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BROADCAST CAST #19



WG-114: ADOPTION OF
AI IN AERONAUTICAL
SYSTEMS



EUROCAE & RTCA:
60 YEARS WORKING
TOGETHER



EUROCAE SYMPOSIUM
2024 / 24-25 APRIL /
LUCERNE (SWITZERLAND)



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Dear EUROCAE members, partners and friends,

I am proud to present to you this new edition of our EUROCAE Broadcast - the 19th already! - which brings to you a plenitude of news and updates.

The last Broadcast was published as we prepared to celebrate our 60th anniversary during our Symposium held on 26-27 April 2023 at Paris-Le Bourget airport, in the presence of close to 200 distinguished guests at the Air & Space Museum and many more who joined us online. This was a perfect setting to mark this special year and we had many insightful discussions in the panels and networking opportunities. It was great to look back to 60 years of history but also giving all of us a boost to move forward.

Since then, launched 2 new Working Groups: WG-126 "VCS-ATC Systems Integration for ATM Information Exchange" and WG-127 "Lower-risk Aviation Application".

WG-127, as successor of WG-117 SG-1, will be looking to continue the work started there to develop a software assurance standard for lower-risk aviation applications, e.g. for VTOL, UAS, and General Aviation (GA) (read more on page 20).

WG-126 will develop a new communication standard to be used as an interface between ATC and Voice Communication Switching (VCS) systems, so that they can share

flight information (e.g. flight call sign, frequency in use, device being receiving / transmitting, etc.) and present them in a coordinated and comprehensive way to controllers. This will enable integrated sharing of information, combined recording of voice and flight information, greater situational awareness and lower workload of air traffic controllers for ATCOs and many more benefits. A more detailed article is provided on pages 16-17.

We see at the moment many activities that exemplify the link between R&D, innovation and standardisation to facilitate market update of new technologies. As the work in the SESAR projects is maturing, stakeholders recognise the need for and benefits of a common standard, and launch the respective work in EUROCAE. This is a perfect example of the 'innovation pipeline' approach, enabled through the strong cooperation between EUROCAE and the SESAR 3 Joint Undertaking and Deployment Manager.

This was also recognised at the annual SESAR Conference, held on 10 October, which marked the launch of the European ATM Master Plan update campaign, to make Europe the most efficient and environmentally friendly sky to fly in the world. I am very pleased to say that EUROCAE has been invited to join the campaign at various levels and we are actively supporting this work through the different groups. Ultimately, this will be reflected in our Technical Work Programme and enable us to accompany the technological advancements by developing the standards that you as our members need in a timely fashion.

In a similar approach, the TAC and Secretariat are working actively together with EASA to identify the standards needed to support the newly published framework for conformity assessment of ATM/ANS equipment. This will be a major building block going forward and profoundly shape the way of working in the future. More to come, and we will make sure to keep you posted through our various communication channels.

A special focus of activities at the moment is on datalink and future connectivity. As the aviation industry continues to evolve, the significance of efficient and secure communication through data becomes increasingly apparent. The joint EUROCAE/RTCA summit served as a strategic platform for industry players to address the challenges, advancements, and opportunities presented by

datalink technology in modern aviation, taking as a starting point the White Paper published by EASA, FAA, Airbus and Boeing. This led us to organise a joint EUROCAE/RTCA Summit on Aviation Connectivity, held on 25 October 2023 and attended by over 400 professionals (see more on pages 8-9). The outcomes will help us, together with our partner SDOs, to engage in a discussion on standardisation needs, which will certainly be a point of focus for our Technical Advisory Committee (TAC).

Indeed, the TAC has been quite active throughout the last months, with a special focus on the 2024 Technical Work Programme, which was approved by our Council and is available on our website again. I invite you to read through this impressive summary of current activities and expectations for the near future, and provide any feedback you might have.

We have also seen some changes in the TAC membership, with Robin Garrity (SESAR 3 JU, representing the European R&D community) and Sylvain Pouillard, (Safran Electronics & Defense, representing the UAS world) leaving the TAC after several years of great support and dedication – a big Thank You to both of them! Following an open call for applications, the Council has appointed new TAC members and we are welcoming Luca Crecco (SESAR 3 JU (R&D)) and Sergiu Marzac (The Boeing Company (UAS)) to the group.

Our collaboration with RTCA is still very strong. As every year, we are meeting with our colleagues to review all of our joint activities and work programmes and to discuss some subjects of strategic importance to both our organisations. The strong bond between EUROCAE and RTCA was recognised by the Flight Safety Foundation's Richard Teller Crane Founder's Award, commending our accomplishments in establishing the standards on which many of the technical advances in aviation have been built. As we meet in November, we will also bid farewell to Terry McVenes, who has been leading RTCA for the past 5 years. He reflects on his time as RTCA President & CEO on pages 4 - 5, and I wish to extend here our gratitude to Terry for his leadership and support. It has been a great pleasure working with you, Terry, and we look forward to continuing the great spirit of collaboration with his successor.

As you can see, lots of things are happening in EUROCAE, it has been a very busy year. We have seen lots of interest for our activities, have had great discussions and meetings, many trainings and Working Group sessions. A special event of the year is always our Leadership Summit, which is an opportunity to engage and exchange with WG Chairpersons and Secretaries, discuss some common challenges faced and ideas to improve the process and support to standardisation activities. It is also every year a great pleasure to say 'Thank You' to our WG leaders, without whom the work just would not take place.

Another opportunity to celebrate excellence is through our Annual EUROCAE Awards. More than 5000 participants from over 500 member organisations are contributing to EUROCAE. Each one of them is a valuable member of a community of aviation experts dedicated to writing standards with the purpose of making aviation safe and efficient. But there are always some exceptional individuals who go above and beyond their duties. In 2024 again, the Awards Night will be part of our Annual Symposium, which will take place on 24-25 April 2024, in the stunning city of Lucerne, Switzerland. As we look back at more than 60 of history, we will meet at the very place where EUROCAE was founded in 1963, with an exciting programme. We hope to see many of you there!

While writing this editorial, two WG meetings are being held at our facilities in Paris – it is very nice to see EUROCAE experts filling our meeting rooms with their usual spirit and enthusiasm, and developing standards to support our industry. All of you are the essence of EUROCAE!

I hope you find this edition of our Broadcast interesting, enjoy reading!

Anna von Groote
Director General



As sunset starts to dip below the horizon on my time serving as President and CEO of RTCA, I want to take the time to express my deep gratitude to EUROCAE for our longstanding partnership in making the world's skies safe for the traveling public.

As I reflect on our successful collaboration over many years, I cannot help but think of the venerable histories and profound transformations our organizations have experienced, since RTCA was founded in 1935 and EUROCAE was founded in 1963. The beginnings of both our organizations took place during incredibly exciting times in aviation. The skies were vast and wide open. The aircraft in use were faster and more luxurious than anyone had ever seen. All the nations we represent were fascinated by flight and it was an age of innovation. This required oversight and collaboration between our groups, as we were tasked with an especially important job making our aircraft, and every aspect of flight, safe.

We rose to the challenge, and we did it together. From our very first combined Working Groups and Special Committees, through remarkable symposiums, thought-provoking webinars and workshops, as well as continued document publication, we accomplished so much because our members have been thoroughly committed to making airspace throughout the world safe for the flying public and any entity soaring through the skies.

