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Water challenges in HORIZON EUROPE

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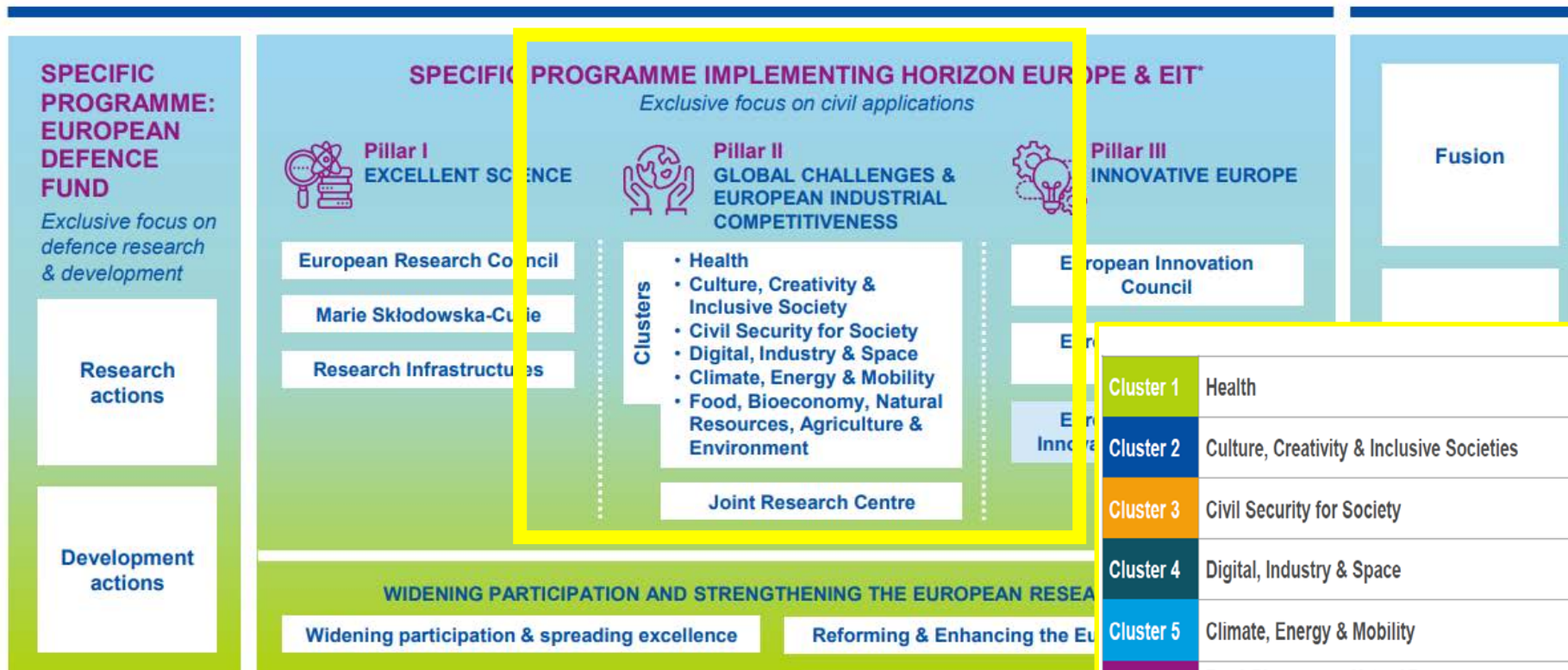


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Pillar 2 – Global Challenges and European Industrial Competitiveness

