



Conclusions of EUROCAE and EASA Workshop on Vertical Take Off and Landing (VTOL)

6 June 2019

Organised jointly by EUROCAE and EASA, the Workshop on Vertical Take Off and Landing (VTOL) aircraft standardisation was held on 6th June 2019. More than 70 experts attended, and good discussions took place, which underline the urgent need to work on new standards to support VTOL certification. Due to the significant collaboration of EUROCAE and EASA, and the contribution of many stakeholders from industry, a first step towards EUROCAE VTOL standards in support of certification could be made.

Time is a matter

The most important aspect mentioned by the stakeholders was the urgent need to deliver standards to be used as Accepted Means of Compliance rapidly. It was suggested to use as many existing standards and collaboration arrangements as possible, especially in the UAS domain. This should shorten the process in time, workload and should avoid duplications. To support this very ambitious schedule, the EUROCAE Council has approved a leaner standards development process, reducing the administrative and procedural times to a minimum necessary, whilst safeguarding the fundamental principles of EUROCAE standards development which follows an open, transparent and consensus-driven approach.

Short and precise

These standards should not only be as clear, structured and short as possible, but also as precise and comprehensive as necessary. An easy understanding and application are required. Every applicant should be able to work fast and efficiently.

Global harmonisation

To ensure a fast progress, advantage should be taken of the similarities between UAS and VTOL. Therefore, standards should be developed by internationally recognised organisations to ensure they can be applied to support transnational regulations and operations.

Domains of interest

Many domains of interest for standardisation were discussed and assessed during the workshop. From the result to the question “What would be for you the 3 domains with most priority?” asked to all experts during the workshop (29 voters), the following priorities were highlighted:

- **Electrical Systems – P1**
- **Thrust / Lift System – P2**
- **Safety Assessment – P2**
- **Flight -Performance – P3**
- **Flight- Flight Envelope and Handling Qualities – P4**
- Flight-Human Factors
- Structures
- Flight Control
- Avionics
- Cabin Safety
- Cybersecurity
- Software
- Noise
- Privacy
- Ground Infrastructure
- U-space
- Towards UAS
- All Weather Operations (AWO)

Operational Issues

Due to the different concepts and designs of VTOL aircraft, unique operational guidelines are necessary, not only for piloting the aircraft, but also for maintenance and other operational aspects. Special failure modes and emergency procedures should be generally defined. There is also a need for clarification of procedures in case of an emergency water landing, because many VFR flight routes in urban areas are above water.

In addition, issues related to ground infrastructure, operations in airport and more generally integration in airspace were also noted to be of priority

Conclusion and way ahead

To the question “Would you be ready to participate in a EUROCAE WG on VTOL?”, 31 participants indicated their intentions:

- 84% are ready to actively support standardisation work and collaborate in WG-112
- 13% are ready to support the WG with a leading role.

EUROCAE WG-112 on VTOL is officially created. The Kick-off meeting will be held on 27 June 2019 at EASA Cologne. This is a unique opportunity to an active contribution by the industry to represent their interests in VTOL certification and to shape the standards through active participation and concrete inputs.

It was emphasised several times that industry and stakeholders should take the chance to contribute and develop the right standards. Close collaboration between EUROCAE, EASA and the industry is a must and will be maintained. EUROCAE and EASA experts will closely monitor and support the new WG-112 and keep the process on schedule.