Summary of the 69th Meeting   **RTCA Special Committee 206 (SC-206)**
Summary of the 65th Meeting   **EUROCAE Working Group (WG-76)**
Aeronautical Information Services (AIS) and Meteorological (MET) Data Link Services

Executive Summary

The joint RTCA SC-206 / EUROCAE WG-76 Plenary meeting was held on Friday, September 23, 2022.

- SC-206 SG-1: ADS-B Weather Standards Development Activities
  - Steve Darr recognized and thanked all of the SG-1 members for their participation in activities and document development over the past few years, as those documents advanced the weather surveillance activities.
  - Steve noted the following ADS-B weather standard setting activities: ADS-B Wx implements Aircraft-based Observations via ADS-B; ADS-B Wx required major revisions to the 1090ES and UAT ADS-B Minimum Operational Performance Standard (MOPS) and the Mode S Transponder MOPS; Additional standards setting is required to implement ADS-B Version 3 (V3); which includes ADS-B Wx; Harmonization of International Civil Aviation Organization (ICAO) ADS-B standards with the 1090ES ADS-B MOPS; ARINC standards for equipment interchangeability; ground receiver standards (ED-129); and data interchange standards (ASTERIX).
  - Continued coordination is required with the weather community, other standards development organizations and regulators, as well as manufacturers and operators.
  - The ADS-B Rule is to be modified in the U.S. and Europe to allow for V3 messages
  - Air-to-Air Receipt of the messages is covered by the RTCA MOPS, while Air-to-Ground Receipt of the messages is not covered by the MOPS as the MOPS does not cover ground equipment. There are ongoing / planned efforts to revise the specifications related to ground-based / space-based receiver networks.
  - A discussion regarding the "sunsetting" of SG-1 took place during the Plenary session. Because SG-1 has no actions currently defined in the Terms of Reference (TOR), the sub-group has been "sunset". Committee leadership has taken an action item to examine whether a task can be added to the TOR to allow for reactivation of SG-1.

- SC-206 SG-4/WG-76 SG-2: Turbulence White Paper
  - Tammy Flowe acknowledged her co-chairs; Tim Rahmes (Boeing) and Mark Phaneuf (ALPA).
  - SG-4's initial task is to examine the current state of the RTCA DO-370 document and make recommendations on how to harmonize the different algorithms.
  - SG-4 expanded their "considerations spreadsheet" this week. SG-4 is making good progress and are on target to meet their March 2023 deadline and welcomed input from the committee on "considerations" and ideas to go forward.
  - SG-4's task is to identify a plan and document that plan in a white paper format.
  - SG-4 is receiving good feedback in getting data from the airlines and intends to bring on additional participants from various organizations and countries.
  - SG-4 will be holding a face-to-face meeting in the November timeframe to continue their work.

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- o Eldridge thanked the sub-group for all the work they accomplished during the week.

- SC-206 SG-6/WG-76: MASPS (DO-364A/ED-XXX)
    - o Eldridge Frazier thanked everyone for their participation in the SG-6 activities this week.
    - o The sub-group completed the Airborne Reroute Information (ARI) Operational Safety Assessment (OSA) and the Operational Performance Assessment (OPA). Eldridge acknowledged and thanked Bill Carson and Izabela Gheorghisor for leading those efforts.
    - o SG-6 has established an aggressive plan to completion. The plan is to have the document to the RTCA Program Management Committee (PMC) / EUROCAE Council by December of 2023. The most significant area of risk is resolving any Final Review and Comment (FRAC) / Open Consultation (OC) comments after the August 2023 close of the FRAC period. Another area of risk is the cross-pollination of subject matter experts (SMEs) between sub-groups, which might introduce a human resource constraint.
    - o The Digital – Automatic Terminal Information Service (D-ATIS) Service Description (SD) will be proposed to eventually be included in the RTCA DO-364A/ED-XXX document. This will require an OSA and OPA be conducted. The Terms of Reference (TOR) will need to be updated in that respect.

- SC-206 SG-8/WG-76 SG-1: DO-XXX/ED-89B
    - o Jean-Luc Thirion reported that work related to the D-ATIS SD is ongoing and that the draft document is quite mature. All "editorial" comments have been addressed and they have added material to Section 2.
    - o Approximately 90% of the D-ATIS SD is complete.
    - o SG-8 is confident that they will complete their work on the material on schedule.

