A 4. klaszter digitális és ipar témájú 2027. évi felhívásai

2026.10.30. 10:00-11:00

IPAR | **DIGITALIZÁCIÓ** | **FEJLETT ANYAGOK**

GYÁRTÁSTECHNOLÓGIA | **AI**



Csesznok Flóra
4. klaszter NCP
(Digitális témák)



Schultheisz Máté
4. klaszter NCP
(Ipari témák)

HORIZONT PÉNTEK 10 webináriumsorozat

MINDEN PÉNTEKEN
10-11 óra között

REGISZTRÁCIÓ:
horizonteuropa.nkfih.gov.hu

Nemzeti Kutatási, Fejlesztési és Innovációs Hivatal

NCP Hungary – Horizon Europe

Horizont Europa NCP Magyarorszag

Gyakorlati tudnivalók

Néhány fontos gyakorlati tudnivaló:



A webinár **felvételre kerül**, a visszanézési linket később elküldjük.



Mindegyik előadást követ egy 5 perces **kérdések és válaszok** szekció.



A Q&A szekció nem kerül bele a közzétett felvételbe, így bíztatjuk Önöket, hogy maradjanak, és bátran tegyék fel kérdéseiket



A bemutatott anyagok (prezentáció, linkek) **utólag elérhetőek** lesznek.



További kérdések kapcsán **a megadott e-mail címeken** lehet érdeklődni.

NKFIH INTENZÍV FELKÉSZÍTŐ PROGRAM
A HORIZONT EURÓPA KERETPROGRAM FELHÍVÁSAIRA



- A releváns felhívások azonosítása és személyre szabott pályázati tervek elkészítése
- Értékajánlat (value offer) kidolgozása a megfelelő konzorciumi partnerek azonosításának támogatása érdekében
- Célzott szakmai támogatás kutatásmenedzsereinek részére
- HORIZONTPÉNTEK10 webinár sorozat – heti webináriumok a program aktuális fejleményeiről
- Új horizonteuropa.nkfih.gov.hu weboldal
- Heti Horizont Európa hírlevél
- Horizont Europa NCP Magyarorszag és Horizon Europe NCP Hungary – információs LinkedIn-csatornák

A HORIZONT EURÓPA PROGRAM FELÉPÍTÉSE

THREE PILLARS FOR IMPLEMENTATION

Pillar 1
EXCELLENT SCIENCE

- European Research Council
- Marie Sklodowska-Curie Actions
- Research Infrastructures

Pillar 2
GLOBAL CHALLENGES & EUROPEAN INDUSTRIAL COMPETITIVENESS

- European Research Council
- Health
- Culture, Creativity and Inclusive Society
- Civil Security for Society
- Digital, Industry and Space
- Climate, Energy and Mobility
- Food, Bioeconomy, Natural Resources, Agriculture and Enviroment
- Joint Research Centre

Pillar 3
INNOVATIVE EUROPE

- European Innovation Council
- European innovation ecosystems
- European Institute of Innovation and Technology

WIDENING PARTICIPATION AND STRENGTHENING THE EUROPEAN RESEARCH AREA

- Widening participation and spreading excellence
- Reforming and Enhancing the European R&I system

2026-27. ÉVI MUNKAPROGRAMOK: HTTPS://EC.EUROPA.EU/INFO/FUNDING-TENDERS/OPPORTUNITIES/PORTAL/SCREEN/HOW-TO-PARTICIPATE/REFERENCE-DOCUMENTS?PROGRAMMEPERIOD=2021-2027&FRAMEWORKPROGRAMME=43108390

LEADERSHIP IN MATERIALS AND PRODUCTION FOR EUROPE

Schultheisz Máté

Nemzeti Kutatási, Fejlesztési és Innovációs Hivatal

Innovative advanced materials and new production processes – reducing dependencies on Critical and Strategic Raw Materials

HORIZON-CL4-2027-01-MAT-PROD-22

Program:	Horizon Europe Cluster 4
Típus:	Innovation Action
TRL szint:	7
Támogatás projektenként:	6-7,5M EUR
Támogatott projektek száma:	6
Pályázati felület megnyílik:	13 October 2026
Beadási határidő:	02 February 2027
Felhívás linkje:	LINK

Proposals should address one or several of the following approaches:

- Design, development and production with targets on performance, safety and sustainability of IAMs substituting or making a more efficient use of critical and strategic raw materials.
- Innovative industrial processes for the reduction of the use of critical and strategic raw materials focussed on optimizing process safety, sustainability, flexibility, scalability, cost-efficiency.
- Co-development strategies for IAMs and industrial processes. These strategies should demonstrate the value of co-development through specific use cases while maintaining broad relevance across various materials and process types.

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Advanced manufacturing for key products

HORIZON-CL4-2027-01-MAT-PROD-02

Program:	**Horizon Europe Cluster 4**
Típus:	**Innovation Action**
TRL szint:	**7**
Támogatás projektenként:	**6-8M EUR**
Támogatott projektek száma:	**6**
Pályázati felület megnyílik:	**13 October 2026**
Beadási határidő:	**02 February 2027**
Felhívás linkje:	LINK

This topic addresses technologies and machinery for advanced manufacturing, focusing on manufacturing excellence and on increasing circularity, including through the better use of innovative advanced materials and secondary raw materials. The focus is on key manufactured components and products that are competitive and have enhanced performance, and contribute to Europe's technological leadership in manufacturing, but which are at risk of being lost to Europe or rely on raw materials or parts whose supply is mostly coming from outside Europe.

