

**SUMMARY OF THE TWENTY-FIFTH MEETING**  
**JOINT RTCA SPECIAL COMMITTEE 217**  
**EUROCAE WORKING GROUP 44**  
9<sup>th</sup> through 11<sup>th</sup>, February 2016  
Neu-Isenburg - Hosted by Jeppesen

**Executive Summary**

RTCA SC-217 met jointly with EUROCAE WG-44 for the Twenty-Fifth Plenary at Jeppesen Headquarters in Neu-Isenburg, Germany from the 09<sup>th</sup> through the 11<sup>th</sup> of February 2016. The main objective of this meeting was the kick-off of the revision of DO-201A/ED-77.

Sasho Neshevski was appointed as Working Group Secretary and Stephen Moody was appointed as Document Editor.

Terms of Reference of SC-217 and WG-44 were reviewed, with specific mention about the scope of the navigation data to be covered.

A series of presentations were given on related standards and initiatives in order to set the context and identify drivers and relevant developments. The topics included:

- ICAO AIS-AIM SG on updated Annex 15 and PANS-AIM, notably the new data centric approach and the Data catalogue;
- The new ICAO Information Management Panel (IMP);
- Global SWIM;
- FAA Ops and systems;
- EU SES developments in the area of PBN;
- FAA PBN NAS Navigation Strategy;
- Relevant EUROCAE and RTCA standards: ED76A/DO200B – to be considered as a reference for processing requirements - DO-272/ED-99D, DO-276C/ED-98C and DO-291C/ED-119C;
- ARINC 424.

Stéphane and Brian presented the outcome of the scoping exercises that took place in May/June 2015. The text in the ToR regarding the need to apply wider understanding to the meaning of navigation which includes alerting and awareness functions was stressed. A discussion took place on what exactly should be understood by “user requirements”. It was confirmed that the driver is the applications. A brainstorming on the applications took place. Actions were assigned to members to prepare draft text on the identified applications.

A brainstorming was conducted aiming at defining what should be considered navigation data. It was concluded that navigation data is information needed for positioning and defining a path of an aircraft, including waypoints, airports and runways, procedures, navigation aids and landing system infrastructure. Navigation data excludes terrain, obstacle and cultural data. Additional data was identified that does not fall under navigation data, but needed for operations: e.g. airspace, communication, and aerodrome data.

A review of DO-201A/ED-77 was undertaken in order to identify which parts of the document needed to be updated, revised, removed, replaced, etc. A discussion on the scope and the intended audience of the document took place. Allocation of work to members was done to prepare draft text. The topics were grouped into logical themes and leaders for the corresponding drafting were identified.

The meeting objectives were achieved and even exceeded. The Co-chairs extended, on behalf of all Group members, high appreciation to Jeppesen for hosting the meeting and for the excellent organization.

The next meeting will be 18 – 22 July 2016, in Seattle, WA.