- Industry briefings were presented on the following topics:
    - o EUROCAE ED-89A Change 1 Progress Report
    - o ADS-B Weather Implementation
    - o Turbulence Update from Yamasee
    - o European Air Traffic Flow Management, Developments in NMOC
    - o Qualifying Third Party Weather Providers
    - o Aireon's Transition to ADS-B Version 3

- Next meeting:
    - o December 5-9, 2022 (RTCA – Washington, DC)
        - Joint RTCA SC-206 (Meeting 70) / EUROCAE WG-76 (Meeting 66) Plenary

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Joint Plenary Meeting Summary

The joint RTCA SC-206 / EUROCAE WG-76 Plenary meeting was held on Friday, September 23, 2022.

Presentations are posted at:
https://aeropus.i3cloudservices.com/Group/GroupLanding/99?tab=Documents&folder=2022+Meetings%2F3-September+19-23%2C+2022+-+69th+Meeting

Friday, September 23rd Plenary
The Plenary convened at approximately 0900 CEST[1] (0300 EDT)

1. Welcome and Opening Remarks
    - Reference the 2022 Sept SC206_WG76 Plenary Leadership Slides_final v1.pptx slides
    - Rocky Stone opened the meeting at approximately 0900 CEST
    - Karan Hofmann and Alex Engel briefed their respective RTCA and EUROCAE slides

2. Introduction of Attendees (* denotes remote participation)
    - Rocky Stone, Co-chair   United Airlines
    - Joe Bracken, Secretary*   AvMet Applications, Inc.
    - Eldridge Frazier   FAA, Government Authorized Representative
    - Steve Abelman   AvMet Applications, Inc.
    - Moin Abulhosn   FAA
    - Jeffry Aenmey   European Cockpit Association
    - Louis Bailey   The Boeing Company
    - Jeff Buhl*   Jeppesen
    - Bill Carson   The MITRE Corporation
    - Steve Darr*   Dynamic Aerospace
    - Lauren Donohue   EUMETNET
    - Stephane Dubet   Direction générale de l'Aviation Civile (DGAC)
    - Matt Eckstein*   Delta Air Lines
    - Mark Eden*   Air Line Pilots Association, Int'l
    - Bill Edgar   Synoptic Data
    - Alexander Engel   EUROCAE (WG-76 Technical Programme Manager)
    - Tammy Flowe   FAA
    - Paul Freeman*   L3 Harris
    - Michael Garcia*   Aireon
    - Izabela Gheorghisor   The MITRE Corporation
    - Karan Hofmann   RTCA, Inc. (SC-206 Program Director)
    - Amanda Hoprich   AvMet Applications, Inc.
    - Ed Johnson*   FAA
    - Kevin Johnston*   FAA
    - Hagay Makov   SkyPath
    - Macarena Martin-Viton*   Airbus
    - Jim Mills   HQ USAF/DoD
    - Chris Moressi*   Collins Aerospace

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[1] Central European Summer Time

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- Steve Moore   EUROCONTROL
- Mark Phaneuf   Air Line Pilots Association, Int'l
- Tim Rahmes*   The Boeing Company
- Gordon Rother*   FAA
- Maya Shpak   Skypath
- John Steventon*   FAA
- Patrik Synek*   EUROCAE
- Jean-Luc Thirion   DSNA
- Guy Zunder   SkyPath

3. Review and Approval of Meeting Agenda
   - Reference slide 10 of the 2022 Sept SC206_WG76 Plenary Leadership Slides_final v1.pptx slides
     o Rocky made a motion that the meeting agenda for today's Plenary be approved
       - The motion was seconded
       - The meeting agenda was approved

4. Review and Acceptance of Minutes of SC-206 Meeting 68 / WG-76 Meeting 64 (June – Ottawa)
   - Joe Bracken reported that the June Plenary Meeting Summary was posted to the AerOpus site on August 4th after all comments by leadership and presenters were received and dispositioned
   - There were no dissenting opinions
   - Rocky made a motion to accept the June Plenary Meeting Summary
     o The motion was seconded
   - The June Plenary Meeting Summary was approved

