SmaCS

Smart Cabin System for cabin readiness

**Funding:** European (Horizon 2020)
**Duration:** Oct 2019 - Mar 2022
**Status:** Ongoing
**Total project cost:** €1,035,425
**EU contribution:** €843,575

**Call for proposal:** H2020-CS2-CFP09-2018-02
**CORDIS RCN:** 225389

**Objectives:**
The SMACS project, led by OTONOMY Aviation and VICOMTECH, aspires to conceive a camera-based prototype solution for digitalized on-demand verification of TTL requirements for cabin luggage. It will be designed to be highly reliable, cost effective and easy to upgrade, with potential additional camera-based verification services.

To fulfil this ambition, the consortium will capitalise on 3 main pillars:

- A robust Machine Learning algorithm for cabin luggage recognition in low light and low contrast environment that will be built from VICOMTECH’s AI libraries and specific developments
- A highly innovative way to produce learning dataset based on videos coupled with synthetic 3D models
- An aircraft compliant, ultra-light, ultra-compact Image data processing hardware based on COTS, with highly adaptable CVMS interface connection capabilities.

VICOMTECH brings to the consortium its large experience and proven competencies in developing machine-learning based algorithms, notably for object recognition, and its rare and precious capacity to train algorithms from synthetic 3D models to reach higher performances at unmatchable costs.

OTONOMY Aviation brings to the consortium its deep knowledge of aeronautic compliant camera systems and camera implementation in aircraft cabins. Moreover, OTONOMY’s strong relationship with major actors of the ecosystem such as Airbus Interiors Services permitted to get a highly realistic synthetic model of an A320 aircraft that will be used for the algorithm training.

The SMACS project will generate new technology breakthrough for the use of IA in aeronautic and will bring new safety-related solutions to other sectors such as public transportations (trains, buses etc.). It will also enable OTONOMY to introduce smart IA-empowered cameras in the aeronautic ecosystem, opening new and various opportunities for aeronautic competitiveness, safety and ecology. The derived products will generate an additional turnover of 10M$/year.

**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-CS2-2018-Cfp09-SYS-01-13 - Camera-based smart sensing system for cabin readiness

**Lead Organisation:**

Otonomy Aviation
### Partner Organisations:

<table>
<thead>
<tr>
<th>Organisation Name</th>
<th>Address</th>
<th>EU Contribution</th>
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<tbody>
<tr>
<td>Fundacion Centro De Tecnologias De Interaccion Visual Y Comunicaciones Vicomtech</td>
<td>Paseo Mikeletegi Parque Tecnologico De Miramon 57, 20009 Donostia / San Sebastian, Spain</td>
<td>€395,925</td>
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### Technologies:

- Cabin and cockpit design
- Futuristic passenger-centered cabin design

**Development phase:** Research/Invention

**STRIA Roadmaps:** Smart mobility and services

**Transport mode:** Multimodal transport

**Transport sectors:** Passenger transport, Freight transport

**Transport policies:** Societal/Economic issues, Safety/Security

**Geo-spatial type:** Other