EUROCAE

The European Organisation for Civil Aviation Equipment

L'Organisation Européenne pour l'Equipement de l'Aviation Civile

EUROCAE
Broadcast

NEWS
EUROCAE Working Group
Award 2015

EVENT
Symposium & 52nd General
Assembly

TRAINING
Official 2015 training dates

CONTENTS

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EUROCAE

Dear EUROCAE members, friends of EUROCAE and readers of our Broadcast, it is my honor to welcome you to the second edition of our "Broadcast", the EUROCAE magazine.

We want to thank you for the positive feedback we got after we published the first edition of our new magazine. All 500 printed versions of the magazine were gone very quickly, so we increased the printing to 1000 copies for this edition and for sure keeping the electronic version publicly available online at our website under www.eurocae.net.

We are just back from a successful Symposium in Rome, where experts discussed the strategic role of standards in the aviation industry, see more details inside the Broadcast.

This debate on an expert level together with the outcomes of the High Level Meeting, which took place last November in Brussels, has completed the bigger picture on the standardisation strategy of EUROCAE and our role in Europe and globally. EUROCAE's role in developing standards is growing and changing at the same time. EUROCAE has a key function in the European aviation structure and a clear mandate in the global framework. Regulators repeated how they are moving from prescriptive to more performance-based regulations in Europe and globally, and calling the standard-developing organisations to fulfil their obligations more than ever in providing the "how" to comply with performance based regulations.

EUROCAE has a key function in the European aviation structure and a clear mandate in the global framework.

The 52nd General Assembly, which also took place during the Symposium, agreed to task the Council and the Secretariat to review the current structure and come back next year with recommendations on how to adapt to the changing environment and the needs of our members and stakeholders.

Let me at this point thank the entire EUROCAE staff for their excellent work and effort in preparing and conducting the Symposium and General Assembly 2015 and at the same time keeping the day to day business running without any interruption. All this is done with only five fulltime and two part time employees, but we hope we are able to expand the size of the team in the near future to better serve our members and stakeholders in the technical and administrative area.

In this respect, I´m very happy to welcome Olga Chondronikoli, new staff member at EUROCAE, in strengthening the team as Technical Programme Manager. You will find more information about her background and her assigned duties at EUROCAE inside this edition.

Just recently we had to say good bye to Mathilde Chretien, she had a timely limited position at EUROCAE, helping us to set-up and renew our Human Resources structure. After nearly one and a half years at the office in Malakoff she was already part of the team contributed a lot to the team spirit with her fresh, positive and young mindset and actively put her hands on in whatever was needed. We will miss her smiling face and want to thank her for her contributions and achievements.

On March 4, the ICAO Council recognized EUROCAE as an international organisation. In addition to a closer and more formalized working arrangement with this specialized UN organisation, the recognition also allows EUROCAE to be invited and nominate members to ICAO Panels, which is further strengthening the working relation with ICAO.

We took this opportunity and nominated Dewar Donnithorne-Tait, Chairperson of WG 73, as full member at the Remotely Piloted Aircraft Systems Panel RPASP, which was approved by the ICAO Air Navigation Commission on May 14. Mr.Donnithorne-Tait is the first full member at an ICAO panel, nominated by a Standard Developing Organisation SDO.

The Council approved the establishment of WG-101 to develop standards for "Runway Overrun Awareness and Alerting System (ROAAS)". A call for nomination is published and we are waiting for nominations. Runway Safety is the main cause of accidents according to the Global Aviation Safety Plan. ROAAS will contribute to reduce runway excursions, the same way as Ground Proximity Warning System (GPWS) did for Controlled Flight Into Terrain (CFIT), or Airborne Collision Avoidance System (ACAS) for mid-air collisions. EUROCAE will therefore contribute significantly to further enhance Safety in aviation.

With this I leave you with our second edition of the Broadcast, enjoy reading, as usual we are interested in your feedback and input, you will find all our contact details in the magazine.

Christian SCHLEIFER-HEINGÄRTNER

Secretary General

EUROCAE chairs the European ATM Standardisation Coordination Group (EASCG)

On the initiative of the European Commission, the EASCG, a joint advisory group was established to coordinate the European ATM-related standardisation activities, essentially stemming from the European ATM Master Plan, in support of Single European Sky SES implementation. The EASCG, according to its Terms of Reference (ToR), will develop, monitor and maintain an overarching European ATM standardisation rolling development plan, based on the standardisation roadmap from the SESAR framework with additional inputs from the EASCG members (including military) and from other key actors in aviation as needed. These tasks shall include the maintenance and updates of the Pilot Common Project (PCP) "indicative roadmap with respect to standardisation and regulation". Furthermore the group will facilitate the sharing of work among the Standards Developing Organisations (SDOs), thus avoiding the risk of overlapping developments and gaps. All relevant standards development activities will be monitored to identify as early as possible resource difficulties, risks and other issues related to the standards development. The EASCG will provide a forum to manage specific standardisation topics and provide a platform for finding consensus between the contributing organisations and advise the European Commission on standards development matters.