HORIZON EUROPE

EURATOM



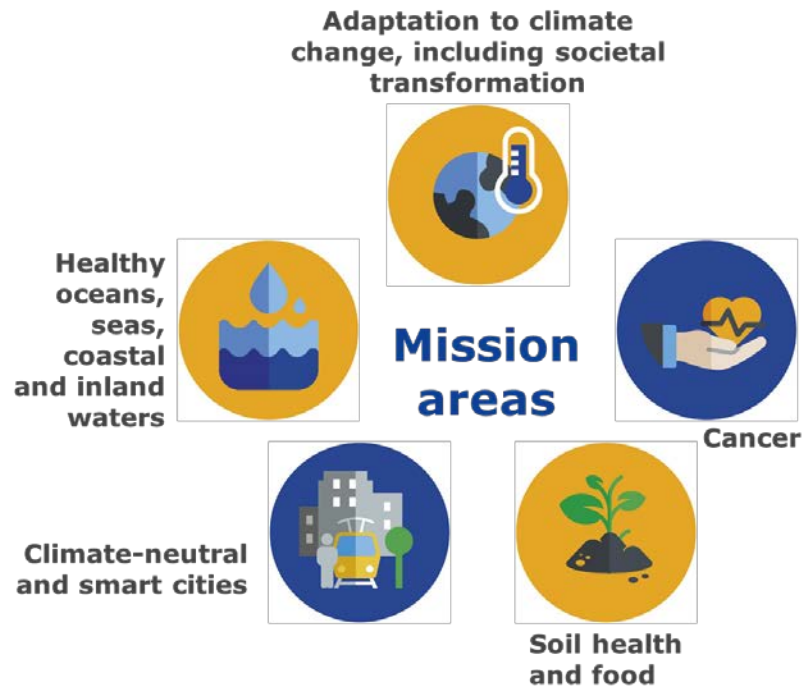
* The European Institute of Innovation & Technology (EIT) is not part of the Specific Programme

		<i>in current prices</i>
Cluster 1	Health	€8.246 billion (including €1.35 billion from NGEU)
Cluster 2	Culture, Creativity & Inclusive Societies	€2.280 billion
Cluster 3	Civil Security for Society	€1.596 billion
Cluster 4	Digital, Industry & Space	€15.349 billion (including €1.35 billion from NGEU)
Cluster 5	Climate, Energy & Mobility	€15.123 billion (including €1.35 billion from NGEU)
Cluster 6	Food, Bioeconomy, Natural Resources, Agriculture & Environment	€8.952 billion
	JRC (non-nuclear direct actions)	€1.970 billion

Missions

Pillar 2 sets EU-wide missions with ambitious goals

Transforming global challenges into very concrete, measurable and achievable missions



These missions with some of their targets for 2030 are:

- **Adapting to climate change, including societal transformation**: preparing Europe to deal with climate disruption
- **Cancer**: more than three million lives saved, longer and better lives, gaining a thorough understanding of cancer
- **Healthy oceans, seas, coastal and inland waters**: cleaning up marine and freshwater, restoring degraded ecosystems and habitats
- **Climate-neutral and smart cities**: supporting 100 European cities and demonstrating a systematic transformation to climate neutrality by 2030
- **Soil and food health**: at least 75% of all soils in the EU are healthy for food, people, nature and climate.

There are dedicated calls related to the MISSIONS



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Mission towards 100 (112) climate neutral cities by 2030



CITIES FROM ASSOCIATED COUNTRIES

- ALBANIA**
Elbasan
- BOSNIA AND HERZEGOVINA**
Sarajevo
- ICELAND**
Reykjavik
- ISRAEL**
Eilat
- MONTENEGRO**
Podgorica
- NORWAY**
Oslo, Stavanger, Trondheim
- TURKEY**
Istanbul, Izmir
- UNITED KINGDOM***
Bristol, Glasgow

* The United Kingdom is expected to become associated to Horizon Europe and will therefore have the same rights and obligations as other associated countries.

Read the [Press Release from the EU Commission](#) announcing the selected cities.



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Pillar 2: Global Challenges, 6 Clusters

		Water related opportunities			Water related opportunities
Health	Culture, creativity and inclusive society	Civil security for society	Digital and industry	Climate, Energy and mobility	Food, Bioeconomy, Agriculture Natural Resources
Health throughout the life course	Democracy and governance	Disaster-Resilient Societies	Manufacturing Technologies	Climate science and solutions	Environmental observations
Environmental and social health determinants	Culture, cultural heritage and creativity	Protection and Security	Key Digital Technologies	Energy Supply	Biodiversity and Natural Capital
			Emerging enabling technologies		
Non-communicable and rare diseases	Social and Economic Transformations	Cybersecurity	Advanced Materials	Energy systems and grids	Agriculture, forestry and rural areas
Infectious Diseases			Artificial intelligence and robotics	Buildings and Industrial Facilities in Energy Transition	Seas, Oceans and Inland Waters
Tools, technologies and digital solutions for health and care			Next Generation Internet	Communities and Cities	Food systems
Health Care Systems			Advanced Computing and Big Data	Industrial competitiveness in transport	Bio-based innovation systems in the EU bioeconomy
			Circular Industries	Clean, safe and accessible transport and mobility	Circular systems
			Low-carbon and clean Industry	Smart mobility	
			Space	Energy storage	

[Where to find the calls: Search Funding & Tenders \(europa.eu\)](https://europe.europa.eu)



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Pillar 2 – Cluster 3 - Civil security for Society

Aim

- To **protect** the EU and its citizens from the threats posed by crime and terrorism (including in the **cyber environment**) and from the **impacts of natural and man-made disasters**.