# 1 Opening Plenary

## 1.1 Attendance List

Name	Organization	Email address
Reuss Anderson*	Garmin	<a href="mailto:reuss.anderson@garmin.com">reuss.anderson@garmin.com</a>
Burak Ata	STM	<a href="mailto:bata@stm.com.tr">bata@stm.com.tr</a>
David Baker	Mitre	<a href="mailto:dbaker@mitre.org">dbaker@mitre.org</a>
Kevin Carey	US Air Force	<a href="mailto:kevin.carey.1@us.af.mil">kevin.carey.1@us.af.mil</a>
Cedric Cote	Esterline CMC Electronics	<a href="mailto:cedric.cote@cmcelectronics.ca">cedric.cote@cmcelectronics.ca</a>
Ben Coutts	GE Aviation Systems	<a href="mailto:benjamin.coutts@ge.com">benjamin.coutts@ge.com</a>
Torsten Domrös	Jeppesen	<a href="mailto:torsten.domroes@jeppesen.com">torsten.domroes@jeppesen.com</a>
Stéphane Dubet	DGAC / DSNA / SIA	<a href="mailto:stephane.dubet@aviation-civile.gouv.fr">stephane.dubet@aviation-civile.gouv.fr</a>
Jean-Paul Genottin	Airbus S.A.S	<a href="mailto:jean-paul.genottin@airbus.com">jean-paul.genottin@airbus.com</a>
François Germain	THALES	<a href="mailto:francois.germain@thalesgroup.com">francois.germain@thalesgroup.com</a>
Brian Gilbert	The Boeing Company	<a href="mailto:brian.d.gilbert@boeing.com">brian.d.gilbert@boeing.com</a>
Anna von Groote	EUROCAE	<a href="mailto:anna.vongroote@eurocae.net">anna.vongroote@eurocae.net</a>
LaDonna Handugan	The Boeing Company	<a href="mailto:ladonna.r.handugan@boeing.com">ladonna.r.handugan@boeing.com</a>
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Kimberly Jordan	Universal Avionics Systems	<a href="mailto:kjordan@uasc.com">kjordan@uasc.com</a>
Daniel Lehman	US Navy	<a href="mailto:dan.lehman@navy.mil">dan.lehman@navy.mil</a>
Jeff Meyers	FAA	<a href="mailto:jeffrey.meyers@faa.gov">jeffrey.meyers@faa.gov</a>
Brad Miller	FAA	<a href="mailto:brad.miller@faa.gov">brad.miller@faa.gov</a>
Stephen Moody	Jeppesen	<a href="mailto:stephen.moody@jeppesen.com">stephen.moody@jeppesen.com</a>
Sasho Neshevski	EUROCONTROL	<a href="mailto:sasho.neshevski@eurocontrol.int">sasho.neshevski@eurocontrol.int</a>
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Diana Takata	FAA	<a href="mailto:diana.takata@faa.gov">diana.takata@faa.gov</a>
Martin Zillig	LHSystems	<a href="mailto:martin.zillig@lhsystems.com">martin.zillig@lhsystems.com</a>

\*via Webex

Dr. Donna Creasap and Barry Miller from FAA attended the meeting part time via WebEx to give presentations.

## 1.2 Administration & Agenda

The joint RTCA SC-217 and EUROCAE WG-44 Twenty-Fifth Plenary meeting was opened by Brian Gilbert (RTCA SC-217 co-chairman) and Stéphane Dubet (RTCA SC-217 co-chairman and EUROCAE WG-44 chairman).

Mr. Bernd Buehrmann, Managing Director Jeppesen GmbH, welcomed the participants.

Torsten Domrös shared logistical information for the meeting facilities.

Round-table introductions were given by each attendee.

Jennifer and Anna presented the way of working and governance within RTCA and EUROCAE, including the process to be followed, participation, role of standards, consultation and resolution of comments, approvals, publications, and use of workspace.

Jennifer showed the RTCA Proprietary References Policy for the group to read. Anna stated that a similar policy was applicable for EUROCAE.

Diana Takata, as Designated Federal Official, read the Public Meeting Announcement in accordance with the Federal Advisory Committee Act.

Stéphane reviewed the meeting agenda and explained the split of the items into plenary session and Working Group session. The agenda was approved.

Stéphane solicited comments on the minutes from the June 2015 meeting in Washington DC. There were no comments, and the minutes were approved.

The co-chairs explained the roles Working Group Secretary and Document Editor. Sasho Neshevski was appointed as Working Group Secretary and Stephen Moody was appointed as Document Editor.

Terms of Reference of SC-217 and WG-44 were reviewed, with specific mention about the scope of the navigation data to be covered. Diana inquired about the scope, in particular, to create, as required, standardized methodologies for the documentation of data quality requirements.

Jeff M. and Brad stressed the importance of clarifying the role of the standard in the upstream data operations phase, especially with respect to ICAO Annex 15.

Diana reiterated the need for the DO-201 to be the user requirements for navigation data in the context of the aeronautical data chain.

## **2 Working Group session**

### **2.1 *Other related standards and initiatives***

A series of presentations were given on related standards and initiatives in order to set the context and identify drivers and relevant developments.

Stéphane presented the work of ICAO AIS-AIM SG on updated Annex 15 and PANS-AIM. He highlighted the new data centric (instead of product centric) approach for Annex 15, which entails a split between data origination and provision. He also introduced the new PANS-AIM Data Catalogue.

Diana stated that the data catalogue may be useful for the scoping as source of requirements. Data Quality Requirements (DQR) in the data catalogue will be a basic input element for the work of the group. Jeff M. highlighted that the DQR need to be looked at depending on the intended use. Approval of the Data Catalogue by the ICAO ANC is expected to take place later during the year.

