

PROJECT

ODESSA

Obstruction DEtection Sensor for Surveillance on Aircraft

Funding: European (Horizon 2020)

Duration: Oct 2018 - Dec 2020

Status: Complete

Total project cost: €1,074,553

EU contribution: €795,499



Call for proposal: H2020-CS2-CFP07-2017-02

[CORDIS RCN : 218534](#)

Background & policy context:

Mid-air, near mid-air, and-on ground collisions are one of the most important cause of accident in general aviation. For this reason, engineering an affordable sensor helping pilots in preventing it could be very important in order to prevent accidents. Present sensors, indeed, are very expensive and cannot be affordable for small aircraft and helicopters.

Objectives:

The idea of ODESSA (Obstruction DEtection Sensor for Surveillance on Aircraft) is to provide a small, light, and low-cost sensor (comparing it to the present ones) that could be installed on both airplanes and helicopters, but on unmanned aerial vehicles too. This is possible adopting the modular avionics concepts of on-board system independency, reducing maintenance efforts, granting different platform applicability.

Methodology:

Using millimetric radar, learning techniques from automotive worlds, gives different advantages. One is that automotive technologies are well tested and reliable. These solutions are small, light and cheap too.

Inheriting characteristics from automotive technologies, ODESSA allows to detect small object, increasing on-ground safety during handling and taxing. An issue of these mission phases is the possibility of collision not only with aircraft (that could be minimized by using new generation ADS-B systems), but with other kinds of object (as pushbacks, cars, signals, personnel, birds...) not well detectable from aircraft unless mounting the terrestrial version of ADS-B (that requests the adaptation of the whole airport infrastructure).

ODESSA system makes possible that safety in landing and ground procedures is independent from different component of the airport system, granting danger acknowledgment in different sceneries.

Parent Programmes:

[H2020-EU.3.4. - Horizon 2020: Smart, Green and Integrated Transport](#)

Institute type: Public institution

Institute name: European Commission

Funding type: Public (EU)

Other programmes: JTI-CS2-2017-CfP07-SYS-01-09 Obstruction detection Sensor for Modular surveillance active Trajectory check improvement

Lead Organisation:

Interconsulting Srl

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EU Contribution: €351,786

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EU Contribution: €246,038

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Organisation Website:

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EU Contribution: €144,375

Siralab Robotics Srl**Address:**

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EU Contribution: €53,301

Technologies:

Sensor technologies
Cost-effective on-board architecture for integrated
sensing

Development phase: Research/Invention

STRIA Roadmaps:

Cooperative, connected and automated transport, Vehicle design and manufacturing,
Infrastructure

Transport mode: Air transport

Transport sectors: Passenger transport, Freight transport

Transport policies: Safety/Security

Geo-spatial type: Other