Klaszter 4: Fenntartható gyártástechnológia témájú nyitott Horizont Európa pályázati felhívások

Gyártástechnológiák, kulcstechnológiák, korszerű anyagok, körforgásos iparágak és továbbiak – 2023. őszén megnyílt felhívások áttekintése

Schultheisz Máté, NCP
Klaszter 4: Klímasemleges, körforgásos és digitalizált gyártás
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HorizontPéntek10 webinársorozat

minden pénteken 10-11 között

az NKFIH Horizont Európa NCP csapat szervezésében

Nemzeti Kutatási, Fejlesztési és Innovációs Hivatal

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NCP Hungary - Horizon Europe

Pillérek


SPECIFIC PROGRAMME IMPLEMENTING HORIZON EUROPE & EIT*
Exclusive focus on civil applications
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Pillar II
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WIDENING PARTICIPATION AND STRENGTHENING THE EUROPEAN RESEARCH AREA
Widening participation & spreading excellence
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A 4-es klaszter desztinációi

1. **Klímasemleges, körforgásos és digitalizált gyártás**
2. **Erősödő autonómia a stratégiai értékláncokban a reziliens ipar érdekében**
3. Adat- és nagy teljesítményű számítástechnika a világ élvonalában
4. Digitális és áttörést jelentő technológiák a versenyképesség és az európai zöld megállapodás szolgálatában
5. *Stratégiai autonómia globális űrinfrastruktúrák fejlesztésében, bevezetésében és alkalmazásában (részben)*
6. A digitális és ipari technológiák emberközpontú és etikus fejlesztése

3.; 4.; 6. desztináció NCP: Pivarcsiné Fekete Dóra (E-mail: dora.fekete@nkfih.gov.hu; Telefon: +36 1 896 3415); Németh Edina (E-mail: edina.nemeth@ist.hu)

Stratégiai terv– Munkaprogram

- Stratégiai terv:
  - A 2021–2024 közötti időszakra szóló stratégiai terv meghatározza a Horizont Európa, az EU többéves kutatási és innovációs keretprogramja első négy évének legfontosabb stratégiai irányait. Meghatározza a kutatási és innovációs prioritásokat a fenntartható fejlődés támogatása és a kettős zöld és digitális átállás további felgyorsítása érdekében.
  - Link
- Munkaprogram
  - A Horizont Európa keretében nyújtott finanszírozási lehetőségeket többéves munkaprogramok határozzák meg, amelyek a rendelkezésre álló támogatás nagy többségét lefedik.
  - Link

Partnerségek és fajtái

1. Made in Europe Partnership
2. Clean Steel Partnership
3. Process4Planet Partnership

Típusok:

- Co-programmed European Partnerships
  Ezek a partnerségek a Bizottság, valamint a magán- és/vagy közszféra partnerei között jönnek létre, megállapodásokon vagy szerződéses megállapodásokon alapulnak.
- Co-funded European Partnerships using a programme co-fund action
  EU országokat bevonópartnerségek, a kutatási finanszírozók és más közintézmények állnak a konzorcium középpontjában.
- Institutionalised European Partnerships
  Ezek olyan partnerségek, ahol az EU részt vesz azon kutatási és innovációs finanszírozási programokban, amelyeket az EU országai hajtanak végre.

International cooperation

To become a beneficiary, legal entities must be eligible for funding. To be eligible for funding, applicants must be established in one of the following countries:

- the Member States of the European Union, including their outermost regions: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czechia, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden;
- the Overseas Countries and Territories (OCTs) linked to the Member States: Aruba (NL), Bonaire (NL), Curação (NL), French Polynesia (FR), French Southern and Antarctic Territories (FR), Greenland (DK), New Caledonia (FR), Saba (NL), Saint Barthélemy (FR), Sint Eustatius (NL), Sint Maarten (NL), St. Pierre and Miquelon (FR), Wallis and Futuna Islands (FR);
- countries associated to Horizon Europe; Albania, Armenia, Bosnia and Herzegovina, Faroe Islands, Georgia, Iceland, Israel, Kosovo, Moldova, Montenegro, North Macedonia, Norway, Serbia, Tunisia, Turkey, Ukraine. Considering the Union's interest to retain, in principle, relations with the countries associated to Horizon 2020, most third countries associated to Horizon 2020 are expected to be associated to Horizon Europe with an intention to secure uninterrupted continuity between Horizon 2020 and Horizon Europe. In addition, other third countries can also become associated to Horizon Europe during the programme. For the purposes of the eligibility conditions, applicants established in Horizon 2020 Associated Countries or in other third countries negotiating association to Horizon Europe will be treated as entities established in an Associated Country, if the Horizon Europe association agreement with the third country concerned applies at the time of signature of the grant agreement;
- the following low- and middle-income countries: Afghanistan, Algeria, Angola, Argentina, Azerbaijan, Bangladesh, Belarus, Belize, Benin, Bhutan, Bolivia, Botswana, Burkina Faso, Burundi, Cabo Verde, Cambodia, Cameroon, Central African Republic, Chad, Colombia, Comoros, Congo (Democratic Republic), Congo (Republic), Costa Rica, Côte d'Ivoire, Cuba, Djibouti, Dominica, Dominican Republic, Ecuador, Egypt (Arab Republic), El Salvador, Equatorial Guinea, Eritrea, Eswatini, Ethiopia, Fiji, Gabon, Gambia, Ghana, Grenada, Guatemala, Guinea, Guinea-Bissau, Guyana, Haiti, Honduras, Indonesia, Iran (Islamic Republic), Iraq, Jamaica, Jordan, Kazakhstan, Kenya, Kiribati, Korea (Democratic People's Republic), Kyrgyz Republic, Lao (People's Democratic Republic), Lebanon, Lesotho, Liberia, Libya, Madagascar, Malawi, Malaysia, Maldives, Mali, Marshall Islands, Mauritania, Mauritius, Micronesia (Federated States), Mongolia, Mozambique, Myanmar, Namibia, Nepal, Nicaragua, Niger, Nigeria, Pakistan, Palestine, Papua New Guinea, Paraguay, Peru, Philippines, Rwanda, Samoa, São Tomé and Principe, Senegal, Sierra Leone, Solomon Islands, Somalia, South Africa, South Sudan, Sri Lanka, St. Lucia, St. Vincent and the Grenadines, Sudan, Suriname, Syrian Arab Republic, Tajikistan, Tanzania, Thailand, Timor-Leste, Togo, Tonga, Turkmenistan, Tuvalu, Uganda, Uzbekistan, Vanuatu, Venezuela (Bolivarian Republic), Vietnam, Yemen Republic, Zambia, Zimbabwe.