Who then could have imagined skies filled with 100,000 flights taking off and landing safely every day throughout the world, in innovative planes unfathomable 60 years ago?

Or that we would see entries into the aviation ecosystem that could take off and land vertically? Who could have predicted the Advanced Air Mobility options planned for the near future? It is clear that our organizations are needed now more than ever, as we tackle more difficult problems and more complexities, along with more challenging circumstances, when we bring together so many impacted organizations.

As I prepare to turn over the leadership here at RTCA, I want to thank all members of the EUROCAE community. We could not have accomplished what we have without the participation of the very gifted members of both EUROCAE and RTCA and you have my sincere appreciation.

I must express my gratitude to one more person, Anna von Groote. EUROCAE could not have a better Director General and partner on this journey. It was my pleasure to work together with her since my arrival at RTCA 5 years ago. She is professional, hardworking, resolute, and passionate about our shared mission. Anna, thank you for fostering the important relationship between our organizations.

All my best wishes for continued success in the future.

Sincerely,

Terry McVenes
President and CEO of RTCA

EUROCAE and RTCA

60 Years of Working Together

EUROCAE / RTCA collaboration over time:

- ▶ 1963: Collaboration is established with RTCA right after EUROCAE's creation.
- ▶ 1975: First publication of a joint Document RTCA/EUROCAE (ED-14/DO-160).
- ▶ 1996: First recognition by ICAO that existing standards, such as EUROCAE and RTCA MOPS, can be used as a basis for SARPs.
- ▶ 2014: Signature of a Memorandum of Cooperation (MoC) between EUROCAE and RTCA.
- ▶ 2019: Signature of an updated MoC to reinforce cooperation in Washington D.C.
- ▶ 2023: Signature of an updated MoC to reinforce cooperation in Paris.



Signature of a MoC in 2019 in Washington D.C., United States.



Terry McVenes, President and CEO of RTCA and part of its team met the EUROCAE team in December 2022.



RTCA and EUROCAE renewed their commitment of cooperation during the annual EUROCAE Symposium 2023 in Paris, France.



WG-72/SC-216, WG-124/242, and WG-92/SC-214, some of the many EUROCAE and RTCA joint Working Groups in 2023.

Technical Advisory Committee

EUROCAE Council Appoints New TAC Members

The EUROCAE Technical Advisory Committee (TAC) comprises 12 members representing the range of Stakeholders in the development of EUROCAE Standards. The TAC serves a crucial function in EUROCAE. In addition to providing valuable advice to the Council on technical, operational, and, when requested, policy matters, the TAC also offers recommendations on the creation and modification of standardisation activities.

TAC members are appointed by the EUROCAE Council for a 3-year period, and each year, a portion of the TAC members' terms expire, and they may either seek reappointment, or they will retire from their role.

In 2023, the terms for the representatives for Airports, Aircraft Manufacturers, Commercial Aviation, Regulators Research and Development (R&D) and Unmanned Aircraft Systems (UAS) expired. For the first 3, **Roy Posern** (Fraport), **Laurent Azoulai** (Airbus) and **Hette Hoekema** (EASA) were reappointed, and EUROCAE thanks them for their continued commitment to the TAC for another 3 years.

In the case of R&D, Robin Garrity (SESAR 3 JU) did not seek reappointment and we thank Robin for his service to the TAC since 2019. The Council appointed **Luca Crecco** (also from SESAR 3 JU) as the R&D representative. Luca has been with SESAR JU since 2015 as an Airport and ATM system expert, and since December 2022 as Innovation & Market Uptake Officer, with a focus on connecting R&D to deployment and on the acceleration of SESAR solutions market uptake.

Sylvain Pouillard (SAFRAN) representing the UAS sector for over 5 years, also concluded his service to the TAC. Thank you, Sylvain, for your contribution! The Council appointed **Sergiu Marzac** (Boeing) to represent the UAS community. As Boeing's Autonomous Systems Global Regulatory Specialist since May 2022, Sergiu deals with topics including Advance Air Mobility/Innovative Air Mobility (AAM/IAM), UAS, UAS Traffic Management (UTM)/U-Space, and more. Our regular readers will recall Sergiu was, until early 2022, one of the TPM team in the EUROCAE Secretariat.

To recognise the contribution of Robin and Sylvain to their service to the TAC over many years, EUROCAE Director General Anna von Groote presented both with Certificates of Appreciation, together with the EUROCAE President, Guillaume Roger, and TAC Chairperson, Eric Bouchard.

We now welcome Luca and Sergiu to their first TAC meeting, to be held at EUROCAE in Paris in January 2024, and look forward to continue working with all the TAC members in the coming years.



Leadership Summit 2023

Leaders of Different Working Groups Met at EUROCAE to Exchange Opinions

The 2023 edition of the EUROCAE Leadership Summit took place on 9 October 2023 at EUROCAE in Paris. An event aiming at exchanging with the leaders of many of the currently 46 active Working Groups on the latest developments but also on the Secretariat's ongoing enhancements to better support WG activities.

In-person and virtual participants engaged in insightful discussions, fostering collaboration, sharing perspectives, and learning from one another. Each year, the Leadership Summit becomes an invaluable opportunity for WG leaders to connect with their peers and the dedicated EUROCAE Secretariat team.



The discussion steered towards the challenges and best practices in WG management, how to best manage joint activities and how to best interface between groups while staying up to date with other WG's developments.

The meeting ended on a positive note with the commitment of the participants to continuing this fruitful activity next year.

We are delighted to witness a growing community of experts dedicated to shaping EUROCAE standards within this voluntary framework. It's with immense gratitude that we extend our heartfelt thanks to every member for their unwavering commitment and contributions.

Anna von Groote, EUROCAE Director General, opened the business by stressing the key elements defining EUROCAE strategy as a membership organisation, and the growth and ascending evolution over the past years.

Amongst the updates presented, the Secretariat introduced the new processes introduced at EUROCAE, the new communication strategy, the QMS status, while stressing the importance of the increased cooperation and collaboration with the partner organisations and the members' demands for additional standards.

Aviation Summit: Future Connectivity

EUROCAE and RTCA Co-Hosted a Virtual Event Followed by 400 Professionals

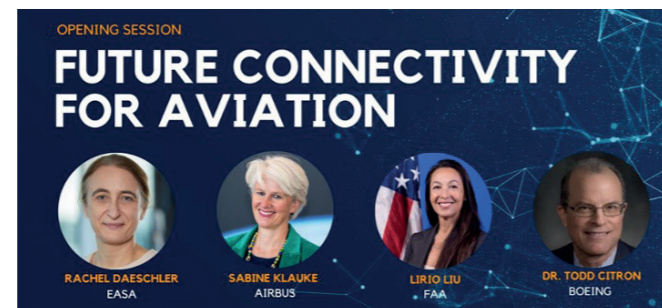
On 25 October, the "Aviation Summit: Future Connectivity" witnessed the participation of hundreds of global attendees, uniting prominent aviation experts and stakeholders to delve into the crucial theme of datalink communication in aviation.

With the aviation sector's ongoing transformation, the importance of streamlined and secure data communication is becoming more evident. The collaborative summit, co-hosted by EUROCAE and RTCA, provided a strategic forum for industry leaders to tackle the issues, progress, and prospects associated with datalink technology in contemporary aviation. The event took as its starting point the White Paper jointly published by EASA, FAA, Airbus, and Boeing.