Diana presented the developments in the area of Global SWIM, focusing on the work conducted by the ICAO Information Management Panel (IMP) WG-B: Information Architecture & Management. IMP is a new panel that has been created to define an interoperability framework and define and elaborate on the

ATM information management concepts. The panel is to address subjects like quality of service requirements, ATM information service architecture, requirements for Standards And Recommended Practices (SARPs), transitional strategies and guidance material for the implementation of global SWIM.

Diana touched upon the ICAO ATM Information Reference Model (AIRM) and the various exchange models. She stressed the key role of standards for achieving global interoperability. As the work in the domain of SWIM is very much interconnected, it is of utmost importance to understand the big picture and the relationships and dependencies. It was clarified that the exchange models have developed independently; therefore they are not 100% consistent. In this context, AIRM aims at harmonizing the application of the various models.

It was concluded that the PANS-AIM Data Catalogue will be a tentative starting point for the DQR to be included in ED-77A/DO-201B and that Annex 15 should be used as reference for terminology. Stéphane will obtain formal agreement to distribute the data catalogue and will make it available to the members of the group.

Stéphane presented the main work items and the status of the work of IFPP. The panel concentrates on the development and maintenance of safe and efficient Flight procedures. It focuses mainly on procedure design criteria for new navigation methods, such as PBN and GBAS Category II/III as well as the promulgation requirements related to charts and navigation databases. The Flight procedure implementation is increasingly depending on the input of information in databases and the reliance on FMS. In this respect, a growing concern is the challenges in the quality assurance process, including adequate regulatory oversight processes and integration challenges with the avionics industry. The degree of variation amongst existing FMS in various aircraft cause major challenges. It was considered important to maintain a link with IFPP. Torsten will determine if the group can establish a formal link with the IFPP through a member of the Panel.

A presentation by Brad (FAA) and Jeff M. (FAA) was given on ED-77/DO-201A from systems and Ops perspective. DO-201A is considered too high level, in the light of the recent developments. It was stressed that to be successful, DO-201B must truly become “User requirements for Navigation Data” covering operational and system’s needs. From systems and ops perspective the document must support PBN operations with database integrity needs and capture data contribution to criticality. It must address increasing levels of rigor for higher integrity requirements of PBN and other related functions. The DQRs must have greater detail while maintaining consistency with other relevant standards (i.e. DO-272, DO-276) and it must define the scope of navigation data.

A question was raised whether the requirements can be different depending on the application, i.e. whether various levels of DQR depending on the navigation specifications could be defined or the most stringent DQR could be applied. It was concluded that this topic needs further discussion. Current issues with respect to the quality of aeronautical data issued by States were briefly discussed. It was agreed that these issues need further discussion. Torsten, Martin, David and Ralf will prepare a joint presentation on typical issues with State data or procedures.

Sasho presented the latest developments in the area of PBN with respect to PBN implementation in Europe and stressed the importance of quality of navigation data for the deployment of PBN procedures. He highlighted the existing regulatory requirements in the European Union and the expected Rule on PBN implementation in the European ATM network, resulting from EASA NPA 2015-01, which makes data quality very important as deployment ramps up. It was concluded that it was important to clearly indicate the meaning of the various PBN procedures, e.g. LNAV, LNAV/VNAV, LP, and LPV. To this end, an appendix dedicated to this will be prepared, reusing and summarizing the material that is already contained in the PBN Manual. Sasho will liaise with EASA about latest status of PBN IR.

It was concluded that PBN Manual can be a source for the Navigation specifications as well as terminology. The secretary will provide link to access the document if it is in the public domain; otherwise will enquire

about the possibility to distribute it. The PBN Manual is produced and maintained by the ICAO PBN SG. It was considered important to maintain a link with the PBN SG. Torsten will determine if the group can establish a formal link with the ICAO PBN SG through a member of the Study Group.

Dr. Donna Creasap (FAA) gave a presentation on the PBN NAS Navigation Strategy. The document establishes a clear vision of PBN as the basis for daily operations at all locations in the NAS. It defines the strategic goals for transitioning to a PBN-Centric NAS, the key commitments by timeframe (near-term, mid-term, far-term), the navigation services across various airport groups and the minimum PBN capabilities expected of operators by timeframe and domain.

With respect to relevant EUROCAE and RTCA standards, Stéphane presented ED-76A/DO-200B, noting that the document can be considered as a reference for processing requirements. Brian presented DO-272/ED-99D, DO-276C/ED-98C and DO-291C/ED-119C.

