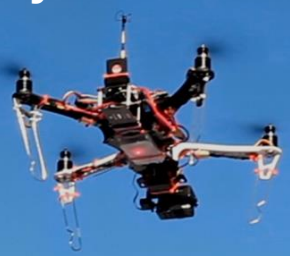
ASPRID

Airport System Protection From Intruding Drones



Drone intrusions at airports regularly hit the headlines and airports are taking measures in the short term to mitigate these, from grounding aircraft when drones are detected to reducing speed of aircraft on approach in order to limit damage in the event of a collision. Drones can therefore have significant impact on airport operations.

Project Data

PROJECT ID 892036	MAX GRANT AMOUNT 1.235.195€
COORDINATED BY INTA	NUMBER OF PARTNERS 7
COUNTRIES INVOLVED 3	EXPECTED DURATION 25 Month

Objectives

The aim of the project is to develop a service-oriented operational concept and system architecture to protect airport operations from unwanted drones.

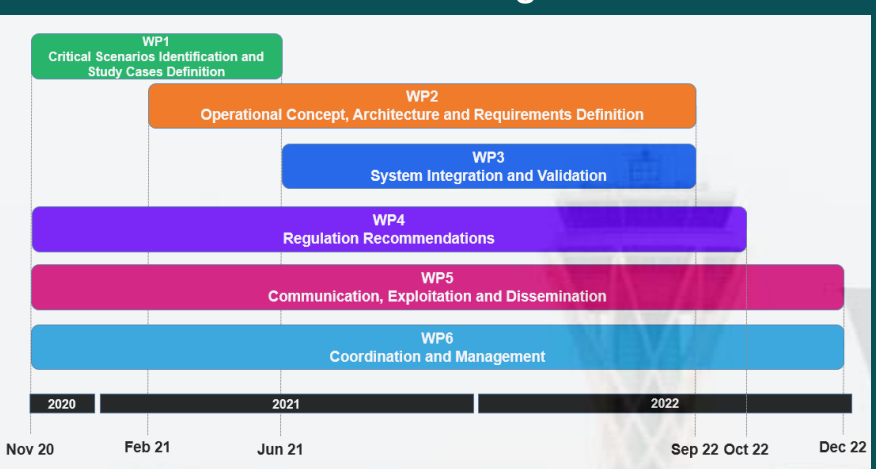
To do so, the project will analyze aircraft and airport operations to pinpoint possible vulnerabilities.

With this, the project aims to identify possible technologies, procedures and regulations that could help better safeguard against drone incursions and/or can help them recover from any disruptions as quickly and as efficiently as possible. In doing so, the project proposes a more integrated and coordinated approach to handling drone incursions.

Milestones

- PROJECT START — NOVEMBER 2020
- RISK SCENARIOS DEFINITION — SEPTEMBER 2021
- FIRST OPERATIONAL CONCEPT — OCTOBER 2021
- INNOVATION PROOF OF CONCEPT DEVELOPED — DECEMBER 2021
- GAMING EXERCISE — MAY 2022
- FINAL OPERATION CONCEPT AND REGULARTION RECOMMENDATIONS — NOVEMBER 2022

Work Packages



Impact

- Airport operational costs of disruption by non authorized drone intrusion decrease
- Counter-UAS & next U-Space regulation recommendations
- Environmental and economic impacts expanding the use of drones
- Airport Operations Safety awareness increase

Current status

- ASPRID has listed and assessed relevant regulatory documents on Drone operations, U-space and Counter-UAS. A set of regulation based design requirements have been identified which complement the project scenario and operational requirements definition.
- After the milestone "Risk Scenarios Definition", WP1 has proposed a new methodological framework for the risk assessment of airport drone intrusions. Such framework aims at providing an analysis of historical data about intrusions, a performance-based model of vulnerability indexes for airport operations and tasks, and a quantitative assessment of risk scenarios by means of Event Tree Analysis. The proposed framework has been evaluated for a case study related to Milan Malpensa airport and to a threat scenario regarding unauthorized operations of a drone in the departure path of the runway.

Partners

aena · Aerospace Laboratory for Innovative components S.c.a r.l. · CIRA Centro Italiano Ricerche Aerospaziali · ENAIRE · Ministerio de Defensa · INTA Instituto Nacional de Técnica Aeroespacial · ONERA The French Aerospace Lab · Soul software

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