5. Report of Sub-Groups:
   - SC-206 SG-1: ADS-B Weather Standards Development Activities
     o Reference the 2022-09-23 SG-1 Plenary Update.pdf slides
     o Steve Darr provided the briefing
     o Steve recognized and thanked all SG-1 members for their participation in activities and document development over the past few years
       - All documents advanced the weather surveillance activity
     o Reference Slides 3 and 4
       - Steve noted the following ADS-B weather standard setting activities:
         ▪ ADS-B Wx implements Aircraft-based Observations via ADS-B
           - Air reports are fully automated and require no pilot action
           - Pilot reports are pilot based and are selected for sending
         ▪ ADS-B Wx required major revisions to the 1090ES and UAT ADS-B MOPS and the Mode S Transponder MOPS
         ▪ Additional standards setting is required to implement ADS-B
         ▪ Harmonization of ICAO ADS-B standards with the 1090ES ADS-B MOPS
         ▪ ARINC standards for equipment interchangeability
         ▪ EUROCAE and EUROCONTROL standards for receiver systems and data interchange
         ▪ Continued coordination is required with the weather community, other standards development organizations and regulators, as well as manufacturers and operators
     o The ADS-B Rule is to be modified in the U.S. and Europe to allow for V3 messages
     o Air-to-Air Receipt of the messages are covered by the RTCA MOPS
       - Air-to-Ground Receipt of the messages is not covered by the MOPS as the MOPS does not cover ground equipment

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- There are ongoing / planned efforts to revise the specifications related to ground-based / space-based receiver networks
  o Reference Slide 9
    - Regarding the consideration of "sunsetting" SG-1
      ▪ Steve stated that if SG-1 is sunset, there is the possibility that SC-206 may lose industry visibility related to weather surveillance, making it more difficult to justify participation in future activities
  o A discussion ensued regarding the "sunsetting" of SG-1
    - Eldridge thanked Ed Johnson and Steve for all the work they have done in developing standards under SG-1
    - Eldridge stated that the FAA cannot support SG-1 in the future as SG-1 is no longer developing standards for SC-206
      ▪ SC-206 activities are supported with FAA funding for document development
      ▪ The work that SG-1 is engaged in now is associated with implementation
      ▪ The FAA provides funding for technical and administrative support to SC-206
        - Therefore, the FAA's position is to "sunset" SG-1
    - Rocky commented that he understands the FAA's position
      ▪ However, a question remains as to if there is still standards development work to be conducted
      ▪ Rocky asked if SC-206 can request that SG-1 continue without FAA sponsorship, but Rocky is unaware if there are mechanics to get that done
      ▪ The work that SG-1 has done is a wealth of valuable work that needs to be continued through to implementation
    - Rocky stated that his position, as a non-sponsor, is that SG-1's work should continue
      ▪ But it is up to Ed Johnson and Steve Darr to seek out other sponsorship within the FAA to support their continued work, and then propose a TOR change to accomplish this
    - Eldridge responded that implementation is a valid effort, but it is not part of standards development
    - Karan noted that whatever SG-1 will be doing must be in the TOR
      ▪ If SC-206 feels they want to change the TOR, the committee can consider adding an "implementation" aspect to SG-1's tasks
        - Rocky commented that the FAA may not support that part of the TOR if the Committee chooses to add it
    - Eldridge added that if that change is made to the TOR and it is taken to the PMC, the FAA PMC member will probably not support it
    - Karan added that if the PMC does not approve the change, then it will not happen
    - Rocky offered the following recommendations going forward
      ▪ Ed, Steve and Rocky will discuss this offline and discuss other potential avenues of sponsorship
      ▪ Steve commented that sponsorship by the FAA's NextGen line of business is what allowed Ed and Steve to do what they have done
        - That funding has primarily come from the FAA's Wake Turbulence research office, with some from the NextGen Weather Division
        - The line between development and implementation is a fine line and implementation has not been completed yet
        - Eldridge commented that transition from a Research, Engineering, and Development (RE&D) to a Facilities and Equipment (F&E) funding line needs to take place
    - Karan noted that this is currently a TOR matter, not funding

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- This committee needs to decide if something within SC-206 / WG-76 covers part of this task
- This group needs to identify and agree on a potential TOR revision and then present it to the PMC
- Rocky stressed that he feels there is still work to be done and would like to see what has been started through to completion
  - Rocky would like to include something in the TOR, and see if there will be pushback
- Karan reiterated that SG-1 is not defined in the TOR
- **Action: Rocky, Steve Darr, Ed, Alex, and Karan to coordinate offline a potential TOR revision and report back to the special committee**
  - If necessary, an interim Plenary meeting could be scheduled to gain Special Committee approval of the TOR revision to be sent to the PMC