"The event created an opportunity to hear directly from and collaborate with datalink experts and professionals from around the world to ensure our standards development efforts continually evolve to represent the industry's needs", said Anna von Groote, Director General at EUROCAE. "Standards are just an enabler – but an essential one to move from innovation to implementation, and RTCA/EUROCAE stand ready to support any standardisation activity when the time comes, but this is ultimately a decision of the industry to initiate when ready".

"As the experts have explained during the sessions, many great initiatives have already been started, but much more has to be done. This Aviation Summit helped us to steer our standardisation activities to remain on the forefront of aviation, ensuring up to date, future proof and essential standards contributing to safety in aviation", says Terry McVenes, President and CEO of RTCA.

Summary of sessions:



Opening Session

The European Union Aviation Safety Agency, the Federal Aviation Administration, Airbus and Boeing have launched a joint cooperation initiative to rethink aviation connectivity, defining a blueprint for the modernisation and harmonisation of the aviation data communication landscape by 2035. Their white paper offers a jointly proposed vision for the future aviation connectivity landscape which is based on the combination of aviation specific solutions. All four organisations were represented in the opening session, and demonstrated a shared commitment to ensure that modern air-ground communications will meet tomorrow's requirements. This summit represented an opportunity for the wider aviation community to engage on the ideas brought forward by the white paper.



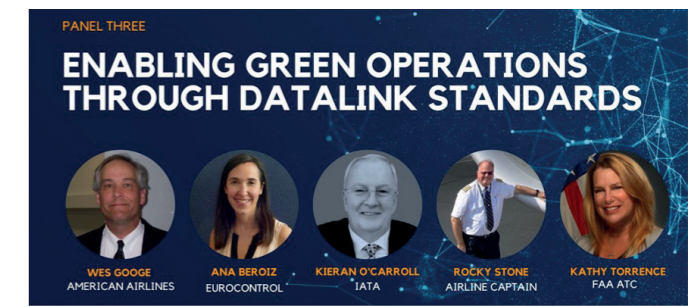
Panel One

After hearing from the authors of a blueprint for the modernisation and harmonisation of the aviation data communication landscape by 2035, we continued the conversation by exploring what comes next after new technologies are initially standardised. Specific to the challenges of having the new datalink standards accepted worldwide, the panel described the plans to validate the requirements in operational settings and identified the challenges ahead. We also learned about the plan for Hyperconnected ATM and its goal to maintain the safety services in a more complex environment.



Panel Two

Datalink connectivity provides opportunities for innovation, and maintaining safety, but a reliance on connectivity may impact security assurance. A system is as secure as its weakest link, so collaboration across the industry is very important. The panel discussed the main risks and issues to be addressed, and emphasised that 'trust' in the connectivity is essential.



Panel Three

The use of data link technology in aviation, specifically Controller Pilot Data Link Communications (CPDLC), has been instrumental in improving sustainability and efficiency. In Europe, the Maastricht Upper Area Control Centre implemented CPDLC 20 years ago and recently upgraded to ATS B2 in 2022, enhancing communication between controllers and aircraft. This has resulted in benefits for air navigation service providers and operators, leading to better air traffic management, improved safety, enhanced flight efficiency, and cost savings. In the United States, the FAA Data Comm programme has deployed CPDLC capabilities at multiple control centers and towers, leading to increased efficiency in the National Airspace System, reduced fuel consumption, and lowered CO2 emissions.

EUROCAE and RTCA will assess the outcomes of these discussions with the aim of contributing to the enhancement of the current standards and guiding future standardisation efforts that will cater to the evolving requirements of future connectivity in aviation. If you weren't available to attend, visit EUROCAE and RTCA on YouTube in December to watch the recordings.

Sustainability // WG-125

Beyond the Skies: Exploring Career Paths by Young Minds

By Antonio González Gómez
(EASA Safety Promotion Officer)

Put the “mojo” back to aviation!

Aviation often captures the dreams of many young people at an early age. With its glare, power to fascinate, and versatility, some young boys and girls choose to devote their vocations later on in their lives to any of the multiple occupations aviation offers through the different paths. There is a whole realm of diverse life choices that attracts young minds in this industry. What makes these young individuals decide to devote their passions and dreams to aviation? Is this becoming a thing of the past? Does aviation have that same allure at all these days? Do we need to bring “mojo” back to aviation?

Aviation is at a crossroads

The current lack of a new workforce aviation is facing presently, coupled with the after-effects of a very tough crisis, brought about by corona, and the vilification of the industry as a polluter, no doubt is a ballast in the success of aviation's innovation plans over the next years. Aviation is not a stranger to crises and has always used them to rethink itself and come back stronger and better. The current technological evolution aviation is fascinating and very much intended to improve its sustainability, with its Electric and Hybrid Aircraft, Autonomous Aircraft, sustainable Supersonic and hypersonic Travel, Advanced Materials, Sustainable Aviation Fuels (SAFs), Urban Air Mobility (UAM), Digitalisation e.g., Blockchain in Aviation, Augmented Reality (AR) and Virtual Reality (VR) not only in training but also in design and maintenance, etc.. It needs to be paired with making the public, passengers, and especially the next generation much more aware of the efforts being made by the aviation community to make aviation genuinely more sustainable. The youth of today is more conscious than ever of the legacy they will need to deal with and are the ultimate judges of how right (...or wrong) we are getting it as an industry in this endeavour!



EUROCAE's actions on the future aviation workforce

A community-wide approach is needed to promote career opportunities within the entire aviation industry and to help portray aviation as a progressive industry seeking to attract, engage, and retain staff. Also, by supporting the improvement of diversity and inclusion across the aviation community.



Community-wide collaboration through EUROCAE Working Group 125

In January of 2023, EUROCAE introduced a fresh initiative, encapsulated under the framework of its sustainability strategic objectives. For the first time, a group would work inspired by ICAO's Next Generation of Aviation Professionals programme (NGAP).

Its members come from a variety of aviation sectors: authorities, professional associations, industry, students, training, universities, etc.

The working group has been split into two subgroups:

- ▶ **Mentoring** - How it can help the workforce, newcomers, staff seeking to progress in their careers, and seasoned employees, in its various manifestations.
- ▶ **Connectors** - Ways to bridge the gap in sharing information between the world of teaching and training and industry when it comes to preparing and communicating needs for skills to enable the future of aviation.

EUROCAE WG-125 objectives

EUROCAE's WG-125 aims to deliver 2 EUROCAE Reports with recommendations and a practical toolbox by early 2024. This could be used by any organisation poised to improve ways for the next generation to find an aviation career worthwhile.

TPM: Esther Hoyas

Space // WG-62

The Evolution of GNSS

WG-62 develops standards for the use of Galileo and other GNSS systems in civil aviation applications.

Jointly with RTCA SC-159, WG-62 establishes common standards for the development of GNSS receivers using Galileo and other GNSS systems. The group works under joint leadership of EUROCAE (Chair Pierre Bouniol, THALES) and RTCA (Co-Chair Dr. Christopher Hegarty, MITRE and Co-Chair Dr. George Ligler).

The group supports the use of the European Geostationary Navigation Overlay Service (EGNOS), Europe's regional satellite-based augmentation system (SBAS) that is used to improve the performance of global navigation satellite systems, such as GPS and Galileo.

