

MARITIME

(ES) Essential Elements of European Escort (4E)

(Established in November 2021)

For Public Release

PROJECT DESCRIPTION

The PESCO 4E Project aims to identify, define and develop within a collaborative approach, essential elements of any surface vessel that may be built in Europe from 2030 to 2045.

The project will be built around 5 pillars:

- i. Combat system,
- ii. Communication and information system,
- iii. Platform management system,
- iv. Navigation system,
- v. System of Systems.

The PESCO 4E project is aligned with the EPC2S Focus Area, identifying a set of opportunities for collaboration on technologies, standards, and activities whose declination will be eventually at system and sub-system level. Project members will select those elements on which they have interest in joining efforts, deepening cooperation, and obtaining technological superiority to ensure dominance at sea.

The project 4E aims to anticipate the challenges of an ever-evolving integrated, digitalized, operational naval environment with a focus on interoperability, interchangeability and collaborative features.

Considering the EU's objectives for reaching net-zero emissions by 2050 and with a view to enhancing the energy resilience of the armed forces, project 4E will also focus on sustainability, with a view to allowing the defence sector to further contribute to the European Green Deal initiative. This 4E project should have direct implications for the European Defence industry which needs to turn greener to reduce its environmental impact while strengthening Europe's strategic autonomy.

OBJECTIVES/PRODUCTS

The 4E project aims to lay the foundations for the ships that, between 2030 and 2045, should replace the surface warships that today form the backbone of European navies. The project aims to develop capable and resilient naval elements, with a more cost-effective, interoperable, and standardized approach. The purpose is to reduce fragmentation and to improve the coherence of the capability landscape in the EU maritime domain.

These elements will be intelligently interconnected and will provide a unique set of capabilities, far superior to those of individual systems. Therefore, the elements defined for each pillar will need to be integrated into a System of Systems that will be the logical and cognitive core of the new generation of European Smart Ships. This will contribute to the development of the fundamentals of the digital ship, creating clear added value through a deeper integration of all technologies working together. It will allow EU navies to remain at the forefront of technology, to operate with technological superiority, and to increase the strategic autonomy of the Union.

ES, EL, IT, PT, SE,
NL

DE

IDEATION
INCUBATION
EXECUTION
CLOSINGContribution to
the more
binding
commitments
YesCapability
Perspective**EU CDP priority**Naval Combat
and Maritime
Interdiction
Underwater and
Seabed Warfare
Maritime
Domain
Awareness**CARD
references**European Patrol
Class Surface
Ships (EPC2S)Operational
Viewpoint**HICG**Maritime
Engagement
incl.
anti-submarine
warfare

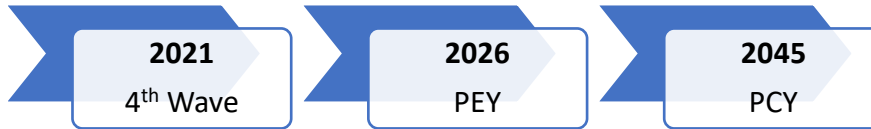
EDA support

Yes

Ad hoc Cat.B
support

INDICATORS

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



DELIVERABLES ACHIEVED

- Outline Description (OD) was delivered and endorsed in 2023.
- Project Initiating Document (PID) was delivered and endorsed in 2024.
- Project Arrangement (PA) was delivered in 2024 and in National Staffing process.
- High Level Requirements (HLR) were delivered in 2024 and endorsed in Feb 2025.
- Common Staff Target (CST) document is in elaboration.

CRITERIA FOR SUCCESS

- The project will be considered successful if, upon completion, it contributes to the development of the logical and cognitive core of the new generation of European smart ships (pillar System of Systems), focusing on the technologies, standards, and systems to be integrated. In essence, the aim is to lay the foundations for the European digital ship of the near future.
- PESCO 4E will be considered successful if, upon completion, it is able to harmonise the design, requirements, and specifications of at least 8-10 systems within 4E scope (pillars 1, 3, 4 and 5), and the development of their prototypes up to TRL 8-9, ready to be integrated on board future EU naval vessels. Development of essential elements and solutions to be successfully integrated into the next generation of naval vessels.