- SC-206 SG-4/WG-76 SG-2: Turbulence White Paper
  - Tammy Flowe and Tim Rahmes provided the update
  - Reference the SC206SG4_WG76SG2_September_2022_ClosingPlenarySlides_v1.pptx slides
  - Tammy acknowledged her co-chairs; Tim Rahmes (Boeing) and Mark Phaneuf (ALPA)
  - Tammy noted that it has been a productive week of meetings
  - Reference Slide 2
    - Tammy reminded the participants of SG-4's charter (highlighted in red text) within the TOR
    - SG-4's initial task is to examine the current state of the DO-370 document, and make recommendations on how to harmonize the different algorithms
  - Reference Slide 4
    - Tim Rahmes indicated that they are using an STP (situation-target-proposal) format
  - Reference Slides 5 & 6
    - SG-4 worked on the "considerations spreadsheet" this week
      - Tammy provided an overview of this spreadsheet
  - SG-4's task is to identify a plan and document that plan in a white paper format
  - Reference Slide 7
    - Tammy noted that Eldridge had made the point that for turbulence standards information to remain relevant, this sub-group should produce a document every 2 years
    - Tammy added that the sub-group keeps coming back to the "operational comparability" discussion
    - They are receiving good feedback in getting data from the airlines
    - The overarching goal is "safety"
  - Tammy added that SG-4 is bringing in additional participants from various organizations and countries
  - In summary, Tammy noted that they are making good progress and are on target to meet their March 2023 deadline
    - SG-4 welcomes input from the committee on "considerations" and ideas to go forward
  - Rocky stated that SG-4 is making good progress and feels that their March 2023 white paper delivery date follows a good schedule
    - Rocky added that when the white paper is completed, SC-206 (and potentially WG-76) will want to bring in a TOR change concurrently
  - Rocky added that this white paper will be an internal document for PMC and EUROCAE approval
    - However, the document will not get published by RTCA or EUROCAE
    - Follow-on work by this sub-group will be published

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- o Tammy added that SG-4 will be holding a face-to-face meeting in the November timeframe to continue their work
  - o Eldridge thanked the sub-group for all the work they accomplished during the week

- SC-206 SG-6/WG-76: MASPS (DO-364A/ED-XXX)
  - o Reference the Sg6_WG76_September_2022_Closing_v2.pptx slides
  - o Eldridge Frazier provided the briefing
  - o Eldridge thanked everyone for their participation this week
  - o The sub-group completed the ARI OSA and OPA
    - Eldridge thanked Bill Carson and Izabela Gheorghisor for leading those efforts
  - o The D-ATIS SD still needs to be completed
  - o Eldridge noted that SG-6 has established an aggressive plan to completion
    - The plan is to have the document to the PMC by December of 2023
    - SG-6 can begin working on DO-364A/ED-XXX in December 2022
    - The most significant area of risk is resolving any FRAC comments after the August 2023 close of the FRAC period
    - Alex Engel commented that a virtual Plenary meeting could be held in October 2023 to go over the changes and approve the document to be sent to the PMC/TAC
      - This would allow for the "green cover" document to be ready in the December 2023/January 2024 timeframe
- Jim Mills commented that D-ATIS was once part of SG-6, but was then moved to SG-8
  - D-ATIS is now proposed to move back to SG-6, which will require a TOR revision
- Louis Bailey commented that the schedule is aggressive with a lot of cross-pollination of SMEs between sub-groups
  - Louis asked if this will be a constraint to deal with in terms of access to the necessary individuals and will we be able to maintain the current schedule
    - Moin Abulhosn concurred with Louis' concern
  - Eldridge responded that we will have a better sense of that by March 2023
    - May 2023 is intended to be the last sub-group session, so depending on how much work remains, we will be better able to assess the situation at that time

- SC-206 SG-8/WG-76 SG-1: DLSAD (DO-XXX/ED-89B)
  - o Jean-Luc Thirion provided the briefing
  - o Reference the SC206SG8_WG76SG1_Sept 2022 V2.pptx slides
  - o Jean-Luc reported that work related to the D-ATIS SD is ongoing
    - The draft is quite mature
    - Louis added that all of the "editorial" comments have been addressed and they have added material to Section 2
    - There was a lot of work required to harmonize that document with others
  - o Jim Mills asked about the percentage of the document that is complete
    - Louis responded that approximately 90% is complete
    - What is required now is manual review and editing of the document and drafting new material
    - Eldridge added that the D-ATIS SD is reported as "blue" status
  - o Louis stated that he is confident that SG-8 will complete the document on schedule