Coordination is ensured with other GNSS constellations, e.g., a subgroup is preparing an internal report on the People's Republic of China GNSS, called BeiDou (BDS).

In September 2023, the MOPS resulting from the work of WG62 / SC159 WG2 has been cleared for publication under the EUROCAE reference ED-259A and RTCA reference DO-401.

This document is the avionics standards for GPS/Galileo/SBAS equipment supporting Required Navigation Performance (RNP) En Route and Terminal operations, Departure operations, RNP APCH (approach) down to Localizer Performance with Vertical guidance (LPV) minima and Automatic Dependent Surveillance - Broadcast (ADS-B).



Compared to EUROCAE ED-259, the new revision:

- ▶ Integrates and updates the single frequency (L1) GPS and SBAS requirements of RTCA DO-229F MOPS for Global Positioning System/Satellite-Based Augmentation System Airborne Equipment;
- ▶ Integrates and updates the Class Gamma and Class Delta equipment requirements of RTCA DO-229F MOPS;
- ▶ Provides robustness requirements against jamming and spoofing threats, including radio-frequency interference detection;
- ▶ Defines RNP APCH operations to Localizer Performance without vertical guidance (LP) and LPV minima accounting for the updated Final Approach Segment Data Block (FAS DB) definition;
- ▶ Defines the interference environment;
- ▶ Describes the test procedures.

ED-259A is meant to support validation of airborne requirements for above mentioned operations when using Dual Frequency GPS, Galileo and SBAS signals as defined by International Civil Aviation Organisation (ICAO) Standards and Recommended Practices (SARPs) (Annex 10, Volume I, Amendment 93), as well as the development of Dual-Frequency Multi-Constellation (DFMC) SBAS services.

A future release of the document will provide requirements supporting production approval, typically through a new Technical Standard Order (TSO) or European Technical Standard Order (ETSO). A special "thank you" is given to Denis Bouvet (Thales) who has left the editor's group after having been a leader in the edition of the ED-259 during 6 years.

TPM: Mark Watson



46 Active Working Groups

More than 450 members

5000 experts

Together we are driving the standard for aviation



System Engineering // WG-63

Charting a Safer Sky: WG-63 "Complex Aircraft Systems" and its Contribution on Aviation Safety

Working Group 63 "Complex Aircraft Systems" is concerned with aircraft, systems and equipment having safety implications, throughout aircraft life cycle. The WG-63 objective is to provide industry with guidelines relating to the safety of aircraft, systems and equipment both as part of development and in-service continued airworthiness.

The WG's have the objective to establish common standards that relate to the safety aspects of development and certification and continued airworthiness of aircraft systems, and their in-service continued airworthiness. The current group leadership on the EUROCAE side are Christopher Lacey (AIRBUS) as a chair and Julien Chau (Liebherr Aerospace Toulouse) as secretary.

Part of the work programme is carried out jointly with SAE S-18, and after a long development timeline, the following standards are expected to be published before the end of 2023, to support the needs from the aviation industry worldwide:

- ▶ Guidelines and methods for conducting the safety and assessment process on civil airborne systems and equipment (ED-135/SAE ARP 4761A): to address industry needs with this first version of the standard, in conjunction with the joining revision of SAE ARP 4761.

- ▶ Guidelines for Development of Civil Aircraft and Systems (ED-79B/ARP4754B): to provide processes used to develop civil aircraft and systems. It has been revised to incorporate the following changes comparing with the previous version ED-79A/ARP4754A:

- Harmonisation of ED-79B with ED-135,
- Transfer of the table "Development Assurance Level Assignment to members of a Functional Failure Set" transferred to ED-135.



- Replacement of Validation and Verification tables by clearer descriptions of Validation and Verification methods,
- Clarification of Unintended Behaviour & Derived Requirements,
- Improvement of Section 6: "Modifications to Aircraft or Systems",
- Integration of a contiguous example synchronised with the contiguous example provided in ED-135.

During the second week of September the working group met in Brno (Czech Republic) for Plenary Meeting #90, which was hosted by Honeywell. The three-day meeting was highly fruitful, and the group discussed interesting topics and future activities and coordination with other working groups. A special "thank you" was given to Denis Sauvage (SAFRAN) for the many years of work in the WG-63, who has left for retirement.

TPM: Javier Diana

Air Traffic Management // WG-78

Working on New Standards for Air Traffic Data Communications Services

Working Group 78 develops standards for the exchange of information between an Air Traffic Controller (ATCO) and a Flight Crew using Data Link. These documents are developed in a joint activity with RTCA Special Committee 214.

The groups have developed and published the following standards, amongst others:

- ▶ ED-228/DO-350: Safety and Performance Standard (SPR) for Baseline 2 ATS Data Communication
- ▶ ED-229/DO-351: Interoperability Requirements Standard for Baseline 2 ATS Data Communications
- ▶ ED-230/DO-352: Interoperability Requirements Standard for Baseline 2 ATS Data Communications - FANS 1 A Accommodation
- ▶ ED-231/DO-353: Interoperability Requirements Standard for Baseline 2 ATS Data Communication - ATN Baseline 1 Accommodation

Revision A of these documents was published in 2016.

Initial implementation of these standards on revenue aircraft as well as various validation exercises in the frame of the SESAR and NextGen programs showed the need

for a revision B of the documents. Consequently WG-78/SC-214 were reactivated in 2021 to work on this revision.

Additionally the Common Project 1 (CP1) of the European Commission is mandating the use of data link and created an additional need to work on these documents.

ED-228B/DO-350B and ED-229B/DO-351B were submitted to Open Consultation from 25 March 2023 to 8 May 2023. Following the Comment Resolution the documents were submitted to the EUROCAE Council and the RTCA Program Management Committee (PMC) for approval and subsequently published by EUROCAE and RTCA.

ED-230B/DO-352B and ED-231B/DO-353B were in Open Consultation from 26 August 2023 to 10 October 2023. Following the resolution of comments received, the two standards will also be published by EUROCAE and RTCA before end of the year..

In addition WG-78/SC-214 are tasked to develop a "ATS Data Communications Verification Test Standard". The verification test standard will support the development, acceptance, and certification of aeronautical data link systems. The service/operational level tests will ensure that future ground and aircraft systems implementations certified with an ATN B1, FANS 1/A+ and/or B2 Interop

Designator will exhibit a behavior that is not only complying to the Interoperability Standard but also complying with the operational requirements from the SPR Standards (e.g. requirements on the integration of uplink messages into the FMS).

The development of this standard will commence following the publication of the four documents mentioned above with a publication target date of Q1/2026.

TPM: Alexander Engel



Air Traffic Management // WG-126

New Working Group on VCS-ATC Systems Integration for ATM Information Exchange

ATC Systems and Voice Communication Switching system (VCS) represent the basic combination required for an effective and efficient control of the air traffic assigned to ATCOs. Although these elements are intended to be working together, the one defining the tri-dimensional position and identification of an aircraft in the airspace, the other allowing communication to pilots, there is today no standard describing the interface and integration between them.

Today, Air Traffic Controllers (ATCOs) use air situation displays from the ATC (Air Traffic Control) system to identify and locate the aircraft they are responsible for. For communication purposes, they are given access to a VCS by means of a panel through which they can e.g., select the frequency they intend to use to talk to pilots and initiate/terminate telephone calls to other ATCOs.