A discussion took place on data exchange models. It was stressed that the models are for ground-ground exchange. François inquired about starting from the work performed for AIXM 5.1. Stéphane reminded that data models are outside the scope of the ToR, but that this was an important topic that could be a next step, or could be useful for consistency. Stéphane stated that new regulations will likely repeal ADQ and not have any references to AIXM. DO-201 needs to stay at much higher level than ARINC 424. He stressed that the data catalogue is not a data model. Brian mentioned that without an interchange model, there is little contribution to SWIM that can be made by RTCA Navigation Data standard. It was agreed that the topic of data models needed further discussion and that the group should mature its thoughts on it through the process, and if required, go back to EUROCAE and RTCA Management.

Steve Moody gave an overview of ARINC 424. Currently this navigation system database standard works efficiently for its purpose. It was stressed that data quality (numerical) requirements from ED-77/DO-201A have direct impact on ARINC 424. It was clarified that ARINC 424 is a reference document for format and resolution, but that other DQR are not addressed. A major objective of ARINC 424 is to support legacy systems; therefore a large number of different releases are in operation. Brian asked about the separation between data format and user requirements in ARINC 424. Those familiar with ARINC 424 said it was often difficult to separate the two.

Diana asked how the PBN strategies in Europe and in the US are being taken into account for the maintenance and evolution of the standard. It was noted that DQR in DO-201A need to be kept in mind as they have impact on the ARINC 424. DQRs are currently applied only to numerical data, and do not cover things like textual information. Torsten asked about the outcome of the NDBX. It was clarified that the XML part was retained in ARINC 424; however, the binary part was not pursued any more.

Stephane asked whether future changes are being considered in the ARINC 424 committee, i.e. if they are looking to evolve beyond a 40 year old interchange format. Steve Moody said that keeping legacy systems going is a major goal of ARINC 424. Most new content is matured by the proposing organization before consideration.

Barry Miller, FAA SC-227 Designated Federal Official, made a presentation on DO-283B, with reference to the requirements on navigation data and navigation databases, as well as database interface, database versions and operating period. DO-283B invokes DO-200B for DQR specification. DQR had been subject to discussion within SC-227 but were not retained. The Committee is currently working on revision of DO-257A on electronic display.

The DQR are a topic that appears regularly in discussions within SC-227. DQR are the most stringent for RNP AR operations. Operators are required to have data management system to ensure equivalent level of safety assurance as for ILS operations, i.e.  $10^{-7}$ . A new FAA AC is being prepared for RNP AR.

Barry informed that the PBN SG has identified the need for update of the PBN Manual to address some of the navigation specifications, to reflect certain ATM initiatives, new RNP AR departure procedure criteria, consistency with other developments, reflect new requirements on RNP equipment from DO-283B. Also, a better definition of Time Of Arrival Control (TOAC) is needed. The target date for the updated PBN Manual - Fifth Edition is 2018.

## **2.2 Scoping exercise**

Stéphane and Brian presented the outcome of the scoping exercises that took place in May/June 2015. Stéphane referred to the text in the ToR regarding the need to apply wider understanding to the meaning of navigation which includes alerting and awareness functions.

A discussion took place on what exactly should be understood by user requirements. It was confirmed that the driver is the applications. A brainstorming to identify the main applications took place. Stéphane compiled a list of main applications. Actions were assigned to members to prepare draft text on the identified applications. It was acknowledged that there are other applications using navigation data but not driving navigation data requirements, e.g. data used by Terrain and Awareness Warning systems, ADS-B in Surface, Synthetic Vision Systems. It was also acknowledged that UAS may use navigation data as well. The list of applications may grow as the group begins to map data contents to applications.

Diana highlighted the need to agree on the methodology. The ToR require a revision of the document; it is important to be clear on the delta between the current version and the intended update. Torsten and Diana recommended performing a re-scoping activity.

## **2.3 Navigation data**

A brainstorming session was conducted aimed at defining what should be considered navigation data. Significant discussions were held regarding whether or not to include data related to ground operations (aerodrome data).

It was concluded that navigation data is “information needed for positioning and defining a path of an aircraft”. This includes waypoints, airports and runways, procedures, nav aids and landing system infrastructure. Navigation data excludes terrain, obstacle and cultural data. Additional data was identified that does not fall under navigation data, but needed for operations: e.g. airspace, communication, and aerodrome data.