General Annexes

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TRL szintek útmutatójának linkje

- TRL 1 — Az ötlet, elv megléte, az alapkutatás megkezdése
- TRL 2 — Megalapozó kutatás elvégzése folyamatban van
- TRL 3 — A technológia kialakítása, a működési elv bizonyítása
- TRL 4 — Az alfa prototípus laboratóriumi tesztelése, az összetevők és az eljárások validálása
- TRL 5 — Kis skálán működő prototípus, az integrált vagy félig integrált rendszer laboratóriumi tesztelése
- TRL 6 — Nagy skálájú prototípus elkészítése, tesztelése és hitelesítése. Ez jelenti a mérnöki fejlesztés kezdetét.
- TRL 7 — Integrált prototípus rendszer/eljárás megléte, tesztelése és hitelesítése
- TRL 8 — Kereskedelmi környezetbe ágyazott demonstrációs rendszer felállítása és működtetése
- TRL 9 — Igazolt rendszer/eljárás, ami alkalmas teljes kereskedelmi bevetésre

Lump sum

- A lump sum finanszírozás lényege, hogy kiiktatja a tényleges költségeken alapuló pénzügyi beszámolási és munkaidő-nyilvántartási kötelezettséget, valamint az utólagos pénzügyi auditot, ezáltal jelentősen csökkenti hibák számát, az adminisztrációs terhet és a hangsúlyt a projektek szakmai tartalmára helyezi.
- A konstrukciót a H2020 program utolsó három évében tesztelték. A lump sum típusú elszámolással meghirdetésre kerülő felhívások száma növekedni fog, ez a Bizottság deklarált célja, 2024-ben már 20% felett lesz az arányuk.

RIA - IA- CSA

1. Kutatási és innovációs akciók (Research and innovation actions, RIA)
   - Tevékenységek új ismeretek megszerzésére vagy egy új vagy továbbfejlesztett technológia, termék, folyamat, szolgáltatás vagy megoldás megvalósíthatóságának feltárására.

2. Innovációs akciók (Innovation actions, IA)
   - Tevékenységek, amelyek célja új, módosított vagy továbbfejlesztett termékek, folyamatok vagy szolgáltatások elkészítése.

3. Koordinációs és támogató akciók (Coordination and support actions, CSA)
   - Olyan tevékenységek, amelyek hozzájárulnak a Horizont Európa célkitűzéseihez. Nem tartalmazhatnak kutatási és innovációs tevékenységeket, kivéve a „Részvétel szélesítése és az Európai Kutatási Térség (EKT) megerősítése” programrész pályázatait.

HORIZON-CL4-2024-TWIN-TRANSITION-01-01

Bio-intelligent manufacturing industries (Made in Europe Partnership)

Research & Innovation Action | TRL 6 | 4-5M EUR/project | 5 to be funded | Deadline 07 Feb/24 Sep 2024

Link to the topic: click here

- Scope: **The biological transformation of industry is a pioneering frontier** that the industry of the Union and Associated Countries can harness **to enhance circularity and sustainability**, while advancing production efficiency and competitiveness.
- The biological transformation of industry involves **the integration of bio-intelligent structures, processes, organisms or materials into technology by systematically applying knowledge from biology**. This should lead to a necessary convergence of biotechnology with mechanical engineering, production technology and information technology with new possibilities for the **flexible adaptation of production and value creation processes to requirements**, especially in the context of sustainability.
- The biological transformation of industries includes but is not limited to:
  - **Bio-inspired manufacturing processes** (biomimicry, biomimetics);
  - Development of **bio-intelligent manufacturing systems** or tools;
  - **Expanding opportunities of bio-intelligent and bio-based materials** by substituting fossilbased raw materials and limiting the release of microplastics, e.g. in the textile industry;
  - **A systematic application of the knowledge of nature** and/or natural processes aiming at optimising a manufacturing system through a convergence and the integration of technical and biological processes.