6. Industry Coordination
   - Aireon's Transition to ADS-B Version 3
     - o Reference the 2022-09-23 SC-206 Aireon LV3 Briefing.pdf slides

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- o Michael Garcia provided the briefing
- o Michael noted that this is a work in progress
- o There are a host of satellites that receive ADS-B messages
  - These messages are processed as they are received
- o Regarding their migration plans, they have updated the hosted payload receiver
  - This includes support for all RTCA DO-260C/ED-102B messages
  - They do have the ability to add new message types
- o Aireon is looking for an avionics vendor to participate in some phased overlay trials
- o They are currently receiving and storing data and analyzing it offline
- o Rocky asked if phase overlay modulation is optional
  - Michael responded in the affirmative, but added that they are looking into it
  - Michael added that in the future, phase overlay modulation is the way to go
- o Rocky asked about the upper/lower antenna issue
  - Rocky asked if Aireon can only obtain data from aircraft with lower antennas, or is it limited to certain altitudes
    - Michael responded that they have looked into that
    - There were quite a number of aircraft that were different from others
    - They are able to see data from a bottom antenna aircraft, but they have to be within a long glancing angle of incidence
    - They rely on diversity to get a full coverage as a satellite passes over
    - A lot of time the Air Navigation Service Providers (ANSPs) are unsure if the upper antenna is working as they are interrogating the bottom
    - They do have data to show when there is a problem
    - Another issue is when they switch transponders
      - There are some times where the alternate transponder is not transmitting appropriately
    - Upper antenna issues not readily identifiable
  - **Action – Michael to send a copy of the Institute of Electrical and Electronics Engineers (IEEE) paper to Rocky**
- o Steve Darr thanked Aireon for "moving out" as a company to implement the capability

- Qualifying Third Party Weather Providers
  - o Reference the Qualifying Third Party Weather Providers Presentation to RTCA SC-206 – 2022-09-23.pptx slides
  - o Kevin Johnston and Gordy Rother provided the briefing
  - o Eldridge introduced this effort to the attendees and noted that he feels SC-206 should address this after DO-364A/ED-XXX is complete
    - The Services will have been determined and this will be the information that will go into those services
    - We need to ensure that the information is credible
  - o Kevin then began his briefing indicating that this is a new effort
    - Within the ConOps for Unmanned Aircraft Systems (UAS) and Urban Air Mobility (UAM), there is no expectation that the FAA will provide all of the weather infrastructure for these operations as done traditionally
    - This effort is looking at the qualification of third party weather providers
    - This is part of the FAA's Enterprise Architecture (EA)
    - Within the next year, the FAA expects to see some initial reports on what it will take to qualify a third party weather provider
  - o Gordy then discussed the FAA Flight Standards (AFS) weather standards development effort

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- The effort is referred to as Performance Based Weather Standards (PBWS) and is similar to other FAA efforts over the years
  - However, this represents a significant shift from where we are today
  - 3% of the airspace is technically covered by an approved source of weather
  - This PBWS effort will be a data-driven approach to derive a data standard, not a system standard
- The FAA is working with ASTM to nationalize a tiered approach
- We have to understand the variability in the data and mitigate the risk
  o Reference Slides 6 and 7
    - Gordy noted that today we allow airlines to use "non-traditional" weather sources through Enhanced Weather Information Systems (EWINS)
    - The values in the "Confidence Level" column are all "TBD"
    - This table is being worked in conjunction with the ASTM F38 committee
    - We allow operators to use Real-Time Mesoscale Analysis (RTMA) for temperature in the National Airspace System (NAS), and we are adding pressure
      - RTMA was designed for the forecaster, but has been qualified for use by the airlines
    - The FAA and ASTM is working to get this table approved for operational use
    - The FAA will be conducting a Safety Risk Management (SRM) panel to tease out this concept of operations within the FAA
    - The ASTM F38 committee hopes to have their standard approved by the end of this year
  o Rocky asked, with respect to observations and the quality of the observations, if there is a similar effort related to area weather
    - Kevin responded in the affirmative
      - We have to establish standards for forecasts also
      - ASTM concurs, but they have made the decision to work through observations and analysis first
        - Forecasts will be addressed later
        - The forecast component will be a much bigger deal
  o Rocky asked who is involved in working this
    - Kevin responded that this is between the FAA and ASTM F38 and is solely UAS focused
    - F38 is the weather group within ASTM
  o Tim Rahmes noted that the FAA invokes MASPS and MOPS and asked if the FAA will do the same for the ASTM document
    - Gordy responded that they are working towards a consensus standard
      - The FAA understands that they cannot implement the infrastructure to match manned operations
    - Gordy added that the plan is for the FAA to accept the ASTM standard
    - Moin commented that as far as policy, the FAA can invoke any standard from other sources
  o Eldridge asked Gordy if he sees a need for RTCA to take on the challenge of FAR Part 121
    - Gordy responded that a lot of data being nationalized is from the drone itself and that there is a process today to approve sensors that will meet the standard
    - Gordy rhetorically asked how good the data is from the vehicles themselves
      - When we move into the UAS world, how good does the information need to be?
      - Gordy thinks that the RTCA group could think through that process a bit more
  o Steve Abelman commented that if this data is being considered as part of EWINS, to be sure to let the airlines know
    - There would be mutual interest in doing something similar

