LAND

(EE) Integrated Unmanned Ground Systems 2 (iUGS 2)

(Established in May 2023)

For Public Release

PROJECT DESCRIPTION

The Unmanned ground systems (UGS) field has gone through rapid development during last five years. We are seeing more and more platforms from European providers and around the World who are developing very capable systems. Especially important are the innovative solutions regarding autonomous functions, as AI is getting more capable. In addition, we have already seen medium size UGS deployed to the conflict zones to support infantry units for base operations and foot patrols.

Many countries have started their internal Robotic and Autonomous System (RAS) project to test new platforms and develop concepts for integrating these into the existing armed forces structures and concepts of operations. Sharing the results of these has not been very successful and it is understood that we are duplicating some of the tests without proper acknowledgment of them. All of this has built a strong understanding towards a need for effective cooperation between countries interested in the UGS topic.

The PESCO iUGS2 project will provide a great platform for information sharing and long-term cooperation in this field. We see that individual cooperation projects between smaller groups of pMS would not give the equal opportunity to all interested counterparts and therefore this framework is best suitable for a long-term of this magnitude and importance.

OBJECTIVES/PRODUCTS

The desired end state is an unmanned system that is capable of supporting mechanized and motorized infantry in all types of geographic and operational land environments, including denied environments, with evolving levels of autonomy and robustness.

- ENABLER 1: Strongly decreased cognitive workload for UGS operator(s) through maximum use of artificial intelligence and assisted functions.
- ENABLER 2: Modular design, open architecture and enhanced interoperability that ensures the transferability of technology with other manned and unmanned platforms.
- ENABLER 3: Enhanced manned-unmanned and unmanned-unmanned teaming capacities of UGS-s through advancements in swarming technology and command and control interoperability.
- ENABLER 4: Federated digital-twin framework that provides an improved training environment for UGS navigation and other mission-specific algorithms.
- ENABLER 5: Formation of UGS-related RD ecosystem/community that facilitates continuous innovation, synergies, certification, concept of operations and inclusion of deep-tech start-ups.

The long-term goal is to reach a high enough UGS capability for being fully used and integrated by the European armed forces to become more effective in our defense operations. The PCY will be in 2029 as it takes time for the technology to be matured and tested enough to provide confidence for the public to be fully accepted for the integration.

EE, CZ, FI, FR, DE, HU, IT, LV, NL, SE

BG, EL, LT, PL, PT, ES

IDEATION
INCUBATION
EXECUTION
CLOSING

Contribution to the more binding commitments
Yes

Capability Perspective

EU CDP priority
Ground Combat Capabilities

CARD references
Unmanned Ground Systems

Operational Viewpoint

HICG
Land Intelligence, Surveillance Target Acquisition & Reconnaissance (ISTAR)

EDA support

No

INDICATORS

Project Execution Year (PEY) and Project Completion Year (PCY):

DELIVERABLES ACHIEVED

- Initial harmonized defence capability requirements by participating member states (signed by AT, BE, CZ, DE, EE, FI, FR, LV, NL, NO, PL).
- LoI signed by AT, BE, CZ, EE, FR, FI, FR, LV, NL, NO and PL.

CRITERIA FOR SUCCESS

- Ongoing and upcoming UGS R&D projects are aligned (e.g. standards) IOT ensure optimal use of resources in Europe.
- European UGS and enabling technologies are globally competitive and operationally effective by 2029.
- The UGS are matured enough for full use and integration to the European Armed Forces by 2029.
- Unmanned system that is capable of supporting mechanized and motorized infantry in all types of geographic and operational land environments, including denied environments, with evolving levels of autonomy and robustness.