HORIZON-CL4-2024-TWIN-TRANSITION-01-03

Manufacturing as a Service: Technologies for customised, flexible, and decentralised production on demand

Research & Innovation Action | TRL 6 | 5-7M EUR/project | 5 to be funded | Deadline 07 Feb 2024

Link to the topic: click here

- Scope: Manufacturing as a Service (MaaS) is a distributed system of production in which resources (including data and software) are offered as services, allowing manufacturers to access distributed providers to implement their manufacturing processes. The servitisation of manufacturing resources contributes significantly to production flexibility and responsiveness, enabling production on demand for many product categories. Suppliers of manufacturing systems and of integration technologies design and offer interoperable services in close partnership with manufacturing companies, while other providers in the value chain can offer additional services. Secure, real-time data exchange between the companies involved enables quick response times.
- This topic aims at **further developing and integrating the technologies needed for the successful implementation of MaaS** allowing to manufacture "on demand" a large choice of customised products, with high flexibility and short lead time, by using distributed facilities as a service and exploiting unused production capacities, also by rapid re-purposing of manufacturing machines. The objective will be achieved through platforms for fast data exchange and seamless, data-driven, standards-based automation of inter-company processes beyond the factory boundaries.
- **Integration with digital design, development of design libraries and workflow templates**, and advanced technologies such as digital twins, real-time AI-based decision support systems, and next-generation Manufacturing Execution Systems should also be considered where appropriate, with the objective to optimise the entire life-cycle of the product in terms of circularity, sustainability and reusability, using product life cycle assessments whenever appropriate.

HORIZON-CL4-2024-TWIN-TRANSITION-01-05

Technologies/solutions to support circularity for manufacturing

Research & Innovation Action | TRL 6 | 4-6M EUR/project | 6 to be funded | Deadline 07 Feb 2024

Link to the topic: click here

- Proposals should cover all of the following aspects:
  - **Develop new approaches of Artificial Intelligence** to forecasts the environmental impact, also considering the quantity and state of products after their use;
  - **Develop innovative simulation and modelling software or built on existing solutions fostering new manufacturing capabilities** with a view to a more efficient and more sustainable product design. This optimization process should consider the various steps of the value chain focusing on the environmental impact. Additional ecological impacts arising from the use of the modelling or simulation software should be considered;
  - **Develop digital platforms/ tools build on existing interoperability architectures** (such as the Asset Administration Shell), that will enable the manufacturers to implement the Digital Product Passport initiative. The proposals should focus on gathering relevant data, material and product tracking and tracing, certification protocols for secure re-used materials and components among sectors;
  - **Enhance the human involvement in the development of the circularity aspects and new technologies**.

HORIZON-CL4-2024-TWIN-TRANSITION-01-12

Enhanced assessment, intervention and repair of civil engineering infrastructure

Research & Innovation Action | TRL 6 | 5-6M EUR/project | 2 to be funded | Deadline 07 Feb/24 Sep 2024

Link to the topic: click here

- Scope: Regular maintenance and repair of civil engineering infrastructure extends their service life, which in turn reduces the need for their demolition and replacement and the related negative economic, environmental and climate impacts. However, it can be difficult and cumbersome to identify and address maintenance or repair needs, especially in locations that are difficult to access such as large or tall structures, deep shafts, or where elements are hidden from view. Intervention for maintenance and repair can also involve unnecessary risks to health and safety of workers.
- Proposals should:
  - **Develop new technologies and solutions that facilitate timely identification of maintenance and repair issues in existing civil engineering infrastructure**. Examples may include structural weaknesses, unacceptable deformation and fatigue, issues related to moisture including mould growth and corrosion, the effects of weathering and of weather-related events, faults in technical systems, leaks of water or chemicals, or other issues.
  - **Develop new solutions to monitor and to quickly and accurately analyse and assess the need for intervention**, for example via digital twin and simulation technology
  - **Develop solutions that would intelligently recommend and prioritise relevant and timely action to address the identified maintenance and repair issues**. This should include a risk assessment and application of state-of-the-art quality controls and documentation.
  - **Develop solutions that would carry out rapid, cost effective and safe intervention for maintenance and repair of infrastructure**, for example using automated or remotely operated tools, or next generation egocentric AR solutions

HORIZON-CL4-2024-TWIN-TRANSITION-01-32

Optimisation of thermal energy flows in the process industry

Innovation Action | TRL 7 | 10-15M EUR/project | 2 to be funded | Deadline 07 Feb 2024

Link to the topic: click here

- Scope: More than 60% of the overall energy used in the process industry is process heating. The topic focuses on highly process-integrated technologies that allow heat recovery and use of high temperature installations. Heat storage, when needed, should be intermediary only. One example could be the adaptation and integration of heat pumps for high temperature (150-250 °C) applications for large thermal capacity (~1-20 MW), but not only – examples could also encompass the direct use of excess heat by e.g., the adaptation and integration of advanced heat exchangers.
- The proposals under this topic should:
  - **Demonstrate the efficient integration and adaptation of heat exchanger or heat pumps** into high temperature processes and equipment taking energy not only from air but also warm materials or liquid flows;
  - **Use high safety standard technologies and fluids** with low environmental impact;
  - Consider, where necessary, the **use of advanced materials** in the process development;
  - **Demonstrate the decrease of energy intensity** of output level (intermediate, final product).