- ATFM in Europe, Developments in Network Manager Operations Centre (NMOC)

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o Reference the <u>EUROCONTROL Network Manager Briefing Sept22.pdf</u> slides
o Steve Moore provided the briefing on the NMOC roles and responsibilities, as well as the status of their new facility (reference slides for additional detail)
o Steve Moore noted that the Operations Division is ¼ of the Network Manager Centre
o In Operations, they are responsible for:
  - Air traffic flow capacity management
  - Integrating airports into the network
  - Instigate crisis management
  - Conduct network planning on tactical and non-tactical levels
o Steve Moore commented that they have lost 25% of their airspace due to conflict in Russia / Ukraine
  - They have many ANSPs experiencing high demand due to restructuring of the airspace
  - Airlines are flying to avoid certain airspaces, which is causing complexities to various ANSPs
o The Network Operations Centre is responsible for traffic loadings from 43 states
o Steve Moore noted that they balance capacity with demand, and efficiency of flights with emissions

- EUROCAE ED-89A Change 1 Progress Report
  o Alex Engel provided the briefing
  o There were no slides associated with this update
  o With respect to Change 1 accepting the longer messages
    - Alex responded that in the future it is proposed that the D-ATIS SD will be included in DO-364A/ED-XXX
    - ED-89A currently places a maximum of 800 characters for D-ATIS
    - With the Global Reporting Format (GRF), the messages get longer
    - From an aircraft manufacturer and avionics perspective, this will not be a problem
      ▪ Messages greater than 800 characters in length can be sent, but the quality of service cannot be guaranteed
    - According to network judgement, able to send more characters, but cannot guarantee quality

- ADS-B Weather Implementation
  o Reference the <u>2022-09-23 ADS-B Wx Implementation Update.pdf</u> slides
  o Steve Darr provided the briefing
  o Steve Darr noted that ICAO has allocated 1090ES spectrum for ADS-B V3 and that ADS-B Wx messages are defined for broadcast in published ADS-B V3 standards for 1090ES and UAT
  o Steve Darr commented that many of the "Next Steps" listed on slide two will be completed over the next few years
  o Reference Slide 3 and the high-level Concept of Operations phases, Steve Darr noted that:
    - The Message Broadcast phase is defined
    - The Message Receipt phase is being worked and defined
    - The Data Delivery phase is the least defined of the three at this time
  o Reference Slide 4
    - Steve Darr noted that work on these has stalled, but will be resolved in the near future
    - Some of the items need to be fully defined as to how the users will get the data
  o Reference Slide 5
    - Steve Darr noted the specific Next Step activities

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- Steve Darr indicated that he will update his charts for future briefings to note that there is at least one entity capable of receiving the associated ADS-B V3 messages
  - This is based upon the earlier presentation by Aireon

- Post Departure Coordination and Airborne Navigation (PCAN)
  - Due to scheduling issues, this briefing was postponed until the December Plenary