The main deliverable of the EASCG will be the **European ATM Standardisation Rolling Development Plan.** This rolling development plan will be regularly updated to reflect the evolution of the relevant activities.

It will also provide a method for the identification of overlapping activities, gaps, and as a basis for feedback to contributing organisations, to improve overall coordination of standards development. The process will identify other inputs from sources, such as the ICAO GANP and ASBUs into the European ATM Standardisation Rolling Development Plan.

The membership of the EASCG is composed of European Commission (DG MOVE), EASA, EUROCAE, EUROCONTROL, ESOs and SJU. SESAR Deployment Manager, EDA and ASD participate as observers.

The first two meetings of the European ATM Standardisation Coordination Group took place in January, and April this year and were focusing on the ToRs and the work program, as summarized above.

The main deliverable of the EASCG will be the European ATM Standardisation Rolling Development Plan.

The EASCG is currently reviewing and updating the PCP "Indicative roadmap with respect to standardisation and regulation". This activity is expected to be completed in June and will be delivered to the European Commission for publication. After this the EASCG will develop the European ATM Standardisation Rolling Development Plan. The next EASCG meeting is already scheduled for September.

EUROCAE appoints new Technical Programme Manager

We are very happy to announce that Olga CHONDRONIKOLI joined the EUROCAE Secretariat team in April 2015 as a Technical Programme Manager, with responsibility for supporting the execution of the EUROCAE technical work programme.

Olga holds a Master's degree in Environmental and Social Psychology from Sorbonne University René Descartes, Paris V Academy and a BA in Corporate Communication and Brand Marketing from ISCOM of Toulouse.

Before joining EUROCAE, Olga held the positions of Head of Cabin Training at Airbus Group, International Purser at United Airlines and Flight Attendant at Saudi Arabian Airlines. In these roles she had responsibilities in customer training, support and services, training policy

and development, project and people management, on a worldwide basis.

As a Technical Programme Manager, a key aspect of Olga's role is to foster and maintain working relationships with all stakeholders in order to facilitate and manage the efficiency and effectiveness of EUROCAE's standards making process.

Once again, a warm welcome among to the EUROCAE team.

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EUROCAE Working Group Award 2015

Each year, EUROCAE presents an award to a Working Group member as recognition for outstanding achievements in the scope of the Working Group activities. In this process all Working Group members are requested to submit proposals for suitable candidates. These nominations – including proper justification – are screened by a small team consisting of a member of the EUROCAE Council, the EUROCAE TAC (Technical Advisory Committee) and the EUROCAE Secretariat.

During the 2015 EUROCAE Symposium this year's award was presented to Laurent Azoulai, member of EUROCAE Working Group 62 (GALILEO) which he joined in 2006.

Laurent AZOULAI receives his award from EUROCAE, Secretary General, Christian SCHLEIFER-HEINGÄRTNER.

Laurent Azoulai for many years has been deeply involved in Aviation Standardisation Activities where he represents Airbus and the Industry at ICAO, RTCA and EUROCAE Working Groups dealing with Navigation, GNSS, GBAS, Multi-Constellation Receivers for which he leads the Multi-Constellation Ad-hoc group at EUROCAE WG-62 and SBAS for which he is co-chairman of RTCA SC-159 WG-2 SBAS.

Laurent Azoulai has held the position of GNSS (Satellite Navigation) - Landing Systems Technical Expert within Airbus since January 2010, where he supports and

This year's award was presented to Laurent AZOULAI, member of EUROCAE Working 62 (GALILEO).

advises Management, Programmes and Design Office on the GNSS technologies and their associated technical choices, risks, policy, related architectures and operational use, in the C.N.S. ATM and in particular Approach and Landing domains.

5th User/Stakeholder Workshop on Remotely Piloted Aircraft Systems (RPAS)

5th User/Stakeholder workshop at the ESA/ESTEC Centre, Noordwijk (NL).

On 21st May 2015, EUROCAE attended the 5th User/Stakeholder Workshop on Remotely Piloted Aircraft Systems (RPAS), which took place at the ESA/ESTEC Centre, Noordwijk (NL).

About 100 high level representatives of political and regulatory agencies, industry and research organisations followed the invitation of the European Space Agency (ESA) to discuss the importance of

satellite communications for RPAS operations, and related challenges and needs. Presentations covered concrete examples of the use of RPAS as well as on regulatory and societal developments.

Technical standards were identified by several speakers as fundamental to enable the operation of RPAS and their integration into the airspace. Technical standards should of course support interoperability and certification of RPAS as well as economic considerations, but also remain a flexible tool to encourage innovation – of particular importance in a fast-moving area such as RPAS.

The importance of EUROCAE's work was recognized, but the community clearly has high expectations on the results of the work of standardisation bodies. Only by ensuring sufficient coordination at European and international level can we ensure that the technical standards will be relevant, timely and enjoy the necessary stakeholder buy-in. Therefore a close link with organisations such as JARUS and ICAO will be essential. EUROCAE WG-73 'UAV Systems' and WG-93 'Light RPAS' will continue working to support this.