2023 calls

opening 29 June 2023

deadline 23rd Nov 2023

2024 calls

opening 27 June 2024

deadline 20 Nov 2024

Union policy priorities

- **Improved disaster risk management and societal resilience**
- Improved **management** of EU external **borders**
- Better protection of public spaces
- **Improved security and resilience** of infrastructure and vital societal functions
- **Improved maritime security**
- More effective **fight against crime and terrorism**
- **Increased cybersecurity**

Topics

- **“Disaster-resilient societies”** including tools for first responders and tools to prevent, manage and reduce disaster risk
- **“Protection and security”** including tools for emergency services, analysis of crossbordercrime, radicalisation and fraud
- **“Cybersecurity”**



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Pillar 2 – Cluster 3



https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/horizon/wp-call/2023-2024/wp-6-civil-security-for-society_horizon-2023-2024_en.pdf

DESTINATION – RESILIENT INFRASTRUCTURE

Call - [Resilient Infrastructure 2024 \(HORIZON-CL3-2024-INFRA-01\)](#)

[HORIZON-CL3-2024-INFRA-01-02](#) : *Advanced real-time data analysis used for infrastructure resilience – 6M€*

[HORIZON-CL3-2024-INFRA-01-01](#): *Resilient and secure urban planning and new tools for EU territorial entities - 6M€*

Call: [Resilient Infrastructure 2023 \(HORIZON-CL3-2023-INFRA-01\)](#)

[HORIZON-CL3-2023-INFRA-01-02](#) : *Supporting operators against cyber and non-cyber threats to reinforce the resilience of critical infrastructures – about 4.5 M€ out of 9.4*



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Pillar 2 – Cluster 4 - Digital, Industry and Space

Aim

- To **advance key enabling, digital and space technologies**, underpinning the transformation of our economy and society,
- To **support the digitisation and transformation** of European **industry**
- To contribute to growing a **low-carbon, circular and clean industry**
- To address the challenges European industry is facing

Union policy priorities

- More **appealing and creative jobs** in Europe
- Increased **autonomy in critical raw materials**
- Increased **industrial leadership** in key enabling and digital technologies and **uptake of new technologies**
- **Climate-neutral, circular and clean EU industries**
- Increased **inclusiveness**

Topics

- **“Manufacturing technologies”** such as biotech production, additive manufacturing, intelligent robotics, AI, sensor technologies, advanced batteries and hydrogen
- **“Key digital technologies,”** such as nanoelectronics and photonics
- **“Emerging enabling technologies”**
- **“Advanced materials”**
- **“Artificial intelligence and robotics”**
- **“Next Generation Internet”, 5G and the services they might support,**
- **“Advanced Computing and Big Data”** including High Performance Computing (HPC)
- **“Circular Industries,”**
- **“Low-carbon and clean industries”** including process technologies, conversion technologies, electrification and unconventional energy sources within industrial plants
- **“Space, including Earth Observation,”** including satellite programmes like Galileo, EGNOS and Copernicus; Space Situational Awareness, secure satellite comms

2023 calls

opening 8th december 2022, deadlines 20th April 2023; 22 December 2022, deadline 28 March 2023

2024 calls

1 stage: Opening 21st november 2023, deadlines 20th febr 2024

Two stages: opening 19 Sept 2023, deadlines 07 February 2024; 24 September 2024



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Pillar 2 – Cluster 4



[New Horizon Europe calls for proposals 2023: Cluster 4 – Digital, Industry & Space \(europa.eu\)](https://europa.eu)

[wp-7-digital-industry-and-space_horizon-2023-2024_en.pdf \(europa.eu\)](#)

DESTINATION 1 - CLIMATE NEUTRAL, CIRCULAR AND DIGITISED PRODUCTION

Call - [TWIN GREEN AND DIGITAL TRANSITION 2024 TWO STAGE \(HORIZON-CL4-2024-TWIN-TRANSITION-01-TWO-STAGE\)](#)

[HORIZON-CL4-2024-TWIN-TRANSITION-01-12](#): Enhanced assessment, intervention and repair of civil engineering infrastructure (RIA) - 5-6M€

