrated into the design of spacecrafts and launchers.

Further information:
https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/horizon-eic-2024-pathfinderchallen
01-05?isExactMatch=true&status=31094502&frameworkProgramme=43108390&startDate=1717192800000&order=ASC&pageNum

HORIZON EUROPE Nanoelectrics for energy-efficient smart edge devices (European Innovation Council); Deadline: 16 October 2024 17:00:00 Brussels time

The overall goal of this challenge is to explore novel materials and beyond CMOS devices, non-von Neumann architectures and alternative information processing paradigms to drastically reduce energy consumption in order to meet application-specific needs of smart edge devices and circuits.

The projects, supported under this Challenge are expected to address one or more of the following aspects:

- fundamental issues like heat dissipation at nanoscale that has turned out to be the most critical bottleneck in information processing covering the design of a device from the understanding of the physics and the nanoscale thermal transport at component level to circumvent the "heat valley", selecting the materials and process solutions.
- demonstration of the potential of the developed technologies for energy savings and contained environmental footprint towards responsible smart edge devices.

The proposed developments may cover (amongst others):

At Design level.

- Computer modelling based on the fundamental understanding of heat transport across layers and interfaces, harvesting fluctuations instead of fighting them for computing or the use of different state variables, e.g., spins, photons, phonons or mechanical switches, instead of charge.
- Analysis of the dissipation mechanisms in signal transmission and conversion, heat removal from hot spots in components and circuits, potential for energy conversion at the nano-scale, etc.

At Materials/Process levels:

- Novel or unique electrical, mechanical and optical interconnections or other switching mechanisms
- Efficient heat dissipation new materials for in-chip heat dissipation, e.g., 2D materials
- Embedding energy harvesters in the final devices and/or circuits
- Effective 3D multi-die heterogeneous integration including advanced packaging, heterogeneous integration, and modular design of components (such as chiplets)

At Device/Architecture levels:

- Molecular electronic circuits
- Beyond CMOS. Non mainstream semiconductor transistors including a plausible circuit concept, e.g., single electron transistors.
- Novel non-von Neumman architectures and alternative processing approaches

Expected outcomes and impacts:

The portfolio of projects selected under this Challenge is expected to collectively:

- derive fundamental bounds for energy consumption and designing practical and basic scenarios to minimize the energy costs of the different processes
- harness energetic efficiencies as optimization tools to operate smart technological choices to build smart edge devices.

Further information:
https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/horizon-eic-2024-pathfinderchaller
01-04?isExactMatch=true&status=31094502&frameworkProgramme=43108390&startDate=1717192800000&order=ASC&pageNum

HORIZON EUROPE Solar-to-X devices for the decentralized presumption of renewable fuels, chemicals and materials as climate change mitigation pathway (European Innovation Council); Deadline: 16 October 2024 17:00:00 Brussels time

In this Challenge, solar-to-X technologies must address societal needs not already sufficiently covered by other energy technologies. The developed technologies should demonstrate how they can be embedded in the full functional value chain from generation to use, be self-sustaining in the long-run and provide a win-win opportunity for prosumers and the environment. The objective is to make progress towards synthetic fuels and chemicals technologies which integrate all necessary conversion steps into a single device, and which are solely and directly driven by solar energy.

Project proposals should address one (and only one) of the following three areas:

Area 1: Standalone solar-to-X device development

Projects should address all of the following specific objectives:

▪ Develop standalone solar-to-X devices, converting sunlight and simple, low-energy molecules such as water, carbon oxides or N2 (non-exhaustive list) into fuels, chemicals and materials.

▪ Enable simplified production chains where one directly goes from simple feedstock to complex products, beyond hydrogen or carbon monoxide.

▪ Design solar-to-X systems that can operate independently, allowing communities and remote areas to have access to reliable and sustainable energy sources and a local production and utilization of chemicals and fuels.

▪ The developed devices have to reach at least TRL 4 within a 3-4 year project runtime.

Area 2: Benchmarking and common metrics development for solar-to-X devices

Projects should address all of the following specific objectives:

▪ Develop common metrics, protocols and equipment to enable a fair and standardized comparison between technologies within the same class, as well as between different technology classes in the field of solar-to-X (see Area 1 for the different technology categories).

▪ Develop a holistic framework by identifying key performance indicators common to the different categories, while considering unique features of each category. It is required to develop metrics, protocols and equipment for multiple solar-to-X device architectures (aligned with Area 1).

▪ Devices stemming from area 1 should serve as a portfolio-own testbed to validate the developed methodologies, protocols and equipment in practice. Standards for solar-to-X devices can (and should) build on existing ones.

▪ Acceptance of the developed metrics and protocols by a broad range of stakeholders within the diverse research communities must be ensured from the beginning, by e.g., co-creation workshops, extensive outreach activities, etc.

Area 3: Understanding fundamental mechanisms by means of computational materials science

Projects should address all the following specific objectives:

▪ Explore fundamental phenomena crucial to multiple device architectures to enable next-generation solar-to-X devices.

▪ Drive forward the one-to-one comparison between theory at the atomistic level and experiment. Developing more accurate and less resource-demanding quantum mechanical methods is highly encouraged.

▪ Bridge the scales from describing properties at the atomic, mesoscopic up to the macroscopic device level within a multiscale approach.

▪ Adopt a holistic approach to exploring phenomena applicable to multiple solar-to-X device architectures (aligned with area 1). Devices stemming from area 1 should serve as a portfolio-own testbed to validate the developed theoretical models.

Further information:
https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/horizon-eic-2024-pathfinderchaller
01-01?isExactMatch=true&status=31094502&frameworkProgramme=43108390&startDate=1717192800000&order=ASC&pageNum

HORIZON EUROPE Nature inspired alternatives for food packaging and films for agriculture (European Innovation Council); Deadline: 16 October 2024 17:00:00 Brussels time

This Pathfinder Challenge aims to support ambitious interdisciplinary research that will lead to the development and production of sustainable nature inspired alternatives for food packaging and agricultural production such as, but not limited to, greenhouse and mulch films. These materials must have a reduced environmental impact, through design and production, while delivering the functional characteristics of plastics.

The Challenge seeks groundbreaking proposals with the capacity to replace the use of fossil-carbon-based plastics from farm to fork and thereby support EU policy ambitions to move towards a more circular, resource efficient and climate neutral economy.

Proposals must seek to deliver nature-inspired sustainable alternatives to fossil carbon derived plastics and associated production processes. These alternatives shall be circular, safe and sustainable by design and allow for reusability, recyclability and full biodegradability. They must look to address one or more of the current uses of plastics in the food system (e.g.,agricultural mulch, food packaging), and utilise bio-based sources and raw materials such as:
- polymers extracted from nature (e.g.,cellulose, chitin, lignin, keratin)
- natural polymers (e.g.,microbial, fungal and plant materials), or
- synthetic polymers from biobased materials.

Attention should also be paid to consider regulatory aspects in the development and incorporation of chemical additives that can deliver high sanitary standards for contact with food. The additives must be formulated in a way to meet set of biodegradability criteria and the assessment of the ability of the products to fully biodegrade in natural soil and aquatic environments across the EU.

All projects must demonstrate at least preliminary evidence of an improved cradle-to-gate and cradle-to-grave lifecycle assessment, when compared to fossil carbon derived plastics and current additives. This lifecycle assessment must take account of environmental, social and economic considerations. The resulting materials and associated processes must over their lifecycle:
- Reduce energy consumption and the carbon footprint
- Reduce water consumption and associated environmental footprint
- Enhance biodegradability, compostability or reusability

They must also include one or more enhanced functional characteristics for use in the food value chain while minimising or potentially eliminating the harmful effects with a view to:
- increasing shelf life and retaining the nutritional properties of packaged food, and
- enhancing the productivity and functionality of agricultural films

This could include the use of smart functionalities in responding to environmental conditions and the use of biodegradable electronic features.

Projects with strong capacity for use beyond food and agriculture (e.g.,packaging for pharmaceuticals) will also be encouraged and prioritised.

Irrespective of starting point, the resulting outputs of the projects must be shown to be effective for their intended application with, at the very least, a lab-based demonstrator i.e., reach TRL 4 or above.

The projects selected under this Challenge are expected to collectively provide a portfolio of environmentally friendly materials and use cases informed by availability , efficiency and end functionality. Further, funded projects will be expected to work together to develop a robust approach to measure the lifecycle impacts i.e., the environmental, social and economic consideration of the funded projects.

Further information:
https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/horizon-eic-2024-pathfinderchallen 01-03?isExactMatch=true&status=31094502&frameworkProgramme=43108390&startDate=1717192800000&order=ASC&pageNum

HORIZON EUROPE Novel Endpoints for Osteoarthritis (OA) by applying Big Data Analytics (Innovative Health Initiative); Deadline: 10 October 2024 17:00:00 Brussels time

Despite major research efforts and increasing insights into the mechanism, epidemiology, risk factors and natural history of OA, various development efforts over the years have failed to provide a disease-modifying treatment. The epidemiology as well as clinical and biological insights strongly suggest the existence of several pheno- and endotypes of osteoarthritis; failure to account for those differences critically hampers progress in the field. The implementation of innovative approaches to stratify the patient population, predict the course of disease and define patient-relevant endpoints is specifically relevant in an ageing society with a high prevalence of obesity, metabolic syndrome, and multi-morbidity. Furthermore, there is

an increasing prevalence of post-traumatic secondary OA in relatively young individuals affected at the prime of their lives. First studies towards the clustering of patient groups and development of predictive models have been published suggesting the feasibility of these approaches. Bringing all those insights together requires the collaboration of experts from various fields and can only be achieved in the concerted action of a public-private partnership, including existing initiatives.

The overall aim of this topic is to build a public-private partnership that is able to integrate and leverage the plethora of existing and currently collected data on OA, as well as the increasing insights and expertise gathered over decades of research. Further, the goal is to use a data driven approach to significantly progress the field by leveraging the novel opportunities that have emerged thanks to increased computing power and innovative methodologies in big data analysis, in order to:

1. integrate different perspectives to improve the understanding of osteoarthritis as a complex disease;
2. foster progress towards regulatory validation of patient-relevant endpoints to measure and predict OA disease progression as well as alternative endpoints to measure response to treatment;
3. allow predictive modelling while actively seeking feedback to incorporate the perception of patients, care givers, primary care physicians and regulators.

Further information:
https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/horizon-ju-ihi-2024-08-02-two-stage?isExactMatch=true&status=31094502&frameworkProgramme=43108390&startDate=1717192800000&order=ASC&page

HORIZON EUROPE A city-based approach to reducing cardiovascular mortality in Europe (Innovative Health Initiative); Deadline: 10 October 2024 17:00:00 Brussels time

The focus of this topic is on identifying and creating scalable models, interventions, and practices to enhance the overall efficiency and effectiveness of Cardiovascular diseases (CVD) management based on existing or new pilots in up to 5 cities, to build evidence for replication across Europe in different socio-economic conditions. These pilots should propose a good coverage of different locations and contexts in Europe and deliver scalable solutions that can be applied to other cities.

The action funded under this topic will consider primary and secondary prevention strategies, early detection, timely diagnosis and treatment (healthcare delivery), lifestyle changes (personal responsibility), and living environment (community responsibility).

