



Performing Unmanned Flight Tests - Exemplified on an Operational Example

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In close cooperation with German Bundeswehr, ESG has modified an UMS Skeldar R-350 UAS to offer a testbed for in-flight evaluation of payload and avionics – the UMAT (Unmanned Mission Avionics Testbed). The UMAT programme started in 2009, while flights have been performed since 2011. At that time, no comprehensive regulation was in place regarding the operation of RPAS of that size. Nevertheless, as safe operation is a prerequisite for ESG, the ESG RPAS Flight Organisation was established. This ESG RPAS Flight Organisation is based on the former JAR OPS 3: Commercial Air Transportation but tailored to the RPAS-specific demands.

The presentation starts with a short introduction to the company ESG. Afterwards, the unmanned aircraft system UMAT and the corresponding operational use case is introduced.

The body of the presentation is concerned with a current flight test project (e.g.: automatic landing site reconnaissance). Undergoing the project development process, the several steps of performing flight trials are explained. Those comprise initial planning, safety assessment, approvals, flight planning, flight execution, and result evaluation.

The presentation closes with a summary of the activities to be undertaken to perform safe and successful flight trials.