Proposals should develop technologies and machinery to enable the manufacturing of these components with a minimal use of critical raw materials [reference to overall targets] or imported materials. This includes an increased use of secondary raw materials or biobased materials or revalorised components.

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Factory processes and automation for de- and re-manufacturing

HORIZON-CL4-2027-01-MAT-PROD-03

Program:	**Horizon Europe Cluster 4**
Típus:	**Research & Innovation Action**
TRL szint:	**6**
Támogatás projektenként:	**5-6,5M EUR**
Támogatott projektek száma:	**6**
Pályázati felület megnyílik:	**13 October 2026**
Beadási határidő:	**02 February 2027**
Felhívás linkje:	LINK

Proposals should focus on developing de-manufacturing and re-manufacturing technologies at the factory level, addressing at least three of the following:

- Technologies to efficiently analyse part condition and support predictive maintenance, including for re-manufactured parts or components of lower value, e.g. by combining multimodal sensor data, AI and human inputs;
- AI and robotic-assisted technologies, e.g. innovative end-effectors, to de-manufacture products and components, including handling, sorting and extended logistics;
- Model-based systems, to allow de-manufacturing and re-manufacturing operators to use CAD data and digital twins related to the original parts (and contribute to the development of a digital ecosystem);
- Solutions allowing local (on-site) repair or re-manufacturing of high-added value components (applied to e.g. wind turbines, aircraft and vessels); and
- Solutions to plan the sequence of operations based on the characteristics of the incoming products to be re-manufactured.

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Circular innovative advanced materials: facilitating the transition from design to markets

HORIZON-CL4-2027-01-MAT-PROD-06

Program:	**Horizon Europe Cluster 4**
Típus:	**Research & Innovation Action**
TRL szint:	**6**
Támogatás projektenként:	**5-6,5M EUR**
Támogatott projektek száma:	**7**
Pályázati felület megnyílik:	**13 October 2026**
Beadási határidő:	**02 February 2027**
Felhívás linkje:	LINK

Proposals should develop new innovative advanced materials (IAMs) with superior or novel functionalities designed for circularity. The scope includes necessary developments of related processes and technologies to ensure integration in industrial manufacturing facilitating uptake of the developed solutions.

The scope covers the full innovation cycle from the design for circularity and functional integration (new materials designs), development and scaleup (including scalable recovery, recycling and valorisation at end of life), to demonstration of industrial uptake and integration into products. The transformative potential of the developed solutions is to be showcased by demonstrators and industrial use cases. Projects should also explore possibilities to transfer developed solutions to other applications or sectors.

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Textile circularity through advanced processing and manufacturing technologies and system approaches

HORIZON-CL4-2027-01-MAT-PROD-08

Program:	**Horizon Europe Cluster 4**
Típus:	**Innovation Action**
TRL szint:	**6-7**
Támogatás projektenként:	**4-6M EUR**
Támogatott projektek száma:	**3**
Pályázati felület megnyílik:	**13 October 2026**
Beadási határidő:	**02 February 2027**
Felhívás linkje:	LINK

Proposals should specifically address:

- Innovative processing technologies to facilitate the efficient use of recycled, regenerated and bio-based fibres as well as sustainable processing and functionalising chemicals across all major stages of the textile manufacturing value chain, such as spinning, weaving, knitting, dyeing or finishing;
- Characterisation, quality assurance and mitigation strategies for the most common processing and functionality challenges and limitations of the sustainable materials and chemicals targeted;
- Development of best practices and training materials targeted at designers, manufacturers, brands, end of life managers and end users, working with the targeted materials and chemicals;
- Strategies and tools to practically implement collective risk sharing and smart scaling approaches.

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Efficient energy input from renewable sources and energy management in the process industries

HORIZON-CL4-2027-01-MAT-PROD-32

Program:	**Horizon Europe Cluster 4**
Típus:	**Research & Innovation Action**
TRL szint:	**6-7**
Támogatás projektenként:	**7-9M EUR**
Támogatott projektek száma:	**8**
Pályázati felület megnyílik:	**13 October 2026**
Beadási határidő:	**02 Feb 2027 / 02 Sep 2027**
Felhívás linkje:	LINK

Most processes in the process industries require significant energy inputs which currently lead to substantial CO2 emissions by the process industries. The reduction of the CO2 footprint can be achieved by several measures, e.g. electrification or use of other renewable sources of energy, lowering of the energy demand, increasing energy efficiency, and energy integration. This call aims to lead to significant steps in reducing the CO2 footprint by technological innovations, at least by 20%.

A key problem in the use of renewable energy sources is their fluctuation over time. Projects should take this into account and develop solutions that aim for energy efficiency and include novel storage technologies of relevance to the process industries.

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Unlocking the potential of academic intellectual assets for industry, SMEs and startups

HORIZON-CL4-2027-01-MAT-PROD-42

Program:	Horizon Europe Cluster 4
Típus:	Coordination & Support Action
TRL szint:	-
Támogatás projektenként:	1M EUR
Támogatott projektek száma:	2
Pályázati felület megnyílik:	13 October 2026
Beadási határidő:	02 February 2027
Felhívás linkje:	LINK

The action should explore strategies and implement pilots for actively involving students and researchers (including those in social sciences and humanities) in valorising academic IP and intellectual assets. These should include hackathons, workshops and larger-scale “summer camp” programmes, and foresee the involvement of interested industry partners than can be potential adopters.

The action should also identify and test models and tools for easier IP access and utilisation by startups and SMEs. These should cover innovative licensing and other valorisation approaches, especially tackling the issue of unused academic patents, as well as the use of AI to manage and valorise research results and IP.