Against this objective, the future action is expected to deliver:
- predictive models (developed and validated) that integrate various data sources – including electronic health records, environmental data, and lifestyle factors – to forecast cardiovascular risk at the individual and population levels in urban settings;
- models and/or good practices (including governance structure, funding/financing models, etc.) and roadmaps on cost-effective approaches to improve cardiovascular (CV) health management that can be replicated across Europe;
- recommendations for updating European guidelines and standards on CVD management (including primary and secondary prevention, and treatment);
- a stronger definition and improved selection of performance indicators on CV mortality, patient outcomes and economic impact of interventions;
- harmonised data standards for measurement of performance and impact (including PROMs, PREMs, patient preference, clinical outcome assessments etc.).
- an easy-to-use digital platform (ideally based on existing solutions to ensure interoperability) and high-quality data that enable a data-driven approach to CVD risk management, using standardised data reporting to facilitate comparison across cities;
- new solutions: digital and telehealth for early detection and monitoring of CVD patients, leveraging technologies for monitoring by incorporating wearables and apps to continuously monitor the population's adherence to cardiovascular medications and the occurrence of potential side effects. Moreover, this will enhance predictive models with more granular data leading to more precise risk assessments;
- recommendations on enhancing patient use of and access to technology and digital interventions (telemedicine, wearables, clinical mobile apps…); targeted prevention strategies, urban planning recommendations, and public health policies to mitigate these risks;
- a platform, network, or another support mechanism for exchange of good practice, learnings, and experience, to support further deployment of successful approaches across Europe and beyond;
- recommendations on improving living conditions to support the goal of decreasing impact of cardiovascular diseases.

Further information:
https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/horizon-ju-ihi-2024-08-01-two-stage?isExactMatch=true&status=31094502&frameworkProgramme=43108390&startDate=1717192800000&order=ASC&page

HORIZON EUROPE Modelling regulatory sandbox mechanisms and enabling their deployment to support breakthrough innovation (Innovative Health Initiative); Deadline: 10 October 2024 17:00:00 Brussels time

The overall aim of this topic is to contribute to the progression and successful implementation of regulatory sandboxes for healthcare innovations by developing a comprehensive and shared understanding of their value and process of implementation. The topic should also enable the development of a cross-sectoral community of stakeholders including pharma and medical device companies, regulators, and health technology assessment bodies (HTAs), among other stakeholders.

To fulfil this aim, the proposal should:

1. Scan the horizon for potential sandbox candidates including how sandboxes provide an additional tool to existing frameworks, and use the examples identified to model the process.

To this end, a key objective is to identify a number of healthcare innovation case studies to better understand how a regulatory sandbox could be used to solve further-defined challenges at an existing regulation level and inform recommendations for end-to-end operations. These cases could draw from the past, present and from horizon scanning activities (the EMA's work in this area already provides a hint8) to anticipate future innovations, looking across their development value chain.

2. Analyse how regulatory sandboxes can drive science and health technology innovation in an evolving environment.

The proposal should do this by:

▪ anticipating consequences for health technology development under a regulatory sandbox mechanism, acknowledging its time-limited scope and the consequences (considering the technical particularities of healthcare innovation) for other downstream activities e.g., standardisation, health technology assessment;

▪ proactively identifying any guardrails and mitigation measures.

3. Develop recommendations for end-to-end operations of regulatory sandboxes to inform healthcare innovation developers, regulators and downstream decision makers.

The proposal should do this by:

▪ mapping out conceptual elements and operationalisation features of future sandbox mechanisms based on existing experiences in other fields such as governance, conditions fostering dialogue and collaboration, access to the right type of expertise, support, regulatory customisation, sharing/communicating lessons learned and their translation via the appropriate frameworks into new standards, among other elements to be further defined;

▪ modelling how to operationalise the sandbox(es) (including governance, operations, principles) and how they could be used in healthcare innovation development and evaluation in conjunction with existing regulatory mechanisms to advance innovation at European and national levels.

Part of the topic entails modelling a regulatory sandbox. The proposal should therefore consider good practices for designing and evaluating the necessary operating models to ensure the robustness and future applicability of the output of the project.

Further information:
https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/horizon-ju-ihi-2024-08-03-two-stage?isExactMatch=true&status=31094502&frameworkProgramme=43108390&startDate=1717192800000&order=ASC&page

HORIZON EUROPE Patient-Centred Clinical-Study Endpoints Derived Using Digital Health Technologies (Innovative Health Initiative); Deadline: 10 October 2024 17:00:00 Brussels time

The topic aims to develop a unified framework and consensus-based recommendations for using multiple types of patient-centred information to support the use of DHT-derived endpoints to demonstrate therapeutic benefit. This will ensure that therapies addressing patients' needs are approved for use and reimbursed at levels that reflect the value of the therapies to patients.

The action under this topic must contribute to all of the following outcomes:

▪ organisations and institutions involved in the development of therapies for the treatment and management of chronic disease have access to a unifying framework and consensus-based recommendations for:

o using a combination of patient preference information (PPI), clinical outcome assessments (COAs), and digital health technology (DHT)-derived measures to demonstrate the importance to patients of what is being measured by DHT-derived clinical-study endpoints;

o determining, from the patient perspective, what constitutes a minimal clinically important difference (MCID) in a patient-centred, DHT-derived clinical-study endpoint.

▪ new methods for analysing PPI and COA data collected using DHT and for combining data from PPI, COA, and DHT-derived measures are available to researchers;

▪ a consistent framework for engagement regarding the development and use of patient-centred, DHT-derived clinical-study endpoints is available to industry and stakeholders;

▪ acceptance of the use of PPI, COAs, and patient-centred DHT-derived measures in addition to or in combination with traditional clinical-study endpoints to provide a robust view of the benefits of a therapy to patients;

▪ acceptance of the use of patient-centred DHT-derived measures for clinical-study endpoints as reliable evidence for the evaluation of the clinical and economic benefit of therapeutic medicinal products and medical technologies among stakeholders including, but not limited to, patient groups, regulatory bodies, and health technology assessment (HTA) bodies (including the EU Member State Coordination Group on HTA), indicated by a qualification opinion, endorsement, adoption or other approval by each relevant stakeholder group;

▪ patient-centred, DHT-derived endpoints are implemented along with traditional clinical-study endpoints in clinical studies of therapies to treat chronic diseases, and data from DHT-derived clinical-study endpoints are used in regulatory and reimbursement decision-making.

Further information:

https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/horizon-ju-ihi-2024-08-04-two-stage?isExactMatch=true&status=31094502&frameworkProgramme=43108390&startDate=1717192800000&order=ASC&page

HORIZON EUROPE Innovation procurement initiative (including implementation category) (European Innovation Council); Deadline: 26 September 2024 17:00:00 Brussels time

The European Innovation Procurement Awards 2025 aim to recognise public and private buyers, natural persons and those legal entities supporting these practices across Europe in their efforts to promote and stimulate both procurement of innovative solutions and the innovative ways the solutions are procured.

The Awards also aim to demonstrate how innovation procurement positively transforms society and the economy by not only creating new and sustainable markets, but also by tackling societal challenges such as green energy transition.

In this edition, the European Innovation Procurement Awards will feature the following two categories:

▪ Innovation procurement initiative (including implementation) category: to reward actions, and mid/long-term strategies and action plans that trigger different innovation procurements as well as to reward procurements of R&D services and/or procurements to buy and deploy innovative solutions. Special focus will be placed on the facilitation of the access to procurement markets to innovative SMEs and start-ups including EIC beneficiaries.

▪ Facing societal challenges category: - "Net Zero Industry Procurement" to reward procurement practises and/or the procurement of R&D services and/or the procurement and deployment of innovative solutions that contribute to achieving the goals set out in the Net Zero Industry Act. This may include solutions that promote circularity, energy efficiency, and the use of renewable energy in industry, reduce greenhouse gas emissions, and promote sustainable and responsible production and consumption. Special focus will be placed also on the facilitation of the access to procurement markets to innovative SMEs and start-ups including EIC beneficiaries.

Each category will reward the winner with EUR 75 000 (1st ranked) and one runner-up (ranked 2nd) with EUR 50 000, and one runner-up (ranked 3rd) with EUR 25 000.

Eligibility criteria

▪ Eligible applicants are any public and/or private procurer, individuals/natural persons and/or legal entities supporting the use of innovation procurement established in one of the Member States including overseas countries and territories (OCTs) or Associated Countries to Horizon Europe;

▪ The awarded procurement/procurement practice must have taken place in a Member State (including overseas countries and territories, OCTs) or in an Associated Country to Horizon Europe;

▪ The awarded procurement /procurement practice must relate to completed or ongoing initiatives started after 1 January 2019. In the case of ongoing activities, only work completed by the submission deadline will be considered for the prize

(Applicants will be required to prove the starting date of the practice by providing supporting documents);
- Applicants can only apply to one of the two categories for the same set of activities;
- Winners of former European Innovation Procurement Awards editions, as well as runners-up of the previous edition are not eligible;
- Applicants that have already received an EU or Euratom prize cannot receive a second prize for the same activities.
Further information:
https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/horizon-eic-2024-prize-eipa-ipi?isExactMatch=true&status=31094502&frameworkProgramme=43108390&startDate=1717192800000&order=ASC&pageNumbe

HORIZON EUROPE Facing societal challenges category – Net Zero Industry Procurement (European Innovation Council); Deadline: 26 September 2024 17:00:00 Brussels time

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- Facing societal challenges category: - "Net Zero Industry Procurement" to reward procurement practises and/or the procurement of R&D services and/or the procurement and deployment of innovative solutions that contribute to achieving the goals set out in the Net Zero Industry Act. This may include solutions that promote circularity, energy efficiency, and the use of renewable energy in industry, reduce greenhouse gas emissions, and promote sustainable and responsible production and consumption. Special focus will be placed also on the facilitation of the access to procurement markets to innovative SMEs and start-ups including EIC beneficiaries.
Each category will reward the winner with EUR 75 000 (1st ranked) and one runner-up (ranked 2nd) with EUR 50 000, and one runner-up (ranked 3rd) with EUR 25 000.
Eligibility criteria
- Eligible applicants are any public and/or private procurer, individuals/natural persons and/or legal entities supporting the use of innovation procurement established in one of the Member States including overseas countries and territories (OCTs) or Associated Countries to Horizon Europe;
- The awarded procurement/procurement practice must have taken place in a Member State (including overseas countries and territories, OCTs) or in an Associated Country to Horizon Europe;
- The awarded procurement /procurement practice must relate to completed or ongoing initiatives started after 1 January 2019. In the case of ongoing activities, only work completed by the submission deadline will be considered for the prize (Applicants will be required to prove the starting date of the practice by providing supporting documents);
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Further information:
https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/hoirzon-eic-2024-prize-eipa-netzeroprocuremet?isExactMatch=true&status=31094502&frameworkProgramme=43108390&startDate=1717192800000&order=AS

HORIZON EUROPE Approaches and tools for security in software and hardware development and assessment (Cybersecurity); Deadline: 20 November 2024 17:00:00 Brussels time

Software is at the foundation of all digital technologies and, as such, at the core of IT infrastructures, services, and products. Current software development prioritises fast deployment over security, which results in vulnerabilities and unsecure applications. Security engineering, both at the software and hardware levels, must be integrated in their development. Whilst a great portion of the software and hardware used in the EU is developed outside the European Union, it should comply with the security requirements within the EU. The EU should be able to rely on software and hardware that can be verified and audited as to their security. In particular, the potential security implications of using open-source software and hardware, and security auditability in that context, should be further explored. Software is subject to continuous update, so the security posture cannot be assessed once and for all, hence methods and tooling to perform continuous assessments of security are needed. In addition, security and privacy regulations also evolve, having to be factored in compliance approaches.

The identification and analysis of potential regulatory aspects and barriers for the developed technologies/solutions is encouraged, where relevant.

rojects' results are expected to contribute to some or all of the following outcomes:
▪ Improved hardware and software security engineering; resilient systems design;
▪ Improved access to testing of hardware and software in virtual, closed and secure environments;
▪ Systematic and, where possible, automated study of vulnerabilities, software analysis, vulnerability discovery, and dynamic security assessment;
▪ Trustworthy certifiable hardware and software;
▪ AI-based security services e.g. predictive security, advanced anomaly and intrusion detection, system health checks

Further information:

https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/horizon-cl3-2024-cs-01-01?isExact

HORIZON EUROPE Accelerating uptake through open proposals for advanced SME innovation (Protection and security); Deadline: 20 November 2024 17:00:00 Brussels time

Europe's 25 million small and medium enterprises (SMEs) are the backbone of the EU economy. SMEs can bring innovation to societal challenges, including the security of EU citizens. Innovative SMEs and high-tech start-ups can transform and modernise EU security capabilities.