- Turbulence Update from Yamasee (SkyPath)
  - Reference the SkyPath Intro – SC-206_WG-76 (Sep 2022).pdf slides
  - Guy Zunder provided the briefing
  - Forecasts of turbulence are not sufficient in resolution and accuracy and current tools for managing turbulence have limited coverage
  - SkyPath is a crowdsourcing platform that utilize iPad accelerometers and alerts the crew of upcoming turbulence
  - The key concept is that the iPad device becomes another sensor
  - Reference Slide 10
    - The Strengths are listed as:
      - There is no aircraft integration
      - There is one algorithm running on each iPad
      - Having two iPads in the cockpit provides for validation and greater accuracy
      - Simple integration kits for each Electronic Flight Bag (EFB) allow for scalability
  - Questions
    - Rocky commented that he hopes the vertical view comes out in an operational version soon
    - Guy noted that they are monitoring turbulence from 5000' up
    - Rocky asked, with respect to calibration and the iPad mounts, when the device stops moving (assuming it is in its cradle), is it is recalibrated
      - Guy responded in the affirmative
      - After the device is moved, it is calibrated each time
      - With two iPads in a cockpit, there is a way to validate the devices by comparing the two sources
    - Moin Abulhosn asked if SkyPath is measuring the turbulence inside or outside the aircraft
      - Guy responded that they are measuring the acceleration of the device at 100Hz
      - Rocky added that we want to ensure that the device is not recording too much turbulence based on the mounting
    - Steve Darr asked what means of connectivity is being used to get the information to / from the aircraft
      - Steve Darr added that there seems to be a networked crowd-source solution
      - Guy responded that they use the aircraft Wi-Fi to connect in real time
        - When the device is connected to Wi-Fi, it receives real-time alerts
        - When the device is not connected to Wi-Fi, it is still working however, and the data is downloaded after landing
    - Tim Rahmes noted that the International Air Transport Association (IATA) turbulence dataset is integrated into FliteDeck Pro as is SkyPath
    - Steve Abelman asked if SkyPath has been approached about putting iPads in different areas of the cockpit / cabin to differentiate between reports from the front and back of the aircraft
      - Guy noted that what they are using is calibrated to the front of the aircraft

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- ▪ More sensors in the cockpit could be better, while readings in the back of the aircraft could be different
- ▪ Back in 2019, they used SkyPath to measure different areas of the aircraft
  - There was a slight difference between the front and back of the aircraft, however it does not change what is being measured in the cockpit
  - The differences were negligible between the cabin and the cockpit

- Update on Turbulence Observations Integration into FliteDeck Pro
  - Due to scheduling issues, this briefing was postponed until the December Plenary

7. Terms of Reference Discussion
   - Eldridge noted that he will work with Jean-Luc to fold D-ATIS into DO-364A/ED-XXX in the TOR
     - However, he felt they should wait until the March 2023 meeting to do that
     - Jean-Luc concurred
     - Alex commented that a TOR update is needed since a D-ATIS SD will be included in DO-364A/ED-XXX
       - Since D-ATIS is part of the ED-89B deliverable, they will no longer be delivering a stand-alone document
     - Karan commented that we can decide during the December meeting to potentially present a TOR revision to the December PMC
     - Karan added that any other TOR issues be addressed during the December Plenary
   - Eldridge noted that if we change the TOR in December of this year, SG-6 runs the risk of not meeting their December 2023 deliverable date
     - Karan responded that there is a grace period of up to 2 PMC cycles (~6 months) on deliverable dates
     - Eldridge noted that the TOR currently says FRAC completion will be in March of 2023
     - Alex commented that if we target a December 2023 publication date for the MASPS, that would give a 6-month grace period into June of 2024
     - Karan noted that if we move D-ATIS into DO-364A/ED-XXX, we should revise the TOR
       - Alex added that there is justification in delaying the document since we will be adding a Service
   - **Action – Leadership to discuss offline on what changes need to be made to the TOR for presentation at the December PMC**
     - Rocky noted that SC-206/WG-76 could hold a one-hour virtual Plenary meeting to address and achieve consensus on any proposed TOR revisions

8. Future Meetings, Plans, and Dates
   - The following table of future meeting dates / locations was discussed

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Plenary Meeting Dates	Plenary Meeting Locations (Hosts)	Notes
December 5-9, 2022	Washington, DC (RTCA - Karan)	Joint WG-76/SC-206 Plenary
March 13-17, 2023	Toulouse, France (Airbus - Macarena)	Joint WG-76/SC-206 Plenary (DO-XXX/ED-89B FRAC Release)
June 26-30, 2023	Frederick, MD (AOPA - Eldridge); Backup: Washington, DC (RTCA - Karan)	Joint WG-76/SC-206 Plenary (DO-364A/ED/XXX FRAC Release; DO-XXX/ED-89B FRAC Resolution; Turb White Paper to PMC)
September X-X, 2023	Paris, France (EUROCAE - Alex)	Joint WG-76/SC-206 Plenary (DO-364A/ED/XXX FRAC Resolution)
December X-X, 2023	USA TBD	Joint WG-76/SC-206 Plenary