Besides aircraft position, the ATC system collects several other information elements through the protocol between aircraft and ground surveillance infrastructure. If made available, such information could be useful for a better usage of the communication infrastructure, allowing rationalisation of radio stations and permitting a punctual selection of the right communication satellite link between ATCO and pilot. Vice versa, the indication/highlighting on the air situation display of the aircraft whose pilot is currently speaking would increase the ATCO situational awareness.

A standard would therefore bridge the ATM and ATC worlds, by integrating and exchanging information that is today available to ATCOs, but on separate systems.

WG-126 will firstly identify and describe the operational scenarios where integration and exchange of information between ATC and VCS systems could be beneficial to ATCOs in an OSED (Operational Services and Environment Definition). This will be followed by the definition of a new interoperability communication standard to be used as an interface between such systems (the INTEROP Standard), so that they can share flight information (e.g., flight call sign, frequency in use, device being receiving / transmitting, etc.) and present them in a coordinated and comprehensive way to controllers.

WG-126 had a very successful Kick-Off meeting on 4 July 2023 at the EUROCAE premises in Saint Denis. During that meeting, Roberto Weger (SITTI) was elected as WG Chairperson. The group also met on 31 August 2023 hosted by Thales in their offices in Rungis. In that meeting Iuliana Lungu (ROMATSA) was confirmed as Working Group Secretary. The third meeting was scheduled for 6 November 2023 hosted by ENAV in Rome.

The deliverables will result in:

- ▶ Integrated sharing of information
- ▶ Greater situational awareness of ATCOs
- ▶ Lower workload for ATCOs
- ▶ Higher safety
- ▶ Combined recording of voice and flight information

Deliverables:

WG-126 will deliver a new vendor-independent standard for ensuring interoperability between ATC and VCS systems, composed of the following documents:



▶ **OSED (Operational Services & Environment Description) – Target Date Q1/2026**

Detailed description of operational scenarios where interaction and information exchange between ATC and VCS systems would be beneficial. An initial very preliminary list of such scenarios is provided further below in this document.

▶ **INTEROP (Interoperability Standard) – Target Date Q1/2026**

Identification of information elements that can be shared between ATC and VCS systems, their formal description and the protocol used for sharing such information.

It shall be noted that the new standard is not aimed at the description of how information elements are obtained by the ATC and/or VCS systems, but rather at the identification of which ones are of mutual interest and how to share them, in terms of their description and exchange protocol.

As an example, when ASR (Automatic Speech Recognition) is mentioned, the new standard will not describe how the Speech-To-Text machine works nor its underlying technology, which is out of the scope of the present working group. What is of interest for the new standard is which information can be made available by ASR and how to model, share and transfer it.

TPM: Alexander Engel

IT & Software // WG-114

Working on the Adoption of AI Technologies in Aeronautical Systems

Working Group 114 Artificial Intelligence, jointly working with SAE G-34, was created in 2019 to accompany the safe, secure, and successful adoption of AI technologies in aeronautical systems. The primary target of this important standard is to provide recommendations for certifying and approving safety-critical aeronautical products that integrate Artificial Intelligence and Machine Learning technologies. The overarching objective is to secure acknowledgment of this standard as an Acceptable Means of Compliance (MoC) by the Relevant Regulatory Bodies.

After four years since the kick-off meeting, the working group led by the co-chairs Christophe Gabreau, Beatrice Pesquet-Popescu (2019 – March 2023) and Fateh KAaakai (March 2023 – now) has made significant progress in the development of this promising standard. They have successfully onboarded the participation of a diverse group of stakeholders, including those involved in both airborne and ground systems. This diversity of perspectives is expected to enhance the widespread adoption of the standard once it is ready for publication in the near future.

By closely aligning WG-114's work with the AI publications of the European Union Aviation Safety Agency (EASA), such as AI Roadmaps 1.0 and 2.0, as well as the first usable guidance levels 1 and 2, EUROCAE WG-114 is making substantial progress as the group advances towards the publications of EUROCAE which have been defined in the Work Programme.

▶ **ED-xxx: Process Standard for Development certification/approval of Aeronautical Products Implementing AI.** This document revises the traditional engineering process workflow (system/sub-system/item) by creating the concept of a Machine Learning (ML) constituent that interfaces both current system and item layers and introducing a new engineering phase called the Machine Learning Development Lifecycle of the ML Constituent. It establishes industrial best practices for the development and certification of AI embedded into aerial vehicles and ground equipment.

▶ **ER-27: Taxonomy.** This document aims to provide definitions for commonly used terms in the discussion of artificial intelligence applications and present a classification of artificial intelligence techniques that will be discussed within other products in the work of WG-114. It is expected to be published in Q4/2023.

▶ **ER-22: Artificial Intelligence in Aeronautical Systems: statement of concerns** was the first published EUROCAE Report by WG-114 in 2021. An assessment was conducted on existing standards, and a gap analysis was undertaken to comprehend the limitations and reasons preventing the aeronautical application of current standards to safety-critical aeronautical products incorporating Artificial Intelligence and Machine Learning technologies.

▶ **ER-xxx: Use Cases consideration:** This future publication is to capture suggested use cases derived from the potential incorporation of machine learning technologies in certifiable/approved aeronautical systems in order to illustrate the concerns outlined by ER-022. It will be published in the same period as ED-xxx, Q4/2024.

The principle technical standard (ED-xxx) is closer to the Open Consultation, which represents an important step in its development. This phase will provide an opportunity for a wide range of stakeholders, both within and beyond the aviation industry, to contribute their ideas and feedback. It underscores the working group's commitment to ensuring that the standard is robust, widely applicable, and capable of meeting the evolving demands of Artificial Intelligence and Machine Learning technologies in the aviation industry.

TPM: Thuc Nguyen



IT & Software // WG-117

Navigating the Transformation: EUROCAE's Evolution from FAS to WG-117/SC-240 in Aviation Software

In 2019, the Forum on Aeronautical Software (FAS) Ad Hoc Unmanned Aircraft System (UAS) report recognised the necessity for additional guidance in three critical areas: Commercial off-the-shelf (COTS), Open Source, and Service History. This guidance was deemed essential for all users of ED-12C (DO-178C) in the aviation sector. While these guidelines have broad applicability within aviation software, their particular value shines for stakeholders who are primarily involved in lower-risk application development. As a response to this imperative, the EUROCAE Council gave its approval for the establishment of WG-117 in February 2020.

After a remarkable four-year journey since its kick-off meeting, the EUROCAE Council and RTCA PMC embarked on a visionary transformation, entailing the migration of the FAS into the structured framework of WG-117/SC-240. In essence, this transition reflects a strategic evolution that seeks to adapt to the changing dynamics of the aviation software landscape, ensuring that the industry benefits from a robust, structured approach while preserving the distinctive qualities that have made the FAS group a valuable resource over the years.

Following this significant transition, one of the primary tasks is to develop an EUROCAE Report, which will serve as a guiding document encompassing an exploration of how future deliverables, such as revised or novel documents, are envisioned to be applied within the regulatory framework.