However, despite the innovation capacity of EU SMEs, these often experience difficulties in finding their way to the public markets. These include red tape in public contracts, access to new customers, access to finance, industrial competition and IP valorisation. These difficulties are exacerbated in markets that show restrictions of different kind, as it is the case of security.

Knowing that SMEs require additional support to reach the security buyers and that the collaboration opportunities offered by the projects of the Pillar II of Horizon Europe can be a catalyst for uptake, this topic aims to offer a collaborative environment for small and medium innovators to tailor their innovations to the specific needs of civil security end-users.

Applicants are invited to submit proposals for technology development along with the following principles:
▪ Focus on mature technological solutions addressing EU security policy priorities in the areas addressed by the Cluster 3 work programme.
▪ Not overlapping with the scope of the topics included in the other destinations of this work programme.
▪ Fostering collaboration between SMEs from different Member States and Associated Countries.
▪ Involving security end-users in the role of validator and potential first-adopter of the proposed innovations.
▪ Fostering collaboration schemes between small companies and research and technology organisations and/or big industrial players aimed at fostering innovative technology transfer or creating innovative business models that facilitate access to market and strengthen the innovation capacity of EU SMEs and start-ups in the domain of civil security.

Projects' results are expected to contribute to some or all of the following outcomes:
▪ Development of a mature technological solution addressing EU security policy priorities in the areas addressed by the Cluster 3 work programme;
▪ Facilitated access to civil security market for small innovators;
▪ Improved cooperation between public buyers and small supply market actors for a swifter uptake of innovation in response to short to mid-term needs;
▪ Stronger partnerships between small and medium EU security industry and technology actors to ensure the sustainability of the EU innovation capacity in the civil security domain and reduce technological dependencies from non-EU suppliers in

critical security areas.
Further information:

https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/horizon-cl3-2024-ssri-01-02?isExactMatch=true&status=31094502&frameworkProgramme=43108390&startDate=1717192800000&order=ASC&pageNumbe

HORIZON EUROPE HarmonisedStandard protocols for the implementation of alert and impact forecasting systems as well as transnational emergency management in the areas of high-impact weatherclimatic and geological disasters (Disaster-Resilient Societies); Deadline: 20 November 2024 17:00:00 Brussels time

Currently, there are no harmonised / standardised European methods for identifying vulnerability and exposure on the basis of which alert and impact forecasting systems are established, allowing this information to be used by civil protection authorities in a timely manner to improve disaster preparedness, communication to local authorities and population, evaluation logistics etc. Recent flash floods in Belgium, Germany and Luxembourg in July 2021 have shown that this lack of protocols hampered the efficient implementation of early warning and preparedness actions prior to the disaster event.
This topic is part of a coordination initiative between ESA and the EC on Earth System Science. Under the EC-ESA Earth System Science Initiative both institutions aim at coordinating efforts to support complementary collaborative projects, funded on the EC side through Horizon Europe and on the ESA side through the ESA FutureEO programme. Proposals should include a work package, means and resources for coordination with complementary projects funded under the Science for Society element of the ESA FutureEO programme. The projects(s) should establish a close coordination and collaboration with the relevant ESA relevant actions and projects
Projects' results are expected to contribute to some or all of the following outcomes:
▪ Enhanced links between scientific community and first and second responders promoting user-targeted research and faster transfer of science results into best practices;
▪ Enhanced adoption of novel technologies such as advanced Earth Observation capabilities and capabilities such as those from Earth Observation space technologies into prevention and management practices and tools;
▪ Improvement of meteorological input (wind, temperature, precipitation, soil humidity) for extremes related to heat and drought (forest fires, heatwave, agricultural damage, low water for hydro power), especially concerning the support of counter activities;
▪ Improved methods for cross-border and cross-sectoral knowledge transfer about risk, vulnerability, exposure, and monitoring methods;
▪ Development of common technical standards of alert and impact forecasting systems that cope more efficiently with transboundary emergencies and for GIS-based information systems dealing with high-impact weather / climatic and geological disasters management during emergencies;
▪ Identification of needs and opportunities for transferring advanced scientific results into enhancement in disaster logistics and responses, including tailor-made education and training programmes for emergency management teams.
Further information:

https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/horizon-cl3-2024-drs-01-03?isExactMatch=true&status=31094502&frameworkProgramme=43108390&startDate=1717192800000&order=ASC&pageNumbe

HORIZON EUROPE Tracing of cryptocurrencies transactions related to criminal purposes (Protection and Security); Deadline: 20 November 2024 17:00:00 Brussels time

Cryptocurrencies are a widely used method by criminals, including terrorists, to transfer or conceal funds due to their anonymity, ease of use and lack of international borders and restrictions (exactly same aspects that make use of traditional bank routes difficult for them). With the raise of crime-as-a-service market, and growth in the number of connected transactions, use of cryptocurrency as one of the money laundering typology better tracing of cryptocurrency transactions is crucial to keep the ground in the fight against crime and terrorism. On top of it all, clandestine cryptocurrency activities are increasingly facilitated by new developments such as high privacy decentralised exchanges, which while used by perpetrators

frustrate the efforts of Police Authorities to detect and recover criminal assets as well as to prevent fraudulent transactions. The future of cryptocurrencies and the extent to which criminals and terrorists will use them will depend on factors such as anonymity, future regulation, law enforcement activities and security of the systems. Innovation should explore these considerations and propose mitigation measures, from legal, organisational, and technical perspectives (including the development of tools and relevant trainings to enhanced tractability of cryptocurrencies transactions. Proposals should also propose cooperation model(s) and tools for the exchange of information between relevant authorities.

The successful proposal should build on the publicly available achievements and findings of related previous national or EU-funded projects. Coordination among the successful proposal from this topic as well as with the successful proposals under topic HORIZON-CL3-2023-FCT-01-06: Crime as a service should be envisaged to avoid duplication, and to exploit complementarities as well as opportunities for increased impact.

Proposals funded under this topic are expected to engage with the Europol Innovation Lab during the lifetime of the project, including validating the outcomes, with the aim of facilitating future uptake of innovations for the law enforcement community.

rojects' results are expected to contribute to all of the following outcomes:

- The attractiveness of use of cryptocurrencies by criminals and terrorists is limited, with better tractability of cryptocurrency transactions;
- Lawful tools and methods for Police Authorities to better trace virtual currency transactions related to criminal activities;
- Recommendations are provided for better regulation of the cryptocurrencies market as well as for better regulation of the exchange of transnational information on funds transfers, harmonizing and promoting standards to enhance the tracing of money flows in the context of criminal investigations; and
- Modern training curricula for Police Authorities, Prosecutors, as well as judicial actors are developed on tracing, seizing and handling cryptocurrencies in the course of investigation.

Further information:

https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/horizon-cl3-2024-fct-01-08?isExactMatch=true&status=31094502&frameworkProgramme=43108390&startDate=1717192800000&order=ASC&pageNumbe

HORIZON EUROPE Post-quantum cryptography transition (Cybersecurity); Deadline: 20 November 2024 17:00:00 Brussels time

The advent of large-scale quantum computers will compromise much of modern cryptography, which is instrumental in ensuring cybersecurity and privacy of the digital transition. Any cryptographic primitive based on the integer factorization and/or the discrete logarithm problems will be vulnerable to large-scale quantum-powered attacks. The digital data/products/systems that derive their security ultimately from the abovementioned primitives will be compromised and must be upgraded - including their replacement when needed- to quantum-resistant cryptography. The massive scale of this foreseen upgrade shows that preparations are needed today in order to widely implement the relevant mitigations in the future. Many companies and governments cannot afford to have their protected communications/data decrypted in the future, even if that future still seems distant. There is a need to advance swiftly in the transition to quantum-resistant cryptography.

Post-quantum resistant cryptographic algorithms should be deployable in a dynamic manner in order to quickly react to new quantum computer developments. Recommendations for post-quantum cryptography have already been published, but have to be maintained up-to-date, Proposals received under this topic should contribute to developing coordinated European recommendations for the transition to post-quantum cryptography across the EU.

The identification and analysis of potential regulatory aspects and barriers for the developed technologies/solutions is encouraged, where relevant.

Projects' results are expected to contribute to some or all of the following outcomes:

- Increasing the maturity of current post-quantum cryptographic algorithms and contribution to further standardisation;
- Easy-to-use tools for the large-scale implementation of post-quantum cryptographic algorithms, based on state-of-the-art standards;
- Secure and efficient transition from pre- to post-quantum encryption through tools implementing a hybrid approach combining recognised pre-quantum public key algorithms and additional post-quantum algorithms;

- Phase-in of post-quantum algorithms or protocols to new or existing applications;
- Demonstrators and good-practice implementations of post-quantum cryptographic algorithms on varied hardware and software platforms;
- Application-oriented recommendations for the widespread implementation of post-quantum cryptography across the EU

Further information:

https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/horizon-cl3-2024-cs-01-02?isExact

HORIZON EUROPE Cost-effective sustainable technologies and crisis management strategies for RN large-scale protection of population and infrastructures after a nuclear blast or nuclear facility incident (Disaster-Resilient Societies); Deadline: 20 November 2024 17:00:00 Brussels time

A nuclear explosion in any EU member country (or in the European neighbourhood) would lead to disastrous effects for numerous EU citizens and residents. For example, the initial effects from a nuclear explosion in a city will lead to, besides numerous dead and severely injured citizens, destroyed infrastructure. The radioactive plume containing particulate matter may damage ventilation systems and fallout will generate high dose rates. Criticality or other incidents at nuclear power plants and nuclear-powered vessels may occur because of direct attack, sabotage, collateral damage, accidents, loss of infrastructure services such as power and/or water supply or lack of necessary skilled personnel on site.

Research on large-scale protection of population and infrastructure in the event of a nuclear explosion need to be undertaken both separately as well as in a RN-perspective. Research activities aimed at updating EU's possibilities for large-scale protection of population and infrastructure in the event of a nuclear explosion would benefit from being carried out in close cooperation with other EU-members. Research activities should also pertain to improved understanding of the radioactive fallout and assessment of dose rates to the population following a nuclear explosion in order to enable use of cost-effective sustainable technologies in protection of population and infrastructures.

Projects' results are expected to contribute to some or all of the following outcomes:

- Based on existing national practices, improved understanding of the radioactive fallout and methodology regarding robust and rapid monitoring of dose rate and nuclide specific determination with purpose of facilitating safe evacuation after a nuclear or radiological event;
- Improved tools and methods for risk assessment following a nuclear or radiological event and optimized actions after a disaster that are based on risk analysis rather than probabilities
- Identification of the relevant range of different protective measures, including medical countermeasures, needed after a RN disaster, and improved protection of population and infrastructures through better analysis of sensor data resulting in adequate protective actions;
- Improved understanding of contamination and decontamination of population and infrastructure, and improved rapid procedures for decontamination of individuals after a RN-incident;
- Recommendations on integration of improved technologies and assessment methodologies in the RN crisis managements systems.

Further information:

https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/horizon-cl3-2024-drs-01-05?isExactMatch=true&status=31094502&frameworkProgramme=43108390&startDate=1717192800000&order=ASC&pageNumbe

HORIZON EUROPE Open Topic (Protection and Security); Deadline: 20 November 2024 17:00:00 Brussels time

Under the Open Topic, proposals are welcome to address both existing and upcoming challenges in fighting crimes strongly influenced by cultural and/or societal issues that are not covered by the other topics of Horizon Europe Calls Fighting Crime and Terrorism 2021-2022, Fighting Crime and Terrorism 2023 and Fighting Crime and Terrorism 2024.