## **2.4 Review of current DO-201A/ED-77**

A thorough review of DO-201A/ED-77 was undertaken in order to identify which parts of the document needed to be updated, revised, removed, replaced, etc. The review covered the document structure, the background and PBN principles, rules for navigation data preparation, data quality, aeronautical information basics including data catalogue, and procedure coding.

A discussion took place on issues related to coding of procedures, notably in cases when there are various ways to code a procedure where in some cases the intent of the procedure designer may not be correctly implemented through the coding. It was felt that some guidance would be useful in the document on this topic.

The scope and the intended audience of the document were discussed. The scope will be navigation data needed to support the identified functions and applications. It was noted that different applications may have different requirements and not all requirements may apply to all applications. A list of intended users of the document was compiled and usages of the standard were identified. These will be included in a revised Introduction section, which will also cover the context, the scope of the document, the definition of navigation data, and the conventions used.

Allocation of work to sub-teams was done to prepare draft text, as follows:

- Structure of the document: Lead: **Steve**, Members: Diana, Daniel, Burak, Brian
- Background and PBN principles including new concepts: Lead: **Sasho**, Members: Jeff M. , Erik, LaDonna
- Rules for navigation data preparation: Lead: **Scott**, Members: Martin, Sasho
- Data quality: Leads: **Brad, Jeff M.** , Members: Stéphane, Jens, Kim, Steve, LaDonna, Ben, Ralf, Cedric, David, Marc Chenus
- Procedure encoding: Lead: **Kevin**, Members: Steve, Erik, Cedric, David, Kyle
- Aeronautical information basics: Lead: **Torsten**, Members: Stéphane, Diana, Ralf, Sasho, Martin, Brian

The following items were identified as needed to be included in the document, but no actions to draft text were recorded at this stage.

- SWIM considerations
- Reference documents
- Appendices
  - Glossary of terms
  - Abbreviations and acronyms
  - Other technical appendices as required in support of the main body sections

The following items were identified as potentially needing to be included in the document, but no decisions on applicability were made and will need to be discussed further.

- RTCA Data Catalogue
- Digital data charts

Practical document questions were discussed, such as whether to use DO-201A or ED-77A as the baseline, and following the latest RTCA Style Guide. Steve will address these as part of his Document Editor duties.

### 3 Closing Plenary

The action items list was reviewed.

The next meeting (26<sup>th</sup> meeting) will be held from the 18<sup>th</sup> through the 22<sup>nd</sup> of July 2016, in Seattle, WA, hosted by Boeing.

The following dates and potential locations for the subsequent meetings were set as follows:

- 27<sup>th</sup> meeting: 31 October – 4 November 2016, Location TBD (USA)
- 28<sup>th</sup> meeting: 06 – 10 February 2017, Location TBD (Europe)

The ISRA (Inter-SC Requirements and Agreements) subject was not covered. It will be tackled through internal RTCA coordination, to be facilitated by the RTCA Secretariat.

The Co-chairs wrapped-up the meeting, stating that the meeting objectives were achieved and even exceeded. They underlined the importance of keeping the momentum going and appreciated the proactive and enthusiastic participation of the members and their willingness to contribute.

Finally, the Co-chairs extended, on behalf of all Group members, high appreciation to Jeppesen GmbH for hosting the meeting and for the excellent organization.

### 4 Action List

<b>Action Ref.</b>	<b>Action</b>	<b>Responsible</b>	<b>Due date</b>	<b>Status</b>	<b>Comments</b>
25-01	Get approval from ICAO to distribute the Data Catalogue and make it available to the Group.	Stéphane Dubet	ASAP	Open	
25-02	Provide link to access the ICAO PBN Manual (ICAO Doc. 9613) if in the public domain – otherwise enquire about possibility to distribute it.	Sasho Neshevski	ASAP	Open	
25-03	Prepare a briefing about the activities of PBN SG, and in particular on the ICAO PBN Manual (ICAO Doc. 9613)	Barry Miller Dave Nakamura	ASAP	Closed	Barry Miller informed the group during the meeting
25-04	Elaborate a proposal on how the group can address RNP AR through RNP Data Block	Jeff Meyers, David Baker Erik Ringnes	26th meeting	Open	
25-05	Determine if the group can establish a formal link with the ICAO PBN SG and the IFPP through a member of the Study Group and the Panel	Torsten Domrös	26th meeting	Closed	Scott Blum John Moore
25-06	Prepare a joint presentation on typical issues with State data or procedures.	Torsten Domrös, Martin Zilling David Baker Ralf Sieprath	26th meeting	Open	
25-07	Prepare a draft appendix containing terminology related to PBN procedures, based on the ICAO PBN Manual	Sasho Neshevski	End of June 2016	Open	To clearly indicate the meaning of the various PBN procedures
25-08	Liaise with EASA about latest status of EASA PBN IR	Sasho Neshevski	26th meeting	Open	
25-09	Prepare, in liaison with EUROCONTROL, a draft of the requirements tables, based on the Data Catalogue.	Stéphane Dubet	End of June 2016	Open	
25-10	Prepare draft text on applications - Background / Navigation specifications	Sasho Neshevski	End of June 2016	Open	Include PBN nav specs from Doc. 9613 – e.g. RNP, RNAV, RNP AR, 4D trajectory