Simultaneously with this transition, WG-117/SC-240 also consensually determined that the scope of Service History will be presented as a distinct EUROCAE Report. Under this arrangement, all deliverables are consolidated and summarised as follows

▶ **ED-xxx Incorporation of Commercial Off Shelf Software and/or Open-Source Software, Supplement to ED-12C/DO-178C and /ED-109A/DO-278A**

▶ **ED-xxxA (revision A to the first publication) Incorporation of Commercial Off Shelf Software and/or Open-Source Software, Supplement to ED-12C/DO-178C and /ED-109A/DO-278A**

▶ **(New) ER-xxx Report on Product Service History**

▶ **(New) ER-xxx Report on plans for deliverables and future work for the development of aviation software standards.**

The principle ongoing process standard (ED-xxx) is expected to function as an additional consideration for manufacturers of software for any system to integrate and use COTS and, Open Source and Service history following the ED/DO documents referenced below. This release will address the supplementation of ED-12C/DO-178C for Software Level C and Software Level D, and ED-109A/DO-278A for Assurance Level (AL) 3, AL4 and AL5 for COTS and Open Source, while its revision (ED-xxxA) will incorporate the full scope for all Software levels.

In a momentous decision, the EUROCAE Council and RTCA PMC have also opted for a strategic name change, transforming the group from its previous title Topic on Software Advancements into the emblematic title of Standards for Aviation Software. This bold move not only underscores the group's dynamic essence but also highlights its pioneering contributions in shaping the future of aviation software standards.

We want to give a special thank to all FAS members for their work and important contributions during all these years, and we are proud to continue collaborating together in the WG.

TPM: Thuc Nguyen



IT & Software // WG-127

Innovating Aviation Software: Inside the Inaugural Journey of the New WG-127

In the context of the European aviation landscape, there is a demand for streamlined guidance to have a simplified software development of lower-risk software development dedicated to UAS, VTOL, General Aviation (GA) and UAS Traffic Management (UTM). This requirement is particularly pertinent when it comes to medium-risk UAS operations falling under categories SAIL III and IV.



In early July 2023, the newly established WG-127 Lower-risk Aviation Applications held its kick-off meeting which served as a forum for bringing together VTOL, UAS, and GA developers, alongside experts

in software development processes and regulatory authorities. The primary aim of this gathering was to outline a strategic plan for the establishment of this standard. Notably, this initiative is under the leadership of Co-chairs Umut Durak from the German Aerospace Center (DLR) and Kurt Schueler from Garmin, with Stephan Helsing from Rolls-Royce Helicopter serving as the Secretary.

WG-127 maintains a strong and cooperative working relationship with the European regulator to attend to any extra stipulations, ongoing evaluation of the performance criteria for the lower-risk standard, and swift implementation of revisions or improvements to address evolving challenges or shifting regulatory priorities.

The working group aims to establish a process standard "ED-xxx Software Considerations in Low-Risk Applications, Equipment Certifications, and Approvals", which will provide a comprehensive and robust framework for the minimum required development process and verification boundaries within the context of regulatory certification.

The group met for their first face-to-face meeting from 5-8 September at the German Aerospace Center (DLR) in Braunschweig, Germany. WG-127 met several times

virtually prior to the plenary meeting and set the goal of defining strategic use cases for a development assurance standard for lower-risk aviation applications, a concept map of the contents of such a standard, and a more detailed work schedule for the resulting document.

As a result, a comprehensive work plan has been meticulously established. During the plenary meeting, a wealth of practical use cases emerged, spanning GA, medium-risk UAS Operations (specifically, SAIL III and IV), and UTM services tailored for medium-risk operations. Attendees engaged in an enlightening exchange of insights, quickly realising the imperative of adaptability within the impending standard. These use cases played a pivotal role in defining the diverse risk levels, technologies, and certification constraints that WG-127 is set to address with its pioneering development assurance standard, tailored precisely to lower-risk aviation applications.

Particularly, four risk levels and corresponding assurance levels have been identified spanning from a level below Design Assurance Level (DAL) D to a level equivalent to DAL C. The use cases also identified model-based code generation, Machine Learning developed assistive functions, multicore and hypervisor, Off-the-Shelf software, and off-board software as technologies to be addressed by the new standard.

A successful first face-to-face meeting of WG-127 has resulted in an ambitious set of goals for a new software development assurance standard for lower-risk aviation applications. This new standard is intended to be applicable and accepted across a range of aviation applications-General Aviation fixed-wing and helicopters, medium-risk UAS applications, and UTM. It will provide essential industry guidelines and performance criteria to ensure the seamless integration of safety, reliability, and compliance for lower-risk applications, all with the overarching goal of attaining recognition of the standard as a certified Means of Compliance.

WG-127 encourages additional participants as the real work begins.

TPM: Thuc Nguyen

Celebrating Excellence: The Annual EUROCAE Awards

The development of aviation standards by EUROCAE is the work of volunteers. Each expert contributing to the Working Group activities usually does this on top of the day-to-day activities in their respective company/organisation. At EUROCAE we are very aware of this and appreciate the dedication of these 5.000 experts.

While each individual contribution is valuable in itself, there are always those Working Group Members who "go the extra mile", who take on additional tasks or contribute in an exceptional way. It is those Members who we want to acknowledge each year with the EUROCAE Awards. Also in 2024.

The 2024 EUROCAE Awards is addressed to all registered experts of EUROCAE who are asked to identify to the Secretariat that person who excelled in their Working Group. Because in particular the Working Group Members know who should be recognised.

After the nomination period has been finished, the nominations will be reviewed by the Award Selection Committee composed of members of the governance structure of EUROCAE: a member of the Council, a member of the Technical Advisory Committee (TAC), and a member of the Secretariat. For the Global Harmonisation Award they are joined by a member of RTCA or SAE with which EUROCAE performs joint activities.

The Awards will be presented during the Gala Dinner in the scope of the EUROCAE Symposium which in 2024 will be held in Lucerne (Switzerland).

Here are the categories of Awards:

▶ **Lifetime Achievement Award**

This Award is presented to a member who has shown dedication to EUROCAE and Standardisation over an extended period of time and potentially in multiple roles.

▶ **Working Group Leadership Award**

Each Chairperson of a EUROCAE Working Group deserves recognition. There are, however, those Chairpersons who show Leadership in a special and outstanding way. These Chairpersons are recognised with the WG Leadership Award.

▶ **Global Harmonisation Award**

To a member of a Working Group developing standards jointly with RTCA or SAE.

▶ **International Award**

This Award recognises a non-European Member of a EUROCAE-only Working Group.

▶ **Best Contribution Award**

It goes to a Working Group Member who has contributed to the activity of the group in a special way.

▶ **Women in Aviation Award**

Recognises the contribution of female members of EUROCAE Working Groups.

Submit your nomination here:



Collaborative Synergy:

EUROCAE's Role in ICAO's Aviation Advancements

ICAO Integrated Communication, Navigation, Surveillance and Spectrum (ICNSS) Task Force.

EUROCAE contributes to the work of ICAO across a number of areas, either through the participation of Secretariat staff, or potentially through Working Group leaders or participants representing EUROCAE, either exclusively, or in conjunction with their primary roles.



Elkhan Nahmadov, Deputy Regional Director ICAO EUR/NAT, at EUROCAE Symposium 2023.

The first Memorandum of Understanding between EUROCAE and ICAO was signed in 2009 and was updated in 2017. The current version provides for exchange of documentation and information as well as for cross-participation in relevant panels and working groups. EUROCAE is recognised by ICAO as a 'non-governmental organisation'.

ICAO activities are aligned with our European partners via several coordination groups as well as with the other SDOs (RTCA, SAE, AEEC) as necessary.