ICAO Space2015 & RPAS Symposia

There are exceptions to these rules that will require consideration. Operators intending to lift space-craft using balloons before they launch the ascent into space, will require less airspace but occupy this airspace for a longer period of time. Rocket-propelled, aircraft-like ascents will require significantly more airspace but a very limited amount of time. These different operations have to be integrated into current aviation operations.

Due to the great variety of concepts, operations and vehicles, the community currently considers that standardisation is not achievable at a certain level. However, a global regulatory framework is considered as a very important facilitator for the success of such operations. This immediately raises the question of Means of Compliance for such a framework, an area in which standards could play a major role. Considering the systems approach, documents like MASPS (Minimum Aviation Systems Performance Specification) would allow the definition of crucial elements like the OSED

(Operational Services and Environment Description), the SPR (Safety and Performance Requirements) and INTEROP (Interoperability). Taking into account the existing environment, the development of such standards may pave the way for proper integration of space-related activities into current aviation in a safe and efficient way.

Global interoperability is key. Therefore close coordination with RTCA as the US counterpart to EUROCAE would be of utmost importance.

Also at European level a multitude of initiatives and activities are already ongoing. DLR and Airbus are amongst the main players. A large number of smaller enterprises is actively pursuing the realisation of space travel on a larger scale. In order to become involved in the safe and efficient development of these activities, EUROCAE will maintain contacts with these players (some of them already EUROCAE members) to investigate the possibilities of early cooperation.

Introduction

EUROCAE is actively involved in the development of standards and guidelines for Remotely Piloted Aircraft Systems (RPAS) notably through Working Groups 73 and 93. As an ICAO "Recognised International Organisation", EUROCAE will also be a member of the newly formed ICAO RPAS Panel.

On the other hand, EUROCAE has no actions yet in the area of space travel. However, with the increasing number of activities also at commercial level it is important for EUROCAE to stay updated on these developments.

Between 19 and 27 March 2015 ICAO, at its headquarters in Montreal, organised two back-to-back symposia covering the latest developments in these areas: the Space2015 Symposium was followed by the RPAS Symposium.

EUROCAE participated in both symposia.

The main purpose was to present the EUROCAE RPAS activities in the scope of the ICAO RPAS Symposium. The Space2015 Symposium provided excellent opportunity to gain early insights into opportunities for EUROCAE to become active in this area.

■ ICAO RPAS Symposium

The rapid increase of RPAS operations poses a significant challenge to "conventional" aviation. It is not only the number of operations that has to be considered but also the great variety of operations, operators and vehicles. In particular the fact that operations by (very) small RPAS are often executed by persons with little or no knowledge of aviation can lead to unwanted conflicts with conventional aviation.

The integration of these operations into existing aviation is a challenge at global level which is why ICAO had organised this Symposium to provide a forum to discuss potential solutions. ICAO has also established an RPAS Panel with the purpose to develop standards for the safe integration of RPAS activities. EUROCAE, as a recognised international organisation by ICAO, will also have a member on this Panel.

As mentioned above, EUROCAE is already active in the standardisation of RPAS related activities with two WGs. Also RTCA has been active with a Special Committee (SC-228) for some time. Close cooperation between WG-73 and SC-228 is ensured at the level of the leadership of the two groups.

The main purpose of the attendance at the ICAO RPAS Symposium was to present EUROCAE's activities in this area. Special emphasis was given to the fact that significant synergies can be raised by organisations like EUROCAE and RTCA which are active in a large number of aviation related activities. This provides easy access to the expertise available and allows to be interlinked. A prominent example is the joint work of WG-73 and SC-228 (both discussing RPAS) with WG-75 and SC-147 (both discussing Collision Avoidance Systems) in order to develop an interoperability document for the safe integration of future CA-systems into the current environment of TCAS-II. The fact that EUROCAE and RTCA work together at the global level was very well perceived by the Symposium participants.

Communications, Command and Control (C3) is one of the major aspects to be discussed. It is the C3 link to the RPAS that allows its activities to be controlled. A stable link and proper security measures are key but also proper procedures have to be developed in case of link outages. EUROCAE is already active in that respect.

■ ICAO Space 2015 Symposium

The aim of this symposium was to provide a forum to companies and organisations active in the commercial exploration of space travel. The potential increase of such activities – not the rare event of a satellite launch or the very limited big scale events performed by NASA for instance – poses challenges to the existing aviation environment with respect to the integration into current ATM. These flight activities (mainly of a sub-orbital

nature) will have to be performed in a manner that does not impact current aviation activities. However, the nature of these flights is different from conventional aviation in that many launches are performed with rockets (meaning a rapid vertical ascent path) but re-entry very often is done using glider-like operations, meaning that there are no go-around capabilities foreseen.

