

CYBER, C4ISR

(FR) European Secure Software defined Radio (ESSOR)

(Established in March 2018)

For Public Release

PROJECT DESCRIPTION

The European Secure Software defined Radio (ESSOR) PESCO project aims to improve interoperability over land, maritime and air domain communication capabilities by developing European Software Defined military Radios (SDR). The ESSOR PESCO project is focused on the development of several waveforms to answer specific needs associated with a custodianship centre to grant through life interoperability of those different waveforms. The developed waveforms are: - ESSOR - HDR WF (High Data Rate Waveform); - ESSOR - NBWF (Narrow Band Waveform); - ESSOR - ESATWF (SATCOM UHF Waveform); - ESSOR - 3DWF (3-D Waveform); - EWBANWF (Wide Band Aeronautical Network); - ESSOR - MIDS Next generation MIDS terminal including Joint Advanced Data Links (JADL).

In addition to these waveforms, the ESSOR PESCO project initiated the development of a new generation of MIDS terminals to set the ground for a future European L16 capability, referred to as ESSOR MIDS (EMIDS) terminals.

OBJECTIVES/PRODUCTS

The main objective of this project is to improve interoperability between European armed forces through common Software Defined Radio (SDR) architecture of waveforms and terminals. This will enable faster and more secure military manoeuvre in coalition. This will also provide a consistent common ground to foster the European software defined radios development and production.

INDICATORS

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



DELIVERABLES ACHIEVED

- High Data Rate Waveform (WBHDRWF):
 - Development of HDRWF designed for land communication purposes,
 - Successful porting of HDRWF on national radio devices,
 - First interoperability tests between national radio devices successfully achieved in Poland in March 2022,
 - Success of CWIX22 tests for ESSOR HDRWF.
 - Success of CWIX23 tests for ESSOR HDRWF.
- October 2023: ESSOR HDRWF STANAG5651 has been ratified by NATO.

FR, DE, ES, FI, IT,
NL, PL, PT

EE, IE, LV, SE

IDEATION
INCUBATION
EXECUTION
CLOSING**Contribution to
the more binding
commitments**

Yes

**Capability
Perspective****EU CDP priority**Future Soldier
Systems**CARD references**Main Battle Tanks
European Patrol
Class Surface
Ships (EPCS2)
Enhanced Military
Mobility**Operational
Viewpoint****HICG**Communication &
Information
Systems (CIS)**EDA support**

No

CRITERIA FOR SUCCESS

- Include more ESSOR PESCO nations in the project. ESSOR stage 4 will start in 2025 with the aim of filing ESSOR HDRWF and developing ESSOR NBWF. These two capabilities will offer native interoperability among different types of radios and will be key for NATO and FMN community. Norway and Sweden showed an interest to join the OCCAR programme and could also join the PESCO project.