<i><b>Action Ref.</b></i>	<i><b>Action</b></i>	<i><b>Responsible</b></i>	<i><b>Due date</b></i>	<i><b>Status</b></i>	<i><b>Comments</b></i>
25-11	Prepare draft text on applications - Flight Management Systems	Scott Roesch Erik Ringnes	End of June 2016	Open	Including Take Off and Landing Performance computation Lateral and vertical guidance Terminal , en-route and approach procedures Flight Planning / Mission planning
25-12	Prepare draft text on applications - Runway safety applications	Jean-Paul Genottin Brian Gilbert	End of June 2016	Open	Including Overrun Awareness and Alerting systems
25-13	Prepare draft text on applications - Navigation Display functions	Brian Gilbert Collin Ogden	End of June 2016	Open	
25-14	Prepare draft text on applications - Landing systems (e.g. GLS, ILS, LPV)	Cedric Cote	End of June 2016	Open	
25-15	Prepare draft text on applications - Flight / Mission Planning Systems	Kevin Carey	End of June 2016	Open	
25-16	Prepare draft text on applications - Simulation	Jens Schulte	End of June 2016	Open	
25-17	Radionavigation / communication systems	Cedric Cote	End of June 2016	Open	
25-18	Draft text on Structure of the document - Prepare propositions for a new structure - Consider structure of e.g. ED99/DO272 - Adoption of requirements identification - Introduction and intended audience - Scope (navigation data)	<b>Steve,</b> Diana, Daniel, Burak, Brian	End of June 2016	Open	
25-19	Draft text on Background and PBN principles (1.1-1.2) including new concepts	<b>Sasho,</b> Jeff M. , Erik, LaDonna	End of June 2016	Open	

<i>Action Ref.</i>	<i>Action</i>	<i>Responsible</i>	<i>Due date</i>	<i>Status</i>	<i>Comments</i>
25-20	Draft text on Rules for navigation data preparation - Geodesy and conventions (2.1.2.-2.1.3) - Calculations (2.2)	Martin, <b>Scott</b> , Sasho	End of June 2016	Open	
25-21	Draft text on Data quality - DQR tables (2.1.4-2.1.6) - Quality management - ref. to DO-200B (2.1.7)	Stéphane, <b>Brad</b> , <b>Jeff M.</b> , Jens, Kim, Steve, LaDonna, Ben, Ralf, Cedric, David, Marc Chenus	End of June 2016	Open	
25-22	Draft text on Procedure encoding - Path terminators (ARINC 424) basics (3.1.3) - Considerations for encoding of procedures in DB (3.1.1, 3.1.2, 3.2 and 3.3) including for new RNP DB	Steve, Erik, Cedric, <b>Kevin</b> , David, Kyle	End of June 2016	Open	
25-23	Draft text on Aeronautical information basics (2.3. - 2.4) (Annex 15, ICAO)	Stéphane, <b>Torsten</b> , Diana, Ralf, Sasho, Martin, Brian	End of June 2016	Open	

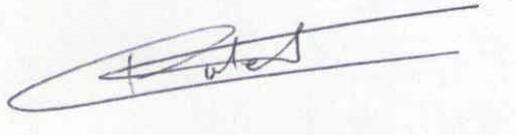
**Certified** as a true and accurate summary of the meeting:



Sasho Neshevski  
Secretary, RTCA SC-217, EUROCAE WG-44



Brian Gilbert  
Chairman, RTCA SC-217



Stéphane Dubet  
Chairman, EUROCAE WG-44