Global cooperation is key for a safe RPAS integration into the airspace

One of the main results of the RPAS Symposium was the need for risk-based, performance oriented and operation specific regulation. This approach is already being taken by EASA and the FAA, and will pave the way for safe, efficient and economic future development of RPAS activities. In such a dynamic and fast growing area, prescriptive regulation is undesirable and would hamper economic exploration of business opportunities. Awareness and education, notably of operators conducting small RPAS operations, are key. In this area it is also particularly important to differentiate between the responsibilities of the aviation community and law enforcement. Aspects of security and privacy have to be covered by the law enforcement authorities.

The activities of EASA, the SJU and industry are already well covered within the EUROCAE framework. Moreover, the work performed in the United States by FAA and others is represented in the EUROCAE work by the close cooperation with RTCA.

JARUS, the "Joint Authority for Rulemaking on Unmanned Systems", will play a major role in future with respect to regulation of RPAS operations. Establishing a formal relationship with JARUS should be considered by EUROCAE as a main target for the near future. An initiative will be taken by the Secretariat to seek Council approval for such an activity.

WG-73
Unmanned Aircraft Systems (UAS) – A Voyage of Discovery

By Dewar DONNITHORNE-TAIT, WG-73 Chair

Working Group 73 has just completed its 26th Plenary meeting at EUROCONTROL, Brussels. We are working on a subset of unmanned aircraft systems called 'Remotely Piloted Aircraft Systems' (RPAS), in which the remote pilot is at all times able to exercise his responsibilities under international law, a requirement of ICAO. I have recently learned that the European Parliament is now requesting EASA to refer to unmanned and remotely piloted aircraft (RPA) as 'drones' and possible also 'civil drones' to distinguish civil and commercial applications from the military ones.

When we launched WG-73 in the Spring of 2006, I doubt any of us appreciated the scale and scope of the task ahead. Our remit was to develop the technical standards to enable the routine and 'transparent' integration of RPAS into non-segregated airspace. There had been some excellent European work before our launch, including the seminal JAA & EUROCONTROL Joint Task Force Report, and we had seen the establishment of first ASTM F-38 and later RTCA SC-203 in the USA to work on similar RPAS standards issues.

A performance based approach on standardisation will encure successful and safe RPAS operations.

It was clear from the outset that the main aspects to be studied as a result of taking the pilot out of the aircraft would be the command, control and communications (C3) and how to serve the need of the 'sense and avoid' principle, the latter now commonly called Detect & Avoid (D&A or DAA) in the RPAS community. It was also appreciated that with the pilot being in a remote pilot station (RPS) relying on two-way data communications with the RPA that there would be considerable changes to the air systems certification and approvals regimes and to flight crew licensing.

These were the first issues WG-73 addressed, along with the changes required in security arrangements, in a three step progression towards the delivery of a five volume concept document (with terminology annex), ER-004. With ER-004 as a conceptual foundation, WG-73 embarked on the formal application of ED-78A to implement evidence-based requirements derivation and we are still in this process. I believe this is the first time that ED-78A has been applied to RPAS in Europe and it is a steep learning curve, with the need to make several assumptions in the absence of precedence and some higher level objectives.

It has only been in the last three years that we have started to appreciate the full extent of the impact of taking human life out of the aircraft. For more than a century, aircraft have been designed principally to safeguard human life on board. This is no longer the case with RPAS. Instead we have to consider only the threat to other airspace users and human life on the Earth's surface. Any 'one-size-fits-all' approach to RPAS airworthiness meets only a very small part of the RPAS' very extensive operational spectrum. Instead we now have the opportunity to tailor the 'system airworthiness' requirements (and hence expenditure) to meet the required safety objectives for any specific type of operation in any particular type of location (eg over the Arctic/Pacific as opposed to a football stadium crammed with spectators in the open). This is opening the door for a safe, but also economically efficient exploitation of this 'new era of aviation', to quote a European Commission communication.

WG-73, in consultation with several other groups, is addressing the full range of technical standards issues to enable this exciting new era. It is a fantastic voyage of discovery, which despite having many 'opportunities', is a fascinating and rewarding path to tread.

Symposium

The EUROCAE Symposium 2015 took place on 29 and 30 April 2015, in Rome (Italy), under the title "The Strategic Role of Standards for the Aviation Industry".

Almost 100 delegates came together to discuss key topics relevant to the aviation sector, and how standardisation can contribute addressing some of the challenges raised.

A high level opening panel, moderated by Iacopo Prissinotti, ENAV, brought together decision makers from national, European and international organisations. The discussion clearly showed that harmonisation through standardisation contributes significantly to global interoperability and brings both economic benefits and highly strategically outcomes.

Session 1, focusing on "Aviation and ATM Service Innovation" brought up challenges for standardisation organisation in relation to standardisation and research. How do we ensure that our standards are relevant and effective to support industrialisation and further technological advances?

Session 2 looked at a very specific challenge, the integration of Remotely Piloted Aircraft Systems in the airspace. The integration of these new users into the airspace brings its own set of challenges that need

to be addressed. EUROCAE activities in this area are in place and have increased over the last years to support this activity. They are well aligned with those of other organisations such as the European Commission, EASA and ICAO, in order to ensure the relevance and effectiveness of the resulting EUROCAE Documents.

