



WG-115 / SC-238 – Counter UAS

30 January – 1 February 2024 – Plenary Session #21

1. Welcome, Introductions, Administrative Remarks by Committee Leadership

Meeting attendees (in part or whole)

· Akiko Kohmura	ENRI
· Alex Milns	EUROCAE (WG-115 TPM)
· Amaury Neyron de St Julien	Groupe ADP
· Brandi Teel	RTCA (SC-238 PD)
· Charles Sheehe	NASA
· Javier Ceballos Gutierrez	EUROCONTROL
· Juan Vincente Balbastre	Universitat Polytecnica de Valencia
· Julia Sanchez	EUROCONTROL
· Lee Gratz	SAAB
· Lee Nguyen	NUAIR Alliance
· Max Minev	ERA
· Mark Reed	ALPA
· Marianne Iverson	Copenhagen Airport
· Mel Davis	NATCA
· Pavel Soukup	Eldis
· Philipp Rudnik	DLR
· Talwyn Haley	FAA
· Thomas Oster	EASA
· Torsten Kretschmann	DFS
· Tricia Fantinato	FAA

Apologies - Assaf Monsa

Meeting opened 10h15 CET / 04h15 EDT.

Alex Milns acted as meeting chair in the absence of WG-115 and SC-238 chairs.

Members in-person and on-line introduced themselves.

Alex and Brandi introduced the EUROCAE and RTCA policy slides (IPR, membership, GDPR, recording).

The meeting was reminded the purpose for the next 3 days was to commence a review of ED-286 / DO-389 OSER for Counter-UAS in Controlled Airspace.

2. Review Agenda

Agenda Version 2 as distributed in the Calling Notice was agreed.

3. Review minutes from Plenary #20 (9 November 2023)

Alex introduced the draft minutes from meeting #20. Minutes were reviewed and adopted as written.

4. Election of WG-115 Co-Chair

Following email notification on 25 January, Alex advised there had been no prior nominations for the co-chair position. No nominations were proposed within the meeting. The WG-115 co-chair position was not filled.

4. Election of WG-115 / SC-238 Secretary

Following email notification on 25 January (EUROCAE) and 28 January (RTCA), Alex and Brandi advised there had been no prior nominations for the Secretary position. No nominations were proposed within the meeting. The secretary position was not filled.

5. Overview of WG/SC status

Brandi Teel has taken over as RTCA Program Director for SC-238 from Karan Hofmann.

Current levels of active participation in the WG/SC are low (as evidenced by the previous agenda items). The small 'core group' can only do so much and requires more members to step up to contribute to the standards development tasks. To build participation in the WG/SC a Call for Participation will be launched.

Action: Alex and Brandi to coordinate and issue a Call for Participation.

Since the publication of ED-322 / DO-403 there has been some interest in the topic of C-UAS standardisation coming from EU member states. Other organisations are also developing standards for C-UAS and some measure of coordination is needed to ensure alignment as appropriate.

A forum of relevant stakeholders involved in C-UAS standardisation has been proposed by Julia Sanchez, but has not been able to be arranged yet. The meeting considered this might be best coordinated / arranged through the European Commission, rather than from EUROCAE and RTCA (though joining as participants).

Action: Julia to coordinate with the EC for a meeting of all parties with a role in standards development for C-UAS.

The meeting discussed if the current Terms of Reference were too narrow. Should mitigation aspects be considered more? Should C-UAS services (scenarios) for non-airport facilities be addressed? C-UAS not only in Controlled Airspace, but also U-space? No conclusions yet, but an open question and the next point may influence direction.

Tricia Fantinato (FAA GAR) reported the UAS Detection and Mitigation Systems Aviation Rulemaking Committee (ARC) was expected to release its report in the next month or so, and the report may lead to a review of the current Terms of Reference for WG-115/SC-238.

6. Working Sessions – ED-286A / DO-389A OSED Update.

As a first step in reviewing the OSED some key themes were identified:

- Defining C-UAS scenarios in detail
- Expanding the OSED to cover more all components of the C-UAS system
- Consider implications for C-UAS in U-space / UTM. Is U-space 'critical infrastructure'?
- Confirm taxonomy (both within EUROCAE/RTCA and across other authorities/ documents)
 - Threat definitions (clear in the use cases about terminology)
 - Ensure taxonomy reflects most up to date language/understandings
- Interfacing with cooperative data sources (UTM/U-Space/ATM)
- Mitigation measures – impacts on authorised UAS operations?
- Differing levels of needs for large, medium, small airports. 'Levels of service'?
- The OSED needs to be able to inform subsequent safety assessments/ safety cases.
- The OSED would not specify metrics for reliability, availability, detection performance etc. These metrics are driven by safety assessments and perhaps better to reside in a future update to ED-322 / DO-403.
- Review related material from other organisations.

Members then reviewed the Open Consultation / Final Review and Comment outcomes from the baseline ED-286 / DO-389, and the more recent ED-322 / DO-403. In both cases, these consultations identified topics for consideration in the update now underway. Comments from FAA against ED-322 / DO-403 will be reviewed again in light of the ARC report due out in Feb/March.