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Fast Track to Research and Innovation for breakthroughs in industrial technologies

HORIZON-CL4-2027-01-MAT-PROD-61

Program:	**Horizon Europe Cluster 4**
Típus:	**Research & Innovation Action**
TRL szint:	**-**
Támogatás projektenként:	**2,5M EUR**
Támogatott projektek száma:	**8**
Pályázati felület megnyílik:	**13 October 2026**
Beadási határidő:	**02 February 2027**
Felhívás linkje:	LINK

This is an open topic, intended to cover breakthrough innovations, up to TRL 4, within the scope of the strategic research agendas of the partnerships Made in Europe, Process4Planet, Clean Steel, Innovative Advanced Materials for the EU (IAM4EU) and Textiles for the Future.

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Fast Track to Innovation for breakthroughs in the Chemical Industry Action Plan

HORIZON-CL4-2027-01-MAT-PROD-62

Program:	**Horizon Europe Cluster 4**
Típus:	**Coordination & Support Action**
TRL szint:	**-**
Támogatás projektenként:	**2,5M EUR**
Támogatott projektek száma:	**6**
Pályázati felület megnyílik:	**13 October 2026**
Beadási határidő:	**02 February 2027**
Felhívás linkje:	LINK

This open topic aims to speed up the adoption of new, groundbreaking innovations (starting TRL 4) as part of the Chemical Industry Action Plan, in the areas of decarbonisation of energy intensive industries; as well as development of alternatives (new chemical substances, advanced materials or technologies) to substances of concern.

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Pilot access schemes to Technology Infrastructures for European startups, scaleups and innovative SMEs

HORIZON-CL4-2027-01-MAT-PROD-47

Program:	**Horizon Europe Cluster 4**
Típus:	**Coordination & Support Action**
TRL szint:	**-**
Támogatás projektenként:	**1,5-2,5M EUR**
Támogatott projektek száma:	**2**
Pályázati felület megnyílik:	**13 October 2026**
Beadási határidő:	**02 February 2027**
Felhívás linkje:	LINK

The action will develop and test pilot multi-site access schemes for startups, scaleups and other innovative SMEs, involving a critical mass of Technology Infrastructures operators and users in priority areas (including but not limited to advanced materials, clean energy, or health and biotechnology). It should build on existing initiatives with already developed single access points to a comprehensive set of facilities and services in a selected technology area, like for example Open Innovation Test Beds or other integrated networks, that allow for a quick deployment of a common access scheme.

The action should include setting-up a pilot centrally managed and funded access programme, allowing companies quick access to the needed services, with simplified and standardised access conditions applicable across the EU, to be coordinated and in line with the work on the envisaged European Charter of access for industrial users to research and technology infrastructures.

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‘Proof of market’ to improve valorisation and commercialisation of Horizon generated R&I results

HORIZON-CL4-2027-01-MAT-PROD-49

Program:	**Horizon Europe Cluster 4**
Típus:	**Innovation Action**
TRL szint:	**-**
Támogatás projektenként:	**0,2M EUR**
Támogatott projektek száma:	**25**
Pályázati felület megnyílik:	**13 October 2026**
Beadási határidő:	**02 February 2027**
Felhívás linkje:	LINK

Proposals should envisage valorisation activities, such as:

- demonstrating a technology (e.g. testing);
- defining a commercialisation process;
- undertaking:
  - a market and competitiveness analysis;
  - a technology assessment and/or certification;
  - a verification of innovation potential;
- assessing potential “end users” of the expected innovation;
- testing, piloting with users or potential customers;
- complying with regulatory compliance and standards;
- consolidating IP rights.

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European network for upscaling venture builders' roles in research performing organisations

HORIZON-CL4-2027-01-MAT-PROD-50

Program:	**Horizon Europe Cluster 4**
Típus:	**Coordination & Support Action**
TRL szint:	**-**
Támogatás projektenként:	**1M EUR**
Támogatott projektek száma:	**1**
Pályázati felület megnyílik:	**13 October 2026**
Beadási határidő:	**02 February 2027**
Felhívás linkje:	LINK

Projects are expected to contribute to the following outcomes:

- Raised awareness of venture builders' roles as part of the ecosystem of startup support in research performing organisations, including universities, Research and Technology Organisations and research and technology infrastructures;
- Upscaling or establishment of venture builders' roles in research performing organisations; and
- Enhanced capacity for sharing resources supporting venture building, exchanging best practices and developing skills needed for successful venture building undertakings in research performing organisations, leading to increased commercialisation of research results (from lab to market).

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Technologies for innovative processing of raw materials

HORIZON-CL4-2027-01-MAT-PROD-16

Program:	**Horizon Europe Cluster 4**
Típus:	**Innovation Action**
TRL szint:	**-**
Támogatás projektenként:	**10-12,5M EUR**
Támogatott projektek száma:	**4**
Pályázati felület megnyílik:	**13 October 2026**
Beadási határidő:	**02 February 2027**
Felhívás linkje:	LINK

Actions should develop pilot demonstrators located in the EU integrating relevant processing and refining technologies for better recovery of raw materials from low grade and/or complex ores from extractive wastes, reduction of waste and water and air pollution, higher energy efficiency and reduction of land and sea-use change, habitat loss, degradation and fragmentation. The actions should target minerals and metals, particularly critical raw materials.

The solution proposed should be flexible enough to adapt to different or variable ore grades and extractive waste streams and should be supported by efficient and robust process control. Actions should develop intelligent and innovative production systems which better utilise natural resources by minimising losses during waste-rock separation in an optimised and energy-efficient process and by minimising use of water.