Session 3 discussed the need for coordination between standardisation bodies, research and development programs, regulatory bodies and other stakeholders at an international level. This session brought together panelists from international, European and US organizations but also, and this is very important, from other areas of the world, Japan and China, to discuss the need for a global standardisation strategy to coordinate efforts in an ever more challenging

EUROCAE President, Eric BERNARD

environment. As ICAO and other organisations are moving to more performance-based approach on standardisation, making better use of existing material from standardisation bodies, international harmonisation is paramount, and various mechanisms are in place to ensure this.

Finally, session 4 demonstrated real benefits of standardisation, discussing concrete examples of how EUROCAE Documents have contributed to real gains achieved by various actors: aircraft manufacturers and ground industry, ANSPs, airports.

In closing the event, Eric Bernard, EUROCAE President, noted: "Over the two days, through the different sessions we have seen one major topic emerge: the

confirmation that standards developed by EUROCAE and our partner organisations are relevant and an important building block of the industrial and regulatory practices in our sector."

The discussions have shown that expectations on standardisation bodies are very high, and EUROCAE is on a good path to fulfil them through our active involvement and coordination in many working groups, as well as thanks to the contributions and support from our Members and Partners in Europe and worldwide.

Presentations will be available at: https://www.eurocae.net/events/symposium/

EUROCAE Symposium 2015 - Gala Dinner

Opening panel moderated by Iacoppo PRISSONOTTI, ENAV

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David HAWKEN, and Bruno AYRAL vote for the new Council.

Election of the EUROCAE Council

NEW COUNCIL APPOINTED

By David HAWKEN, Council Chair.

A new Council for EUROCAE was elected at the 52nd General Assembly in April, with representatives from across the aviation industry. The new Council members are:

Chair:	D. HAWKEN	NATS LTD
Vice-Chair:	B. AYRAL	THALES AIR SYSTEMS
Treasurer:	P. GREEN	EUROCONTROL
Newly appointed Council Members:		
	C. SCHEIFLINGER	AUSTRO CONTROL GmbH
	R. BERTSCH	DFS
	P. SOUCHU	DSNA
	P. MEDAL	EASA
	J.A. CALVO FRESNO	SESAR JU
	T. ASTHEIMER	FRAPORT AG
	M. HOLZBAUER	FREQUENTIS AG
	F. SANCHEZ ROMERO	INDRA SISTEMAS S.A.
	R. HOWELL	QINETIQ
	X. BARICHARD	ROCKWELL COLLINS France
	S. PORFIRI	SELEX ES SpA
	J. HUYSSEUNE	THALES Avionics
	E. BERNARD	DASSAULT AVIATION
	J-C. ALBOUY	AIRBUS
	M-H. FOUCHÉ	GIFAS
	H. LOWE	GE AVIATION Systems

In addition to approving the formation of working groups, and approving the publication of new documents, the Council also:

- defines the strategic objectives of The EUROCAE Association for incorporation in the business plan,
- defines the business plan and associated annual budget for approval by the General Assembly,
- appoints the chairperson and members of the Technical Advisory Committee,
- supervises the Working Group activities through the report presented by the Secretary General at each Council meeting,

- approves contracts and agreements with third parties (prepared and negotiated by the Secretary General),
- prepares the annual General Assembly and Symposium with the support of the General Secretariat,
- approves any expenses outside the budget, as proposed by the Secretary General,
- approves the appointment of the Secretary General and supervises the administration of The EUROCAE Association by the Secretary General.

The newly elected Council met just after the 52nd General Assembly

WG-51 "Automatic Dependent Surveillance-Broadcast (ADS-B)" – Open Consultation time

They have finalised and submitted two documents for Open Consultation:

• ED-195 rev A defines the Safety, Performance and Interoperability Requirements for the ASPA-FIM Application (Airborne Spacing – Flight Interval Management). ASPA-FIM is the flight deck component of the Interval Management System. After receiving an IM Clearance from ATC and considering the information on the target aircraft, the application generates guidance for the flight crew to successfully and safely execute the IM Clearance.

• ED-236 is a new document and defines the Minimum Operational Performances Specifications (MOPS) for Flight-Deck Interval Management (FIM). It describes the necessary additional FIM requirements based on Aircraft Surveillance Application (Systems) as descried in ED-194A. This ASA System provides the avionics for surveillance processing and display of ADS-B based aircraft-to-aircraft applications.

WG-72 "Aeronautical Information Systems Security" – Collaboration with GAMMA Project

Working Group 72 established a collaboration with GAMMA (Global ATM Security Management).

GAMMA is a research project under the EU's Seventh Framework Programme for Research and Development (FP7), which aims at developing solutions for emerging ATM vulnerabilities backed up by practical proposals for the implementation of these solutions.

By joining EUROCAE as a limited member, GAMMA will provide key contributions to WG-72 activities aimed at

providing solutions to the security challenges facing ATM. GAMMA will in particular contribute to WG-72 by bringing knowledge and expertise based on the work performed on risk assessment and definition of a proposed solution for managing security in the ATM environment.