Adapted to the nature, scope and type of proposed activities, proposals should convincingly explain how they will plan

and/or carry out demonstration, testing or validation of developed tools and solutions. Proposals should also delineate the plans to develop possible future uptake and upscaling at national and EU level for possible next steps after the research project completion.

If applicable research proposals should consider building on previous research, including but not limited to, research stemming from Horizon Framework Programmes.

If relevant for the proposals, coordination scheme should be implemented for the successful proposals submitted under this topic, as well as with the successful proposals funded under other topics of this or previous Horizon Europe Fighting Crime and Terrorism calls.

Activities proposed within this topic should address, in a balanced way, both technological and societal dimensions of the issue under consideration.

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 innovation activities.

Projects' results are expected to contribute to all of the following outcomes:

- Building Police Authorities' capabilities to identify, prevent and investigate major contemporary and/or emerging criminal activities;
- Development of tools, methods or manuals for Police Authorities, improving their effectiveness in detecting crimes, collecting evidence and investigating cases of major contemporary and/or emerging criminal activities;
- Development of training curricula, for Police Authorities, prosecutors, as well as judicial actors on major contemporary and/or emerging criminal activities, raising their awareness about impact of cultural and societal issues on the categories of crime and/or violence under consideration.

Activities are expected to achieve TRL 5-6 by the end of the project

Further information:

https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/horizon-cl3-2024-fct-01-06?isExactMatch=true&status=31094502&frameworkProgramme=43108390&startDate=1717192800000&order=ASC&pageNumbe

HORIZON EUROPE Resilient and secure urban planning and new tools for EU territorial entities (Protection and Security); Deadline: 20 November 2024 17:00:00 Brussels time

EU territories, despite their size and location, suffer from a lack of dedicated EU sovereign and trusted tools in order to enhance the coordination of local first responders and to improve security coverage, such as the preparation of operational staff, field intervention and predictive tools. Even though some complicated tools already exist, it is clear that there is no generic, cost effective and easy to use solutions for local authorities. Therefore, there is a need for creation of new tools that are designed in a simple manner and deployed in an effective way.

Resilient and secure urban planning tools for the development of holistic approaches that network the different organizational levels, sensor and communication levels and data rooms are very pertinent. These tools should assess the resilience of urban and peri urban territories, identify weaknesses and recommend changes to organizational processes, sensors and communication infrastructure. The secure urban and rural living spaces, technical solutions, organizational levels, and data rooms must be more closely linked. There is a clear need for a development of tools for recovery strategies and proactive foresight for urban and peri urban environments. The tactical tools should include modelling of urban centres and rural areas, predictive tools, improved global situational awareness and day-to-day planning and crisis management (e.g., simulation, training).

The proposals should include a high level of confidence in data management and sharing, provide solutions on cybersecurity issues and take on board new type of threats. The proposed solutions should suggest trusted shared architectures, trusted data collection, secure computation on the data and management processes, modelling capabilities, hypervisor supporting global situational awareness with open and trusted API's, trusted data processing engines and, e.g., artificial intelligence tools. If the tools include processing of personal data, it should consider including a risk assessment or privacy impact of individuals and society.

The testing and/or piloting of the tools and solutions developed in a real setting and the participation of one or more relevant local authorities is an asset; regardless, actions should foresee how they will facilitate the uptake, replication across

setting and up-scaling of the capabilities - i.e. solutions, tools, processes et al. – to be developed by the project.

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 innovation activities.

Projects' results are expected to contribute to all of the following outcomes:

▪ Evaluation of the resilience of an urban and peri-urban environment, identification of weaknesses and recommendations for changes to organizational processes;

▪ Creation of new tools and cost-efficient security upgrades of urban infrastructures with possibilities of pooling and sharing of complex security systems, taking into account limited budgets of local authorities;

▪ Improved efficiency of the security forces and emergency services (police, firefighters, paramedics …) for the benefit of the European citizens and residents;

▪ Promotion of best practices, creation of EU sovereign trusted decision support tool/solution and spreading of effective tools and capabilities across entities in different EU territories despite their size and location.

Activities are expected to achieve TRL 6-8 by the end of the project

Further information:

https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/horizon-cl3-2024-infra-01-02?isExactMatch=true&status=31094502&frameworkProgramme=43108390&startDate=1717192800000&order=ASC&pageNumbe

HORIZON EUROPE Mitigating new threats and adapting investigation strategies in the era of Internet of Things (Protection and Security); Deadline: 20 November 2024 17:00:00 Brussels time

Internet of Things (IoT) connects practically everything and makes everything more vulnerable as well. IoT devices increasingly benefit from the convergence and integration of technologies, such as machine learning, real-time analytics as well as 5G that will provide faster and more reliable connections for all devices.

There are a number of implications particular to IoT devices, which have been consistently highlighted by researchers and Police Authorities. For example, the vulnerability of IoT devices may be exploited by criminals who seek to collect personal data, compromise user credentials or spy on organisations or people. Furthermore, IoT devices may represent a threat that goes beyond the digital world, i.e. they may become an increasingly physical threat, since they find applications in, e.g., industry and infrastructure, as well as in building smart cities. Malevolent actions against connected devices with direct physical impact (e.g. car-to-car communication, hacking of vehicles, hospitals, nuclear plants) are also a growing concern. Therefore, the successful proposal should help Police Authorities understand the implications of the fast-developing IoT environment in order to keep pace with the evolution of its applications, recognise and tackle the emerging (digital and especially physical) threats that this may pose.

At the same time, IoT proliferation will provide opportunities for the Police Authorities and other relevant security practitioners to collect a new range of data in relation with criminal activities. New investigating schemes are needed for Police Authorities to access and exploit IoTs evidence, in compliance with EU values. To this end, the proposal should examine the extent to which, e.g., modern vehicle models, smart TVs, private surveillance systems, virtual assistants or voice control systems can be considered as sources of evidence for the collection and analysis of data, as well as how such data can be used for deriving indicators of an imminent threat.

The research should assess legal, organisational and technical implications of IoT development in the context of investigations, including e.g. privacy issues, and propose strategies, including training materials, tools and path to standards that would foster "by design" a lawful access to relevant evidence.

Projects' results are expected to contribute to all of the following outcomes:

▪ Increased understanding of Police Authorities regarding the emerging (digital and especially physical) threats of the fast-developing environment of Internet of Things;

▪ Modern tools to tackle new and emerging forms of crime pertaining to the development of Internet of Things are provided to European Police Authorities and other relevant security practitioners, which take into account legal and ethical rules of operation, EU fundamental rights such as privacy and protection of personal data as well as cost-benefit considerations;

▪ Lawful access and exploitation of evidence in the environment of the Internet of Things are fortified;

▪ Best practices (legal, organisational, technical) to access and exploit Internet of Things in the course of investigation are

strengthened, including by developing relevant tools and training materials.

Activities are expected to achieve TRL 5-6 by the end of the project

Further information:

https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/horizon-cl3-2024-fct-01-01?isExactMatch=true&status=31094502&frameworkProgramme=43108390&startDate=1717192800000&order=ASC&pageNumbe

HORIZON EUROPE Open Topic (Protection and Security); Deadline: 20 November 2024 17:00:00 Brussels time

Under the Open Topic, proposals are welcome to address new, upcoming or unforeseen challenges and/or creative or disruptive forensic solutions for fighting crime and terrorism, that are not covered by the other topics of Horizon Europe Calls Fighting Crime and Terrorism 2021-2022, Fighting Crime and Terrorism 2023 and Fighting Crime and Terrorism 2024.

Adapted to the nature, scope and type of proposed projects, proposals should convincingly explain how they will plan and/or carry out demonstration, testing or validation of developed tools and solutions. Proposals should also delineate the plans to develop possible future uptake and upscaling at national and EU level for possible next steps after the research project. Research proposals should consider, build on if appropriate and not duplicate previous research, including but not limited to research by other Framework Programmes' projects. When applicable, the successful proposal should build on the publicly available achievements and findings of related previous national or EU-funded projects.

If relevant for the proposals, a coordination scheme should be implemented for the successful proposals submitted under this topic, as well as with the successful proposals funded under other topics of this or previous Horizon Europe Fighting Crime and Terrorism Calls.

Proposals funded under this topic are expected to engage with the Europol Innovation Lab during the lifetime of the project, including validating the outcomes, with the aim of facilitating future uptake of innovations for the law enforcement community.

Projects' results are expected to contribute to all of the following outcomes:

▪ Improved European common forensics investigation capabilities, evidence collection and cross-border exchanges in the domain under consideration;

▪ Police Authorities and forensic institutes are provided with innovative, harmonised and modern tools and procedures for forensic applications in the investigation of the crime under consideration, in full compliance with applicable legislation on protection of personal data;

▪ Forensic practitioners and Police Authorities active in crime scene investigations are provided with modern and innovative training curricula in the forensic domain under consideration.

Activities are expected to achieve TRL 5-7 by the end of the project

Further information:

https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/horizon-cl3-2024-fct-01-02?isExactMatch=true&status=31094502&frameworkProgramme=43108390&startDate=1717192800000&order=ASC&pageNumbe

HORIZON EUROPE Combating hate speech online and offline (Protection and Security); Deadline: 20 November 2024 17:00:00 Brussels time

Addressing hate speech from all angles increases the chance of combating it in a sustainable manner. Thus, in line with all the above initiatives and with the Victims Rights Directive and the EU Strategy on Victims' Rights, the successful proposal is expected to reinforce hate crime training and capacity building for Police Authorities and other relevant security practitioners, in particular to enhance their tools and methods for lawful detection, reporting and data/evidence collection and analysis of the hate speech related activities that are considered as crime or could lead to a crime, notably the ones supported by advanced digital technologies, such as in emerging cyber environments. By doing so, being an innovation action, the successful proposal is expected to build on previously developed tools for related applications (such as text and image matching). The successful proposal should also support the implementation of the voluntary Code of Conduct on countering illegal hate speech online that the European Commission initiated in 2016 with IT companies, the European strategy for

a better internet for kids, the Digital Services Act and the outcomes of the "Study on digital violent right-wing extremist content and manifestations of hate speech online". Similarly, any other relevant development, study or initiative should be taken into account. Evolutions in hate crime and hate speech, such as their sparks in times of social or economic crises (e.g. pandemics and wars) should be considered too. In order to derive effective responses and improve the understanding of the cultural and societal aspects of hate speech and hate crime, as well as of the key challenges for combating it, the successful proposal should include local, national and international dimensions, civil society perspectives, and analysis of good practices. An added value of the proposal would be to also develop modern and effective awareness raising campaigns for relevant Civil Society Organisations and Police Authorities in order to pass key messages to potential victims, as well as wide communities, while taking into account European multicultural dimension.

Projects' results are expected to contribute to all of the following outcomes:

- Providing Police Authorities and other relevant security practitioners with better, modern and validated tools, methods and training curricula to tackle those activities related to hate speech that are considered as crime or could lead to a crime, notably such activities which are supported by advanced digital technologies, such as in emerging cyber environments;
- Developing European common approaches, and making them available to policy-makers and security practitioners, for analysing risks/threats, collecting data on hate speech, collecting court-proof evidence and crime attribution, and identifying and deploying relevant security measures related to hate motivated crime and speech, which take into account the European multicultural dimension, legal and ethical rules, cost-benefit considerations, as well as fundamental rights such as the right to freedom of expression, privacy and protection of personal data;
- Enhancing citizen's security perception and the hate speech prevention by preparing education and training materials on cultural and societal impacts of hate speech and hate crime.