The EUROCAE Director General, Anna von Groote is an active contributor to the Global Air Navigation Plan (GANP) Study Group, and through this ensures the EUROCAE Technical Work Programme is aligned with the service and technology developments foreshadowed in the GANP and the related Aviation System Block Upgrade (ASBU) amendments.



Anna is also a member of the Standards Round Table, which supports information sharing between partners in the standards development process and assures the role of EUROCAE and other standards making organisations in the ICAO processes, staying ahead of emerging requirements.

Some of the EUROCAE Technical Programme Managers (TPMs) are also participating in selected ICAO Panels and other groups, particularly where standardisation, to support the ICAO Standards and Recommended Practices (SARPs), is a specific topic of interest. In this regard, we have TPMs representing EUROCAE in the Frequency Spectrum Management Panel (FSMP), Cybersecurity Panel (CYSECP), RPAS Panel, the Advanced Air Mobility (AAM) Study Group, and the Integrated CNS and Spectrum Task Force (ICNSS-TF).

Many of the standards produced by EUROCAE are currently referenced by ICAO as 'Notes' within the Annexes, Documents or Manuals, however there is work underway that may see our EDs, and other documents produced by other standards making organisations, given more prominence in the ICAO standards framework. EUROCAE looks forward to these changes and is actively supporting the development of this revised framework. Our contributions are coordinated with our European partners as appropriate.

EUROCAE participates at the EASA Annual Conference 2023 – Seville

The theme of the EASA Annual Conference 2023 was: "Leveraging innovation for safe and sustainable air travel". The year 2023 is an exciting year for aviation. European citizens are travelling by air at a rate close to pre-pandemic times, the industry is deploying innovations at an unprecedented rate, while the EU has passed a range of new regulations to become the first carbon neutral continent by 2050.

The 2023 edition of the EASA Annual Safety Conference looked at the most important hotspots of innovation and discussed the key safety challenges. How do we make sure that aviation remains the safest way to travel and at the same time accelerate aviation's path to Net Zero?

Mark Watson, EUROCAE Technical Programme Manager, joined a panel discussing how (safety) regulation, and the development of the supporting standards, will have to evolve to match the speed of technology innovation. Panellists from DG MOVE, CAA Norway, SESAR3 JU and Deutsche Lufthansa exchanged views on the importance of adopting agile approaches and anticipating standardisation needs early in the R&D phases and through EASA roadmaps to accelerate innovation, whilst ensuring aeronautical industry has the competences to support the use of innovative technologies in collaboration with new entrants industries. The need for open, transparent and consensus-based standards in support of global innovation efforts were clearly recognised.



Mark Watson, Technical Programme Manager at EUROCAE, joined the panel "Innovating regulations: What's needed?"

Promoting our Working Groups on sustainability at the EASN Conference 2023

The EASN Association and the University of Salerno organised the 13th EASN International Conference on "Innovation in Aviation & Space for opening New Horizons" which took place in Salerno, Italy from the 5 until the 8 of September 2023. The conference included several Plenary Talks by distinguished personalities of the European Aviation and Space sectors from the academia, industry, research community, and policymakers.

Esther Hoyas, EUROCAE's Technical Programme Manager, had the opportunity to contribute as a speaker in "Certification aspects in Clean Aviation" panel, in which she was pleased to present EUROCAE's role in facilitating the deployment of disruptive technologies through the publication of industry consensus standards. As a consolidated bridge between research and the market, standards increase probabilities of market uptake of technological innovations.

Moreover, she mentioned the importance to keep supporting and contributing to CONCERTO project in different Work Packages by linking findings to existing and future standardisation work, providing the bridge between industry and regulation, and to support the creation of digital standards able to be integrated into machine readable formats. Overall, EUROCAE will continue collaborating with R&D projects that ensure that our standards are not only cutting-edge, but also high-quality, safe and sustainable.

EUROCAE

New members

FULL MEMBERS:

ALTEN	United Kingdom	
Beyond Aero	France	
China Academy of Civil Aviation Science and Technology	China	
Datawind Consulting	Canada	
General Directorate of State Airports Authority (DHMI)	Turkey	
DUALEAP	France	
Easat Radar Systems	United Kingdom	
Jetvision	Germany	
Magna Steyr Fahrzeugtechnik	Austria	
Nilacandi	Belgium	
Turbulence Solutions	Austria	
UrbanV	Italy	
US SARSAT Program	United States	
VERTAXI	China	
1090MHz Solutions	United Kingdom	

LIMITED MEMBERS:

Aciturri Engineering	Spain	
Continental Engineering Services	United Kingdom	
DENSO Automotive	Germany	
NCC Group	United Kingdom	

EUROCAE

Membership benefits

AS FULL MEMBER OF EUROCAE,
YOUR COMPANY WOULD RECEIVE:

- ▶ Privileged access to all the EUROCAE publications (ED an ER) relevant to your business today (ATM, Systems, Avionics).
- ▶ Regular information keeping you up to date with all the activities in standardisation from Europe and beyond.
- ▶ An invitation to and special rates for the EUROCAE Annual Symposium as well as information from other regional and global players in aviation.
- ▶ Special rates in EUROCAE trainings

AS FULL MEMBER OF EUROCAE,
YOUR COMPANY COULD CONTRIBUTE TO:

- ▶ The work that leads to the introduction of new industry standards.
- ▶ The planning for new activities, potentially leading to new standards.
- ▶ The future direction of industry standards.
- ▶ The leadership of new activities under the EUROCAE banner.
- ▶ The governance of EUROCAE and be elected as Council member.

AS FULL MEMBER OF EUROCAE,
YOUR COMPANY IS PART OF:

- ▶ The only European aviation standardisation body representing your interests and supporting you business opportunities today and tomorrow.
- ▶ Developing the Means of Compliance with European and global regulations.
- ▶ A network of partners - private and public - that are the key actors of future aviation changes
- ▶ A trusted group of professionals with a global reputation for setting the standard and leading developments, rather than following and living with the decisions of others.

AS FULL MEMBER OF EUROCAE,
YOUR COMPANY WOULD BENEFIT BY:

- ▶ Having a clear understanding of the context behind relevant standards and the knowledge to exploit them to best effect.
- ▶ Being able to adjust and adapt your company's investments and developments early with well-informed knowledge of the latest trends.
- ▶ Achieving significant influence within the industry.
- ▶ Maintaining a reputation with my customers and suppliers as a leader in my field.
- ▶ Being better prepared to respond to customer's and regulator's expectations.
- ▶ Establishing a value for money investment both for now and for the future.

LIMITED MEMBERSHIP

Limited Membership may interest companies or organisations wishing to participate in a single Working Group. They are not entitled to be WG Chairperson or Secretary (except upon decision from the Council or the Director General). Limited Members are informed about ongoing activities of the specific WG, in which they participate, and benefit from free soft copies of any EUROCAE Document developed by this particular WG. They also benefit from 30% discount for the purchase of any EDs of the EUROCAE catalogue, and special rates in EUROCAE Trainings or Annual Symposium.

Overview & Dates

Trainings

EUROCAE provides a high-quality portfolio of aviation trainings based on our published standards. Our courses are tailored for aviation professionals across the globe. It aims to acquaint trainees with EUROCAE standards, which are drafted in response to industry demand for a consistent practice and aims to provide a harmonised approach in demonstrating compliance to new aviation rules.