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Expert network on Critical raw materials

HORIZON-CL4-2027-01-MAT-PROD-17

Program:	**Horizon Europe Cluster 4**
Típus:	**Coordination & Support Action**
TRL szint:	**-**
Támogatás projektenként:	**3M EUR**
Támogatott projektek száma:	**1**
Pályázati felület megnyílik:	**13 October 2026**
Beadási határidő:	**02 February 2027**
Felhívás linkje:	LINK

The consortium should build the EU expert community covering each screened raw material with expertise on primary and secondary resources; production, including exploration, mining, processing, recycling and refining; substitution of CRMs; raw materials markets; future demand and supply; supply risk management and stress tests; materials flows; raw materials standardisation; environmental footprint, socio-economic analysis, and strategic value chains and end-use sectors, including batteries, e-mobility, renewable energy, electronics, security and aerospace.

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CLEAN INDUSTRIAL DEAL

Schultheisz Máté

Nemzeti Kutatási, Fejlesztési
és Innovációs Hivatal

R&I in Support of the Clean Industrial Deal: Decarbonisation of energy intensive industries

HORIZON-CID-2027-01-01

Program:	Horizon Europe Horizontal
Típus:	Innovation Action
TRL szint:	8
Támogatás projektenként:	15-25M EUR
Támogatott projektek száma:	8
Pályázati felület megnyílik:	12 January 2027
Beadási határidő:	15 September 2027
Felhívás linkje:	LINK

Proposals are expected to:

- demonstrate an adequate integration of relevant technologies in support of the Clean Industrial Deal. The integration can either be demonstrated in a direct (e.g. reduction of greenhouse emissions of a process) or an indirect (e.g. production of a new green/clean product) manner. Reduction or avoidance of harmful pollutants and impact on biodiversity may also be considered, as relevant. The use of relevant results of R&I projects previously or ongoing funded at EU, national or regional level is encouraged;
- show industrial leadership in the deployment after the project. To ensure market readiness and effective collaboration amongst relevant stakeholders, the consortium should be industry driven and composed of a preferably small and manageable number of participants, and its size should be justified. The participation of SMEs is encouraged.

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R&I in Support of the Clean Industrial Deal: Clean Technologies for Climate Action

HORIZON-CID-2027-01-02

Program:	Horizon Europe Horizontal
Típus:	Innovation Action
TRL szint:	8
Támogatás projektenként:	15-25M EUR
Támogatott projektek száma:	8
Pályázati felület megnyílik:	12 January 2027
Beadási határidő:	15 September 2027
Felhívás linkje:	LINK

Proposals are expected to address one or several of these areas:

- Integrated net-zero emissions energy systems (e.g. including energy grids, networks and systems);
- Enhanced zero-emission power technologies (e.g. including renewable electricity, heat and energy technologies);
- Storage technologies, renewable fuels, and carbon capture and utilisation (CCU) (e.g. including batteries and other energy storage solutions, renewable hydrogen , advanced biofuels and synthetic renewable fuels) enabling climate neutrality.

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DEVELOPING AN AGILE AND SECURE SINGLE MARKET AND INFRASTRUCTURE FOR DATA-SERVICES AND TRUSTWORTHY ARTIFICIAL INTELLIGENCE SERVICES

Csesznok Flóra



NEMZETI KUTATÁSI, FEJLESZTÉSI
ÉS INNOVÁCIÓS HIVATAL

Demand-side 3C pilot demonstrators on converged Telco Edge Cloud Infrastructure (IA)

HORIZON-CL4-2027-04-DATA-08

Program:	**Horizon Europe Cluster 4**
Típus:	**Innovation Action**
TRL szint:	**6-8**
Támogatás projektenként:	**19M EUR**
Támogatott projektek száma:	**2**
Pályázati felület megnyílik:	**2026 november 17**
Beadási határidő:	**2027 március 18**
Felhívás linkje:	LINK

Demand- side pilot demonstrators called in this topic will build on the HORIZON-CL4-2025-03-DATA-08 supply side large-scale pilot and integrate future domain-specific applications and services with an emerging European 3Cs/ telco-edge-cloud infrastructure, leveraging different network features. Key features will include security and privacy solutions offering resistance to emerging quantum threats (such as via post-quantum cryptography), mobility, and service continuity across inter-domain and multi-cloud deployments and ecosystems.

Up to two pilot demonstrators on below listed specific verticals are expected.

- One pilot demonstrator focusing on Mobility covering specific areas of transport, logistics and the Automotive industry.
- One pilot demonstrator focusing on another vertical sector such as energy, smart communities, industrial virtual worlds, health, agrifood or manufacturing.

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New approaches for decentralized, federated and sustainable AI data processing

HORIZON-CL4-2027-04-DATA-03

Program:	**Horizon Europe Cluster 4**
Típus:	**Research & Innovation Action**
TRL szint:	**6-7**
Támogatás projektenként:	**17,5M EUR**
Támogatott projektek száma:	**2**
Pályázati felület megnyílik:	**2026 november 17**
Beadási határidő:	**2027 március 18**
Felhívás linkje:	LINK

This topic focusses on technologies and techniques that enable AI data processing to leverage distributed compute resources across the cloud and edge computing continuum throughout the whole AI model lifecycle from data collection, training, fine-tuning, and deployment. To overpass today's state of the art in the area, the considered research areas include:

- To build distributed, decentralised, and federated "compute continuum" enabled AI architectures.
- Development, deployment, and operation of AI workflows across heterogeneous and distributed infrastructures along the compute continuum
- Novel methods and techniques to improve data availability and consistency for decentralised AI data processing.
- New tools and mechanisms to measure, monitor and improve end-to-end energy efficiency and sustainability of AI data processing across the compute continuum.

