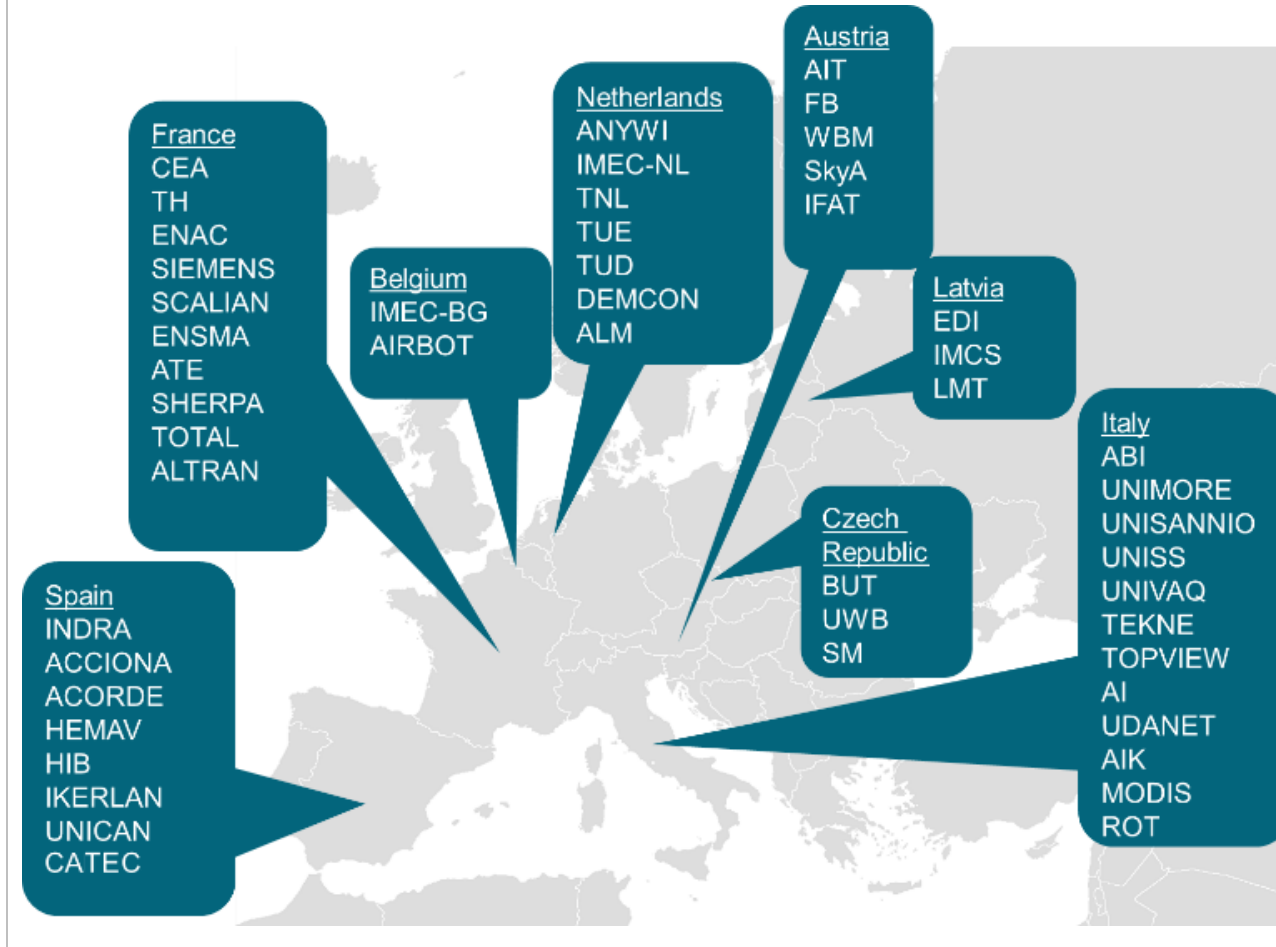


Consortium



COMP4DRONES



<https://www.comp4drones.eu/>



https://twitter.com/ECSEL_C4D



<https://www.youtube.com/channel/UCUH27sjlF7ECC7lcH9gCRSA>



European Commission
Horizon 2020
European Union funding
for Research & Innovation



ECSEL Joint Undertaking

Electronic Components and Systems for European Leadership

This project has received funding from the ECSEL Joint Undertaking (JU) under grant agreement No 826610. The JU receives support from the European Union's Horizon 2020 research and innovation programme and Spain, Austria, Belgium, Czech Republic, France, Italy, Latvia, Netherlands.

A framework of key enabling technologies for safe and autonomous drones that will leverage their customization and modularity for civilian services

Project Objectives

COMP4DRONES will provide a framework of key enabling technologies for safe and autonomous drones. It brings to bear a holistically designed ecosystem from application to electronic components, realized as a tightly integrated multi-vendor and compositional UAV embedded architecture solution and a tool chain complementing the compositional architecture principles.

The project will mainly focus on the following objectives:

1. Ease **the integration and customization** of embedded drone systems.
2. Enable drones to take **safe autonomous decisions**.
3. Ensure the deployment of **trusted communications**.
4. Minimize the **design and verification effort** for complex drone applications.
5. Ensuring **sustainable impact** and creation of an industry-driven community.



Five Relevant Societal Areas

- **Transport**
Drones will be used as novel monitoring devices for the road traffic and infrastructure conditions, enabling faster detection of and early response to incidents.
- **Construction**
This use case aims to develop the technology required to carry out any type of operation that allows the digitalization of the state of the constructive process of a civil infrastructure.
- **Logistics**
Drone delivery capabilities will be demonstrated as a fast and reliable method for transporting equipment, drugs or blood samples inside a large hospital territory. The use case will also test the deployment of an autonomous communication system by a fleet of drones in hard-to access areas.
- **Surveillance and Inspection**
One goal here is to showcase the benefit of hyperspectral cameras on unmanned aerial vehicles for inspection of off-shore infrastructures. The second goal is to demonstrate the benefit of a fleet of drones and a land robot for mapping a disaster site.
- **Agriculture**
This Use Case will focus on technology needs for crop monitoring, focusing on crop health and growth management, and technology needs of wine cultivation.

Main Technology Advances

Safe and Autonomous

Smart navigation systems and sensory fusion technologies for real-time applications will be developed, such as visual object recognition, attention, and multi-sensory integration.

Trusted Communications

Development of trusted communications dealing with the identification of cyber-security threats, their risk and scope evaluation and the deployment of the decision and/or actions to mitigate or protect against those attacks.

Project Facts

Project Coordinator	Rodrigo Castiñeira INDRA SISTEMAS SA
Project Start	1.October 2019
Duration	36
Total Investment	M€ 29,76
Partners	50 industrial, SME, academic and research partners from 8 different countries