Activities are expected to achieve TRL 6-7 by the end of the project

Further information:
https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/horizon-cl3-2024-fct-01-05?isExactMatch=true&status=31094502&frameworkProgramme=43108390&startDate=1717192800000&order=ASC&pageNumbe

HORIZON EUROPE Radicalisation and gender (Protection and Security); Deadline: 20 November 2024 17:00:00 Brussels time

Terrorism resulting from radicalisation and violent extremism is a serious threat to European security. Part of the complexity of these phenomena lies in the fact that there is neither a single pathway to radicalisation nor a single terrorist profile. Support of extremists is an effect of individual clusters of psychological, personal, social, economic and political reasons. From a gender perspective, women's radicalisation and involvement in violent extremist groups remain relatively under-researched, poorly understood and possibly characterized by misconceptions about women's exclusion from decision-making processes, as well as their significant underrepresentation in bodies countering the phenomena. In situations of conflict and violence, women are often seen as passive, victims, subordinate and maternal, while these could be assumptions reinforcing gender stereotypes. In order to improve understandings of radicalization and gender we need to study how and why gender norms appear as an increasingly contested area of politics with strong mobilizing power. What role gender norms and equality policies play in stabilizing and destabilizing social and political order, and how ideas and norms about gender equality make people react, mobilize and engage politically, at present, in the past and in the future. The entry point for prevention and de-radicalisation efforts are local communities, which are both stakeholders and partners of the law enforcement in this process. Activities aimed at youngsters and adults have to be gender sensitive, and research has to deliver tailored advice and solutions adequately, and proportionately addressing all critical issues.

Community policing with its multidisciplinary approach seeks the cooperation of local communities and the broad range of public authorities in its efforts of building safe environments. However, those efforts should recognise not only cultural, social and economic diversity of the milieus, but as mentioned above also be gender sensitive. The successful proposal should build on the publicly available achievements and findings of related previous national or EU-funded projects as well as seek to exploit potential synergies with the successful proposal(s) funded under HORIZON-CL3-2023-FCT-01-03: New methods and technologies in service of community policing and transferable best practices, and HORIZON-CL2-2024-DEMOCRACY-01-05: Gender-roles in extremist movements and their impact on democracy.

Projects' results are expected to contribute to some or all of the following outcomes:

- Improved understanding of motivation of women and girls for supporting extremist ideologies, such as grievance and stigmatisation;

- Improved understanding of the role of masculinity in men and boys' motivation for the support of extreme ideologies;
- Better understanding of the group dynamics at play during processes of radicalisation, including factors for factionalism and potential splinters in terrorist organisations;
- Development of strategies aimed at enhancing the use of motivation factor in detection, prevention and de-radicalisation efforts;
- European Police Authorities, Prison Authorities, social care workers, teachers and other P/CVE practitioners benefit from modern and validated tools, skills and training curricula to identify early symptoms of radicalisation;
- Identification and assessment of best practices that are transferable across Member States improving and developing modules and trainings, strengthening adaption of local community policing in diverse communities; and
- Design girls and women's empowerment approaches through legal, financial and/or cultural means aimed at tackling the root causes of radicalisation and extremism.

Further information:

https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/horizon-cl3-2024-fct-01-04?isExactMatch=true&status=31094502&frameworkProgramme=43108390&startDate=1717192800000&order=ASC&pageNumbe

HORIZON EUROPE Open Topic (Disaster-Resilient Societies); Deadline: 20 November 2024 17:00:00 Brussels time

Under the Open Topic, proposals are welcome to address new, upcoming or unforeseen challenges and/or creative or disruptive solutions for enhanced interactions among the scientific community, practitioners, city's risk managers of major crises and citizens or local communities in the event of (natural or man-made) disasters, that are not covered by the other topics of Calls Disaster-Resilient Society 2021-2022, Call Disaster-Resilient Society 2023 and Call Disaster-Resilient Society 2024. For example, proposals may address situational awareness of disaster-related risks by citizens, near-to-real-cases exercises (demonstrations simulating real cases) involving citizen volunteers, municipal authorities and first responders, advisory dissemination materials, highlighting good practices of interactions among citizens, municipal authorities and first and second responders in the event of (natural or man-made) disasters, addressed to European public in different EU languages, etc.
Adapted to the nature, scope and type of proposed projects, proposals should convincingly explain how they will plan and/or carry out demonstration, testing or validation of developed tools and solutions. Proposals should also delineate the plans to develop possible future uptake and upscaling at national and EU level for possible next steps after the research project. Research proposals should consider, build on if appropriate and not duplicate previous research, including but not limited to research by other Framework Programmes' projects. When applicable, the successful proposal should build on the publicly available achievements and findings of related previous national or EU-funded projects.
Projects' results are expected to contribute to the following outcomes:
- More efficient interactions among the scientific community, research institutions and programmes, first and second responders, city's risk managers of major crises and citizens or local communities for an enhanced coordination of the disaster risk management cycle and governance (including knowledge transfer and awareness of innovative solutions) from international to local levels, fostering a faster transfer of results from science into practice.
Further information:

https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/horizon-cl3-2024-drs-01-02?isExactMatch=true&status=31094502&frameworkProgramme=43108390&startDate=1717192800000&order=ASC&pageNumbe

HORIZON EUROPE Open Topic (Protection and Security); Deadline: 20 November 2024 17:00:00 Brussels time

Proposals for topics under this Destination should set out a credible pathway to contributing to the following expected impact of the Horizon Europe Strategic Plan 2021-2024:"[…]resilience and autonomy of physical and digital infrastructures are enhanced and vital societal functions are ensured, thanks to more powerful prevention, preparedness and response, a better understanding of related human, societal and technological aspects, and the development of cutting-edge capabilities

for [...]infrastructure operators [...]"

More specifically, proposals should contribute to the achievement of one or more of the following impacts:

- Ensured resilience of large-scale interconnected systems infrastructures and the entities that operate them in in case of complex attacks, pandemics, natural and human-made disasters, or the impacts of climate change;
- Upgraded systems for resilience of the operators and the protection of critical infrastructure to enable rapid, effective, safe and secure response and without substantial human intervention to complex threats and challenges, and better assess risks ensuring resilience and open strategic autonomy of European infrastructures;
- Resilient and secure smart cities are protected using the knowledge derived from the protection of critical infrastructures and systems that are characterised by growing complexity.

The capabilities built by research and innovation in this Destination would clearly be relevant to be better prepared for potential future challenges to European internal security and crises as the ones in Ukraine in 2022.

Projects' results are expected to contribute to all of the following outcomes:

- Critical infrastructure operators are more resilient to threats and natural and human-made hazards;
- Improved monitoring, risk assessment, forecast, mitigation and modelling techniques aimed at increasing the resilience of critical infrastructures, validating multi-hazard scenarios, creating interactive hazard maps supported by Earth Observation and other data sources.

Further information:

https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/horizon-cl3-2024-infra-01-01?isExactMatch=true&status=31094502&frameworkProgramme=43108390&startDate=1717192800000&order=ASC&pageNumbe

HORIZON EUROPE Prevention, detection, response and mitigation of chemical, biological and radiological threats to agricultural production, feed and food processing, distribution and consumption (Protection and Security); Deadline: 20 November 2024 17:00:00 Brussels time

Plant and animal health is of global importance for sustainable agriculture and competitive agriculture and forestry, as well as for the protection of biodiversity and ecosystems[1]. Globally, between 10 and 28 percent of crop production is lost to pests and contamination of food and feed by mycotoxins can severely threaten the health of humans and livestock. The International Year of Plant Health (IYPH) 2020, established by the United Nations, raised public and political awareness of the importance of plant health and a recent study (IPPC, 2021) calls the attention of policy makers to the main effects of climate change on plant health, helping governments and the international community addressing plant health challenges. Also, the food chain, from harvest of agricultural products, throughout processing, distribution and until consumption can be challenged by several (hybrid) threats, which are increasingly taking non-conventional forms and possibly targeting the agriculture and food chain with severe consequences.

The Word Health Organisation identified intentional agriculture attack with biological weapons and food contamination as one of the main global public health threats of the 21st century. The potential for terrorist attacks or other criminal actions against agri-food targets is increasingly recognised as a threat to international security. The population's health could be jeopardised by the manipulation of communicable diseases or the contamination of food, soil, air and drinking water by CBR agents.

Projects' results are expected to contribute to some or all of the following outcomes:

- Increasing EU capabilities to assess risks, detect, alert, mitigate and respond to feed and food intentional and accidental contamination from chemical, biological and radiological (CBR) agents, through the entire food chains (soils and agro-production, feed and food industry, transporting, retail and hospitality industry, public catering);
- Increasing the understanding on food terrorism threats and on food chain vulnerabilities to intentional and accidental contaminations;
- Raising awareness among feed and food companies and authorities to CBR threats arising from malicious use of hazardous agents that pose danger to animal and public health. This should be done under the premises of feed and food as a critical infrastructure and risks pertaining therein;
- In addition to raising awareness, proposals should develop possible preparedness, mitigation and response plans for national authorities and the private sector.

Further information:

https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/horizon-cl3-2024-drs-01-

HORIZON EUROPE Interoperability for border and maritime surveillance and situational awareness (Protection and Security); Deadline: 20 November 2024 17:00:00 Brussels time

Authorities performing surveillance of maritime borders and maritime wide areas use a range of technologies, and receive a range of information, to monitor wide areas, detect threats or crises, and respond to them. However, these inputs are not always merged into common command-and-control (C2) systems that can inform rapid decision-making.

The proposed solution(s) should allow improved interoperability (at both back-end and front-end levels), independently of the supplier of the equipment, and ideally interchangeability that enables exchange of information among authorities that use different systems. Compatibility and integration with other information sharing environments, including the Common Information Sharing Environment (CISE) is essential in order to support the cross-sectoral and cross-border exchange of information.

The proposed solution(s) can include the design of open architecture C2 systems, including open standards for APIs and bias-free data models.

The proposed solution(s) should enable simultaneous connection of different sensors (or of different data, or of different assets, depending by the module) by different suppliers, the flexible tasking and monitoring of surveillance assets like RPAS, and the visualization and manipulation of the data in a single user interface in a seamless way. This will support practitioners to exploit their technology stack in an agnostic way.

The proposed solution(s) should allow for seamless connectivity between C2 systems from different authorities, and at different coordination levels; include cybersecurity measures and information access segregation capabilities; include concepts of operation, standard operating procedures and common lexicon for joint operations using interoperable systems through the proposed solution(s).

While the project will mainly focus on enabling capabilities through interoperability and interchangeability, proposals that in the process aim at advancing certain technological components, and integrating them into the solution, are welcome.

Projects' results are expected to contribute to some or all of the following outcomes:

▪ Increased border surveillance capability, better performing and more cost-efficient, with data and fundamental rights protection by design;

▪ Improved surveillance and situational awareness of sea borders, but also of maritime infrastructures as harbours and commercial and civilian maritime security, including in key areas such as the Arctic;

▪ Improved multi-level, multi-authority and cross-border (among Member States and Associated Countries practitioners) collaboration thanks to better interoperability of sensing, analysis and C2 systems.

Further information:

https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/horizon-cl3-2024-bm-01-02?isExactMatch=true&status=31094502&frameworkProgramme=43108390&startDate=1717192800000&order=ASC&pageNumbe

HORIZON EUROPE Advanced user-friendly, compatible, secure identity and travel document management (Protection and Security); Deadline 20 November 2024 17:00:00 Brussels time

Authentication of documents is relevant for border management, immigration or visa applications. Furthermore, it could also be relevant to combat other illicit activities, such as financial fraud. Facilitation of travel across external EU borders went and is further going through remarkable developments thanks to subsequent technological generations, and updated procedures and regulatory frameworks. From automated border control gates to "no-gate" solutions, and to "seamless travel"; from secure documents, to digitalised travel documents, and to "dematerialised travel documents" and "digital wallets". All to ease border crossing for travellers, while maintaining border security against illicit or irregular crossings and protecting fundamental rights. This topic aims at exploring and developing enhanced capabilities for securely managing digitalised travel documents used for travel across external borders.

The proposed solution should be compatible with planned or possible future EU highly digitalised travel documents formats and travel facilitation systems, and with applicable ICAO current and upcoming schemes. The proposed solutions should

be compatible or interoperable with relevant existing digitalised travel documents systems. The proposed solutions should also respect fundamental rights such as privacy and protection of personal data, apply privacy by design of the application and use privacy-enhancing technologies.

