



ATC12.1 — Automated Support for Conflict Detection, Resolution Support Information and Conformance Monitoring

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The implementation of free route airspace (FRA) needs to be supported by conflict detection tools (CDT), resolution support information and conformance monitoring.

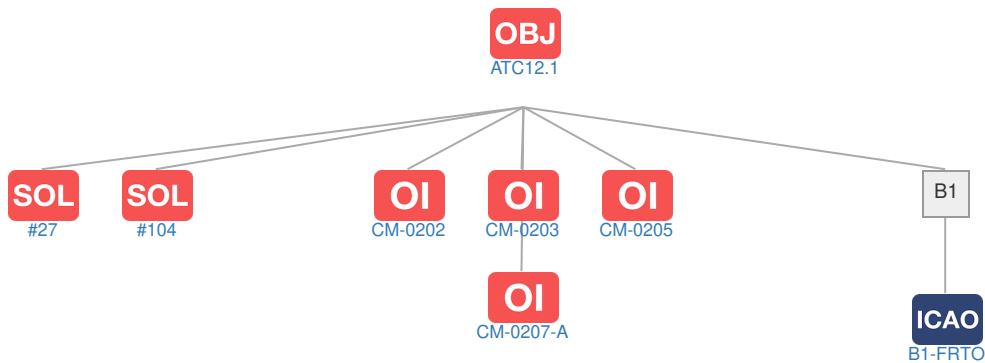
The conflict detection tools (CDT) include the trajectory based medium conflict detection tool (MTCD) or/and tactical controller tool (TCT). The decision on whether to implement either one or both tools (MTCD and TCT) is left to the individual ANSP organisation as it depends on local conditions and systems in use.

NOTE FOR MILITARY AUTHORITIES: It is the responsibility of each military authority to review this Objective IN ITS ENTIRETY and address each of the SLoAs that the military authority considers RELEVANT for itself. This has to be done on top and above of the review of "MIL" SLoAs which identify actions EXCLUSIVE to military authorities.

| | |
|---------------------|---------------------------------|
| Edition | 2022 |
| Stakeholders | Air Navigation Service Provider |
| Type | SESAR |
| Scope | ECAC+ |
| Status | Active |

Context

Related Elements



Applicability Area(s) and Timescales

Applicability Area: All ECAC States except: Luxembourg. Plus: Israel, Morocco

| Timescales | From | By | Applicable to |
|--------------------------------|------------|------------|--------------------|
| Initial operational capability | 01-01-2015 | - | Applicability Area |
| Full operational capability | - | 31-12-2021 | Applicability Area |

Links to ATM Master Plan Level 2

OI Operational Improvement Steps

| Code | Title | IOC | FOC | Related Elements |
|-----------|---|------------|------------|------------------------------|
| CM-0202 | Automated Assistance to ATC Planning for Preventing Conflicts in En-Route Airspace | - | - | SOL OI EN OBJ DS |
| CM-0203 | Automated Flight Conformance Monitoring | 31-12-2010 | 31-12-2014 | SOL OI EN OBJ DS |
| CM-0205 | Advanced support for Conflict Detection and Resolution - by Tactical Controller in En Route | - | - | SOL OI EN OBJ DS ICAO A A |
| CM-0207-A | Advanced Automated Ground Based Flight Conformance Monitoring in En-Route | 31-12-2020 | 31-12-2024 | SOL OI EN OBJ DS ICAO A A |

SOL Links to SESAR Solutions

| Code | Title | Program | Related Elements |
|------|---|---------|---------------------------|
| #27 | MTCD and conformance monitoring tools | SESAR1 | SOL OI OBJ DS EOC ICAO |
| #104 | Sector Team Operations - En-route Air Traffic Organiser | SESAR1 | OI OBJ DS EOC ICAO |

PCP Links to PCP ATM Sub-Functionalities

| Code | Title | Related Elements |
|-----------------|-------|------------------|
| No record found | | |

ICAO ICAO Block Modules

| Designator | Title | Related Elements |
|------------|---|------------------|
| B1 | | |
| B1-FRTO | Improved Operations through Optimized ATS Routing | SOL OI OBJ PCP |