HORIZON-CL4-2024-TWIN-TRANSITION-01-34

Renewable hydrogen used as feedstock in innovative production routes

Research & Innovation Action | TRL 6 | 8-10M EUR/project | 2 to be funded | Deadline 07 Feb 2024

Link to the topic: click here

- Scope: **Hydrogen produced from renewable energy sources does not lead to direct carbon dioxide emissions when used and it can offer solutions to decrease GHG emissions in industrial processes**. Hydrogen is thus an important enabler for meeting the 2050 climate neutrality goal. **In the energy intensive process industries, hydrogen can be used either as feedstock** (chemical or reducing agent) **or as an energy carrier**. The integration of renewable hydrogen into new production routes as a feedstock will lead to major GHG emission reductions across several European industry sectors.
- Currently, hydrogen is largely used in industrial sectors such as the chemical industries and refineries. In addition to the current processes, there are different production pathways under development using hydrogen as a chemical feedstock in low-carbon industrial processes. **Hydrogen could be used as reducing agent in the production and recovery of metals, biogenic and circular carbon optimisation or in new process routes to produce platform chemicals** (e.g., carbon-based waste and side streams or biomass).
- The proposals under this topic should:
  - **Develop innovative production routes** using hydrogen as feedstock;
  - **Evaluate the efficient integration of the new production process** into the processing line, including downstream and upstream;
  - Design production process coupled/integrated with renewable hydrogen by making the best use of simulation, modelling and IT tools;
  - Include energy efficiency, techno-economic and life-cycle assessments considering the efficient use of the hydrogen as well as the value of the by-products, and the value chain from hydrogen production, storage, distribution and usage.

HORIZON-CL4-2024-TWIN-TRANSITION-01-35

Turning CO2 emissions from the process industry to feedstock

Innovation Action | TRL 7 | 10-15M EUR/project | 2 to be funded | Deadline 07 Feb 2024

Link to the topic: click here

- Scope: **The proposals submitted under this topic are expected to demonstrate the economic viability of the efficient capture and utilisation of CO/CO2 streams from point sources** (e.g., large and medium industrial installations such as steel, cement, refining and chemical plants) converting the streams into added value chemicals and materials in near to production size systems. The technologies proposed should support cross-sectorial concepts and sector integration.
- The semi-industrial scale demonstrators proposed should:
  - **Process significant amounts of CO/CO2** containing emissions from energy intensive process industries;
  - **Demonstrate process and cost efficient environmentally friendly technologies** for: capture and fit for purpose purification approaches while ensuring the maximum process efficiency;
  - **Demonstrate the cost efficient environmentally friendly conversion of CO/CO2 into chemicals and materials** including any relevant auxiliary required for the process (such the formulation of reliable catalyst at the required scale) and if relevant processintegrated downstream products;
  - Evaluate the energy efficiency for the overall CCU process and where relevant flexibility considerations for the efficient use of renewable energy for capture and conversion;
  - **Encompass the use of advanced monitoring and control techniques and integration of advanced digital technologies**, which enable optimisation of the overall system;
  - Contribute to an integration effort to realize fully integrated capture and utilization systems, including the optimization of materials, process interfaces, and ultimately device architectures and to promote maximum energy efficiency;
  - **Include techno-economic analysis**, including social and environmental impact.

HORIZON-CL4-2024-TWIN-TRANSITION-01-38

Hubs for circularity for industrialised urban peripheral areas

Innovation Action | TRL 7 | 15-20M EUR/project | 2 to be funded | Deadline 07 Feb 2024

Link to the topic: click here

- Scope: **Urban areas with high volumes of waste (household and end of life consumer waste) should closely interact with adjacent industries to jointly minimize their CO2 footprint and improve their waste management**, thus contributing together to the valorisation of secondary materials and overall circularity. **The hubs for circularity (H4C) concept is a pathway to exploit local synergies for the deployment of innovative solutions engaging regional resource management actors in strategic nodes** where novel value chains valorising a significant part of end-of-life wastes could connect within and across regions.

HORIZON-CL4-2024-TWIN-TRANSITION-01-41

Breakthroughs to improve process industry resource efficiency

Research & Innovation Action | TRL 6 | 10-12M EUR/project | 3 to be funded | Deadline 07 Feb 2024

Link to the topic: click here

- Scope: Process industries will greatly benefit from radically new approaches that will lead to a much higher resource efficiency (including higher selectivity), producing less low-value byproducts and waste and enabling the handing of a higher feedstock variability, and ultimately leading to lower level of GHG emissions linked to the process industries. To reach ambitious targets regarding resource efficiency, disruptive process technologies must be developed in addition to process efficiency options for existing technologies.
- Proposals should:
  - Develop disruptive process technologies to improve resource efficiency, such as those based on: process intensification (e.g., 3D printed processes equipment, coupling of process steps, new processes that integrate multiple reaction steps, activation of molecules using renewable energy via alternative processes e.g. microwave, plasma); or to prevent and minimise waste generation by, e.g. processes that adjust in real time to feedstock changes or that have tighter processing control solutions to ensure higher yields from complex and fluctuating raw material feeds;
  - Where relevant advanced process technologies and their combinations need to be developed and supported by advanced materials innovation and the implementation of enabling digital technologies including advanced concepts on process control and data driven Artificial Intelligence.

