EASA - Emerging Technologies and Aircraft Certification

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ABSTRACT

Rapid technology developments, and the increasing use of these technologies in safety critical aviation applications, can challenge existing regulations, particularly when also considering the significant increase in the use of globally dispersed subcontracting because the integrated relationship between design, production, and in-service activities suggests that closer links between such activities would be more appropriate. Furthermore, the regulatory challenge is further intensified by the number of these emerging technology applications and limited resources. Therefore, in order to not restrict the potential benefits arising from such technology evolution, the regulators are adapting to prioritise their activities in response to changing industry needs, e.g. by moving more towards 'performance based' from 'prescriptive based' regulation. However, industry is also needing to adapt so that the appropriate knowledge transfer occurs between the design, production, and, in particular, the in-service communities.

This presentation briefly describes some of the changing regulatory processes, e.g. EASA Level of Involvement (LoI) strategy, supporting the EASA EPAS (European Plan for Aviation Safety), whilst also recognising that these emerging technologies continue to be expected to meet fundamental safety requirements. Examples briefly discussed include Additive Manufacturing and Structural Health Monitoring (SHM).