References

Applicable legislation

None

Applicable ICAO Annexes and other references

None

Deployment Programme 2022

Family 3.2.1 - Initial FRA

Operating Environments

En-Route

Expected Performance Benefits

| | |
|-------------------------------|---|
| Safety | Early and systematic conflict detection and conformance monitoring enabled by ground based automated tools will reduce the need for tactical interventions, conformance monitoring reduces the risk of the impact of controllers and pilots errors. Possibility to maintain high level of safety with an increase in capacity due to a reduction of controller workload per aircraft. |
| Capacity | Reduction of tactical controller workload, and better sector team productivity, compared to the conventional systems without automated support will open potential for capacity up to 15% in comparison to a baseline case without a detection tool (MTCD and/or TCT). |
| Operational efficiency | - |
| Cost efficiency | - |
| Environment | - |
| Security | - |

Stakeholder Lines of Action

| Code | Title | From | By | Related Enablers |
|-------|--|------------|------------|------------------|
| ASP01 | Implement MTCD and associated procedures | 01-01-2015 | 31-12-2021 | EN |
| ASP02 | Implement resolution support function and associated procedures | 01-01-2015 | 31-12-2021 | EN |
| ASP03 | Implement TCT and associated procedures | 01-01-2015 | 31-12-2021 | EN |
| ASP04 | Implement MONA functions | 01-01-2015 | 31-12-2021 | EN |
| ASP05 | Perform ATCO training for the use of CDT (MTCD and or TCT), resolution support and MONA related functions | 01-01-2015 | 31-12-2021 | |
| ASP06 | Develop safety assessment for the changes | 01-01-2015 | 31-12-2021 | |

Supporting Material

| Title | Related SLoAs |
|--|---------------------------|
| EUROCONTROL - Air Navigation Systems Safety Assessment Methodology (SAM) - Version 2.1 / 11/2006 https://www.eurocontrol.int/tool/safety-assessment-methodology | ASP06 |
| EUROCONTROL - EAM 4 - ESARR 4 - Risk Assessment and Mitigation in ATM - Edition 1.0 / 04/2001 https://www.eurocontrol.int/publication/esarr-4-risk-assessment-and-mitigation-atm | ASP06 |
| EUROCONTROL - FASTI - Completing the FASTI Safety Case: Guidance for Service Providers - 1.0 / 01/2009 - | ASP05, ASP06 |
| EUROCONTROL - FASTI - FASTI Specific Human Factors Guidelines for MTCD, MONA and SYSCO 06/2007 - | ASP05 |
| EUROCONTROL - FASTI - Operational Performance Requirements Analysis for the Conflict Detection Tool - Final Draft - 2 / 12/2012 - | ASP01 |
| EUROCONTROL - Good Practice Guidelines for First ATC Support Tools Implementation (FASTI) with a Focus on Human Factors and Managing the Transition - Edition 1.0 / 06/2007 - | ASP05 |
| EUROCONTROL - SPEC 143 - EUROCONTROL Specification for Trajectory Prediction - Edition 2.0 / 03/2017 https://www.eurocontrol.int/publication/eurocontrol-specification-trajectory-prediction | ASP01, ASP04 |
| EUROCONTROL - SPEC-139 - EUROCONTROL Specification for Medium-Term Conflict Detection - Edition 2.0 / 03/2017 https://www.eurocontrol.int/publication/eurocontrol-specification-medium-term-conflict-detection-mtcd | ASP01, ASP02, ASP05 |
| EUROCONTROL - SPEC-142 - EUROCONTROL Specification for Monitoring Aids - Edition 2.0 / 03/2017 https://www.eurocontrol.int/publication/eurocontrol-specification-monitoring-aids-mona | ASP04 |
| EUROCONTROL - TCT RTS Final report - 0.3 / 04/2009 - | ASP03 |

Consultation & Approval

| | |
|--|--------------------------|
| Working Arrangement in charge | NETOPS |
| Outline description approved in | - |
| Latest objective review at expert level | 04/2012 |
| Commitment Decision Body | Provisional Council (PC) |
| Objective approved/endorsed in | 07/2003 |
| Latest change to objective approved/endorsed in | 07/2014 |