

RTCA- 228
Summary of Plenary #33 RTCA Paper No. 122-22/SC228-095
HYBRID MEETING
1:00 PM EST, April 7, 2022

The thirty-third plenary of RTCA Special Committee 228 was called to order by SC-228 Co-Chair, Brandon Suarez at 1:03 PM EST on April 7, 2022 at RTCA headquarters in Washington, D.C. and using WebEx audio and web conferencing.

1. Agenda Item #1- Call to Order: Welcome
 - 1.1. Brandon Suarez, co-chair called the meeting to order and stated the purpose for today's plenary through a review of the published and proposed agendas.
 - 1.2. EUROCAE WG-105 will be briefing the committee today
2. Agenda Item #2- Review RTCA meeting guidelines
 - 2.1. Al Secen welcomed everyone
 - 2.2. Al reviewed the Anti-Trust Policy, the Proprietary Policy and the RTCA Committee Participation Membership Policy
 - 2.3. Al also briefed some meeting tips to ensure a successful virtual meeting
 - 2.4. Al then briefed the online self-rostering feature. Thank you to all who self-roster!
3. Agenda Item #3- Opening Remarks/ Introductions
 - 3.1. Went around the room and phone, and introduced participants and companies
 - 3.2. Participants on the phone stated their names and organizations, and attendance is noted in Appendix A
4. Agenda Item #4- Review and Approve the agenda
5. Agenda Item #5 - Approve meeting minutes from Plenary Meeting #32
 - 5.1. Katie Edwards, secretary, stated she received no comments for update/revision.
 - 5.2. Katie called for a motion to approve the minutes. Mark Reed moved to approve the minutes. Marv Hammond seconded.
 - 5.3. There were no objections noted, minutes approved.
6. Agenda Item #6 - Schedule review – high level overview of document work that remains for 2022-2023
 - 6.1. 6-month view of upcoming FRAC and RAC periods
 - 6.2. Schedule will be updated on Aeropaus
7. Agenda Item #7- EUROCAE WG-105 Update
 - 7.1. There are 6 working groups within WG-105
 - 7.1.1. SG-1 DAA

- 7.1.1.1. ED-271 MASPS completed after it was submitted to open consultation at end of 2019.
- 7.1.1.2. Merging a new OSED to cover all airspace classes, (previously broken into A-C and D-G)
- 7.1.2. SG-2 C3 and Security
 - 7.1.2.1. Need an interim leader in Boris Resnick's absence
 - 7.1.2.2. ED-265 and DO-362 interference issue, EUROCAE leadership are drafting a white paper to respond to RTCA paper, there will be a leadership meeting sometime in May after the papers are ready
- 7.1.3. SG-3 UTM/U-Space
 - 7.1.3.1. Making progress on 5 subtasks
- 7.1.4. SG-4 Airworthiness/Design verification
- 7.1.5. SG-6 SORA
 - 7.1.5.1. EUROCAE supporting and developing guidelines
 - 7.1.5.2. Interest expressed in relaunching the guidelines for SAIL II application of SORA
- 7.2. Questions
 - 7.2.1. There is interest from the RTCA leadership to review the report applying DO-377A in the European context
 - 7.2.2. Alex stated that WG-105 is committed to working closely with RTCA team on this matter
- 8. Agenda Item #8 – WG-1 Update
 - 8.1. Don Walker provided the update for WG-1
 - 8.2. Group met for three days this week.
 - 8.3. Standalone OSED document RAC completed, and proposed resolutions discussed and authors team will incorporate all prior to FRAC
 - 8.4. FAA SRM Phase 2 activity nearing completion (MITRE/MITLL)
 - 8.5. Update on Omni Active Surveillance sensor Modeling & Simulation (MITLL)
 - 8.5.1. Could be mature enough by the end of the year to initiate a MOPS. SC-147 traditional work area, WG expects to be asking SC-147 committee to include an Omni sensor MOPS in their future work plans.
 - 8.5.2.
 - 8.6. Reviewed text for EO/IR incorporation into DO-365
 - 8.6.1. Last item for inclusion will be completed by April 22
 - 8.7. DO-381A Critical Topic Consensus achieved
 - 8.7.1. Simulation work completed last year. Company sponsored work can move forward.
 - 8.8. OSED RAC completed and comment adjudication spreadsheet will be available on AerOpus
 - 8.8.1. 6 non-concur comments came in the area of VFR Operations – this was a large topic of discussion this week, the use case will be proposed to help hash out the details to see if this case is viable.