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Energy efficiency and sustainability of AI data processing in Data Centres

HORIZON-CL4-2027-04-DATA-09

Program:	**Horizon Europe Cluster 4**
Típus:	**Innovation Action**
TRL szint:	**8**
Támogatás projektenként:	**13M EUR**
Támogatott projektek száma:	**3**
Pályázati felület megnyílik:	**2026 november 17**
Beadási határidő:	**2027 március 18**
Felhívás linkje:	LINK

Pilots for new technologies and a demonstration site which contribute to energy-efficient and sustainable AI data processing in data centres, reinforcing EU strategic autonomy and climate goals in the following topics:

1. Direct on-chip cooling and thermal management
2. Energy-efficient power backup and storage systems
3. Sustainable data centre architectures and AI workload optimization.
4. Materials research for energy efficiency
5. Optimisation of data centre operation and functioning
6. Integration of data centres into energy systems and the wider region.

Outcomes should demonstrate potential for improved power usage effectiveness and utilisation of waste heat in external applications, aligned with European targets for carbon-neutral heating/cooling.

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ACHIEVING OPEN STRATEGIC AUTONOMY IN DIGITAL AND EMERGING ENABLING TECHNOLOGIES

Csesznok Flóra

Nemzeti Kutatási, Fejlesztési
És Innovációs Hivatal

EU Frontier AI Initiative: Developing frontier AI solutions that are safe and computationally efficient within Apply AI

HORIZON-CL4-2027-04-DIGITAL-EMERGING-11

Program:	**Horizon Europe Cluster 4**
Típus:	**Research & Innovation Action**
TRL szint:	**4**
Támogatás projektenként:	**44M EUR**
Támogatott projektek száma:	**1**
Pályázati felület megnyílik:	**2026 november 17**
Beadási határidő:	**2027 március 18**
Felhívás linkje:	LINK

Ensuring the safety of AI systems is essential, especially as AI models become increasingly sophisticated and pervasive. Potential research areas to be considered include addressing misalignment, particularly the unintentional misalignment of large AI models. Research could explore methods to detect and mitigate sophisticated misbehaviour, such as alignment faking, reward hacking of human oversight, and encoded reasoning in chain-of-thought (CoT). Additionally, research could focus on enhancing robustness against adversarial attacks, jailbreaks, and backdoors. Further potential areas include advancing transparency and interpretability of models through white-box techniques, activation monitoring, and externalization of model reasoning, significantly contributing to the trust and safe adoption of powerful AI solutions.

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Apply AI: Challenge-Driven AI Innovation Booster in Apply AI prioritised sectors (Partnership in AI, Data and Robotics)

HORIZON-CL4-2027-04-DIGITAL-EMERGING-04

Program:	**Horizon Europe Cluster 4**
Típus:	**Research & Innovation Action**
TRL szint:	**5**
Támogatás projektenként:	**14M EUR**
Támogatott projektek száma:	**4**
Pályázati felület megnyílik:	**2026 november 17**
Beadási határidő:	**2027 március 18**
Felhívás linkje:	LINK

The Challenge-Driven AI Innovation Booster aims to drive significant technological progress and innovation in Apply AI prioritised sectors through challenge-oriented, AI-powered solutions. This initiative seeks to boost Europe's developer community and the adoption of powerful, trustworthy AI solutions in four strategic domains such as:

- Healthcare: advanced AI will accelerate diagnostics and treatment plans, enhance robotic surgery, and improve patient care through predictive analytics.
- Manufacturing: advanced AI will optimize production processes, improve quality control and product design, and enable predictive maintenance.
- Autonomous driving: advanced AI will enhance vehicle safety, improve navigation systems, and optimize traffic management.
- Environment and climate change: advanced AI can will aid in climate modelling, enhance resource management, and improve disaster response strategies.

Each proposal should focus exclusively on one of the four key sectors mentioned above.

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AI-Driven Robotics for Industry: Enabling System Integration and Adoption (Partnership in AI, Data and Robotics)

HORIZON-CL4-2027-04-DIGITAL-EMERGING-05

Program:	**Horizon Europe Cluster 4**
Típus:	**Innovation Action**
TRL szint:	**7**
Támogatás projektenként:	**9M EUR**
Támogatott projektek száma:	**2**
Pályázati felület megnyílik:	**2026 november 17**
Beadási határidő:	**2027 március 18**
Felhívás linkje:	LINK

To maximise the impact and adaptability of deployed systems, the approach should consider the most appropriate tools to speed up integration processes and suitable AI design, training and inference methodologies, ensuring scalability, transferability, transparency, robustness, flexibility, and real-world applicability in diverse industrial environments, and should remain adaptable to the latest technological developments.
By bridging the gap between technology providers and end-users, these integrators will enable the creation of seamless, reliable and scalable robotics systems that can be easily adopted by industries, especially SMEs, thereby supporting more flexible and efficient production processes.
The project must deliver a deployable, modular integration framework, validated through at least three real-world industrial pilots covering different reference scenarios to demonstrate that the approach can be adapted to varied industrial needs and company sizes, including both SMEs and larger manufacturers.