The detailed scope of the activity will be further discussed in a first joint meeting between WG-72 and GAMMA in September 2015.

> **Further information: www.gamma-project.eu**

WG-73 "Unmanned Aircraft Systems (UAS)" – ER-012 publication

Working Group 73 has just submitted the EUROCAE Report ER-012 for publication. The document is titled C3 CONOPS (Command, Control and ATC Communications Operational Concept) for RPAS. This document proposes typologies to be used in the standardisation process in many domains related to C3, including the assessments of C3 scenarios (e.g. C2 datalink loss) and connecting RPAS C3 systems and RPAS operations.

The report is an input for documents such as the Operational Services and Environment Definition (OSED) and subsequent documents (such as the Safety, Performance and Interoperability Requirements, SPR and INTEROP) which will be used for specifying the RPAS C3 MASPS (Minimum Aviation Systems Performance Specification).

WG-73/WG-75 in cooperation with RTCA SC-147/SC-228

Working Group 73 and SC-228 are dealing with subjects on Remotely Piloted Aircraft Systems (RPAS) whereas WG-75 and SC-147 are active in the area of collision avoidance systems.

These four groups are currently working together on a joint document describing requirements for the interoperability of Collision Avoidance systems, namely

the integration of ACAS X into the current environment of TCAS II. This is in particular important in cases of Remotely Piloted Aircraft Systems (RPAS) that have no pilot on board. Since aircraft operate globally, the cooperation between EUROCAE and RTCA is particularly relevant in this case.

WG-79 "Enhanced & Synthetic Vision Systems (EVS/SVS)" – Reactivated

Working Group 79 was active up to the release of ED-179B/DO-315B `MASPS for Enhanced Vision Systems, Synthetic Vision Systems, Combined Vision Systems and Enhanced Flight Vision Systems' and was made dormant in 2012. Since then, RTCA SC-213 released DO-341 and worked in preparing DO-315C, while FAA released a notice for regulation modification.

Thanks to renewed stakeholders' interest, the group was reactivated and met during a Kick off Meeting in April 13, 2015 at EUROCAE premises at Malakoff. Participants from Thales, Dassault Aviation, Airbus, Diehl, IANS, Elbit Systems, EASA and DGAC, all expressed the desire to support the work for EVS/SVS, to pave the

way for CVS and to address helicopter specificities. This work will also benefit regulatory activities such as EASA rulemaking tasks.

To pave the way for the work ahead, Bruno AYMERIC, Thales, was appointed Chairperson, Simon INNOCENT, Honeywell, was appointed Secretary and Carlo TIANA, Rockwell Collins, was appointed Task Leader for the 1st task (development of the future work programme).

Willing to meet regularly, the group agreed to work jointly with RTCA SC-213. In accordance with its ToR, the group will have a 6-month evaluation period to develop `a Report on future work programme on vision systems'. This report will be discussed with RTCA in October 2015 and then it will be presented to the EUROCAE TAC and EUROCAE Council for approval. We wish them all the best of success.

WG-83 "Airport Foreign Object Debris Detection Systems (FOD)" – Open Consultation time

Working Group 83 is working on a MASPS for Foreign Object Debris (FOD) Detection Systems. The group has recently finished work on the document and it was submitted for Open Consultation. Currently the Comment Resolution is ongoing.

WG-99 "Portable Electronic Devices (PED)" – Article from group's leadership

By Stephan Schulte, Lufthansa Technik, WG-99 Co-Chair, Robert Kebel, Airbus, WG-99 Co-Chair, and Nuria Riera, Triagnosys, WG-99 Secretary.

Personal Electronic Devices (PED) began to become part of anyone's daily life during the mid-1990's. Initially PEDs were laptop computers but then a constantly growing number of cell phones was seen throughout all countries of the globe. More and more devices had radio transmission capabilities. Since PED can be taken anywhere, they were brought on board of commercial aircraft as well, potentially subject to be used there on purpose or unintentionally.

Air framers integrated in-flight Communication Systems, which support PED-based communication in-flight, shortly after the turn of the millennium. This required the addition of new passenger safety measures, ensuring that radiation originating from passenger sources could not cause any harm to the aircraft and its systems.

Thus, groups of experts – including air framers, airlines, authorities, system manufacturers and researchers – created guidelines to ensure passenger and aircraft safety. Today two major sets of guidance document exist (RTCA DO-294 and DO-307, EUROCAE ED-130). These documents describe acceptable means to show compliance for aircraft safety and secure aircraft operation in terms of using PEDs on board. Methods for testing and substantiation were described, as well as physical explanations. Since 2006, these standards have been used to demonstrate compliance of aircraft with PED and cabin radio connectivity systems.

Smart transmission standards will be used to provide sufficient up-and downstream rates.

Since then technology and culture have evolved and passengers now expect to be able to use their PEDs during any phase of flight EASA and the FAA have re-assessed operational guidelines and allow for extended use of PED during flight.