- 8.8.2. 2 other non-concur comments were in the terrain and obstacle awareness section will be clarified before next version.
- 8.8.3. There will be a 45-day FRAC for OSED to exit in July.
- 8.9. Don shared the status of WG-1 Phase 3 TOR deliverables
- 8.10. Don provided a schedule update
 - 8.10.1. 3 DAA documents (DO-387 Change going to FRAC in April, plan to exit in July, with PMC approval in September. Standalone OSED is on schedule to enter FRAC in April
 - 8.10.2. WG1 requests approval to enter FRAC for DO-387 Change 1. Don Walker moved to approve, Julien Farjon seconded. No objections noted.
 - 8.10.3. WG1 requests approval to enter FRAC for standalone OSED. Don Walker moved to approve, Mark Reed seconded. Marv Hammond raised a concern that there were no written responses provided to the commenters on RAC. Al Secen noted that the approval to enter FRAC is only that all the sections are available in the document. There are no TBD's present. This motion to enter FRAC is merely saying the document is complete for review, it cannot go to publication with the comments. Marv Hammond withdrew his concern.
 - 8.10.4. WG1 requests approval to enter FRAC for DO-365C. Don Walker moved to approve, Sara Bauman seconded. No objections noted.
- 9. Agenda Item #9 – WG-2 update
 - 9.1. Amelia Mahan provided the briefing for WG-2
 - 9.1.1. DO-377B Update
 - 9.1.1.1. There is a RAC available for Appendices A and B, comments are due April 15
 - 9.1.1.2. OSA and OPA teams and Hazard Assessment Worksheet. Great support to the teams all around
 - 9.1.1.3. Making good progress on the document with internal RACs to de-risk future FRAC
 - 9.1.2. Small Package Delivery team
 - 9.1.2.1. Scenario, use case, and information exchange write-ups completed
 - 9.1.2.2. HAW completed and part of the Operational Safety Assessment
 - 9.1.2.3. No major efforts remain for this CONOPS and scenario
 - 9.1.3. Air Taxi operation
 - 9.1.3.1. Team has been working scenario descriptions and assumptions for these levels of UAM
 - 9.1.4. Surface operations
 - 9.1.4.1. Hazard Assessment Worksheet completed this morning
 - 9.2. UHF MOPS
 - 9.2.1. Partial RAC occurred, held working session this week on resolving comments.
 - 9.3. Cellular MOPS – joint with EUROCAE WG-105

- 9.3.1. Document writing is underway, large sections still contain gaps, planning internal RACs, deconflicted with other topics. Plan to start FRAC later this year.
 - 9.4. DO-362B: Currently FRAC is scheduled for October 2023, there is some uncertainty about what this document should become. No technical additions are being made at this time.
 - 9.4.1. There is also no lead author at the moment. This topic will be revisited in the future, raising for committee awareness now.
10. Agenda Item #10 – WG3 Update
- 10.1. Randy Willis, co-chair shared WG 3 update
 - 10.2. Working group met this week to focus on Section 4 of the Guidance Document. WG-3 also held a full team meeting.
 - 10.3. Internal RAC on the Guidance Material document for Lost Link will be held in May.
 - 10.4. Randy reviewed the High-Level Guidance Document Framework
 - 10.5. Conducted joint meeting with WG-2
11. Agenda Item #11 - WG-4 Update
- 11.1. Joel Wichgers presenting the update for WG-4
 - 11.2. The WG met this week on Tuesday, to cover 4 discussion topics
 - 11.3. Bulk of time spent addressing and reviewing 67 RAC comments from March, in preparation for going into FRAC. Joel summarized these comments for the committee. Many were editorial.
 - 11.3.1. Targeting holding FRAC in May, and exit FRAC by July plenary.
 - 11.3.2. 4 terminology comments related to IFR were addressed in a breakout session on Wednesday.
 - 11.3.3. WG-4 requests plenary approval to enter FRAC on UAS Navigation Gaps document. Joel Wichgers moved to approve, Marvin Hammond seconded. No objections noted.
 - 11.4. Status update on SC-159, GNSS
 - 11.4.1. Overview
 - 11.5. Status update on ASTM F38
 - 11.5.1. Andrew Videmsek provided an update. The ASTM document has been pushed out from January to July, leadership of committees met to discuss the existence of overlap between working groups. SC-228 focusing on higher risk UAS, and lower risk UAS
12. Agenda Item #12 - New Business
- 12.1. Plenary approval is sought from the leadership to approve the dates that the working groups are actually working to, and update those dates in the TOR.
 - 12.2. Brandon Suarez moved to approve the changes, Don Walker seconded. No objections noted. TOR redlines approved.

12.3. The ad-hoc working group will be revitalized to accommodate a requested work scope from the PMC, producing a vehicle to vehicle (V2V) white paper.

This is now in our deliverables, it was inserted in our TOR by the PMC.

12.3.1. Call for participation – if you are interested in this activity, you may request to join ad-hoc working group on aer opus

12.3.2. The leadership of the ad-hoc effort will be announced, and is being determined.

13. Agenda Item #13 – Adjourn

13.1. No other business

13.2. Brandon Suarez called for a motion to adjourn the meeting. John Moore moved to adjourn. Marvin Hammond seconded. Motion carried.

