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Commercial Space Flight Safety and Emerging Issues (1)

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ESTABLISHING A REGULATORY FRAMEWORK FOR THE DEVELOPMENT AND OPERATIONS OF SUB-ORBITAL AND ORBITAL AIRCRAFT (SOA) IN THE EU

Abstract

The Treaty of the European Union allows for the development of common policies for all sectors of transport, including aviation, and its safety. To this end, the European legislator established in 2002 the European Aviation Safety Agency (EASA), located in Cologne, Germany, and gave it responsibility for the regulation of aviation safety, successively encompassing airworthiness, air operations and Flight Crew Licensing. The Agency's remit has been since extended to Air Traffic Management (ATM) and Air Navigation Systems (ANS), as well as to Aerodromes Licensing.

The Annexes 6 and 8 of the International Civil Aviation Organization (ICAO) to the Chicago Convention define an aircraft as "any machine that can derive support in the atmosphere from the reactions of the air other than the reactions of the air against the earth's surface". The aerodynamic lift generated during the atmospheric part of the flight is commonly used to sustain and control the vehicle, that is to take-off, climb, pull-up, perform manoeuvres, fly back to the airport and land. Thus, Sub-orbital and Orbital Aircraft (SOA) are considered to be aircraft, as opposed to rockets which are symmetrical bodies not generating lift, and solely sustained by their rocket engine(s).

Consequently, the regulation of SOA airworthiness, their crew, operations, insertion into the traffic and utilisation of aerodromes would in principle fall under the remit of EASA, which would have to fulfil its role of protection of the European citizens in relation to civil suborbital and orbital flights, that is to certify SOAs and their operations before they would be operated for Commercial Transport in the EU.

Since EASA was first contacted by potential applicants in 2007, many projects have developed and the context has evolved. Thus, this paper intends to update the approach initially proposed in the 61st IAC in Prague in October 2010 to accommodate sub-orbital and orbital aircraft into the EU regulatory system, and to establish a consistent regulatory framework to allow safe and environmentally controlled operations of SOA in Europe.