CM-0806-B — Improved Compatibility between STCA and ACAS

ACAS and STCA are and need to stay independent at functional level. There is however a need for better procedures in order to avoid inconsistent collision detection and solution. Also, information sharing is to be considered cautiously to avoid common mode of failure.

Rationale Performance of STCA depends on the relevance and timeliness of not only the alerts of the technical system itself but also of the reaction of the controller.
Within complex environment (e.g. dense TMA with very close traffic patterns), STCA parameter setting strategies aim at preventing mid-air collisions through limited separation protection in order to keep the number of nuisance alerts to an acceptable minimum, but results in late STCA alerts with increased likelihood of interaction with ACAS RAs. There are also encounter situations (like sudden aircraft convergence on specific traffic patterns or sudden climb/descent towards an occupied flight level) for which both STCA alert and ACAS RA can be triggered close to each other (whatever the level of separation protection targeted by STCA). These situations and strategies increase the risk for the controller's avoiding instructions prompted by STCA to compete with ACAS RAs, particularly when these instructions are modifying the vertical trajectory of the aircraft (because ACAS RAs also act on vertical trajectory).
Following possible improvements are considered:
- Development of minimum Safety and Performance requirements
- Development of guidance material recommending best practices for STCA optimisation to reach an acceptable level of interaction with ACAS in the European airspace
- Procedural modifications for effective short-term conflict management (including ATCO avoiding instructions in response to STCA alerts), taking into account human performance aspects
- Use by STCA of supplementary information, while preserving the independence of both systems: for example, it is not planned to use the information that there is a TA or an RA on-board an aircraft to change the triggering of the STCA

Forecast V3 end date -

Benefits start date (IOC) -

Full benefits date (FOC) -

Current Maturity Level V1 finalised

Solution Data Quality Index -

Current Maturity Phase R&D

Scope -

Release -

PCP Status -

Context

Related Elements

OI
CM-0806-B

EN
ER APP
ATC 137

EN Enablers

Code	Dates																									
	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
CM-0806-B																										
ER APP ATC 137			▲																							

OI Dependent OI Steps

Relationship	Code	Title	Related Elements
Has successor	CM-0806-C	Improved Compatibility between Ground and Airborne Safety Nets	OI

SOL SESAR Solutions: No associated data

PCP PCP Elements: No associated data

OBJ Implementation Objectives: No associated data

ICAO ICAO Block Modules: No associated data