HORIZON-CL4-2024-TWIN-TRANSITION-01-44

Digital transformation and ensuring a better use of industrial data, which can optimise steel supply chains

Innovation Action | TRL 6-7 | 3-5M EUR/project | 2 to be funded | Deadline 07 Feb 2024

Link to the topic: click here

- Multidisciplinary research activities should address one or more of the following topics:
  - Novel sensors, soft sensors and related models and approaches to reduce the carbon footprint by merging the use of sensors and data processing capabilities for huge volumes of heterogeneous data streams; systems / tools enabling the transition from legacy into new architectures capable to supply data in a seamless way "when, where and what" including the development and testing of implementation guidelines. This should enable the traceability of materials and process information throughout the value chain to promote improved product quality, efficiency and integrated process control and management (including multi-scale modelling of structure, and structure vs. properties correlations);
  - Statistics coupled with outstanding analytical capabilities to improve data quality and to help steel plant operators to increase the process yield and to improve the quality of intermediates and final steel products, while addressing the best approach to limit carbon emissions;
  - The application of combinations of advanced digital technologies, such as but not limited to model-based, knowledge-based and data-based methods, artificial intelligence (AI), supercomputing, edge computing, cloud systems and internet of things (IoT) to develop decision-supported planning and process monitoring tools for clean steel manufacturing operable in offline or online modes;
  - Involvement of operators and process experts in the design and development phases of digital technology integration, ensuring the uptake of human experiences and a userfriendly processing of results for easier industrial integration (see Table 12 row 3 of the CSP SRIA66). This may also include issues of skilling and standardisation and manmachine interaction by deploying Virtual and Augmented Reality techniques.

HORIZON-CL4-2024-TWIN-TRANSITION-01-46

CO2-neutral steel production with hydrogen, secondary carbon carriers and electricity OR innovative steel applications for low CO2 emissions

Research & Innovation Action | TRL 5-6 | 3-5M EUR/project | 4 to be funded | Deadline 07 Feb 2024

Link to the topic: click here

- Proposals should relate to metal reduction processes using hydrogen, renewable electricity, and/or secondary carbon carriers, and/or to replace fossil fuels and reductants in steelmaking and in downstream processing in steel plants. Proposals under this topic are expected to provide concepts addressing the modifications of the existing and new installations for steel production, such as:
  - Blast furnace–basic oxygen furnace (BF-BOF);
  - Electric arc furnace (EAF);
  - Direct reduced iron (DRI) process: In this case, compare the feedstock's iron content requirements necessary for the direct reduction process in comparison with other alternative processes (e.g., electrolysis);
  - Alternative reduction processes (such as electrolysis on non-conventional ores);
  - Heating and treatment of semi-finished products.
- OR
- Proposals should address the conception and production of clean steel for use in established markets and/or in markets having specific demanding or harsh environments. Of interest are steels and steel grades capable to demonstrate for instance high level of yield strength, high level of fatigue, high resistance to pressure, heat, wear, cyclic loads, crash and to severe corrosion conditions. The scope also covers the maximisation of lowquality materials usage and their influence on the product quality. Where appropriate for the study proposed, analytical research infrastructures, such as but not limited to synchrotron and/or neutron facilities, should be considered as capable of providing large amount of statistically relevant data to validate chemistry and structure / morphology and solve challenges concerning hydrogen embrittlement and/or residual stresses. Proposals should demonstrate the CO2 reduction potential by conception along the advanced / breakthrough manufacturing routes and/or by the application of their innovative steel solution.

2-es desztináció: Resilience felhívások

Felhívás kódja	Felhívás címe	Link	Type of action	Határideje
HORIZON-CL4-2024-RESILIENCE-01-01	Exploration of critical raw materials in deep land deposits	Link	RIA	2024.02.07
HORIZON-CL4-2024-RESILIENCE-01-04	Technologies for processing and refining of critical raw materials	Link	IA	2024.02.07
HORIZON-CL4-2024-RESILIENCE-01-08	Rare Earth and magnets innovation hubs	Link	IA	2024.02.07
HORIZON-CL4-2024-RESILIENCE-01-10	Addressing due diligence requirements in raw materials supply chains	Link	CSA	2024.02.07
HORIZON-CL4-2024-RESILIENCE-01-11	Technologies for extraction and processing of critical raw materials	Link	IA	2024.02.07
HORIZON-CL4-2024-RESILIENCE-01-24	Development of safe and sustainable by design alternatives	Link	IA	2024.02.07
HORIZON-CL4-2024-RESILIENCE-01-35	Biodegradable polymers for sustainable packaging materials	Link	IA	2024.02.07 2024.09.24.
HORIZON-CL4-2024-RESILIENCE-01-36	Advanced biomaterials for the Health Care	Link	IA	2024.02.07 2024.09.24.
HORIZON-CL4-2024-RESILIENCE-01-41	'Innovate to transform' support for SME's sustainability transition	Link	CSA	2024.02.07

HORIZON-CL6-2024-ZEROPOLLUTION-02-2-two-stage

Innovative technologies for zero pollution, zero-waste biorefineries

Research & Innovation Action | TRL 4-5 | 4M EUR/project | 2 to be funded | Deadline 21 Feb/17 Sep 2024

Link to the topic: click here

Pollution from anthropogenic activities undermines the integrity of Earth ecosystems and severely affects the natural resources essential for human life. The EU bioeconomy strategy 2030 sets environmental protection at the basis of the modernisation of bio-based industries in the Union, to ensure a trustful green transition of EU economy away from a linear fossil-based system.