13.3. Jim Williams adjourned the meeting at 3:22 PM ET.

SC-228 Leadership

Jim Williams	SC-228 Co-Chair	Aura Network Systems
Brandon Suarez	SC 228 Co-Chair	General Atomics Aeronautical Systems, Inc
Katie Edwards	SC-228 Secretary	Boeing
Al Secen Rebecca Morrison	SC-228 Program Director	RTCA
Don Walker	SC-228 WG1 for DAA, Co- Group Lead	A3 by Airbus
Fabrice Kunzi	SC-228 WG1 for DAA, Co- Group Lead	Boeing
Matt Spanos	SC-228 WG1 for DAA, Secretary	Transport Canada
Steve Van Trees	SC-228 GAR, WG2 for C2, Co- Group Lead	FAA, AIR-130
Amelia Mahan	SC-228 WG2 for C2, Co-Group Lead	Amazon Prime Air
Jennifer Ledford	SC-228 WG2 for C2, Secretary	FAA
Randy Willis	SC-228 WG3 for Lost Link, Co-Group Lead	Northrop Grumman
Paul Albuquerque	SC-228 WG3 for Lost Link, Co-Group Lead	FAA
Kerry Bowers	SC-228 WG3 for Lost Link, Secretary	FAA
Joel Wichgers	SC-228 WG4 for Navigation, Co-Group Lead	Collins Aerospace
Matt Harris	SC-228 WG4 for Navigation, Co-Group Lead	Boeing
Andrew Videmsek	SC-228 WG4 for Navigation, Secretary	General Atomics Aeronautical Systems, Inc.

Appendix A- List of SC-228 Plenary Participants

ATTENDEES

Company	Name
A3 by Airbus Group	Donald Walker
AcceleratUM	Brett Fedderson
ACES, Inc.	Al Malaga
	Michael Neale
Adaptive Aerospace Group	Keith Hoffler
	Devin Jack
	Paul Volk
Aerovironment	Rick Warner
Air Line Pilots Association (ALPA)	Mark Reed
Aircraft Owners and Pilots Association	Christopher Cooper
ALPA	Andrew Sousa
Amazon Prime Air	Amelia Mahan
ARCON Corporation	Siva Sivananthan
Aura Network Systems	John Moore
BAE Systems, Inc.	Andrew Klappert
Cobham Aerospace Communications	Jeffrey Knickelbein
Collins Aerospace	Randy Jacobson
	Mike McDowell
	Joel Wichgers
DLR-KN	Chen Zhu
Esterline CMC Electronics	Jean-Pascal Joary
FAA	Kerry Bowers
FAA Flight Standards	Matt Harmon
Federal Aviation Administration (FAA)	Paul Albuquerque
	Paul Campbell
	Keith Carver
	Gilbert Ceballos
	David Chen
	Mark Ellis
	Jose Fuentes
	Bonnie Gagliardo
	Adam Hendrickson
	Arthur Hinaman
	Ravi Jain
	Jennifer Ledford
Anthony Long	

	Ray Mei
	Rose Merchant-Bennett
	Don Nellis
	Ronnie Parks
	Neal Suchy
	Christopher Swider
	Stephen Van Trees
Federal Communications Commission (FCC)	Tim Maguire
	Peter Trachtenberg
Fedex	Doug Kilpatrick
Garmin Ltd.	Ben Peetz
gd-ms.ca	Sebastien Bilodeau
GDMS-C	Tony Nitti
General Atomics Aeronautical Systems, Inc.	Tim Grebe
	Xavier Redondo
	Brandon Suarez
	Andrew Videmsek
Honeywell International, Inc.	Sara Bauman
INMARSAT	Kristen Mineck
Iris Automation Inc	Akaki Kunchulia
JHW Unmanned Solutions LLC	Jim Williams
L3Harris	Kevin Dimond
Leonardo-Finmeccanica (EUROCAE)	Maurizio Goiak
Ligado Networks	Samuel Weich
Lockheed Martin Corporation	Ryan Terry
MIT Lincoln Laboratory	Matthew Edwards
	Randal Guendel
	Wesley Olson
	Maria Picardi Kuffner
NASA	Bryan Barmore
	Jack Connolly
	Jeffrey Homola
	Sagar Kc
	Elliot Lewis
NextNav	Cristina Seibert
Northeast UAS Airspace Integration Research Alliance (NUAIR)	Andy Thurling
Northern Plains UAS Test Site (NPUASTS)	Erin Roesler
Northrop Grumman Corporation	Lance King

	Randy Willis
Raytheon	Michael Dubois
Regulus Group	Bob Pomrink
RTCA, Inc.	Al Secen
Sagem Avionics, Inc.	Julien Farjon
Sagetech Corporation	Regdy Caicedo
	Rudy Johnson
Seamatica Aerospace Limited	Siu O'Young
Technology Providers, Inc.	Marvin Hammond
Thales Group	Jeffrey Richards
The Boeing Company	Scott Blum
	Katie Edwards
	Jay Greenberg
	Matt Harris
	Matthew Moser
	Upeksha Nguigi
The Johns Hopkins University	Charles Leeper
	Josh Silbermann
	Benjamin Zintak
The MITRE Corporation	Rob Strain
Transport Canada	Craig Bloch-Hansen
	Matthew Spanos
uAvionix	Jeremie Miller
U.S. Air Force	Anthony Militello
Wing Aviation	Alexandra Florin
Wisk	Garv Stephenson
Xwing, Inc.	Anna Dietrich
	Robert Frazier
General Dynamics Mission System Canada	Alexandre Capodicasa
Unknown	Paul Fisher
Unknown	Dan Frazier