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International cooperation in AI

HORIZON-CL4-2027-04-DIGITAL-EMERGING-06

Program:	**Horizon Europe Cluster 4**
Típus:	**Research & Innovation Action**
TRL szint:	**7**
Támogatás projektenként:	**1,5M EUR**
Támogatott projektek száma:	**2**
Pályázati felület megnyílik:	**2026 november 17**
Beadási határidő:	**2027 március 18**
Felhívás linkje:	LINK

Cooperation through EU initiatives to strengthen local AI ecosystems in African countries fostering responsible AI development, north-south digital cooperation on AI, and sustainable AI innovation. Proposals should contribute to a smart, clean, and secure digital infrastructure by enabling AI technologies that are locally relevant and sustainable, empowers local actors and reflects the EU's emphasis on partner-driven development

The proposals will support international developing on AI by:

- Support the gathering and access to local data in line with EU's data strategy for the training and optimisation of existing AI algorithms developed in initiatives like AI for Public Good and GenAI for Africa.
- Establishment and support of Living Labs within local innovation hubs in low-income countries, fostering co-creation spaces.
- Tailored and contextualized AI-based solutions developed through a bottom-up approach, driven by the specific needs of low-income communities.

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Advanced integrated photonic devices for extended features and ultra-low power consumption (Photonics Partnership)

HORIZON-CL4-2027-05-DIGITAL-EMERGING-03

Program:	**Horizon Europe Cluster 4**
Típus:	**Research & Innovation Action**
TRL szint:	**6**
Támogatás projektenként:	**3-5M EUR**
Támogatott projektek száma:	**5-8**
Pályázati felület megnyílik:	**2026 november 17**
Beadási határidő:	**2027 március 18**
Felhívás linkje:	LINK

R&I should enhance the functionality, efficiency, and integration of photonic devices and circuits with a focus extended system performance. Action should address at least two of the following aspects:

- Enhanced performance through improved spectral purity, wavelength coverage and noise characteristics.
- Increased modulation or detection speeds going beyond the capability of existing PIC material platforms, improved signal-processing capabilities.
- Miniaturised, high-complexity photonic circuits scalable interconnects and electronics-photonics integration to improve performance, reliability, and cost-efficiency.
- Reduction of power consumption, lower optical losses, devices operable at higher temperatures to reduce cooling needs, and low-power circuit actuation and control.

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New approaches for Human/AI collaboration for the workforce of the future (Made in Europe and AI, Data and Robotics partnerships)

HORIZON-CL4-2027-02-DIGITAL-EMERGING-52-two-stage

Program:	**Horizon Europe Cluster 4**
Típus:	**Research & Innovation Action**
TRL szint:	**6**
Támogatás projektenként:	**4-6M EUR**
Támogatott projektek száma:	**5-7**
Pályázati felület megnyílik:	**2026 szeptember 22**
Beadási határidő:	**2027 február 2** **2027 szeptember 2**
Felhívás linkje:	LINK

Proposals should produce dedicated innovative AI approaches for human-machine collaboration in advanced manufacturing to be applied in at least two of following fields:

- Human-AI Co-Learning and knowledge capture to share competences, capture expert knowledge, , interactive mentoring to up-skill the workforce, support re-qualification and continuous training, leading to increased knowledge at factory level and avoiding loss of know-how
- Human-AI teamwork thanks to and innovative natural interaction models, enabling to control complexity in cognitive cooperating production systems, including planning activities at shop floor level.
- Interfaces with automation which automatically adapt to the need of the humans including different abilities and different cultural needs.

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Horizon scanning and foresight in future enabling digital technologies

HORIZON-CL4-2027-04-DIGITAL-EMERGING-10

Program:	**Horizon Europe Cluster 4**
Típus:	**Coordination & Support Action**
TRL szint:	**-**
Támogatás projektenként:	**4M EUR**
Támogatott projektek száma:	**1**
Pályázati felület megnyílik:	**2026 november 17**
Beadási határidő:	**2027 március 18**
Felhívás linkje:	LINK

Projects are expected to contribute to European leadership in foresight activities on future enabling technologies and their transformational potential in industrial, societal and environmental terms.
Proposals should establish a forum for emerging interdisciplinary areas and new technological visions.
Proposals should enable and support a broad range of participants (across disciplines in science and engineering, RTOs, industry sectors, stakeholders) to meet, mutually inspire, cooperate and develop together innovative ideas for future enabling digital technologies covering from fundamental research up to proof of concept.
Proposals should involve and be driven by representatives of the relevant actors of the field (e.g., academia, RTOs, industry including SMEs).

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DIGITAL AND INDUSTRIAL TECHNOLOGIES DRIVING HUMAN-CENTRIC INNOVATION

Csesznok Flóra

Nemzeti Kutatási, Fejlesztési
És Innovációs Hivatal

Advanced and Innovative hardware components for Virtual Worlds (Virtual Worlds Partnership)

HORIZON-CL4-2027-04-HUMAN-01

Program:	**Horizon Europe Cluster 4**
Típus:	**Research & Innovation Action**
TRL szint:	**5**
Támogatás projektenként:	**5-6M EUR**
Támogatott projektek száma:	**7-8**
Pályázati felület megnyílik:	**2026 november 17**
Beadási határidő:	**2027 március 18**
Felhívás linkje:	LINK

In the recent years, hardware for Virtual Worlds made major breakthroughs, democratising headsets, sensors, actuators or haptic equipment. To keep this momentum and advancing further, new generation of XR equipment, wearable solutions and haptic components, as well as non-invasive brain computer interfaces for handsfree interaction, hardware or technologies will put the users at the very centre of virtual experiences, for even greater and realistic immersion, aiming at blurring the lines between the real and digital environments.

Proposals should investigate novel scientific approaches or push the limit of existing ones to improve the synchronization and integration of the different modalities.