[HORIZON-CL4-2023-TWIN-TRANSITION-01-40](#): Sustainable and efficient industrial water consumption: through energy and solute recovery (Processes4Planet partnership) (RIA) -- 10-12M€ out of 30M€

DESTINATION 2 - INCREASED AUTONOMY IN KEY STRATEGIC VALUE CHAINS FOR RESILIENT INDUSTRY

Call - [RESILIENT VALUE CHAINS 2023 \(HORIZON-CL4-2023-RESILIENCE-01\)](#)

Improving the resilience of EU businesses, especially SMEs and Startups

[HORIZON-CL4-2023-RESILIENCE-01-44](#): Affordable Housing District Demonstrator (IA) - 5M€ out of 10M€

DESTINATION 5 - OPEN STRATEGIC AUTONOMY IN DEVELOPING, DEPLOYING AND USING GLOBAL SPACE-BASED INFRASTRUCTURES, SERVICES, APPLICATIONS AND DATA

Call - Strategic autonomy in developing, deploying and using global space-based infrastructures, services, applications and data 2023

Evolution of services: Copernicus

[HORIZON-CL4-2023-SPACE-01-31](#): Copernicus for Atmosphere and Climate Change, including CO2 - 2-3M€ out of 8.6M€

[HORIZON-CL4-2023-SPACE-01-32](#): Copernicus for Emergency Management - 3M€ out of 3M€

[HORIZON-CL4-2023-SPACE-01-34](#): Copernicus for Marine Environment Monitoring - 5M€ out of 5M€

Call - [STRATEGIC AUTONOMY IN DEVELOPING, DEPLOYING AND USING GLOBAL SPACE-BASED INFRASTRUCTURES, SERVICES, APPLICATIONS AND DATA 2024 \(HORIZON-CL4-2024-SPACE-01\)](#)

Evolution of services: Copernicus

[HORIZON-CL4-2024-SPACE-01-35](#): Copernicus for Land and Water - 1.5-2M€ out of 4M€



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Pillar 2 – Cluster 6 – Food, Bio-economy, Natural Resources, Agriculture and Environment

Aim

- To advance knowledge, expand capacities and deliver **innovative solutions** to **accelerate the transition** towards the **sustainable management of natural resources**
- **reversing biodiversity decline;**
- reducing environmental degradation and pollution

2023 calls

opening 22 December 2022

deadline 23 March 2023/ 28 March 2023/ 12 April 2023...

2024 calls

1 stage: opening 17 October 2023

deadline 22 Feb 2024

2 stages: opening 17 October 2023

deadline 21 February 2024 - 17 September 2024

Union policy priorities

- **Reduction of greenhouse gas emissions** and successful adaptation
- **Halt of biodiversity decline** and **restoration of ecosystems;**
- **Sustainable and circular management and use of natural resources;**
- Establishment of **new primary production, food and bio-based systems** based on sustainability
- Behavioural, socio-economic and demographic change are well understood
- Establishment of **new governance models enabling sustainability.**