Proposals should address the following:

- Design integrated technical solutions reducing exhaust flows from bio-based processes through innovative technologies of extraction, recirculation, fractionation and conversion of such flows, to reach the zero-pollution ambition starting from the emissions to soil, water and air.
- Individuate replacement of hazardous substances used in the processes with safe bio-based ones;
- Design the biorefinery operations to re-circulate any process flows such as process air and water and to increase energy efficiency including heat recovery;
- Design the biorefinery operations in order to reduce noise emissions;
- Design circularity of any processes, including through symbiosis between industrial installations to share and exploit materials and carrier streams, and looking on the best practices already available or under development, including in other EU R&I programmes to reach the zero-waste ambition;
- Develop a case-study of integrated zero-pollution technical solutions in a selected biorefinery and design the adaptation of the case-study to be operational at all scales, from the large/medium to the small scale (the latter shows potentially high specific environmental impacts).

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NEMZETI KUTATÁSI, FEJLESZTÉSI ÉS INNOVÁCIÓS HIVATAL

HORIZON-CL6-2024-CLIMATE-01-5

Climate-smart use of wood in the construction sector to support the New European Bauhaus

Research & Innovation Action | TRL - | 7M EUR/project | 2 to be funded | Deadline 22 Feb 2024

Link to the topic: click here

Wood materials remain considerably under-utilised in the construction sector despite their durability and appreciation by end users. At the same time, there is a need for making the construction sector more renewable and circular, which includes the use of currently underused timber such as hardwoods, damage wood and post-consumer wood, while including circularity as part of a broader system and design loop. This requires new raw material sources and secondary material, technologies, and designs for wood components, specified products and for wooden buildings. Buildings need also to be adapted to climate change, including as regards summer and winter thermic performance.

Proposals should address one of the following:

- Analyse the potential market and new technologies (such as the use of AI, IoT sensors or robotics) as well as processes for the utilisation of hardwoods, low quality, damage, and post-consumer wood in the construction sector, including for the refurbishment of buildings.
- Explore the potential of zero-waste concepts by developing solutions for each source type to turn into viable products as elements and as whole buildings in the wood construction sector.
- Design wood building blueprints based on these products and other underutilised bio-based materials, taking into account the reuse, adaptability and healthy living environment (e.g. avoidance of hazardous substances) into the design.
- Study and integrate human health and wellbeing aspects, as well as the cultural traditions of local crafts and design languages, as integral elements of the built space.
- Analyse and propose systems to overcome technical, logistical, legal, business, political, economic, knowledge and social barriers, challenges and opportunities and derive integrated policy recommendations and business strategies for enlarging the wood construction sector in Europe.

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NEMZETI KUTATÁSI, FEJLESZTÉSI ÉS INNOVÁCIÓS HIVATAL

HORIZON-CL6-2024-ZEROPOLLUTION-01-2

Best available techniques to recover or recycle fertilising products from secondary raw materials

Coordination SupportAction | TRL - | 2M EUR/project | 2 to be funded | Deadline 22 Feb 2024

Link to the topic: click here

The scope of this CSA is the analysis of best available technologies for recovering/recycling fertilising products from secondary raw materials in Europe while limiting nitrogen and phosphorus pollution in soil, water and air and any other form of pollution from the use of such fertilising products and from the replacement of nitrogen- and phosphorus-based fertilisers produced from conventional processes (including mining and fossil-based processes). Examples of fertilising products within the scope are: recycled nutrients from urban and industrial waste water and sewage sludge, organic fertilising products from bio-waste, digestate and treated manure as well as other fertilising products from biological resources.

Proposals should address the following:

- Collect data on case studies of existing installations converting secondary raw materials into fertilising products in Europe and outside. Secondary raw materials should include: urban and industrial waste water and sewage sludge, bio-waste, digestate, treated manure, others.
- Analyse the technical aspects of the available technologies, such as on the characterisation of secondary raw materials, the recovery/recycling processes and their environmental impacts on soil, water and air quality, biodiversity and climate, their resources efficiency (including energy), as well as the pollution prevention operations. The analysis should also include the assessment of the costs for installation, maintenance and upgrade of both recovery/recycling and pollution prevention operations;
- Compare the environmental impacts and the resources efficiency (including energy) of the available technologies in the scope with the impacts of the conventional processes producing nitrogen- and phosphorus-based fertilisers. The comparison should be performed based on appropriate selection of the functional unit.

