ALFA

Advanced Low Flying Aircraft Detection and Tracking

MISSION

The ALFA system bridges this detection capability gap by drastically **improving the situational awareness** through the detection of LSS (Low, Small and Slow) manned and unmanned aircraft. ALFA is future-ready as technologies for **drone detection** will be a part of the system. The ALFA system will make a significant **contribution to the development of EUROSUR** (in particular, cooperating with SIVE and SIVICC) and be suitable for a range of other missions and scenarios such as **homeland and event protection** and the protection of critical infrastructure.

MOTIVATION

- As maritime smuggling from Morocco towards the European borders of Portugal and Spain is being combated more effectively **the criminal modus operandi changed** drastically, **approaching air routes with cheap and small planes**.
- New drone technology opens the opportunity to both manned and unmanned **airborne drug transports**.
- Launched from any location and moving at low altitude and speed, **drones can autonomously reach any landing site** while remaining undetected under nearly all circumstances.

OBJECTIVES

The main objective of the project is the **development of a system for timely detection, classification and understanding of the intentions of suspected air targets**. The system will also provide a prediction of the landing site or dropping zone. ALFA will contribute to the following EU strategic goals:

- Increasing the EU internal security by the **reduction of cross-border crime**
- The **interdiction of drug trafficking**
- Assistance in the **prosecution of drug trafficking criminals**
- The **confiscation of drugs and aircraft**
- The **interdiction of weapon and illicit substance trafficking**

TECHNICAL APPROACH

ALFA is planned to run for 36 months. It is organized into eight work packages with significant dependencies and expected synergies between them which are described shortly in the following:

WP1 System specifications and operation concept - The operational concept of a system is outlined that will overcome the operational gap in detection of small smugglers' aircraft entering European borders.

WP2 System architecture will define a maritime border surveillance system architecture optimized for the detection of small, low flying aircraft of different types including small aircraft, helicopters and drones.

WP3 Components and technologies will achieve the necessary development for detection capabilities beyond state of the art according to findings of WP1 .

WP4 Situation assessment and landing site prediction defines and develops functions for threat assessment and the build-up of situational awareness through the use of sensor information.

WP5 System integration and testing focuses on the implementation of a complete sensor and computing suite and on preliminary testing.

WP6 Functional Demonstration will address a demonstration of the fully functional ALFA system to EU, end users, relevant industries and other relevant parties.

WP7 Dissemination, Exploitation and Ethical aspects	WP8 Project, Risk and Innovation management
WP1 System specifications and operation concept	
WP2 System architecture	
WP3 Components and technologies — **WP4** Situation assessment and landing site prediction	
WP5 System integration and testing	
WP6 Functional Demonstration	
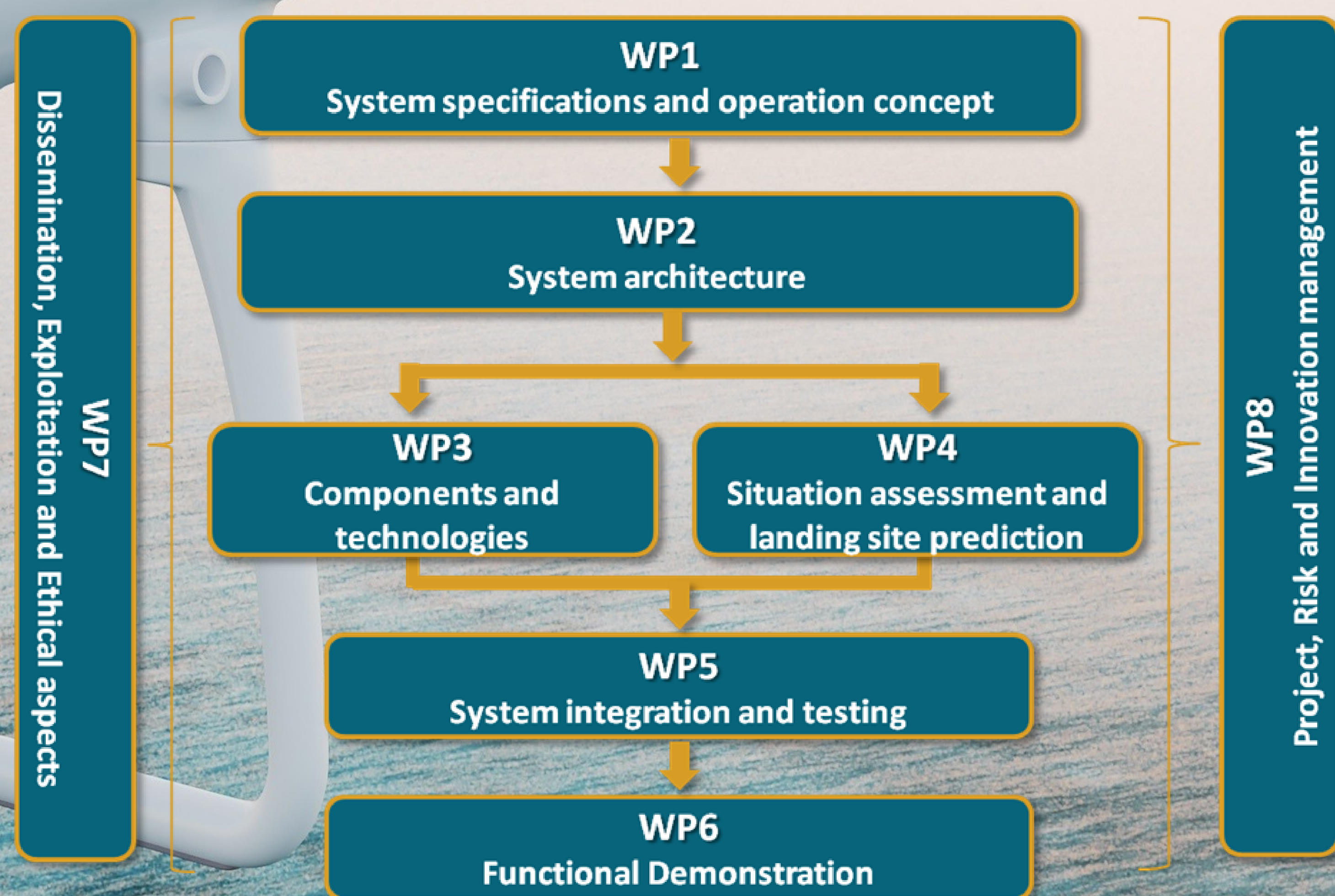
WP7 Dissemination, Exploitation and Ethical aspects obtains input from other WPs and ensures the communication and dissemination of results achieved while ensuring adherence to essential EU ethical requirements.

WP8 Project, Risk and Innovation management WP8 monitors and guides other WPs in order to ensure a successful project execution with respect to risk- and **innovation** management.

KEY DATA

Start Date: 1st January 2017

End Date: 31st December 2019

Duration: 36 months

Project Reference: 700002

Project Budget: € 4.613.831,25

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Consortium: 9 partners (6 countries)

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