The operational applicability focus should be on highly digitalised travel documents and "digital identity management" used for travel across external borders. However, the research should include enhancing the security of breeder documents, which risk being "weak links" when they are used to obtain genuine, secure travel documents.

The proposed solution should include techniques (including those to increase the robustness against attempts to falsify biometric data) to allow sharing of results from the tools, and share as few data used by the tool as possible to return those results (in order to increase data protection and minimize data leak risks). Leakage or compromising of personal data should be avoided in the transfer of tools or of their results.

The proposed solution should ensure secure data collection, access, encryption and decision support for those in relevant roles in the border management processes. Full encryption at transit and rest should be ensured, while enabling fuzzy searches on all metrics of the documents' data.

The proposed solution should include an automated decision support system that helps the work of operators and suggests to end-users (such as border authorities' staff) which process and which database/tool can be legally used with, or by, a certain technology or database.

Projects' results are expected to contribute to some or all of the following outcomes:
- Improved capabilities to validate breeder and identity documents as well as ICAO Type 1 and Type 2 digitalised travel documents;
- Improved compatibility among tools for verification of travel documents and identity, while guaranteeing not sharing (beyond what's strictly necessary) or compromising personal data;
- Enhanced integration with EU current or planned architecture(s) for digital identity frameworks;
- Contribute to capabilities that strengthen the Schengen area, by providing security at its external borders that also reassure on maintaining the free movement within its borders.

Further information:

https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/horizon-cl3-2024-bm-01-03?isExactMatch=true&status=31094502&frameworkProgramme=43108390&startDate=1717192800000&order=ASC&pageNumbe

HORIZON EUROPE Advanced real-time data analysis used for infrastructure resilience (Protection and Security); Deadline 20 November 2024 17:00:00 Brussels time

Today's society is more interconnected than ever before. Telecommunication networks, transport networks, aviation, energy, water grids, finance are the backbone of today's society. Due to their exceptional complexity and size, infrastructure networks pose a specific challenge when it comes to identifying different risks, either cyber or physical. Especially in the cyber-domain, many intrusions or attacks remain unnoticed or are detected relatively late. Technological developments in areas like machine learning for analytics, user interfaces as well as storage applications have the potential to improve related capabilities.

Modern urban environments and interconnected infrastructures create constantly big amounts of data. In addition, other sources can be exploited to support the identification and analysis of risks to infrastructures. Therefore, research on enhanced risk anticipation through real-time data analysis has the potential to lead to useful tools to enhance preparedness (contingency plans, scenario-based exercises, allocation of resources, etc.).

Projects' results are expected to contribute to some or all of the following outcomes:
- Improved capabilities for risk and faulty events identification in infrastructure networks and smart cities through real-time analysis (including big data) by public and private actors via secured and trusted platforms and interconnected systems where the collaboration follows clear legal and political frameworks;
- Tools and processes for facilitating stakeholders efforts to identify, analyse, assess and continuously monitor risks and boost adaptive capacity to unexpected events risks in advance by allowing for the analysis of various data sources (e.g. audio, video, social media, web-content, spatial information, sensor or machine generated data);
- Fast and continuous real-time identification, classification and tracking of hazardous agents, contaminants or anomalies in infrastructure networks and supply-chains;

- Interoperable interfaces and improved collaboration between infrastructure operation detection and response systems, national/EU risk management/coordination centres and first responder equipment in order to allow for remote on-scene operations considering citizen knowledge;
- Increased cyber-resilience of industrial xG networks and cloud data covering specific infrastructure domains
- Improved ability to map in real-time the source(s) of risk factors that could endanger the networked infrastructure supported by Earth Observation and geolocation data. If the analysis includes processing of personal data, it should consider including a risk assessment or privacy impact of individuals and society.

Further information:
https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/horizon-cl3-2024-infra-01-03?isExactMatch=true&status=31094502&frameworkProgramme=43108390&startDate=1717192800000&order=ASC&pageNumbe

HORIZON EUROPE Lawful evidence collection in online child sexual abuse investigations, including undercover (Protection and Security); Deadline: 20 November 2024 17:00:00 Brussels time

The use of online undercover investigation techniques is an important asset for Police Authorities in infiltrating the networks of sexual abusers of children. These methods have proven very effective in understanding offender behaviour and interaction of online service providers, and have ultimately facilitated the shutting down of communication channels used by these offenders, as well as their prosecution. An increasingly important need for Police Authorities' activity in these spaces is the ability to effectively infiltrate particularly dangerous online groups of offenders, while making sure that the evidence obtained will be admissible in court. EU values and fundamental rights shall stay in the core of any future measures. Research in this area should tackle legislative frameworks to collecting evidence in online, including undercover, investigations of child sexual abuse, leading to guidelines and manuals that would make the capability available across the EU to target these offenders more effectively. The results of this research topic (training, manuals guidelines) should be shared among all European Police Authorities, notably via CEPOL, provided that the Agency opts out from applying for funding under this topic. The successful proposal should build on the publicly available achievements and findings of related previous national or EU-funded projects as well as create synergies with similar on-going security research projects from the Calls 2021-2022 on Fighting Crime and Terrorism in the area of digital forensics and countering child sexual abuse, in order to avoid duplication and to exploit complementarities as well as opportunities for increased impact.
Projects' results are expected to contribute to all of the following outcomes:
- Development of safer justice outcomes through an increased understanding of the EU-wide legal aspects of online investigations, including undercover, in the area of child sexual abuse;
- Improved understanding of the EU-wide legislative frameworks that impact (undercover) investigations in this area;
- Modern and robust methods at the European level are proposed at all steps of an investigative process in this area, overcoming various types of biases and obstacles to the collection of evidence that is admissible in court and respects the dignity, privacy, protection of personal data and anonymity of victims;
- Forensic practitioners, Police Authorities and other relevant security practitioners active in online (including undercover) child sexual abuse investigations benefit from innovative guidelines, manuals, education and training curricula
Activities are expected to achieve TRL 5-6 by the end of the project

Further information:

https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/horizon-cl3-2024-fct-01-03?isExactMatch=true&status=31094502&frameworkProgramme=43108390&startDate=1717192800000&order=ASC&pageNumbe

HORIZON EUROPE Hi-tech capacities for crisis response and recovery after a natural-technological (NaTech) disaster (Disaster-resilient Societies); Deadline: 20 November 2024 17:00:00 Brussels time

The confluence of incidents in recent years has brought renewed concerns over our systemic resilience to external shocks arising from natural-technological (NaTech) disasters. This is particularly acute in the event of disruption in the transport, power, water supply and communication sectors in highly populated and industrialised areas, or when such events raise the

likelihood of cascading effects with severe impacts on communities and the economy that are hard or impossible to predict. The main focus on NaTech risks lies on a thorough understanding of the vulnerability of industrial sites and critical infrastructure, and the potential impact natural hazards can have on such technological resources. This entails the identification of both physical (safety of building facilities and structures) and operational vulnerabilities, often addressing multi-hazard conditions. Innovative methods are required for analysing worst-case scenarios, and informing decision-makers about the crosscutting and shared responses to different crises given available resources.

Research involving multiple fields of expertise, including spatial information (to be specified), is also required to improve hi-tech capacities for operational response systems to better cope with natural and/or technological disasters occurring in Europe (and in overseas territories) in an integrated manner. This will rely on a knowledge sharing among natural and technological risks communities to develop a holistic vision for an integrated operational crisis management of NaTech disasters.

Projects' results are expected to contribute to some or all of the following outcomes:

▪ Development of a holistic vision of crisis management after telluric (e.g. volcanic, seismic, tsunami, landslide) or extreme climate events (e.g. floods, storms, storm surges, fires, droughts) producing impacts on critical assets (e.g. infrastructures, industries) and creation of new management framework for handling NaTech crises;

▪ Enhanced existing crisis management tools to develop a common platform (shared among public and private operators) allowing cross-border exchanges and decision-making, while respecting legal frameworks and responsibilities;

▪ Demonstrated operational protocols and development of standard operating procedures able to respond to NaTech crises in cross-border configurations, including comprehensive risk modelling of worst-case scenarios taking into account cascading effects and future impacts of climate change, and taking into consideration spatial information and data;

▪ Improvement of our understanding and capabilities to identify and mitigate risks associated with interdependencies across infrastructures and other human (social and economic) systems.

Activities are expected to achieve TRL 5-7 by the end of the project

Further information:

https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/horizon-cl3-2024-drs-01-04?isExactMatch=true&status=31094502&frameworkProgramme=43108390&startDate=1717192800000&order=ASC&pageNumbe

HORIZON EUROPE Integrated risk-based border control that mitigates public security risk, reduces false positives and strengthens privacy (Protection and Security); Deadline: 20 November 2024 17:00:00 Brussels time

Growth of international travel and mobility (which will likely return to, and increase to a level above, the pre-COVID-19 pandemic levels), the scarcity of resources, and the need to ease border crossings while maintaining security of the Schengen area, make reliable risk assessments and border checks prioritisation important. Border practitioners in some Member States are assessing feasibility, reliability and acceptability of optimised border controls using risk-based management.

The solution(s) proposed under this topic should allow easier and more flexible allocation and change of resources in border checks.

Projects' results are expected to contribute to some or all of the following outcomes:

▪ Improve assisted border crossing control systems, coordinated between border, customs and security controls;

▪ Allocate more efficiently border check resources, maintaining security while minimising time and hassle for crossings and false positives;

▪ Allocate flexibly border check resources, when and where needed, depending on changing needs (for example seasonally, and/or in the case of roll-on-roll-off ferries);

▪ Contribute to capabilities that strengthen the Schengen area, by providing security at its external borders that also reassure on maintaining the free movement within its borders.

Further information:

https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/horizon-cl3-2024-bm-01-04?isExactMatch=true&status=31094502&frameworkProgramme=43108390&startDate=1717192800000&order=ASC&pageNumbe

HORIZON EUROPE CBRN-E detection capacities in small architecture (Protection and Security); Deadline: 20 November 2024 17:00:00 Brussels time

Public spaces such as squares, sport venues, shopping districts, places of worship, and mass transport systems have been the target of terrorist attacks causing significant loss of lives and causing societal insecurity. Means to carry out such attacks range from sophisticated, and well-planned scenarios including several coordinated attackers using explosives and firearms, to low-cost, low-tech attacks making use of common products. Today specific urban furniture like benches, bus shelters, flower boxes, etc. already have double functions controlling access to protected areas, which answers to some of the low-cost attacks. The next logical step seems to expand their functions further and adopt new functionalities to better respond to the terrorist threats, such as for CBRN-E ones. The successful proposal should build on the publicly available achievements and findings of related previous national or EU-funded projects, as well as seek to exploit potential synergies with the successful proposal(s) funded under HORIZON-CL3-2024-BM-01-05: Detection and tracking of illegal and trafficked goods.

In recent years, in some pilot actions some street furniture, including bins and bus shelters have become smart as they have been equipped with environmental sensors, wireless modules, or microcontrollers becoming part of the IoT infrastructure, and one of the components of the future smart cities. Proposals should focus on exploitation and integration of existing sensors within the public space small architectures. Traditional sensors and surveillance platforms like the Automatic Number-Plates Recognition (ANPR), cameras or image analysis systems are not in the scope of this topic unless their integration with new sensors is considered, and the added value of networked systems demonstrated. Proposals should present relevant challenges and opportunities for future applications of CBRN-E detection capacities in small architecture, including prospects of scalability, real-time processing, and cooperation of networked systems.