Voice over Internet Protocol (VoIP)

With this course, trainees will obtain sufficient knowledge and a comprehensive view of the different components of a VoIP ATM system and their mutual interfaces through a full overview of the worldwide recognised standards:

- ▶ ED-136 'VoIP ATM System Operational and Technical Requirement',
- ▶ ED-137 'Interoperability Standard for VoIP ATM Components – Radio & Telephone', and
- ▶ ED-138 'Network requirements and performances for VoIP Air Traffic Management'.

Next dates:

- 10-11 April 2024 (Online)
- 23-24 October 2024 (Paris)

Unmanned Aircraft Systems Airworthiness and Safety

The course covers the entire subject of UAS Airworthiness Certification (in EASA terminology, specific, and certified categories). Participants obtain an overall understanding of the field and a detailed knowledge on areas such as the safety assessment process and operational risk assessment. Trainees will be able to identify risks related to UAS operations and prepare inputs for risk assessments, in line with Specific Operations Risk Assessment (SORA) methodology.

Next dates:

- 27-29 February 2024 (Online)
- 18-20 June 2024 (Paris)

How to book trainings:



Places are limited, so interested persons are advised to book a spot as soon as possible using the registration forms that are available scanning this QR code:

For further information or requests, please contact us at trainings@eurocae.net.

Cyber Security Management for Aviation Organisations

Key objectives of this training course are to create awareness in aviation cybersecurity guide participants through the relevant regulatory and standards landscape and Support compliance to and application of those with hands-on exercises. EUROCAE Documents: ED-201A, ED-202A, ED-203A, ED-204A, ED-205A and ED-206.

Aircraft Cyber Security and Continuing Airworthiness

To address the demand of the industry for a consistent practice of security by design for aircraft and to have a harmonised approach in demonstrating compliance to the new aviation cybersecurity rules, EUROCAE WG-72 has developed three standards: ED-202A, ED-203A and ED-204A.

Aviation Software Standards - Airborne

EUROCAE ED-12C (equivalent to RTCA DO-178C) has been the basis for airworthiness approvals of airborne software since almost 30 years and is recognised by all certification authorities. Knowledge of this standard is a prerequisite for any person involved in the development or approval of airborne software. The objective of the course is to provide the basics to understand ED-12C principles and how to build a software design system capable of fulfilling ED-12C's objectives. The course also addresses tool qualification (ED-215) and introduces the technological supplements (ED-216, ED-217, ED-218).

Next dates:

- 2-3 April 2024 (Online)
- 16-17 October 2024 (Paris)

Design Assurance Guidance for Airborne Electronic Hardware

EUROCAE ED-80 (technically equivalent to RTCA DO-254) is the standard applicable to the qualification of electronic hardware in airborne systems, and especially to complex electronic hardware (namely ASICs and FPGAs). The purpose of the training is to enable participants to understand ED-80 and how it is used and complemented by major certification authorities.

Next dates:

- 15-16 May 2024 (Online)
- 13-14 November 2024 (Paris)

Aviation Software Standards - ATM

The purpose of this training is to provide participants with an overview of relevant EUROCAE standards for systems and software development for ATM systems (ED-109A and ED-153). This course allows participants to identify basic principles, their implementation, and consequences of good software engineering practices in the aviation domain. Furthermore, a detailed description of how software safety regulations, standards, and certification affect different actors in aviation is provided, which allows participants to understand how standards can enable the effective management of software development costs in safety critical systems.

Next dates:

- 27-28 March 2024 (Paris)
- 12-13 June 2024 (Online)

Cockpit Voice Recorder (CVR)

EUROCAE ED-112A MOPS for Crash Protected Airborne Recorder Systems is the standard applicable to the design / qualification of airborne crash recorders (CVR and DFDR) and are the AMC identified in AIR-OPS regulation. The purpose of the training is to enable participants to understand ED-112A application in the frame of CVR inspection.

Next dates:

- 13-13 March 2024 (Paris)
- 29-30 May 2024 (Paris)



EUROCAE New publications

EUROCAE Documents (ED) are developed by Working Groups bringing together renowned experts in their area, and following a well-established process.

They are often developed jointly with our international partners and recognised worldwide for their high quality and as state of the art technical specifications. These EDs can be system or equipment performance specifications, safety and performance requirements, interoperability requirements, technical specifications or guidance material. Some documents are dedicated to the airborne side, others to the ground side (mainly CNS and ATM),

while others cover common air and ground requirements.

EDs are widely referenced as a Means of Compliance to regulatory documents by EASA, the European Commission, and ICAO.

All documents are available in our eShop. Please scan this QR code:



ED reference	ED TITLE	PUBLICATION DATE
ED-129C	Technical Specification for a 1090 MHz Extended Squitter ADS-B Surveillance System	19/10/2023
ED-315	MASPS on ATN-IPS end-to-end interoperability and certification	26/09/2023
ED-229B	Interoperability Requirements Standard for Baseline 2 ATS Data Communications	20/09/2023
ED-259A	Minimum Operational Performance Standard for Dual-Frequency Multi-Constellation Satellite-Based Augmentation System Airborne Equipment	20/09/2023
ED-112B	Minimum Operational Performance Standard for Crash Protected Airborne Recorder Systems	28/08/2023
ED-317	Guidance Document for Aeromedical Transport of Patients with Highly Infectious Diseases (HID)	27/08/2023
ED-313	Operational Services and Environment Definition for Detect and Avoid [Traffic] in Class A-G Airspaces under IFR	15/08/2023
ED-240B	"Minimum Aviation System Performance Standard for Remote Tower Optical Systems	31/07/2023
ED-89A Change 1	Data-Link Application System Document (DLASD) for the "ATIS" Data-Link Service	20/07/2023
ED-256A	Minimum Operational Performance Standards for Airborne Collision Avoidance System X (ACAS X) (ACAS XA AND ACAS XO)	26/06/2023
ED-312	Guidance on Determining Failure Modes in Lithium-Ion Cells for eVTOL Applications	22/05/2023

If you have any questions about the process, check out our series of "How to" videos on our YouTube channel (@EUROCAE).



Season's Greetings from EUROCAE!

As the year draws to a close, we find ourselves reflecting on the remarkable journey we've embarked upon in the aviation industry. It has been a year filled with innovation, collaboration, and unwavering dedication to advancing aviation standards. With your support and contributions, we have achieved significant milestones and made great strides in ensuring the safety, efficiency, and sustainability of aviation worldwide.

As we celebrate the holiday season and look forward to the opportunities that the coming year will bring, we extend our warmest wishes to you and your loved ones.

May this festive season be filled with joy, peace, and prosperity.

Thank you for being part of the EUROCAE community. Your commitment and enthusiasm are what make our industry thrive, and we are excited to continue this journey together in the year ahead.

Merry Christmas and a Prosperous New Year!

Have you enjoyed our Broadcast? Help Us Answering This Survey!

Dear readers,

We value your opinions and are always striving to improve our publications to better meet your needs and interests. As part of our ongoing efforts to enhance your experience, we have created a survey to gather your feedback.

We would greatly appreciate it if you could take a few seconds to complete the survey. Your feedback will be invaluable to us in making improvements to our publications.

Many thanks,

EUROCAE Communication Team



LUCERNE, SWITZERLAND - 24 & 25 APRIL 2024

EUROCAE SYMPOSIUM & 61st GENERAL ASSEMBLY



EUROCAE

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