The technology has advanced: Today's devices use new transmission technologies, such as 4G/LTE or most recent Wi-Fi standards (IEEE 802.11n, ac and more) - unknown seven years ago for the last revision of the aforementioned documents. Almost every passenger carries at least one cell phone. Nowadays, the passenger's equipment portfolio is also enriched by tablet computers, eBook readers (with transmission function) and transmitting wearables, such as fitness wristbands.

The number of devices is also increasing: Emerging in-flight entertainment system topologies will allow passengers to simultaneously stream content on their own devices carried on board. Smart transmission standards will be used to provide sufficient up - and downstream rates. Items such as personal baggage trackers became available recently – soon to be expected in large numbers in airplane-cargo compartments.

Based on these developments, the need to reflect this development in documents for PED-tolerance and connectivity system integration became apparent. EUROCAE established its Working Group 99 in April 2014. The group is led by representatives from Lufthansa Group and Airbus – outfitted with their individual airline, MRO and air framer's view. Aviation authorities and experts of the involved industry support the standardisation process. RTCA initiated its special committee (SC-234) recently. The consolidation of the two expert groups will ensure maximum coordination and compatibility for airline operators, MRO's and modification service provider as well as airframe and system manufacturers.

A first joint meeting of both working groups was held in May 2015. It was agreed to jointly determine solutions to be applicable in Europe, the US and beyond.

For further information, and to contribute, please contact: eurocae@eurocae.net

Upcoming Working Group meetings

Working Group	Name	Date	Location
WG-28	Global Navigation Satellite System (GNSS)	30/09 – 02/10/2015	Brétigny-sur-Orge, EUROCONTROL
WG-31	Lightning	23 – 26/06/2015	Madrid, AIRBUS Defense
WG-41	Surface Movement Guidance & Control System (SMGCS)	22 – 24/06/2015	Toulouse, DSNA
WG-41	Surface Movement Guidance & Control System (SMGCS)	30/09 – 02/10/2015	Stuttgart, THALES
WG-44	Aeronautical Databases	15 – 19/06/2015	Washington DC, RTCA
WG-59	Flight Data Processing (FDP) Interoperability	15/09/2015	Malakoff, EUROCAE
WG-62	Galileo	18-20/07/2015	Toulouse, ENAC
WG-68	Altimetry	07 – 09/07/2015	Fareham, MEGGITT AVIONICS
WG-73	Unmanned Aircraft Systems (UAS)	02 – 05/11/2015	Brussels, EUROCONTROL
WG-75	Traffic Alert and Collision Avoidance System (TCAS)	14 – 16/07/2015	Boston, MIT
WG-75	Traffic Alert and Collision Avoidance System (TCAS)	22 – 25/09/2015	Brussels, EUROCONTROL
WG-78	Standards for Air Traffic Data Communication Services	31/08 – 04/09/2015	Washington DC, RTCA
WG-79	Enhanced Vision Systems (EVS), Synthetic Vision Systems (SVS) and their combination (ESVS)	09/07/2015	WebEx, EUROCAE
WG-80	Hydrogen Fuel Cell Systems	07 – 09/07/2015	Grenoble, AIR LIQUIDE
WG-83	Airport Foreign Object Debris (FOD) Detection Systems	10/07/2015	Malakoff, EUROCAE
WG-93	Light Remotely Piloted Aircraft Systems Operations	03 – 04/11/2015	Brussels, EUROCONTROL
WG-95	In-flight Ice Detection Systems	29/06 – 01/07/2015	St Cloud, DASSAULT AVIATION
WG-96	Wireless On Board Avionics Network (WOBAN)	08 – 10/09/2015	Hamburg, SILVER ATENA
WG-98	Aircraft Emergency Locator Transmitters	01 – 03/09/2015	Washington DC, RTCA
WG-99	Portable Electronic Devices (PEDs)	07 – 09/10/2015	Cologne, EASA

Latest 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 recognized 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, EUROCONTROL, the European Commission and ICAO.

Recent publications:

ED-87C
Minimum Aviation System Performance Specification for Advanced Surface Movement Guidance and Control Systems (A-SMGCS) Levels 1 and 2 (WG-41)

