

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 - HDRWF (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.



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  
Information  
Superiority

### CARD references

Focus Areas:  
Main Battle Tanks;  
European Patrol Class Surface Ships (EPCS2);  
Enhanced Military Mobility



Operational Viewpoint

HICG  
Communication & Information Systems (CIS)



EDA support

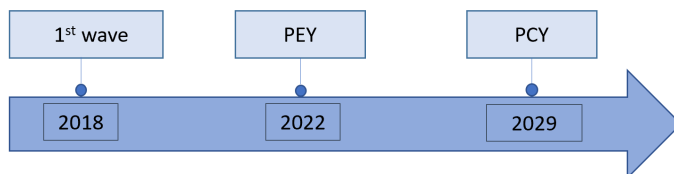
No

## 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.

## CRITERIA FOR SUCCESS

- Include more ESSOR PESCO nations to the project.
- ESSOR stage 4 will start in 2025 with the aim to file ESSOR HDRWF and to develop ESSOR NBWF. These two capabilities will offer native interoperability among different type of radios and will be key for NATO and FMN community.