

EUROCAE



By Gilbert Amato, Secretary General

Facing New Standardisation Challenges on a Worldwide Level

This article gives an overview of the EUROCAE organisation, provides the background to the setting up of a new and ambitious approach on standardisation and summarises objectives and challenges over next years to come.

Historical Background

Back 48 years ago. At that time European Union was only composed of six nations; Concord was still paper work in design offices and apart from ISO and National Standardisation Organisation (NSO) there were no European standardisation organisation dealing exclusively with civil aviation but instead the US RTCA and SAE.

Therefore, from a common and ambitious Franco-British will and taking into account the growing European aviation industry, it was decided to set-up an independent civil aviation standardisation body for their own needs and for that of their European neighbors. Then the "European Organisation for Civil Aviation Equipment" (EUROCAE) was established in 1963 and tasked to provide a forum in Europe where industries, Air Navigation Services Providers (ANSP), airlines, airports, authorities (i.e. the UK CAA and the French DGAC) and other users from the aeronautic community could meet to discuss technical and operational problems. Eurocontrol was at that time a three years old organisation (7 countries including Belgium, Eire, France, Germany, Luxemburg, the Netherland and the United Kingdom) setup to organise air traffic services collectively in their upper airspace by building international upper area control centers.

Initially, EUROCAE started developing minimum performance specifications for airborne electronic equipments.

Subsequently, the European Civil Aviation Conference (ECAC) proposed to European airworthiness authorities to adopt EUROCAE specifications as the basis of their national regulations. Later, EUROCAE has extended its activities to include complex CNS/ATM systems (including their ground segment), UAS, environment, etc.

EUROCAE at Work in Context

Some 120 organisations are members of EUROCAE; they are all specialized in one or more aviation domains and collaborate to produce technical standards, specifications, guidelines, and reports. They actively participate in the EUROCAE working groups (WG) in order to achieve an effective standardisation framework in Europe and abroad for the benefit of the civil aviation community. EUROCAE works in close cooperation with its US equivalents (RTCA, SAE, ARINC) and with the major aviation administrations (ICAO, EASA, Eurocontrol, FAA, etc).

There are presently more than one hundred and fifteen EUROCAE documents (ED) published and about forty more under development, all of them in the aeronautical domain, several being developed jointly with EUROCAE US partners. Many EDs are referenced by:

- the European Aviation Safety Agency (EASA) as means of compliance to European Technical Standard Orders (ETSO),
- ICAO Standards and Recommended Practices (SARPS)
- EUROCONTROL Safety and Regulatory Requirements

(ESARR),

- FAA standards,
- the European Standardisation Organisations (ESO), the official standards bodies of the European Commission, which have to collaborate with EUROCAE according to EC Regulation N° 552/2004 which requires the ESOs referring to relevant ED as defined in EC Mandates on Air Traffic Management interoperability.

Indeed, EUROCAE is recognised by the EC as the main technical body to be deeply involved in the development the Community Specifications required by the Single European Sky concept.

EUROCAE Active Working Groups (WG) (May 2010)

- WG-14 Environment
- WG-28 Global Navigation Satellite System (GNSS)
- WG-31 Lightning
- WG-41 Surface Movement Guidance & Control System (SMGCS)
- WG-44 Terrain and Airport Data Bases
- WG-49 Mode S Enhanced Surveillance
- WG-51 Automatic Dependent Surveillance-Broadcast (ADS-B)
- WG-58 Passenger Electronic Devices (PED)
- WG-59 Flight Data Processing (FDP) Interoperability
- WG-62 GALILEO
- WG-63 Complex Aircraft Systems
- WG-64 Air Traffic Management Risk Assessment
- WG-67 Voice on Internet Protocol (VoIP) for ATM
- WG-68 Altimetry
- WG-70 Wide Area Multilateration Systems (WAMS)
- WG-71 Software Considerations in Aeronautical Systems
- WG-72 Aeronautical Systems Security
- WG-73 Unmanned Aircraft Systems (UAS)
- WG-75 Traffic Collision Avoidance System (TCAS)
- WG-76 AIS/MET Datalink Applications
- WG-78 Data Link Application NextGen & SESAR
- WG-79 Enhanced Vision Systems (EVS) , Synthetic Vision Systems (SVS) and their combination (ESVS)
- WG-80 Hydrogen Fuel Cells
- WG-81 Interoperability of ATM Simulator
- WG-82 Mobile Radio Communication: Airport Surface Radio Link
- WG-83 Airport Foreign Object Debris Detection Systems
- WG-84 Digital Radio Control Interface (DRCI) for Air Ground Voice Communication
- WG-85 4D Navigation
- WG-86 Wake Vortex Detection and Prediction
- WG-87 Extinguishing Agent – Replacement of Halon
- WG-88 Onboard Weight and Balance Systems
- WG-89 Revision of ETSO C-16 (Pitot Tubes)
- WG-90 Deployable Flight Recorders & Additional Recording Parameters
- WG-91 System Safety Assessment (Update of ED-78A)

Several of above WGs are already addressing topics of interest for SESAR, often in collaboration with RTCA which is sharing

the same type of approach and objectives regarding the US program NextGen.
Refer below for the WGs' Standardisation development and validation process.

To be mentioned also that EUROCAE is having since two years contacts with administrations and manufacturers of non European nations nor US such as Canada, China, Brazil, Israel, Japan, Russia, etc.. This is in result of the International opening of the EUROCAE Full Membership (Constitution amendment voted by the General Assembly in 2007).