For further information on EUROCAE publications, please go to: www.eurocae.net/publications/
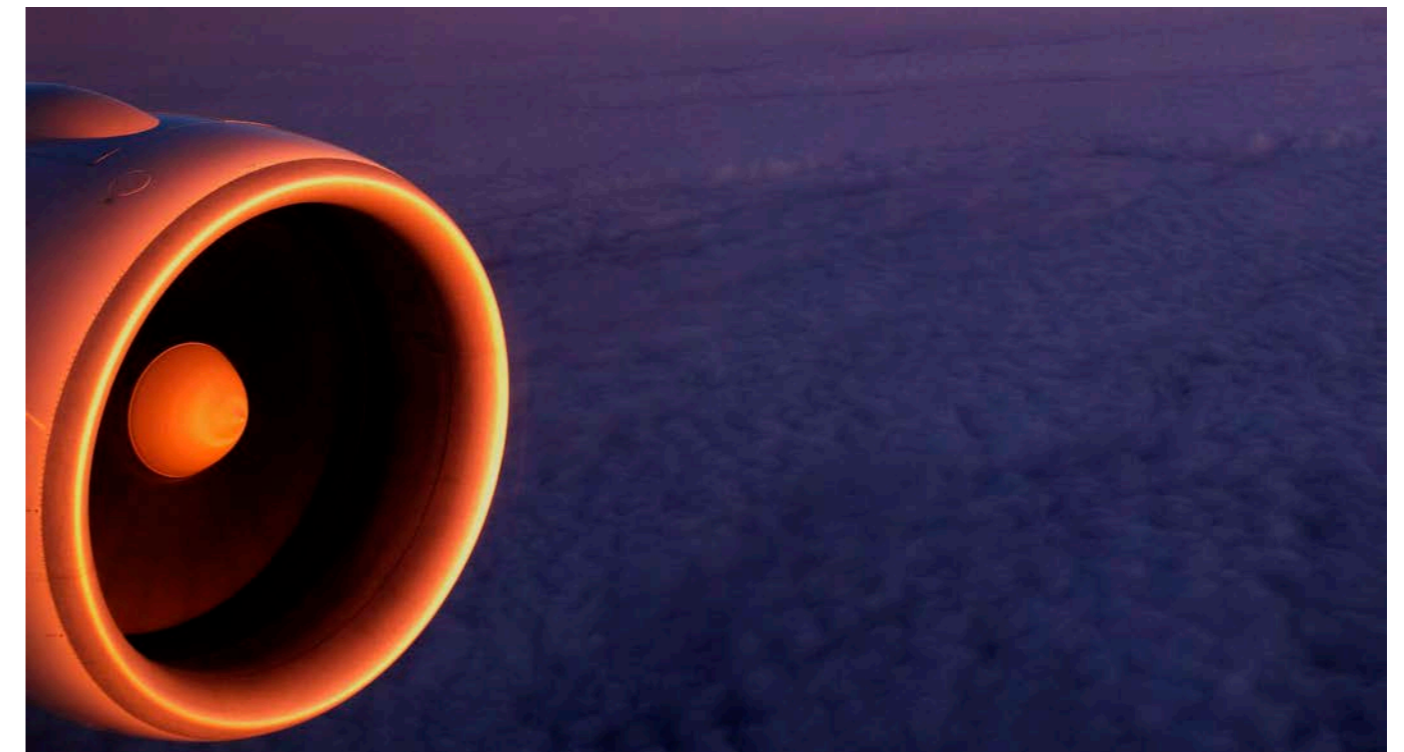
Official 2015 training dates

The dates for the 2015 training sessions have been set up by the EUROCAE Secretariat, in cooperation with our trainers.

For 2015, EUROCAE has teamed up with the best experts in their fields, to provide members of the aviation community with high-quality training courses.

EUROCAE offers training courses on the following documents:

EUROCAE currently has around 170 members worldwide, including industry, service providers, regulators, research institutes and international organisations.

EUROCAE Membership offers a number of benefits (depending on membership category). Participation to EUROCAE activities is an opportunity to be aware of and to work on the most recent technologies, systems and/or equipment as well as to be informed about the latest regulatory evolutions and requirements.

Since the beginning of the year, EUROCAE welcomed the following new members:

From ED-12B to ED-12C Changes and Improvements	ACG/DOSoft/ Apsys	22-23/09/15	Malakoff, EUROCAE	1 100 €	1 300 €
ED-14 (DO-160) Environmental Conditions and Test Procedures for Airborne Equipment	GERAC	06-07/10/15	Toulouse, GERAC	1 100 €	1 300 €
ED-218 (DO-331) Model-Based Development and Verification Supplement to ED-12C and ED-109A	DOSoft	12-13/10/15	Malakoff, EUROCAE	1 100 €	1 300 €
ED-217 (DO-332) Object-Oriented Technology and related techniques supplement to ED-12C and ED-109A	Adacore/ DOSoft	14-15/10/15	Malakoff, EUROCAE	1 100 €	1 300 €
ED-215 (DO-330) Software Tool Qualification Considerations	ACG	04/11/2015	Malakoff, EUROCAE	550 €	650 €
ED-216 (DO-333) Formal Methods Supplement to ED-12C and ED-109A	ONERA	05-06/11/15	Malakoff, EUROCAE	1 100 €	1 300 €

For more information and details about the training activity of EUROCAE, please contact EUROCAE: eurocae@eurocae.net

AVIONIX SOFTWARE S.L.
Spain

Azimut JSC
Russian Federation

Civil Aviation Authority of Israel
Israel

Etihad Airways
United Arab Emirates

European GNSS Agency
Czech Republic

GAMMA
Italy / European project

Indian Institute of Technology Indore
India

Jotron AS
Norway

PrimeGPS
France

The MITRE Corporation
USA

For further information on EUROCAE membership and to join as a new full or limited member please go to: www.eurocae.net/organisation/join

SAVE THE DATE
General Assembly & Symposium 2016

Vienna, 28TH - 29TH April 2016

EUROCAE