

# Harvis {

## Human Aircraft Roadmap for Virtual Intelligent System

Project coordinator: **Skylife Engineering**

Dissemination manager: **Deep Blue**

Duration: **36 months, starting in January 2019**

**#human factors**  
**#aviation**  
**#artificial intelligence**  
**#automation**  
**#human performance envelope**  
**#digital assistant**  
**#single pilot**

**Flight movements are growing significantly in Europe, with no trend reversal expected. The integration of unmanned aircraft into the air space will make traffic management even more complex.**

A significant impact on pilots' job is inevitable, with increasing information to deal with and new tasks to accomplish. Increasing automation is expected, with a view to support pilots and to **prevent peak workload conditions**.

Framing the **human-machine interaction in terms of partnership** will help building capacity in machines to better understand humans, and in people to engage collaboratively with them. In the cockpit, this partnership will lead to pilots using a set of new technologies, capable of self-learning, to anticipate needs and to adapt to pilots' mental states. The versatility and problem-solving of humans will combine with the precision and repeatability of high-tech solutions.

In this context, the overall objective of the HARVIS Project is to identify how **cognitive computing algorithms**, implemented in a **digital assistant**, could support the decision-making of single pilots in complex situations. A **future Artificial Intelligence** in the cockpit concept will be demonstrated, and a roadmap providing guidance for its adoption by 2035+ will be delivered.

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### CONSORTIUM



**More info on**  
www.harvis-project.eu

## OBJECTIVES

To carry out a **State of the Art** of cognitive computing algorithms.

To identify realistic **scenarios** in which a digital assistant is likely to bring benefits to flight operations.

To determine the **shortcomings or related risks** that could prevent this technology from being applied successfully in real life.

To demonstrate the **digital assistance concept** in realistic scenarios and define guidance for its adoption.

## APPROACH

**Human Factors driven**, focused on **human-machine partnership** in the flight deck.

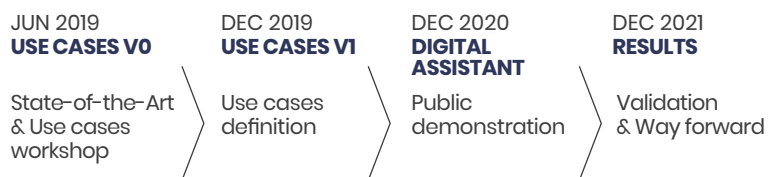
**Technology-based**, focused on **Artificial Intelligence** solutions for the cockpit.

## THE ADVISORY BOARD

**The Advisory Board involves various stakeholders, like members of the industry, pilots and professional users of Artificial Intelligence and digital assistance in complex systems, through face-to-face meetings, bilateral interviews and surveys.**

The Advisory Board will evaluate the relevance of the State-of-the-Art, validate the human machine partnership framework, the performance envelope, the use cases, the technological roadmap and the final results of the project.

### Advisory Board main contributions



### JOIN THE ADVISORY BOARD!

If you are interested in being part of the Advisory Board,  
contact [stefano.bonelli@dblue.it](mailto:stefano.bonelli@dblue.it)



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