EUROCAE Structure and Working Process

EUROCAE is an independent and not-for-profit organisation (Association under French law of 1901). EUROCAE has a President and 5 bodies, each having specific tasks in complement of the others.

The President represents the interests of EUROCAE members. The Council is composed of 16 elected members. All are European and represent an organisation being deeply involved in aeronautics. These members are in 2009/2010:

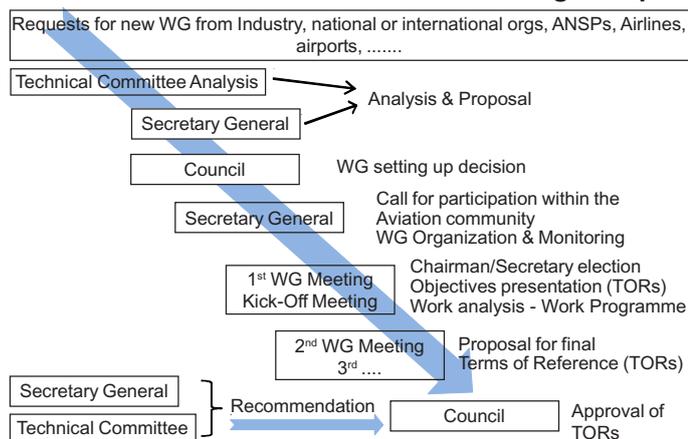
- Manufacturers: AIRBUS, BAE Systems, DASSAULT Aviation, General Electric Aerospace, INDRA, QINETIQ, SELEX S.I., THALES Aerospace and THALES Air Systems;
- ANSPs: AENA, AustroControl, DFS, DSNA, NATS;
- Others: EUROCONTROL and the SESAR JU.

The Council is the EUROCAE management decision body.

The Secretariat General (managed by a Secretary General) is in charge of the day to day management of the association and in particular of the WGs. It is also the point of contact with EUROCAE Partners, the aviation Authorities, the French administration (EUROCAE statutes are regulated by the French law of 1st July 1901 and the decree of 16 August 1901).

The Secretary General is member of right of the Council and of the Technical Advisory Committee (TAC).

Establishment of Eurocae Working Groups



The TAC provides recommendations to the Council and to the Secretariat General regarding technical and operational matters. The TAC is composed of 10 high level experts, each being specialized in a particular aviation domain. The organisations members of the TAC are: AIRBUS, BAE Systems, DFS, DSNA, EASA, EUROCONTROL, THALES Aerospace, THALES Air Systems and the UK CAA.

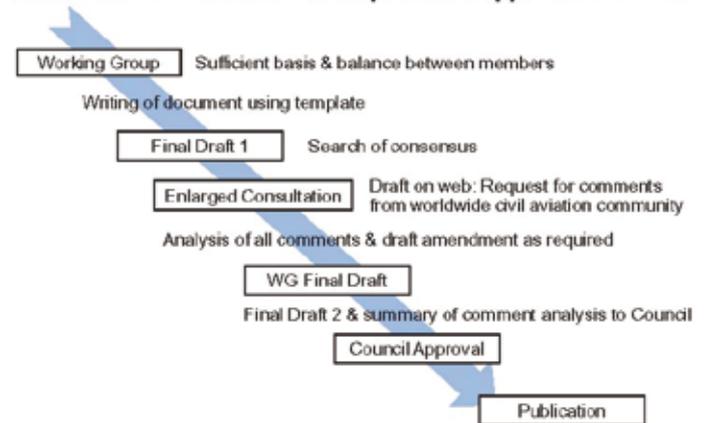
The EUROCAE Association owns a 100% subsidiary, EUROCAE Communication S.a.r.l. (a limited liability company), in charge of document selling and events organisation.

The EUROCAE Working Groups are the real "Standardisation Workshop". They are mainly composed of experts coming EUROCAE membership who are working on voluntary basis (presently, more than 1400 experts are participating in the running standard developments). In general, it takes around 2 years to develop a new standard.

The WG's working process has been applied since the beginning of the Association and notably improved over these last years to be adapted to fulfil the European Commission "Single European Sky" programme ambitious and challenging requirements, but also to the collaboration, each time necessary, with other European, US or other international standardisation organisations.

Here below are summarized the main milestones of the ED development.

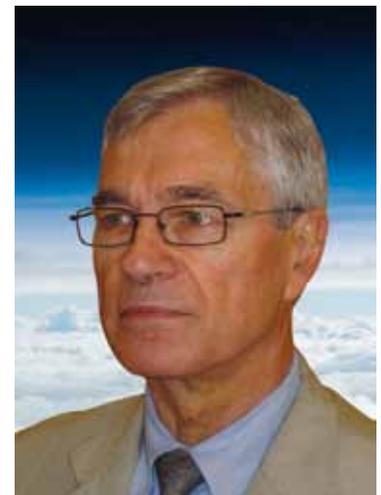
EUROCAE Document Development & Approval Process



EUROCAE WG-73 "UAS" which is tasked with a not easy task by nature, is fully applying this process with, in addition, a specific internal organisation in Sub-Groups which is due to the complexity of the various tasks to be addressed. Refer in this book to the specific article dealing with the WG-73 activities.

EUROCAE is the only European Aviation Standardisation body offering such efficient and over decade's proven process to the worldwide Aviation community.

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