RANGER

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RANGER

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RANGER

**RA**dars for lo**NG** distance maritime
surveillanc**E** and Sa**R** operations

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement no 700478

## Project Aim

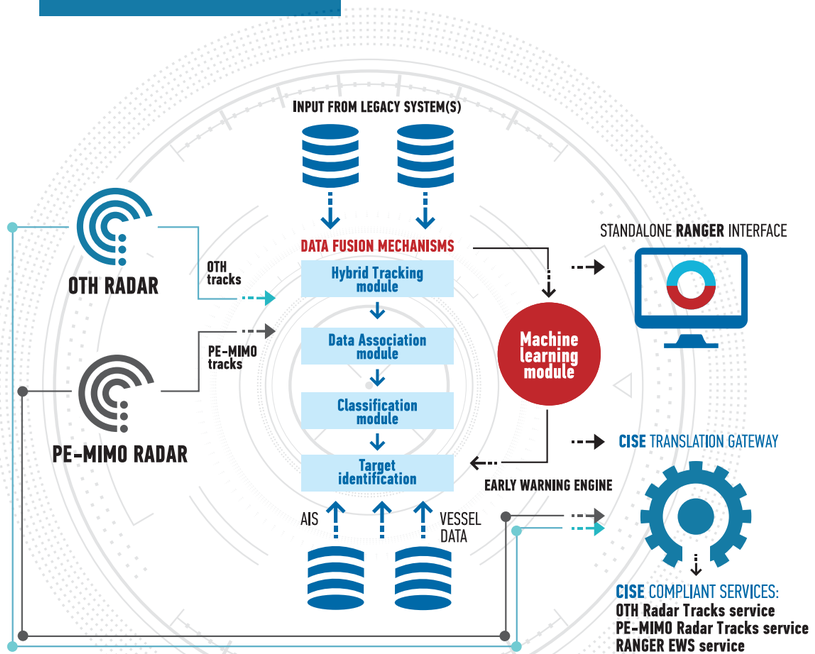
**RANGER is an EU funded project, within the H2020 Horizon programme. RANGER innovates by combining novel and ground-breaking Radar technologies with innovative supporting technological solutions for early warning, in view of delivering a surveillance platform that will offer tracking as well as detection, recognition, and identification of vessels far beyond existing legacy radar systems.**

The main goal of RANGER is to provide innovative solutions for early warning and distant border surveillance to support search-and-rescue operations and tackle illegal conduct in the marine environment. For RANGER to deliver its value to the targeted audience (end-users and society), the envisaged solution will drastically improve the performance of existing Radar systems, by employing a blend of Over the Horizon Radar system and Photonics Enhanced MIMO radar system with other novel supporting technologies for data fusion and early warning and existing infrastructures, validated in the context of real pilot exercises.

## Project Objectives

1. To provide a complete solution for maritime surveillance and Search and Rescue operations.
2. To lower the total cost of ownership compared to existing marine surveillance platforms and radar solutions.
3. To ensure compatibility of the RANGER platform with the Common Information Sharing Environment – CISE.
4. To validate and demonstrate the effectiveness of the integrated RANGER platform.
5. To define a multilevel compliance framework (ethical - legal - societal) that RANGER solution will be aligned with.

## RANGER Platform




## Validation Pilots

**Pilot 1**
The first pilot will be implemented in France with the collaboration of technical partners and French end-user partners (DMA)

**Pilot 2**
The second pilot will be implemented in a completely different maritime environment, in Greece (Aegean Sea). It will be conducted by HMOD with the support of the technical RANGER partners.

## Expected impact

**Research & Innovation**
- OTH (Over-The-Horizon) Radar
- Photonics Enhanced MIMO (PE-MIMO) Radar
- Data fusion and Machine Learning
- Early Warning Engine (EWE)

**Maritime Surveillance & Operations**
- Improvement of Search and Rescue Operations
- Early detection of small vessels
- Optimization of end-user resources
- Efficient coordination of SaR operations
- Automated and self-learning platform
- Early warnings and detection alerts
- Timely response & appropriate measures
- Reinforcement of European and National Coordination Centres position
- Generation of a common situational picture
- Improved detection and on-time identification of non-collaborative small vessels

**Socio-economic benefits**
- Citizens
  - Improved maritime security
  - Enhanced SaR capability
  - Protection of human rights
  - Opportunities stemming from technological breakthroughs
- Maritime surveillance market
  - Delivery of an economic and operationally viable solution
- Environment
  - Friendly and unobtrusive solution to the deployment environment