Enterprise Europe Network

Dutch applied robotics research group offers unmanned systems and sensing expertise for Horizon Europe project on physical protection of critical infrastructure (HORIZON CL3-2027-01-INFRA-01)

Summary

Profile Type	Research & Development Request
POD Reference	RDRNL20261111023
Term of Validity	11 November 2026 - 11 November 2027
Company's Country	Netherlands
Type of partnership	Research and development cooperation agreement
Targeted Countries	All countries

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General information

Short Summary

A leading Dutch research group in mechatronics and robotics at a university of applied sciences seeks to join, or help build, a consortium for HORIZON-CL3-2027-01-INFRA 01 "Enhancing physical protection of critical infrastructures". The group has exceptional expertise in unmanned robotic systems, sensing and perception, rapid prototyping, and real-world deployment and testing, all rooted in a strong systems-engineering approach. It is open to being a partner or work package leader.

Full Description

The topic is an Innovation Action under Cluster 3, Civil Security for Society. It has a budget of €12 million for around two projects and expects results at TRL 6–7. The call opens on 5 May 2027 and closes on 4 November 2027. Projects should help critical infrastructure withstand threats such as:

- hostile or uncooperative unmanned platforms, including swarms
- sabotage and unauthorised access
- removal of critical components
- deterioration from ageing or changing climate conditions

They should also improve risk assessment, surveillance and perimeter systems, operational procedures and training.

About the group

The group is a highly experienced, leading applied research team of over 60 researchers, engineers and project managers. It is recognized for turning advanced robotics research into solutions that work in practice, up to TRL 7, together with industry and publicsector partners. Its outstanding skills for this topic are:

- Unmanned robotic systems: design and integration of autonomous aerial, ground, legged, surface and underwater robots. This covers localization, mapping, path planning, multi-robot collaboration, and operation in difficult weather and unstructured environments.
- Sensing and perception: integration, calibration, synchronization and fusion of multiple sensors (e.g. cameras, thermal, LiDAR, radar, gas and chemical sensors). The group combines these with computer vision, signal processing and machine learning for detection, classification, tracking and inspection.
- Rapid prototyping: fast development of working hardware and software prototypes, from concept to field-ready demonstrator. This includes mechatronic design, embedded systems and in-house integration, so ideas can be tested and refined quickly with end users.
- Real-world deployment and testing: wide experience taking robots and drones out of the lab into operational settings.

Proposed contribution

1. Systems engineering: a structured, end-to-end approach that starts by pinpointing, with end users, where the real problem lies and what can be improved. The group turns this into clear requirements and system designs, then integrates and validates the system against the operational need, so the solution works in practice and not just in the lab.
2. Detecting and tracking hostile drones and swarms near critical sites, using multi-sensor

fusion and AI-based perception. This builds onto the group’s ongoing counter-drone work with national partners.
3. Autonomous robotic perimeter security: drone and ground or legged robot patrols to monitor perimeters and access points and detect intrusion or tampering, working with human operators. This would be a continuation of the
group’s collaborations with Dutch security agencies.
4. Rapid prototyping and integration of consortium technologies into working demonstrators.
5. Field testing and validation with end users, and feeding the lessons learned into operational procedures and training material.
6. A large network of Dutch industrial and public partners: in a variety of sectors including energy, emergency response, security and defense.

Sustainable Development Goals

Goal 8: Decent Work and Economic Growth

Partner Sought

Expected Role of a Partner

The group is looking for:
• A coordinator with Horizon Europe Cluster 3 experience who is preparing a proposal or open to co-creating one.
• Critical infrastructure operators and authorities (energy, water, transport, telecom, industrial sites) to act as end users. They would define requirements and threat scenarios and provide pilot sites.
• Law enforcement agencies or private security providers to validate solutions in operation and help develop procedures.
• Security technology companies and SMEs (counter-drone, surveillance, access control, command-and-control platforms) to take the work to market.
• Partners in social sciences, ethics, law and training, covering privacy, acceptance, regulation and curricula.

The group can join as a partner or work package leader, for example leading unmanned systems and sensing development, prototyping and integration, or field testing and demonstration. Both existing consortia and new initiatives are welcome.

Type and Size of Partner

R&D Institution • SME 11-49 • SME <=10 • University • SME 50 - 249 • Big company

Type of partnership

Research and development cooperation agreement

Call details

Framework program

Horizon Europe

Call title and identifier

Innovation Action under Cluster 3, Civil Security for Society
Horizon Europe project on physical protection of critical infrastructure (HORIZON CL3-2027-01-INFRA-01)

Coordinator required

Yes

Deadline for EoI

30 Jun 2027

Deadline of the call

4 Nov 2027

Dissemination

Market keywords

02007028 - Other software related

Sector Groups Involved

Digital

Targeted countries

All countries