A summary of points identified through this exercise and other meeting discussions is provided as an Appendix 1 'Topics for OSED Update'. This appendix was re-ordered after the meeting with a view to group aligned topics under key heading areas. The meeting also made notes against particular areas of the document. These 'working notes' are provided at Appendix 2.

Members also considered the current OSED Chapter headings with a view to considering how the update may be best structured. The working document is available in the meeting workspace, but further work is needed.

7. Review Actions

Actions as above. Alex to tidy up working notes and circulate. Also to encourage existing member participation in the review.

8. Any Other Business

None.

9. Set Future Meetings

Plenary Meeting #22: 2 – 4 April 2024 – RTCA.

10. Adjourn

Alex thanked the members who joined the meeting in person and on-line, particularly those joining from USA considering the time difference.

Meeting closed at 14h10 CEST / 08h10 EDT 1 February.

Minutes prepared by Alex Milns – WG-115 TPM

Appendix 1 – Topics for OSED Update

Scenarios and Use Cases

Large Airports

Medium Airports

Small Airports

Vertiports, Heliports

Different operational scenarios within the airports and approaches

- Aircraft moving vs Infrastructure (building, CNS, fuel farm, electrical power)

- Aircraft flying vs on-ground (DG Home categories – parked/taxying, landing, takeoff)

- Off site CNS systems

Define how the C-UAS will be used, to support system design. Define the operational services. The intent being to avoid 'bespoke' systems, without being restrictive?

Update the notion of the "Counter-UAS Cycle"

UAS Operations

Loss of control of (authorised) drones (is this just a case of drone in the wrong place?) and not necessarily a specific use case?

Accidental vs deliberate actions – different use cases/solutions?

Violation of UAS Geographical Zones (banned areas, containment areas), operating outside approved area, operating not in compliance with procedures/equipage

Management of different sizes of drones (detection (high level statement), responses) and different types, operating characteristics (e.g. multi rotor, fixed wing etc).

Evolution of drones needs to be considered.

Consider UAS Swarm as a use case. Also consider a 'coordinated attack'

C-UAS Decision Support

How is classification done?

Time/speed vs distance for alerting (e.g., 19m/sec = 1km per minute),

- Buffer zones for alerting and coverage

- High speed, low altitude drones

Cooperative Information (Remote ID, USSP data, ATM data) – how to make use of it?

Command and Control – more details, review SP/IR The SP/IR did not address the next step after threat identification

Consider potential launching sites both close to and far from airport/area of interest.

Documentation

Non-aviation regulatory requirements

Spectrum requirements

Radiation Hazard exclusion areas

GDPR, privacy considerations (e.g. for optical sensors)

References to other material establishing the overall operational context for C-UAS deployment and operation.

Reference to SP/IR Ch3 for probability/vulnerabilities/threats/severity for consistent use of terminology.

Sensors, Dataflows and Interoperability

Coordination of effort across jurisdictions to maximise coverage, reduce costs by unnecessary duplication.

Sensor Classification (Level 1 – 3 sensor capabilities)

- e.g. Level 1 – Using Remote ID sensors e.g. Aeroscope
- Level 2 – Techniques such as MLAT on UAS - pilot data comms
- Level 3 – Fully non-cooperative

SPR defines performance requirements (for non-cooperative targets)

OSED to outline range of sensor types (build on Table 3-2?). Limitations of e-Identification (not available or switched off)

Clarity around dataflows now we have a specific functional block for DTI

Consider integration of C-UAS into other systems (maybe covered in INTEROP)

Using C-UAS to inform other authorities with capabilities beyond the C-UAS itself (e.g. 4G/5G interruptions/jamming??)

Appendix 2 – Working notes

Chapter 1

Scope review

Methodology that the principles being applied in this document can be used in other operational environments.

Definitions - Taxonomy review

Vertiport, Heliport

Chapter 2

2.1 - consider risk vs threat (precise definitions)

Overall context - prevention/education - maybe not for EUROCAE doc but reference to other material (e.g EASA).

2.2 review

2.3.2 - Include RadHaz here (protective clothing for portable emitter guns?)

Consider mitigation impacts on the environment (e.g. RFI from jammers impacting legitimate operations).

2.3.5 - Other regulatory requirements - non-aviation, spectrum, RadHaz etc (also ref to 2.3.2)

Chapter 3

Reviewing Classification methods. Consistency with SP/IR. Develop detail around classification and identification (type, authorised or not,). Data flows from UTM/U-Space to permit understanding whether a drone operation is authorised (also 2.2.2).

Cooperative Information (Remote ID, USSP data, ATM data) – how to make use of it?

Figure 3.1 to be reviewed to align with SP/IR. Ensure C2 component functions are aligned.

Chapter 4

Building up use cases

Use cases into Appendix, airports, vertiports (are unmanned operations different in risk profile to manned?), heliports

Small airports may be uncontrolled (consider this as a sub-use case?)

Development of alerting zones for each use case (general statements)