

PROJECT

## Co2Team

### Cognitive Collaboration for Teaming

**Funding:** European (Horizon 2020)

**Duration:** Jan 2019 - Dec 2021

**Status:** Ongoing

**Total project cost:** €795,905

**EU contribution:** €795,905



**Call for proposal:** H2020-CS2-CFP08-2018-01

[CORDIS RCN : 221621](#)

#### Objectives:

In a fast-evolving aeronautical environment (increase in environmental and technological complexity, pilot shortage), positioning a roadmap towards more autonomous flights through Single Pilot Operations (SPO) is a serious Human Factors challenge. Two main strategies towards autonomy are possible today: progressive crew reduction and Urban Air Mobility expansion (UAM drones). Co2Team proposes a crew reduction strategy assisted by cognitive computing to be more competitive versus the Urban Air Mobility strategy.

Our objectives are based on three principles:

- The gradual design of a cognitive system enabling an intelligent pilot/system shared authority. A strategy of continuous progression enabling the gradual introduction of an “intelligent” system in the cockpit that can learn first passively from “listening” to all the data so as to “learn” the logics of piloting, and then enable hints and suggestions. Once approved, such system could assist pilot’s operations.
- An in-depth analysis of all tasks and knowledge necessary for pilots to perform their duties and determine what should remain in the authority of the pilot and what should be delegated to the system, using an iterative validation methodology.
- The possibility to work in parallel for technological improvements of UAM systems. Trained Artificial Intelligence with pilot know-how and airmanship (in our SPO/SPIC roadmap) will be a potential intelligence of future drone systems as an added value versus UAM systems.

Co2Team project propose firstly a study of what are the Human “real” tasks and knowledge that should be given last to the system and promote those for a SPO/SPIC cockpit. Such differentiation can only be done with expert pilots (Deutsche Lufthansa), experts in human factors in aeronautics and cognitive technologies (Bordeaux INP) and expert in Artificial Intelligence (DFKI).

#### 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-CFP08-THT-02 Cognitive Computing potential for cockpit operations

#### Lead Organisation:

**Institut Polytechnique De Bordeaux**

**Address:**

Av Du Docteur Albert Schweitzer 1  
33402 Talence  
France

**EU Contribution:** €299,024

## Partner Organisations:

### Deutsche Lufthansa Aktiengesellschaft

**Address:**

LINNICHER STRASSE 48  
50933 KOLN  
Germany

**Organisation Website:**

<http://www.lufthansa.com>

**EU Contribution:** €169,956

### Deutsches Forschungszentrum Fur Kunstliche Intelligenz Gmbh

**Address:**

TRIPPSTADTER STRASSE 122  
67663 KAISERSLAUTERN  
Germany

**Organisation Website:**

<http://www.dfki.de>

**EU Contribution:** €326,925

## Technologies:

Aircraft design and manufacturing  
AI-based autonomous flight control system

**STRIA Roadmaps:** Cooperative, connected and automated transport

**Transport mode:** Air transport

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

**Transport policies:** Other specified

**Geo-spatial type:** Other