Proposals will integrate various components in fully tested devices, demonstrating the usefulness and efficiency of their system in illustrative scenarios in the industrial and societal contexts. Proposals should focus on performant, reliable, miniaturised, interoperable advanced and innovative technologies, with inclusivity, energy consumption and energy efficiency at the centre of concerns.

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Create a thriving and competitive Virtual Worlds and Web4.0 ecosystem (Virtual Worlds Partnership)

HORIZON-CL4-2027-04-HUMAN-02

Program:	**Horizon Europe Cluster 4**
Típus:	**Coordination & Support Action**
TRL szint:	**-**
Támogatás projektenként:	**3M EUR**
Támogatott projektek száma:	**1**
Pályázati felület megnyílik:	**2026 november 17**
Beadási határidő:	**2027 március 18**
Felhívás linkje:	LINK

The objective of the CSA is to further develop and reinforce the community by strengthening and supporting the Virtual Worlds Partnership and its Strategic Research and Innovation Agenda for Virtual Worlds (SRIA).

Projects are expected to contribute to the following:

- Review and, if necessary, update the Strategic Research and Innovation Agenda (SRIA) for Virtual Worlds in Europe, for useful, open, interoperable, inclusive, sustainable and trustworthy virtual worlds systems and applications, ensuring these reflect EU values and principles.
- Strengthening of the European Virtual Worlds Partnership by providing continuous support.
- Reinforced links among initiatives in virtual worlds in Horizon Europe, Digital Europe Programme, and other programmes at EU, national and regional levels.
- Strengthening and promotion of standardisation methods for virtual worlds technologies and in support of the EU regulatory framework.

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Facilitate the engagement of European stakeholders in international digital standardisation

HORIZON-CL4-2027-04-HUMAN-07

Program:	**Horizon Europe Cluster 4**
Típus:	**Coordination & Support Action**
TRL szint:	**-**
Támogatás projektenként:	**7M EUR**
Támogatott projektek száma:	**1**
Pályázati felület megnyílik:	**2026 november 17**
Beadási határidő:	**2027 március 18**
Felhívás linkje:	LINK

The goal of the proposal is to contribute to the implementation of the EU Standardisation Strategy and other policy initiatives such as Europe's Digital Decade or the Competitiveness Compass, with an emphasis on supporting the EU's leading position in global standards-setting of key digital technologies.

To achieve this objective, proposals under this topic should provide for:

- Setting up of a management facility to support contributions and leadership of European specialists in activities in relation to global digital standardisation.
- Support financially the hosting of international standardisation meetings and workshops in Europe to ease the participation of European experts.
- Landscape and gap analysis of standardisation activities in key digital priority area
- Promotion of the relevance and benefits of digital standardisation, especially for strengthening the competitiveness of EU industry.

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RESOURCE FOR AI SCIENCE IN EUROPE

Csesznok Flóra

Nemzeti Kutatási, Fejlesztési
és Innovációs Hivatal

Automated Scientific Discovery (RAISE pilot)

HORIZON-RAISE-2027-01-01

Program:	**Horizon Europe Horizontal**
Típus:	**Research & Innovation Action**
TRL szint:	**5**
Támogatás projektenként:	**10M EUR**
Támogatott projektek száma:	**3**
Pályázati felület megnyílik:	**2026 október 13**
Beadási határidő:	**2027 február 02**
Felhívás linkje:	LINK

This topic addresses the development of safe and trustworthy closed loop scientific experimentation systems through the integration of laboratory automation with AI-driven decision-making processes and robust data infrastructures. Funded projects will help scientific labs with an already advanced level of automation and digitalisation to design, develop, and test the intelligence layer that enables scientific instrumentation to semi- or fully autonomously plan, run, and analyse experiments, ideally in coordination/network with other labs and without requiring a complete redesign of existing laboratory outfitting.

Proposals will incorporate comprehensive data management systems capable of handling the collection, storage, processing, and sharing of experimental data.

Proposals should demonstrate how an existing lab can be retrofitted with AI-driven systems to plan, execute, and analyse experiments in a closed-loop fashion, incorporating human oversight and interaction to ensure accuracy, safety, and ethical compliance.

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Automated Scientific Discovery – Food (RAISE pilot)

HORIZON-RAISE-2027-01-02

Program:	**Horizon Europe Horizontal**
Típus:	**Research & Innovation Action**
TRL szint:	**-**
Támogatás projektenként:	**3M EUR**
Támogatott projektek száma:	**1**
Pályázati felület megnyílik:	**2026 október 13**
Beadási határidő:	**2027 február 02**
Felhívás linkje:	LINK

This topic addresses the development of safe and trustworthy closed loop scientific experimentation systems through the integration of laboratory automation with AI-driven decision-making processes and robust data infrastructures. The funded project will help scientific labs with an already advanced level of automation and digitalisation to design, develop, and test the intelligence layer that enables scientific instrumentation to semi- or fully autonomously plan, run, and analyse experiments, ideally in coordination/network with other labs and without requiring a complete redesign of existing laboratory outfitting.

Proposals should demonstrate how an existing lab can be retrofitted with AI-driven software systems to plan, execute, and analyse experiments in a closed-loop fashion, incorporating human oversight and interaction to ensure accuracy, safety, and ethical compliance.

Impact areas of automated experimentation in biomass and precision fermentation could include the development of alternative protein sources in food production and alternative fats, bio-based materials, specialty carbohydrates, biotechnologies in food systems (such as biochemicals, microbial cultures, etc), food ingredients.