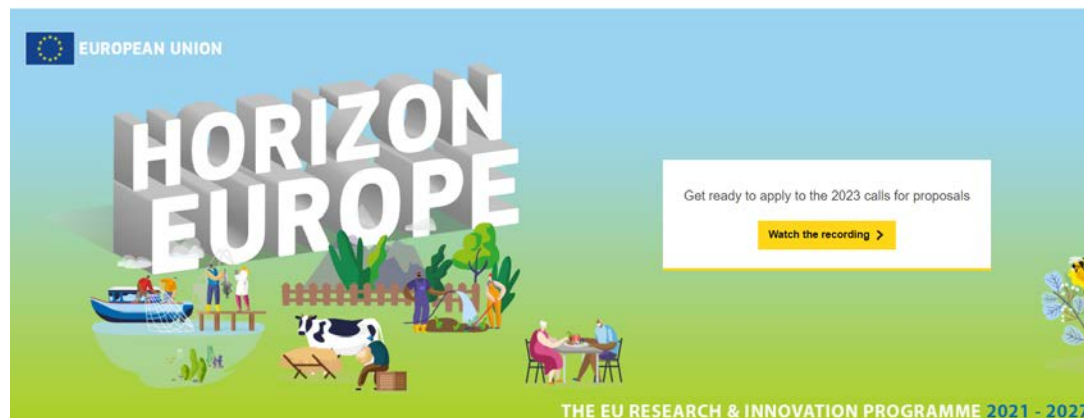
Topics

- **“Environmental observation”** including open data, monitoring of biodiversity, and the Global Earth Observation System of Systems of the Group of Earth Observations
- **“Biodiversity and natural resources”** including terrestrial, freshwater and marine ecosystems and ecotoxicology of compounds and new pollutants
- **“Agriculture, forestry, and rural areas,”** including antimicrobial resistance and agrochemical hazards, as well as digital innovations in farming and forestry such as AI, robotics, precision farming and remote sensing
- **“Seas, oceans and inland waters”** including environmental protection, the blue economy, and the role of seas in migration
- **“Food systems”** including healthy diets, personalised nutrition for vulnerable groups, consumer behaviour, and environmental sustainability
- **“Bio-based innovation systems in the EU bioeconomy,”** including sustainable biomass sourcing and bio-based materials
- **“Circular systems”** including cities and the use of water resources”



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Pillar 2 – Cluster 6



<https://research-innovation-community.ec.europa.eu/events/2tcohVdY0dfgCvuJRj8RTw/programme>

DESTINATION – LAND, OCEAN AND WATER FOR CLIMATE ACTION

Call - Land, ocean and water for climate action

HORIZON-CL6-2023-CLIMATE-01-2: Improve the reliability and effectiveness of alternative water resources supply systems and technologies - 3.3M€ out of 10M€

HORIZON-CL6-2023-CLIMATE-01-3: Ocean and coastal waters carbon and biodiversity-rich ecosystems and habitats in Europe and the Polar Regions - 5M€ out of 10M€

HORIZON-CL6-2024-CLIMATE-01-1: Improving irrigation practices and technologies in agriculture- 5M€ out of 10M€

HORIZON-CL6-2024-CLIMATE-01-4: Land use change and local / regional climate - 6M€ out of 12M€

DESTINATION – BIODIVERSITY AND ECOSYSTEM SERVICES

Call - Biodiversity and ecosystem services

Biodiversity protection and restoration

HORIZON-CL6-2023-BIODIV-01-7: Demonstration of marine and coastal infrastructures as hybrid blue-grey Nature-based Solutions - 5M€ out of 10M€

Mainstreaming biodiversity in society and the economy

HORIZON-CL6-2023-BIODIV-01-8: Addressing biodiversity decline and promoting Nature-based Solutions in higher education - 3M€ out of 3M€

HORIZON-CL6-2023-BIODIV-01-9: Biodiversity, economics and finance: unlocking financial flows towards reversing of biodiversity loss - 5M€ out of 5M€

HORIZON-CL6-2023-BIODIV-01-10: Build up of knowledge on Nature Positive Economy and supporting its scale-up - 5M€ out of 5M€

HORIZON-CL6-2023-BIODIV-01-11: Biodiversity loss and enhancing ecosystem services in urban and peri-urban areas - 5M€ out of 5M€

DESTINATION – CIRCULAR ECONOMY AND BIOECONOMY SECTORS

Call - Circular economy and bioeconomy sectors

Enabling a circular economy transition

HORIZON-CL6-2023-CircBio-01-3: Harnessing the innovation potential and market uptake of successful circular economy water related projects - 2M€ out of 2M€

HORIZON-CL6-2024-CircBio-02-4-two-stage: New circular solutions and decentralised approaches for water and wastewater management - 5M€ out of 15M€

DESTINATION – CLEAN ENVIRONMENT AND ZERO POLLUTION

Call - Clean environment and zero pollution

Halting emissions of pollution to air, soil and water

HORIZON-CL6-2023-ZEROPOLLUTION-01-1: Knowledge and innovative solutions in agriculture for water availability and quality - 6M€ out of 6M€

Addressing pollution in seas and ocean

HORIZON-CL6-2023-ZEROPOLLUTION-01-2: Integrated assessment and monitoring of emerging pollutants - 6.25M€ out of 12.50M€

Protecting drinking water and managing urban water pollution

HORIZON-CL6-2024-ZEROPOLLUTION-02-1-two-stage: Holistic approaches for effective monitoring of water quality in urban areas - 5M€ out of 15M€



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Pillar 2 - Missions

Most interesting calls for 2023 are soon closing.

