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Horizon 2020 SEC – 20 – Sub-topic 1

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## **EXTENDED COLLABORATIVE DRONE NETWORK**

Project overview

THE PROJECT AIMS TO ENHANCE ORPHANS ZONES SITUATION AWARENESS BY COLLABORATIVE ROBOTS NETWORK AND DATA MANAGEMENT

## **MAIN BENEFITS OF THE PROJECT:**

- ◆ Multiple surveillance missions by the same system (pollution, traffic, SAR)
- ◆ Unmanned data harvest in harsh conditions areas or far from the coasts
- ◆ Big data integrated treatment to propose a global situation monitoring
- ◆ Unmanned data harvest in harsh environment
- ◆ Robots deployment configuration suitable with meteorological conditions
- ◆ Robots collaborative network





DRONES AND SURVEILLANCE ARE CURRENTLY DESIGNED FOR TEMPERATES AREAS. SEVERAL CONSTRAINTS AND NEW REQUIREMENTS APPEARS IN ORPHANS ZONES.

- ◆ Robotised platform compliant with environmental harsh conditions
- ◆ Innovative communication links (with final users)
- ◆ Robots collaborative network fitted for large areas research
- ◆ To combine different types of platform advantages and limits in a system of robots
- ◆ To gather compliant robots data in a global situation interface



THE SYSTEM ALLOWS TO USE THE DATA FEEDBACK FROM DIFFERENT TYPES OF UNMANNED PLATFORMS. SOME ROBOTS WILL BE COMPLIANT WITH EXTREME CONDITIONS, DEPENDING METEOROLOGICAL CONDITIONS, THIS MINIMUM SYSTEM WOULD BE EXTENDED BY ADDITIONAL PLATFORMS.

## Minimum system

Existing Rescue boat dronisation



Autonomous Underwater Vehicle or glider



Situation Awareness Management System



## Extended system

Medium Endurance Arial Drone (UAS)



USV/Thethered Aerostat



Manned platform opportunity



TO REACH THE UNMANNED LARGE AREAS MONITORING IN HARSH CONDITIONS, SOME INNOVATIONS ARE REQUIRED.

- ◆ Extended dual range communication system
- ◆ Harsh environment adaptability (Hot, tropical and polar environment)
- ◆ Collaborative network very far from the base station
- ◆ Long range robot system deployment
- ◆ Global situation big data treatment  
(pollution situation, surveillance, meteo)



No	Partner Name	Type	Country	Role in the Project
01	ECA GROUP	Large enterprise	FR	Coordinator
02	SOFRESUD	SME	FR	Technical solution which connect with sensors & radar to monitor and control a global situation of maritime surface
03	A - NSE	SME	FR	Surveillance system installed in aerostats
04		SME		
05		Large enterprise		
06		UNI		
07		Practioners	PT, SP, IT, GR.....	





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