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TOVÁBBI INFORMÁCIÓK

PARTNERKERESÉSI LEHETŐSÉGEK ÉS TOVÁBBI INFORMÁCIÓK

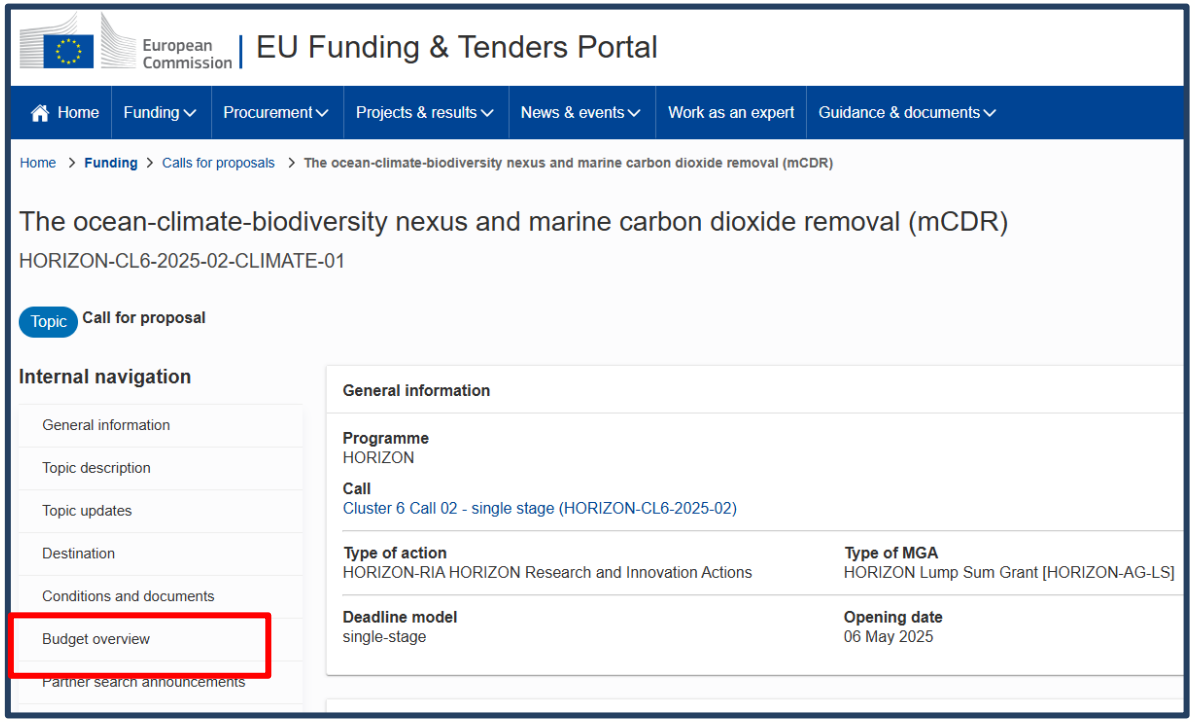
Munkaprogramok: https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/how-to-participate/reference-documents?programmePeriod=2021-2027&frameworkProgramme=43108390

Partnerkeresés a Funding & Tenders Portalon:

Funding → Calls for proposals menüpont alatt pályázati kiírás kódja szerint keresve minden egyes kiírásnál a bal oldali menüben található egy **Partner search announcements** menüpont, ezt megnyitva az egyes téma kiírásokhoz tartozó partnerkeresések láthatók.

Partnerkereső platformok klaszterenként:

- CL4 partner search platform
- CL4 digital matchmaking platform



További információs napok

- **2026. november 6.** A mobilitás témaköréhez kapcsolódó 2027. évi Horizont Európa felhívások https://nkfih.gov.hu/horizontpentek10/CL5MOB2027

- **2026 november 13.** A 2026 decemberében nyíló pályázati felhívások a megújuló energiák területén https://nkfih.gov.hu/horizontpentek10/cl5energia2027

- **2026. november 20.** NATURE és BRIDGING: új horizontális fókuszterületek és pályázati felhívások https://nkfih.gov.hu/horizontpentek10/nature-bridging







Elérhetőségeink

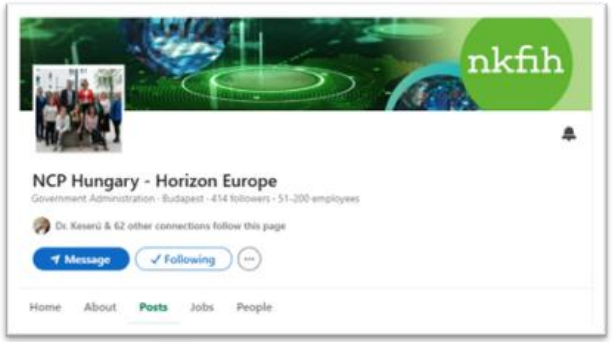
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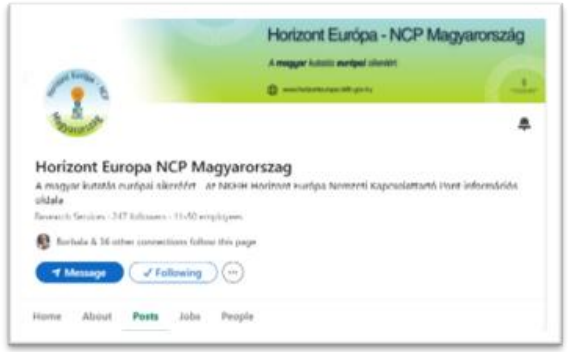
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Magyar nyelvű LinkedIn csatornánk (Pályázati tájékoztató): Horizont Europa NCP Magyarorszag

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