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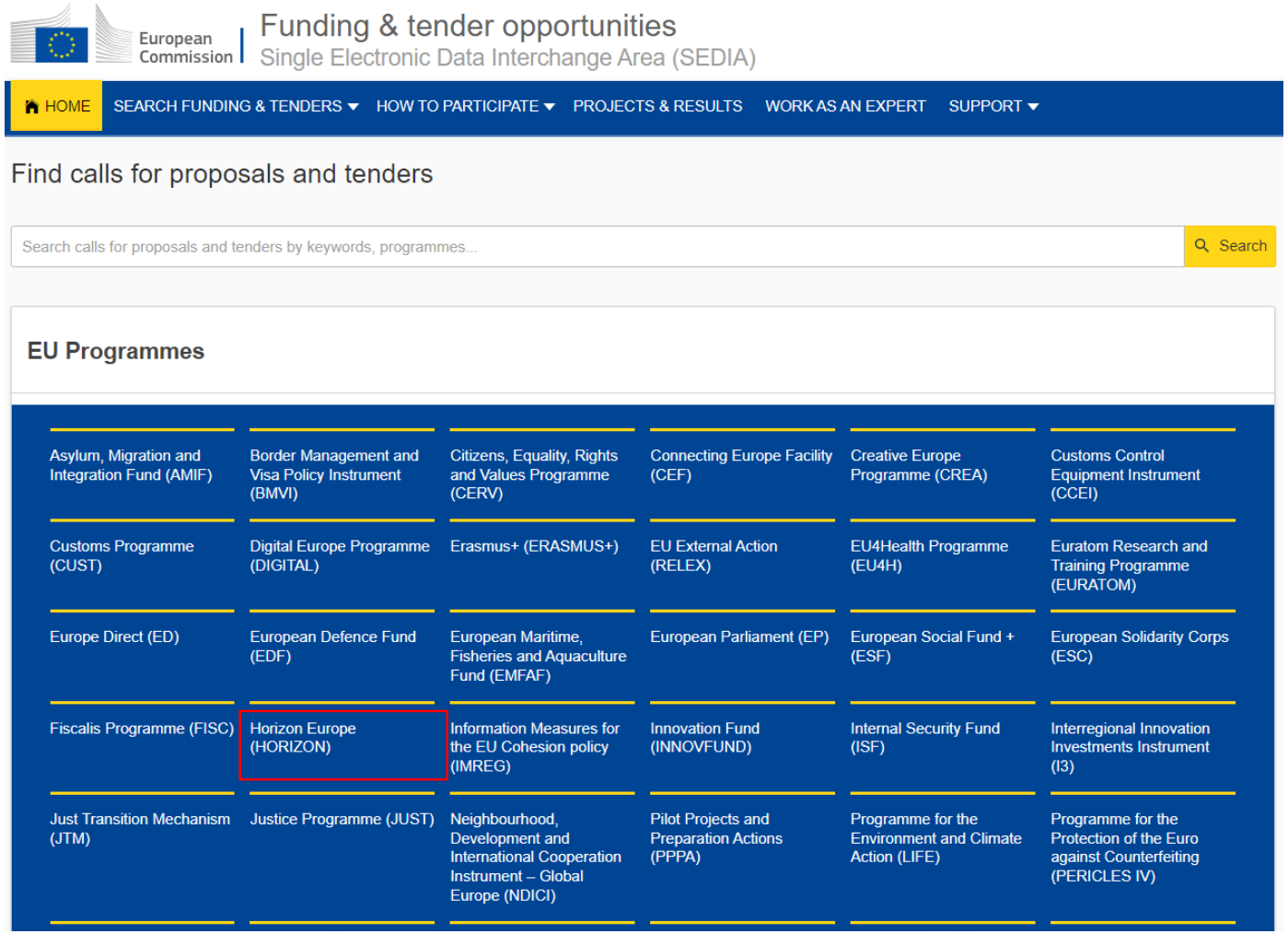
NEMZETI KUTATÁSI, FEJLESZTÉSI ÉS INNOVÁCIÓS HIVATAL

