

PROJECT

IMBALS

IMage BAsed Landing Solutions

Funding: European (Horizon 2020)

Duration: Mar 2018 - Aug 2022

Status: Ongoing

Total project cost: €2,718,779

EU contribution: €1,919,853



Call for proposal: H2020-CS2-CFP06-2017-01

[CORDIS RCN : 213819](#)

Objectives:

The IMBALS project aims to develop, validate and verify a certifiable Image Processing Platform (IPP) and demonstrate it in a Vision Landing System (VLS) that is capable of auto-landing the Large Passenger Aircraft (LPA) based on images supplied by a camera system and without support of ground-based precision instrument landing aids. The VLS will additionally enhance the situational awareness for the crew during any auto-landing by supporting a Combined Vision System (CVS) based HMI in the Disruptive Cockpit.

Methodology:

The project will start from the Concept of Operations (CONOPS) of the Disruptive Cockpit and VLS in particular and derive from there the requirements for VLS as system and the IPP as equipment within that system. The IPP technology bricks will be prototyped, validated and finally integrated to an IPP prototype. The IPP prototyped will be verified against its requirements, integrated in the Disruptive Cockpit simulator and evaluated in operational scenarios and finally, the IPP will be integrated with a camera system on a flight test bed to evaluate its performance in real flight. The project will put a strong emphasis on safety and certifiability of the system, including addressing the challenges of certifying the image processing algorithms.

The IMBALS project is conducted by a heterogeneous consortium of a large and two small specialized and highly skilled industry entities in close collaboration with the University of Leuven, highly recognized in vision-based 3D motion control for robotics and with Airbus as the topic leader. IMBALS is prone to have a direct positive impact on global aviation safety and mobility, competitiveness of the EU aeronautical industry, the global environmental impact of aviation, the competitiveness of the industrial partners, the scientific knowledge within the university and the employment in Europe in general.

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-CFP06-LPA-03-09 Image based landing solutions for Disruptive Cockpit concept

Lead Organisation:

Esterline Belgium

Address:

PRESIDENT KENNEDYPARK 35A
8500 KORTRIJK
Belgium

EU Contribution: €355,513

Partner Organisations:

Tekever - Tecnologias De Informacao, S.a.

Address:

RUA DA LEZIRIA 1
2510 219 OBIDOS
Portugal

Organisation Website:

<http://www.tekever.com>

EU Contribution: €349,125

(Un)Manned

Address:

BARON RUZETTELAAN 3 BOITE 4 1
8310 BRUGGE
Belgium

EU Contribution: €263,944

Katholieke Universiteit Leuven

Address:

Oude Markt
3000 Leuven
Belgium

Organisation Website:

<http://www.kuleuven.be>

EU Contribution: €594,271

Esterline Avionics & Controls France

Address:

7 RUE ROGER CAMBOULIVES PARC TECHNOLOGIQUE DE BASS
31000 TOULOUSE
France

EU Contribution: €357,000

Technologies:

Aircraft operations and safety
Ground operation safety
measures

Development phase: Validation

STRIA Roadmaps:

Cooperative, connected and automated transport, Vehicle design and manufacturing

Transport mode: Air transport

Transport sectors: Passenger transport, Freight transport

Transport policies: Safety/Security, Digitalisation

Geo-spatial type: Other