Still opened:

- [**HORIZON-MISS-2023-OCEAN-01-09: Roadmap towards the integration of inland waters into the Digital Twin Ocean**](#)
- [**HORIZON-MISS-2023-OCEAN-01-08: Integration of socio-ecological models into the Digital Twin Ocean**](#)

Deadline date: 20 September 2023



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Overview 2024 water related calls

(My) Top ranking (for urban water applications and feasibility of proposals preparation):

1. [HORIZON-CL6-2024-ZEROPOLLUTION-02-1-two-stage](#): *Holistic approaches for effective monitoring of water quality in urban areas - 5M€*
2. [HORIZON-CL6-2024-CircBio-02-4-two-stage](#): *New circular solutions and decentralised approaches for water and wastewater management - 5M€*
3. [HORIZON-CL3-2023-INFRA-01-02](#): *Supporting operators against cyber and non-cyber threats to reinforce the resilience of critical infrastructures – about 4.5 M€*
4. [HORIZON-CL4-2024-TWIN-TRANSITION-01-12](#): *Enhanced assessment, intervention and repair of civil engineering infrastructure (RIA) - 5-6M€*



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Expected outcomes of the top 4 calls (1/2)

Call – budget	Expected outcomes
<p>HORIZON-CL6-2024-ZEROPOLLUTION-02-1-two-stage: Holistic approaches for effective monitoring of water quality in urban areas - 5M€</p>	<p>Projects results are expected to contribute to all of the following expected outcomes:</p> <ul style="list-style-type: none">• Enhance urban water quality with a view of providing better guidance for policy making and prioritisation by developing integrated urban water quality monitoring management plans;• Sound, safer and risk-based urban water quality management plans supported by enhanced holistic monitoring, advanced novel methods and digital solutions, modelling and evidence-based scenarios;• Increase uptake of digital tools in the water sector to support water management decisions for all stakeholders.
<p>HORIZON-CL6-2024-CircBio-02-4-two-stage: New circular solutions and decentralised approaches for water and wastewater management - 5M€</p>	<p>Projects results are expected to contribute to all of the following expected outcomes:</p> <ul style="list-style-type: none">• Demonstrate the benefits of decentralised approaches for water and wastewater treatment in various geographic, climate and economic conditions and create a decision framework to help policy makers to see where a decentralised approach can bring the most overall benefits with regards to the centralised one, and how to better design their integration.• Improve co-design and co-creation processes and synergies between all relevant stakeholders and enhance public engagement to speed up the market uptake of decentralised and/or semi-decentralised solutions.• An enhanced systemic circular economy approach along the water cycle by using process integration, to minimise water pollution, water consumption and the environmental footprint (including energy use) of water activities and ensure water security.• Support the implementation of relevant EU policy needs (e.g., water and marine related policies, water reuse regulation, climate change adaptation strategy, circular economy action plan, the EU zero pollution action plan, and chemical strategy for sustainability).



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Expected outcomes of the top 4 calls (2/2)

Call – budget	Expected outcomes
<p>HORIZON-CL3-2023-INFRA-01-02 <i>Supporting operators against cyber and non-cyber threats to reinforce the resilience of critical infrastructures – about 4.5 M€</i></p>	<p>Projects' results are expected to contribute to some or all of the following outcomes:</p> <ul style="list-style-type: none">• Support is provided to the resilience of operators against cyber and non-cyber threats in specific sectors;• A reliable state-of-the-art analysis of physical/cyber detection technologies and risk scenarios is created, in the context of an operator in a specific sector <i>in sectors that have not yet been covered by previous research projects;</i>• Strengthened cooperation against natural or human-made threats and subsequent disruptions of infrastructures in Europe...• Improved situational awareness, preparedness and governance ..., as well as implementation of prevention, preparedness/mitigation, response, and recovery types of intervention;• Significant reduction of risks and exposures to anomalies or deliberate events on cyber-physical systems, or critical infrastructures/systems;• Enhanced preparedness and response by definition of operational procedures of operators as well as public authorities considering citizen's behaviour/reaction and societal impact in case of disruption in a specific sector.
<p>HORIZON-CL4-2024-TWIN-TRANSITION-01-12: <i>Enhanced assessment, intervention and repair of civil engineering infrastructure (RIA) - 5-6M€</i></p>	<p>Expected Outcome:</p> <ul style="list-style-type: none">• Extension of the service life of civil engineering infrastructure, which reduces the need to replace infrastructure, and ultimately in an overall lower CO-2 footprint for such infrastructure• Faster and more accurate detection and analysis of maintenance and repair needs in existing infrastructure• Reduction in time between the occurrence of infrastructure maintenance and repair-related problems and the on-site intervention• Reduced risks to health and safety of workers in carrying out tasks linked to infrastructure maintenance and repair• Cost savings in terms of both operational costs and deferred or avoided capital investment costs



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