

UK CAA Certification of eVTOL Aircraft

Context

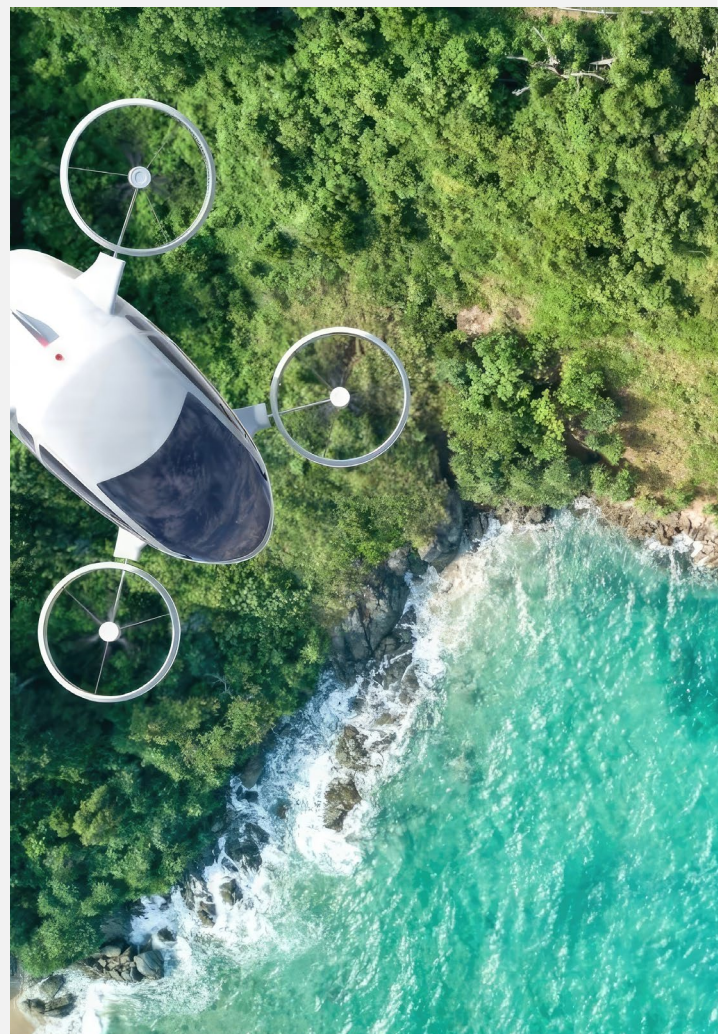
- > Through the work conducted as part of the Innovation Hub platform and more broadly through its engagement with the UK aviation industry and globally, the CAA recognises the fast pace of new aircraft technologies development.
- > In June 2022, following extensive safety evaluation and in line with its strategy, the CAA announced its decision to align with EASA's Special Conditions for Vertical Take Off and Landing (SC-VTOL) aircraft under the UK regulatory framework.
- > This decision assisted the applicants in providing the certification basis for novel aircraft designs. The adoption of SC-VTOL supports the UK Government's Future of Flight programme designed to speed up the innovation in aviation sector. As a result, and with the Government support, the CAA proactively engages with its international partners and promotes cooperation and application of proportionate and effective safety measures to certification projects.

What is SC-VTOL?

- > [SC-VTOL](#) establishes the safety and design objectives for the type certification of VTOL aircraft, which differ from conventional rotorcraft or fixed-wing aircraft. In the absence of certification specifications (CS) for the type certification of this product type, Special Conditions provide a complete set of dedicated technical specifications.
- > [SC-VTOL](#) addresses the aircraft unique characteristics and prescribes airworthiness standards for the issue of the type certificate for a passenger-carrying powered-lift VTOL aircraft in the small category (i.e. up to 9 passengers).

CAA Safety Basis for This Decision

- > SC-VTOL was developed following extensive technical cooperation between aviation authorities and the aviation industry. The Means of Compliance were developed to assist applicants with compliance with the Special Conditions, providing further guidance on how these safety requirements can be met.
- > SC-VTOL builds on the risk-based approach to safety and establishes Target Levels of Safety commensurate with current commercial operations.
- > The applicants for type certificate benefit from a significant degree of harmonisation with the CAA's international partners enabling their ambitions beyond the UK, whilst opening up to potential overseas investment.



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CAA role in the establishment of SC-VTOL and its implementation

- > The CAA contributed substantially to the establishment of SC-VTOL during its membership of the EASA working groups as an active contributor to the policy and drafting development as part of the rulemaking process.
- > Thereafter, the CAA has continued its participation in industry-led discussions on the eVTOL aircraft development, as part of EUROCAE and ICAO dialogues. These discussions have played a substantial role in testing SC-VTOL requirements and developing further information and guidance for applicants.
- > The CAA had worked on the development of Means of Compliance (MOC) to SC-VTOL, including reviewing information and guidance released by other international partners (e.g. FAA, EASA). The CAA is committed to support the industry and fellow regulators to develop, in the long term, effective certification specifications building on the SC-VTOL and early certification experiences to create a robust safety framework to enable future VTOL and eVTOL operations.

Adopting Means of Compliance

- > Special Conditions are detailed technical specifications, prescribed by the CAA, for a product if the related certification specifications do not contain adequate or appropriate safety standards for that product. Usually this is because the product has a novel or unusual design features relative to the design practices on which the applicable certification specifications are based.
- > The CAA is now consulting on the [UK Means of Compliance](#) in support of the Special Conditions to provide further direction to the manufacturers on how these safety requirements can be met.

About eVTOL Aircraft

- > An eVTOL aircraft uses electric power to hover, fly and take off and land vertically.
- > Most eVTOL aircraft also use distributed electric propulsion technology integrating a complex propulsion system with the airframe.