Projects' results are expected to contribute to all of the following outcomes:

- Improved vulnerability assessments by law enforcement and local managers of public spaces by detection of chemical, biological, radiological, nuclear and explosive (CBRN-E) threats in the public spaces and flow of public transport, in order to provide broader situational awareness to practitioners in the field;
- Enhanced planning capabilities of security practitioners and policy-makers due to the access of new data and identification of potential vulnerabilities connected to the design/refurbishment and improvement of different public spaces;
- Recommendations are provided for further improving safety and security-by-design approach to public spaces and mass transportation systems;
- Improved training of Police Authorities in collaboration with different public and private actors (e. g., crisis management and civil protection authorities, fire brigades, regulatory agencies, emergency health services, security managers, private security organisations, civil society groups etc.) to enhance their preparedness to attacks on public spaces; and
- Enhanced modelling capabilities for security practitioners and policy-makers due to the identification of potential new vulnerabilities and data available, and improved support to planning of respective resources and activities.

Activities are expected to achieve TRL 6-8 by the end of the project

Further information:
https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/horizon-cl3-2024-fct-01-07?isExactMatch=true&status=31094502&frameworkProgramme=43108390&startDate=1717192800000&order=ASC&pageNumbe

HORIZON EUROPE Detection and tracking of illegal and trafficked goods (Protection and Security); Deadline: 20 November 2024 17:00:00 Brussels time

European customs need improved capabilities that allow bettering and automatically detecting from traces; interpreting images from scanned cargo; interpreting data; tracking goods; and/or identifying anomalies that support the detection of threats, smuggling or illicit trade eliminating or minimizing disruption to the trade flow. The proposed system should hence advance and/or combine as much as possible the components of detection, tracking and risk-based anticipation.

On detection, the proposed solution(s) could include trustworthy algorithms for recognition that minimise false positives and biases. Proposed research could include, for example, image (shape) recognition and interpretation, and/or a trace detection approach

On tracking, the research can propose and explore, for example, technologies for improved traceability of goods and items that could be illicitly trafficked using non-invasive markings.

On risk-based anticipation, the proposed solution(s) can leverage automated image recognition and interpretation capability coupled with data analytics, such as using advance cargo information in order to anticipate and detect security risks prior to goods' arrival at the EU external borders.

The research project can test one or more specific use cases, such as (non-exhaustive examples): art; cultural goods; waste and other environmentally risky material, including radioactive ones; valuables; and/or dangerous items either assembled or disassembled.

Projects' results are expected to contribute to some or all of the following outcomes:
- Contributing to development of fully automated customs control checkpoints;
- Enhancing detection capabilities for customs security, while facilitating trade.

Further information:

https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/horizon-cl3-2024-bm-01-05?isExactMatch=true&status=31094502&frameworkProgramme=43108390&startDate=1717192800000&order=ASC&pageNumbe

HORIZON EUROPE Demand-led innovation through public procurement (Protection and Security); Deadline: 20 November 2024 17:00:00 Brussels time

End-users and public procurers from several countries are invited to send proposals for launching a Pre-Commercial Procurement action for the acquisition of R&D services for the development of innovative civil security technology solutions.

The proposals should build on the outcomes of CSA projects funded under previous work programmes aimed at creating Stronger grounds for pre-commercial procurement of innovative security technologies [for example, topic HORIZON-CL3-2022-SSRI-01-03: Stronger grounds for pre-commercial procurement of innovative security technologies.]. The successful proposals could therefore give continuity to the works initiated by those CSA projects.

The proposals are expected to provide clear evidence on a number of aspects in order to justify and de-risk the PCP action, including:
- That the challenge is pertinent and that indeed a PCP action is required to complete the maturation cycle of certain technologies and to compare different alternatives;
- That there is a consolidated group of end-users and procurers with common needs and requirements which are committed to carry out a PCP action in order to be able to take an informed decision on a future joint procurement of innovative solutions;
- That there is a quantifiable and identifiable community of potential buyers (including and beyond those proposed as beneficiaries in the proposal) who would share to a wide extent the common needs and requirements defined and who could be interested in exploring further joint-uptake of solutions similar to those developed under the PCP, should these prove to be technologically mature and operationally relevant by the end of the project;
- That the state of the art and the market (including research) has been explored and mapped to the needs, and that there are different technical alternatives to address the proposed challenge;
- That the PCP tendering process is clear, that a draft planning has been proposed and that the supporting documentation and administrative procedures will be ready in due time in order to launch the call for R&D services according to the PCP rules.
- That there is a commitment to pursue the exploitation of results beyond the end of the project through engagement with stakeholders and implementation of exploitation strategies towards future uptake.

Projects' results are expected to contribute to some or all of the following outcomes:
- An identifiable community of EU civil security authorities with common user/functional needs for innovative technology solutions;
- Tested and validated capacity of EU technology and industrial base to develop and produce technology prototypes that meet the needs of the EU user community;
- Improved delineation of the EU market (including demand and supply) for innovative civil security systems that can articulate alternative options for uptake in function of different industrialisation needs, commercialisation needs, acquisition needs, deployment needs and additional funding needs (beyond R&I funding).

Further information:

https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/horizon-cl3-2024-ssri-01-01?isExactMatch=true&status=31094502&frameworkProgramme=43108390&startDate=1717192800000&order=ASC&pageNumbe

HORIZON EUROPE Women Innovators category (Additional EIC activities); Deadline: 20 November 2024 17:00:00 Brussels time

Facing fast-paced developing technologies and science, it is crucial to involve women and girls in the design, development and up-take of innovative solutions. Achieving gender equality and diversity benefits not only individuals, but also increases the performance of business, research and innovation.

Nevertheless, women continue to face multiple barriers, in bringing new ideas to the market and raising capital for their companies. This negatively affects the success rate of women-founded businesses and perpetuates the lack of awareness about the systemic nature of gender inequality. Hence, women's efforts and contributions to science and innovation should be encouraged and supported.

Award criteria

The prize is awarded to the applicants who in the opinion of the jury best address the following criteria:

1. Breakthrough innovation – the company or organisation founded or co-founded by the applicant is pioneering a breakthrough and disruptive innovation focusing, among others, deep-tech and Science Technology Engineering, Mathematics (STEM) fields, within the EU or countries associated to Horizon Europe.

2. Impact – this innovation addresses a real need or challenge, with significant benefits for people and/or the planet. The applicant will demonstrate how the company's or organisation's current performance and growth is driving a positive socio-economic and/or environmental impact, among others, in terms of wellbeing, education, profit, job creation.

3. Inspiration – the applicant is an inspiring leader, who has played a pivotal role in the success of the company or organisation and is a role model empowering other women and girls in realising their full potential. The applicant should, for example, highlight her efforts to promote gender balance within the company, organisation or beyond, and/or to advocate for innovative initiatives that have positively contributed to gender equality in, e.g., access to finance, networks, product design, education and contributes to a gender-responsive innovation.

Further information:

https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/horizon-eic-2024-prize-epwi-womeninnovatorsprize?isExactMatch=true&status=31094502&frameworkProgramme=43108390&startDate=1717192800000&order=

HORIZON EUROPE Rising Innovators category (Additional EIC activities); Deadline: 20 November 2024 17:00:00 Brussels time

Facing fast-paced developing technologies and science, it is crucial to involve women and girls in the design, development and up-take of innovative solutions. Achieving gender equality and diversity benefits not only individuals, but also increases the performance of business, research and innovation.

Nevertheless, women continue to face multiple barriers, in bringing new ideas to the market and raising capital for their companies. This negatively affects the success rate of women-founded businesses and perpetuates the lack of awareness about the systemic nature of gender inequality. Hence, women's efforts and contributions to science and innovation should be encouraged and supported.

Award criteria

The prize is awarded to the applicants who in the opinion of the jury best address the following criteria:

1. Breakthrough innovation – the company or organisation founded or co-founded by the applicant is pioneering a breakthrough and disruptive innovation focusing, among others, deep-tech and Science Technology Engineering, Mathematics (STEM) fields, within the EU or countries associated to Horizon Europe.

2. Impact – this innovation addresses a real need or challenge, with significant benefits for people and/or the planet. The applicant will demonstrate how the company's or organisation's current performance and growth is driving a positive socio-economic and/or environmental impact, among others, in terms of wellbeing, education, profit, job creation.

3. Inspiration – the applicant is an inspiring leader, who has played a pivotal role in the success of the company or organisation

isation and is a role model empowering other women and girls in realising their full potential. The applicant should, for example, highlight her efforts to promote gender balance within the company, organisation or beyond, and/or to advocate for innovative initiatives that have positively contributed to gender equality in, e.g., access to finance, networks, product design, education and contributes to a gender-responsive innovation.
Further information:

https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/horizon-eic-2024-prize-epwi-risinginnovatorsprize?isExactMatch=true&status=31094502&frameworkProgramme=43108390&startDate=1717192800000&order=A

HORIZON EUROPE Open Topic (Protection and Security); Deadline: 20 November 2024 17:00:00 Brussels time

Under the Open Topic, proposals are welcome to address new, upcoming or unforeseen challenges and/or creative or disruptive solutions within this Destination that are not covered by the other topics in Horizon Europe Calls Border Management 2021-2022, Border Management 2023 and Border Management 2024.
Adapted to the nature, scope, type and target TRL of proposed projects, proposals should convincingly explain how they will plan and/or carry out demonstration, testing or validation of developed tools and solutions. Proposals should be convincing in explaining the methods they intend to use for demonstrating, testing or validating the proposed tools and solutions. Proposals should also delineate the plans to develop possible future follow-up research and development and/or uptake and upscaling at national and EU level for possible next steps after the research project. In this view, proposals should as well indicate the perspectives for possible future demonstration, testing and validation at further TRLs.
Projects' results are expected to contribute to outcomes in line with the one or all of the pursued impacts described in the Introduction to the Destination "Effective Management of EU external borders".
Activities are expected to achieve TRL 4-6 by the end of the project
Further information:
https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/horizon-cl3-2024-bm-01-01?isExactMatch=true&status=31094502&frameworkProgramme=43108390&startDate=1717192800000&order=ASC&pageNumbe

HORIZON EUROPE Call for proposals for Set-up, integration and process development (Key Digital Technologies); Deadline: 17 September 2024 17:00:00 Brussels time

Photonic Integrated Circuits (PICs), which leverage light to process and transmit information, emerge as a transformative solution to these challenges. Unlike their electronic counterparts, PICs offer the potential for higher bandwidth, faster speeds, and lower energy consumption, making them ideal for the next generation of high-performance computing systems, advanced sensor arrays, and ultra-fast communication networks. The integration of PICs with Electronic Integrated Circuits presents a compelling synergy that can address critical bottlenecks in electronic systems, particularly in data centres and cloud computing infrastructures where energy efficiency and processing speed are paramount. To address these challenges and opportunities, there is a pressing need to establish a dedicated pilot line for Photonic Integrated Circuits within Europe. This initiative will focus on advancing PIC technologies beyond the current state-of-the-art, particularly extending operational wavelengths from the near-infrared into the visible and mid-infrared spectrums. This expansion is crucial for tapping into new application areas such as biomedical imaging, quantum computing, and environmental sensing, which require specific wavelengths for optimal performance.
The proposed pilot line will serve as a critical infrastructure for bridging the gap between laboratory research and industrial-scale production, facilitating the development of reliable, scalable, and cost-effective Photonic Integrated Circuits solutions. It aims to foster collaboration among research institutions, SMEs, and large corporations across Europe, driving innovation, and accelerating the commercialization of Photonic Integrated Circuits technologies. By doing so, it will not only enhance Europe's competitive edge in a key technological domain but also contribute significantly to the continent's economic resilience and strategic autonomy in critical technologies.
The proposed pilot line shall be established with all the necessary equipment, facilities, and needs to target the following main objectives:

- Develop and enhance PIC technologies by extending the operational wavelengths into the visible and mid-infrared spectrum, crucial for applications such as lidar and advanced sensing.
- Develop scalable and cost-effective manufacturing processes for PICs, ensuring compatibility with current industrial standards and promoting widespread adoption.
- Foster the integration of PICs with electronic integrated circuits, enhancing the functionality and efficiency of combined systems for applications in computing, telecommunications, and beyond.
- Innovate in the fields of photonic testing and packaging to improve reliability, scalability, and performance of PICs.