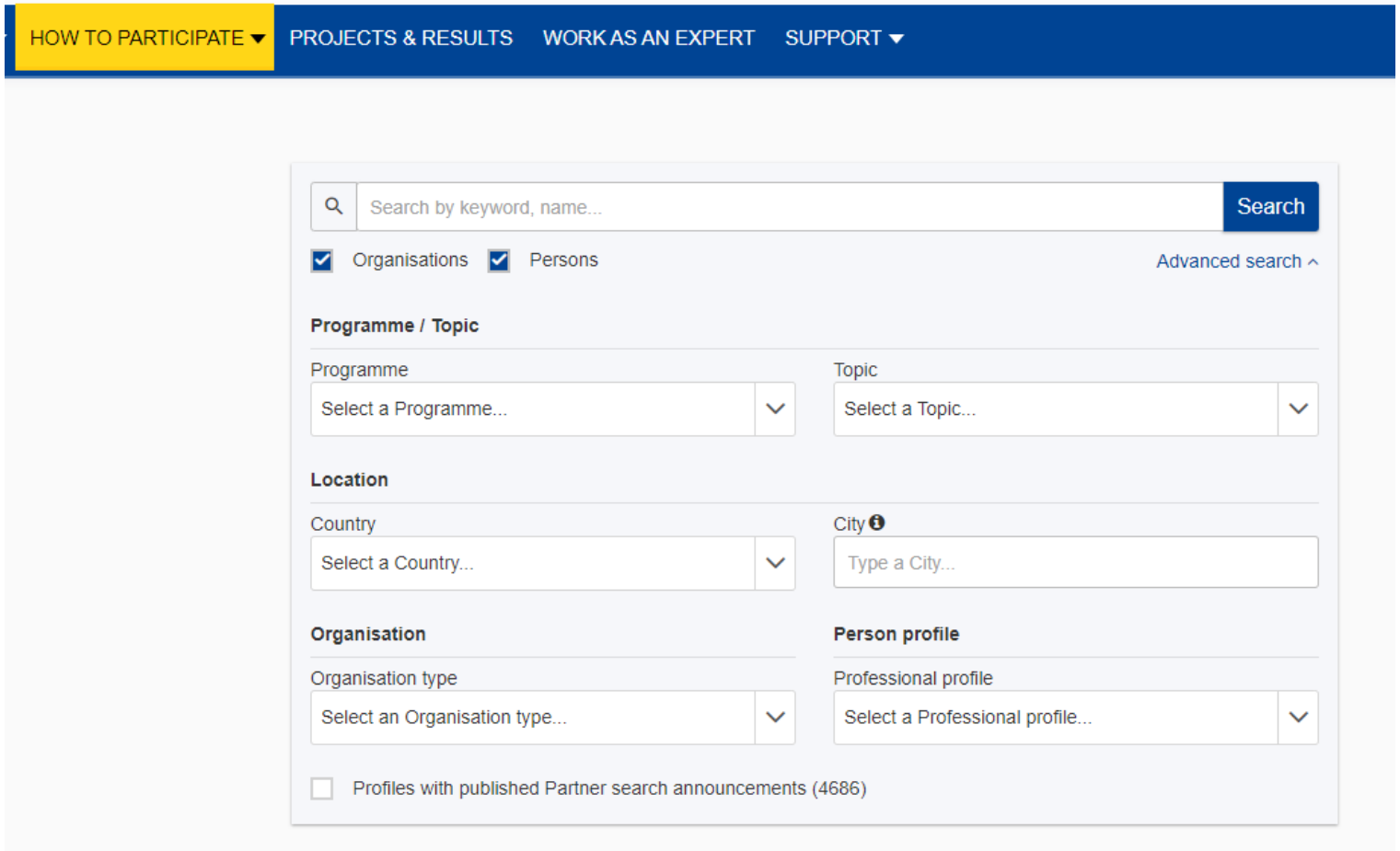
Funding & Tenders portál

- Link



Partnerkeresés

- Link



Partnerkereső formanyomtatvány

Organisation	
Description	*Kérjük, hogy a partnerkeresés szempontjából releváns információt adjon meg, különösen abban az esetben, ha konkrét pályázati felhívással kapcsolatban keres konzorciumi partnereket.* *Célszerű kihangsúlyozni az egyedi adottságokat (pl. egyedi infrastruktúra, úttörő szerep az adott KFI területen, piaci pozíció stb.)* *Végül, kérjük, hogy adja meg lehetőség szerint angol nyelvű honlap címét.*
Type of organization	*Ügyeljen rá, hogy a szervezettípus releváns legyen a felhívás szempontjából.*
Up to 5 keywords describing your sector or specialisation	*Célszerű általános és célzott kulcsszavak egyvelegének megadása a megfelelő láthatóság biztosításához.*
Experience	
Participation in EU funded projects	*Amennyiben rendelkezik uniós projekt tapasztalattal (korábbi keretprogramok, további közvetlen uniós források, esetleg releváns operatív programok), kérjük, hogy adjon meg hivatkozást (pl. Funding & Tender portál, CORDIS, ERA-Net honlapok, projekt honlapok)*
Project idea	
Reference of Call/topic of interest	*Egy átfogó érdeklődési terület megjelöléséhez képest célravezetőbb 1-2 releváns felhívás azonosítása.*
Description of the project idea	*A projektötlet ismertetése mellett azt is fejtse ki, hogy az hogyan illeszkedik a fent azonosított felhívás tartalmába.* *Írja le, hogy szervezete milyen szerepet vállal, a felhívás mely kulcsfontosságú elvárt hatásainak eléréséhez fog hozzájárulni.* *Célszerű lényegre törően, könnyen érthető stílusban, a túlzott szakmai zsargont kerülve fogalmazni.*
Up to 5 keywords describing your project idea	*Célszerű a felhívásra reflektáló kulcsszavakat megadni.*

[1] Based on the Horizon Europe – Guide to an adequate partner search

Expertise and contribution offered	
Contribution offered	*Ismertesse a szervezet leginkább releváns kompetenciáit, kapcsolatrendszerét és kutatási stratégiáját.* *Itt jelölheti meg, ha konkrét munkacsomag vezetését vállalná.*
Role offered (Coordinator, Work package leader or partner)	*Amennyiben nincs még keretprogram tapasztalata, célszerű projektpartner szerepet vállalni.*
Expertise needed	
Description of the expertise needed	*Konkrét elképzelések esetén írja le részletesen a keresett szaktudást annak érdekében, hogy könnyebb legyen a válaszul beérkező profilok feldolgozása.*
Expected contribution	*Itt határozható meg például a keresett szervezettípus (pl. technológiafejlesztő, végfelhasználók érdekképviselete stb.)*
Deadline for the search	
Contact details	
Organisation	*Célszerű a Funding & Tender portál szerint rögzített elnevezést megadni, „Partner Search Profile"-ra történő hivatkozás beszúrásával (pl. Nemzeti Kutatási, Fejlesztési és Innovációs Hivatal)*
Contact person	
Department (if needed)	*Különösen nagyobb szervezetek esetében célszerű a pontosítás.*
Phone	
E-mail	*Lehetőség szerint ne funkcionális, hanem személyes e-mail címet adjon meg.*

NCP szolgáltatások

- Pályázati tanácsadás
- Bizottságnak kérdések küldése (Research Enquiry Service)
- Tematikus workshopok, információs napok szervezése
- Pénzügyi és elszámolási kérdések: Kápli Balázs (E-mail: balazs.kapli@nkfih.gov.hu; Telefon: +36 1 896 3755)

Brokerage

- Link

Hasznos tippek

- Kis kompetenciával/részfeladattal is érdemes „beszállni”
- Nem kell nagy ötlet
- Kis kapcsolódási pontok keresése
- Nem igaz, hogy sok energiával jár
- Mindent ugyanúgy kell csinálni (utazás, beszerzés stb.), mint más projekteknél
- Egyetlen kivétel: timesheet-et kell vezetni (lump sumnál nem)
- Ha nem nyer támogatást a konzorcium, az se vegye el a kedvet
  - a lényeg, hogy bekerültek egy konzorciumba

Elérhetőségek

- Schultheisz Máté, Cluster 4 Industry NCP
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Köszönöm a figyelmet!