SG/WG Meeting Dates	SG/WG Meeting Locations (Hosts)	Notes
October 24-28, 2022	Seattle, Washington (Boeing - Louis)	RTCA SG-6/WG-76 Meeting; Group will travel on 10/23 and 10/29 with a full working meeting on 10/24-28.
Nov 28 - Dec 1, 2022	KC, Boulder, or DC	RTCA SG-4/WG-76 SG-2; exact dates are TBD
May 8-12, 2023	Madrid, Spain (Boeing - Louis)	RTCA SG-6/WG-76 Meeting; To determine if needed in December 2022

See slide 12 for TOR deliverables' schedule and updated SG-6/WG-76 schedule

➢ It was noted that there are some potential connectivity issues with the March Toulouse meeting
➢ The June meeting venue is still not finalized
   ▪ Eldridge is still coordinating with AOPA on if they can host
   ▪ Eldridge felt that we can probably lock the location in by our December 2022 Plenary
➢ The fallback venue for the September 2023 meeting location could be Brussels
   ▪ We need to lock down the meeting date for travel funds planning
   ▪ **Action: Alex agreed to reserve rooms at EUROCAE in Brussels as the tentative location in September 2023**
   ▪ Alex added that if DLR in Bavaria has rooms available, the Plenary could be held there the week after the September PMC
      • **Action: Alex to coordinate with DLR in Bavaria on their ability to host the September 2023 Plenary**
• The next Plenary will take place on December 5-9, 2022, and will be held at RTCA Headquarters in Washington, DC

9. Action Item Review
   • Action Item 385
      o This item remains Open
   • Action Item 389
      o This item was Closed
   • Action Item 390
      o This item was Closed
   • Action Item 391
      o This item was Closed
   • Action Item 392
      o This item was Closed
   • Five new Plenary action items were identified during today's session and are shaded in green below

   • The current SC-206/WG-76 Plenary Action Item list is as follows:

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\multicolumn{6}{c}{**Open Action Items**}					
#	Owner	Action	Date	Due Date	Status
385	Eldridge Frazier	Eldridge to contact AOPA to see if they would be willing to host the joint June 2023 Plenary meeting at their facility in Frederick, MD	March 2022	June 2022	Open
389	Eldridge Frazier	Ascertain FAA position on sunsetting SG-1 and brief that position at September Plenary	June 2022	Sept 2022 Plenary	Closed Sept 2022
390	SC-206	SC-206 to discuss and identify an SG-8 Task Lead	June 2022	Sept 2022 Plenary	Closed Sept 2022
391	SC-206	SC-206 to discuss scheduling Plenary sessions in September and December 2023	June 2022	Sept 2022 Plenary	Closed Sept 2022
392	Eldridge Frazier	Coordinate with Kevin Johnston (ANG-C64) for a briefing at the September Plenary on FAA Policy regarding qualifying 3rd party weather providers	June 2022	Sept 2022 Plenary	Closed Sept 2022
393	Alex Engel	Coordinate with DLR (Bavaria) to determine their availability to host the September 2023 SC-206 / WG-76 Plenary	September 2022		Open
394	Leadership	Discuss offline the DO-364A deliverable deadline and any related TOR revisions to be presented to the PMC in December 2022	September 2022	November 2022	Open
395	Rocky Stone Ed Johnson Steve Darr Alex Engel Karan Hofmann	Discuss offline how to address the issue of "sunsetting" SG-1 and what to potentially include in a TOR revision to be presented to the PMC in December 2022	September 2022	November 2022	Open
396	Alex Engel	Reserve rooms at EUROCAE in Brussels as the tentative location in September 2023	September 2022	December 2022	Open
397	Rocky Stone Michael Garcia	Michael to send a copy of the Institute of Electrical and Electronics Engineers (IEEE) paper to Rocky	September 2022	December 2022	Open

10. Other Business
- There were no new business items addressed
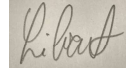
11. Adjourn
The Plenary adjourned at approximately 1300 CEST (0700 EDT) on Friday, September 23, 2022.

CERTIFIED as a true and accurate summary of the meeting.

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Rocky Stone, SC-206 Co-chair

Mark Libant, SC-206 Co-chair

Joe Bracken, SC-206 Secretary

Macarena Martin-Viton, WG-76 Secretary