- Enable rapid prototyping through Multi-Project Wafer runs, allowing for timely validation and iteration of PIC designs.
- Develop demonstrators to validate the achievement of the advanced PICs technology and to quantify its performance.

Further information:

https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/horizon-chips-2024-ria-cpl-5?isExactMatch=true&status=31094501,31094502&frameworkProgramme=43108390&callIdentifier=HORIZON-Chips-2024-RIA-CPL-5&order=DESC&pageNumber=1&pageSize=50&sortBy=startDate

HORIZON EUROPE The Galileo PRS service for governmental authorized use cases (Space, including Earth Observation); Deadline: 5 September 2024 17:00:00 Brussels Time

Over the years a cross-border cooperation between Member States (MS) Competent PRS Authorities (CPA) has been fostered through a number of activities related to the implementation of the PRS regulatory framework. These activities (e.g. the Joint Test Activity (JTA) and the market consultation for PRS conducted under FRAME SC2 grant in 2023), and the recent coordination among MS CPA have led to the identification of gaps related to the ongoing market development of PRS civilian applications.
The PRS technology aiming at supporting one or several use cases, the related technical specifications have been selected in such a way so as to be ambitious, but at the same time realistic, so that the market will be able to deliver PRS solutions that meet the operational needs of the authorities responsible for the implementation of the PRS user segment.
Expected Outcomes: Projects are expected to contribute to the following outcomes:
1. Develop the use cases for authorised civilian users based on the added value of PRS service.
2. Develop the PRS applications targeting civilian users by leveraging PRS technology.
3. Build on top of previous exploratory activities and lessons learnt on the development of PRS items by stimulating the corresponding downstream PRS uptake.
4. Foster a European-level cooperation of industrial entities for the development of authorised PRS applications.
Scope: Proposals should identify, design and create applications leveraging the items for the first generation of Galileo PRS. Applications should address the governmentally authorised user communities and scenarios for which the technical, operational and security related features requirements of PRS service constitute barriers to entry. The applications should target well-identified operational environments in which the PRS service features (e.g. continuity of service and access control) plays a differentiator role. Representatives of potential user communities should be involved as far as possible in the development of the prototypical applications.
Activities are expected to achieve TRL 5-7 by the end of the project
Further information: https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/horizon-euspa-2023-space-01-44?isExactMatch=true&status=31094502&frameworkProgramme=43108390&startDate=1719784800000&orde

HORIZON EUROPE Call for proposals for ERC Starting Grant (ERC-2025-STG); Deadline: 15 October 2024 17:00:00 Brussels Time

Objectives
The ERC Starting Grants are designed to support excellent Principal Investigators at the career stage at which they are starting their own independent research team or programme. Principal Investigators must demonstrate the ground-breaking

nature, ambition and feasibility of their research proposal.

Size of ERC Starting Grants

Starting Grants may be awarded up to a maximum of EUR 1 500 000 for a period of 5 years. The maximum size of the grants is reduced pro rata temporis for projects of a shorter duration. (This does not apply to ongoing projects).

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

Profile of the ERC Starting Grant Principal Investigator

The Principal Investigators shall have successfully defended their first PhD at least 2 and up to 7 years prior to 1 January 2025. Cut-off dates: Successful defence of PhD between 1 January 2018 and 31 December 2022 (inclusive).

The eligibility period can be extended beyond 7 years in certain properly documented circumstances.

Further information:

https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/erc-2025-stg

HORIZON EUROPE Call for proposals for ERC Synergy Grant (ERC-2025-SyG); Deadline: 6 November 2024 17:00:00 Brussels Time

The aim is to provide support for a small group of two to four Principal Investigators to jointly address ambitious research problems that could not be addressed by the individual Principal Investigators and their teams working alone. Synergy projects should enable substantial advances at the frontiers of knowledge, stemming, for example, from the cross-fertilization of scientific fields, from new productive lines of enquiry, or new methods and techniques, including unconventional approaches and investigations at the interface between established disciplines. The transformative research funded by Synergy Grants should have the potential of becoming a benchmark on a global scale.

Principal Investigators must demonstrate the ground-breaking nature, ambition and feasibility of their scientific proposal. Principal Investigators must also demonstrate that their group can successfully bring together the scientific elements necessary to address the scope and complexity of the proposed research question.

Size of ERC Synergy Grants

Synergy Grants may be awarded up to a maximum of EUR 10 000 000 for a period of 6 years. The maximum award is reduced pro rata temporis for projects of a shorter duration. This does not apply to ongoing projects.

An additional up to EUR 4 000 000 in total can be requested in the proposal to cover (a) eligible 'start-up' costs for Principal Investigators moving to the EU or an Associated Country from elsewhere as a consequence of receiving the ERC grant and/or (b) the purchase of major equipment and/or (c) access to large facilities and/or (d) other major experimental and field work costs, excluding personnel costs. As any additional funding is to cover major one-off costs it is not subject to pro rata temporis reduction for projects of shorter duration. All funding requested is assessed during evaluation.

Profile of the ERC Synergy Grant Principal Investigators

The 'Synergy Grant Group' applying for the ERC Synergy Grant must be made up of a minimum of two and a maximum of four Principal Investigators with competitive track records and, as necessary, their teams.

Further information:

https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/erc-2025-syg

CANON Foundation Research Fellowships; Deadline: 15 September 2024

Annually, the Canon Foundation in Europe grants up to 15 Fellowships to highly qualified European and Japanese researchers. European Fellows are expected to pursue a period of research in Japan whereas Japanese Fellows are expected to do their research in Europe.

Canon Foundation Fellowships are for a minimum period of three months up to maximum of one year.

We support all fields of research. There are no limitations or restrictions. Applicants do not have to be currently enrolled or employed at the time of applying.

Canon Fellows from Europe are free to choose their host institutes and hosts in Japan. The same freedom is given to

Japanese Canon Fellows coming to Europe. Canon Foundation Research Fellowships may be applied for when an agreement on co-operation and on a research plan has been reached between the guest researcher and the proposed host institution. Applications can also be submitted by members of commercial, industrial, governmental or professional organisations.
Eligibility
All Europeans are eligible to apply (including UK, Israel, Turkey, Balkan and Baltic countries).
Applicants should have obtained at least a Master's or PhD degree within the last ten years of applying to the Canon Foundation. We will also consider candidates who obtained their qualification more than ten years ago as long as they provide further supporting information in their application. Please note that priority is given to applicants going to Europe and Japan for the first time.
Stipend
Financial support for Research Fellows can reach up to 30,000 Euros per year and pro-rata for different periods. The Research Fellow can decide what costs the grant can be used for. Examples are living costs, travel, insurance, research costs, books, etc. There are no restrictions.
Further information
https://www.canonfoundation.org/programmes/research-fellowships/

European Science Foundation Fight Kids Cancer 2024-2025 Call for proposals; Deadline: 2 September 2024

FIGHT KIDS CANCER is thrilled to announce that its next call opening on September 2nd, 2024 will be a paediatric general call.
FIGHT KIDS CANCER keeps the same amount and duration criteria as follows:
- For clinical trials:
o Up to 5 years
o Up to 5 million euros
- For translation research projects:
o Up to 4 years
o Up to 2 million euros
FIGHT KIDS CANCER aims to catalyse and support pan-European leading-edge research initiatives in paediatric cancer to develop innovative approaches to improve the outcome for all children and adolescents with cancer
Further information:
https://www.esf.org/funding-programmes/fight-kids-cancer-2024-2025-call-for-proposals/

Fulbright Doktorand:innenprogramm (Uni und FH); Deadline: November 2024

Das Programm
Sie arbeiten an Ihrer Dissertation und möchten Ihr Promotionsthema an einer selbst gewählten US-Hochschule oder einer anderen wissenschaftlichen Institution fachlich weiter vertiefen? Dafür bietet Ihnen Fulbright Germany die Möglichkeit eines vier- bis sechsmonatigen Forschungsstipendiums. Sie profitieren vom fachlichen Austausch mit den Spezialist:innen vor Ort und der Einbindung in interdisziplinäre Arbeitsgruppen und bilden Netzwerke für Ihre akademische Karriere.
Wer kann sich bewerben?
Bewerben können sich Promovierende aller Fachbereiche, die in einem Promotionsstudium eingeschrieben sind, das auf ein wissenschaftliches Forschungsdoktorat zielt. Nach Abschluss des Stipendienaufenthalts führen die Promovierenden ihre Doktorarbeit an ihrer Heimathochschule zu Ende.
Diversität, Chancengleichheit, Inklusion sowie Bildungsgerechtigkeit gehören zu den Grundprinzipien von Fulbright Germany. Die Bewerbung ist offen für alle Personen unabhängig von, aber nicht eingeschränkt auf, ethnischer Herkunft, Hautfarbe, Alter, Religion oder Weltanschauung, sozialer Herkunft, Behinderung, sexueller Orientierung, Geschlecht und Geschlechtsidentität.
Weitere Bewerbungsvoraussetzungen
Die Bewerber:innen benötigen die deutsche Staatsangehörigkeit*. Sie bringen die Bereitschaft zum Einsatz für die deutsch-amerikanische Verständigung (insbesondere zur Vertiefung der transatlantischen Wissenschaftsbeziehungen) mit.

Zum Zeitpunkt der Antragstellung haben die Bewerber:innen ein Hochschulabschlussexamen (Diplom, Magister, Erstes Staatsexamen, Master) abgelegt und sind in einem Promotionsstudium eingeschrieben. Das geplante US-Forschungsvorhaben steht in direktem Zusammenhang mit dem Dissertationsprojekt. Es muss in der vorgesehenen Förderungszeit durchgeführt werden können. Für die Bewerbung ist eine offizielle schriftliche Einladung der vorgesehenen (akkreditierten) US-Gasteinrichtung einzureichen, die sich auf die Durchführung und Betreuung des Forschungsvorhabens bezieht.

Weitere Hinweise zu den Bewerbungs- und Fächereinschränkungen finden Sie in den Hinweisen zu den Bewerbungsvoraussetzungen.

*Bewerber:innen, die die deutsch-amerikanische Doppelstaatsangehörigkeit besitzen, können wegen der visatechnischen Voraussetzungen zur Programmteilnahme nicht für die Förderung berücksichtigt werden.

Stipendienleistungen

- Reisekostenpauschale in Höhe von 1.400 Euro
- monatliche Unterhaltskostenpauschale von 2.400 Euro (für maximal sechs Monate)
- monatliche Unterhaltskostenpauschale für mitreisende Angehörige (für maximal sechs Monate): 276 Euro für den/die Partner:in, 400 Euro für das erste Kind, 100 Euro für jedes weitere Kind
- eine einmalige Nebenkostenpauschale von 300 Euro
- Kranken- und Unfallversicherung
- gebührenfreies Fulbright J-1 Visum
- Aufnahme in der internationale Fulbright-Netzwerk
- Teilnahme am Fulbright Orientation Meeting vom 2. - 4. Mai 2025 in Berlin

Bewerbungsverfahren und -fristen

Im Doktorand:innenprogramm gelten derzeit zwei Bewerbungsfristen:

- 1. November für einen Aufenthaltsbeginn in den USA zwischen dem 1. August und 31. Dezember des folgenden Jahres. Die Ausschreibung beginnt im September, ab diesem Zeitpunkt ist hier das jeweils aktuelle Bewerbungsformular hinterlegt.
- 1. Mai für einen Aufenthaltsbeginn in den USA zwischen dem 1. Januar und 31. Mai des folgenden Jahres. Die Ausschreibung beginnt im März, ab diesem Zeitpunkt ist hier das jeweils aktuelle Bewerbungsformular hinterlegt.

Further information:
https://fulbright.de/stipendien/programm/doktorandinnenprogramm