

## MID AIR COLLISION AVOIDANCE SYSTEM (MIDCAS)

**The MIDCAS mission is to demonstrate the baseline of solutions for the Unmanned Aircraft System (UAS) Midair Collision Avoidance Function (including separation), acceptable by the manned aviation community and being compatible with UAS operations in non-segregated airspace by 2015**

[European Defence Agency \(EDA\)](#) is the contracting authority for the MIDCAS project on behalf of the contributing members MoDs : [Sweden](#) (coordinator), [Germany](#), [France](#), [Italy](#) and [Spain](#).

The Contract has been signed at the Paris Air Show in June 2009 and the Project started 15 Sep 2009 and will run for 4 years.

The MIDCAS project is under supervision and authority of MoDs from the 5 participating nations. The Project Arrangement Management Group (PAMG), composed with EDA and MoDs representatives, is the project steering body.

Customer High Level Technical Requirements (CHLTRs) are a major project input, making reference to existing reference documents (ex: [EUROCONTROL](#) specification for military UAS flying OAT).

### **Extracts from MIDCAS Technical Requirements :**

The MIDCAS overall objectives are:

- (req 1) to demonstrate a Sense and Avoid system for UAS able to fulfil the requirements for traffic separation and mid air collision avoidance in non segregated air space for both cooperative and non cooperative intruders

The system shall:

- (req 26) provide information for traffic separation (deconfliction as defined in the Eurocontrol document) to DUO (who can take an action according to airspace rules, if needed)
- (req 12) provide a last resort emergency manoeuvre to prevent collision between air vehicles (collision avoidance as defined in the Eurocontrol document)
- (req 13) not rely on operator for collision avoidance
- (req 14) provide a solution for the S&A issue for IFR enroute flights in IMC and VMC with comparable levels of safety as manned aviation
- (req 20) be compatible with established ACAS (TCAS) manoeuvre logic
- (req 32) be auto-compatible (MIDCAS equipped UAS vs MIDCAS equipped UAS), this shall be demonstrated, at least in simulations

