Small aircraft standards
General Aviation

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Introduction

The certification process for system development (safety & system development) in the general aviation is very expensive.

ARP-4754A & ARP-4761
General Aviation

- **Applicability**
- §23.2005 Certification of normal category airplanes.
  (a) Certification in the normal category applies to airplanes **with a passenger-seating configuration of 19 or less and a maximum certificated takeoff weight of 19,000 pounds or less**.
  (b) Airplane certification levels are:
  (1) Level 1—for airplanes with a maximum seating configuration of 0 to 1 passengers.
  (2) Level 2—for airplanes with a maximum seating configuration of 2 to 6 passengers.
  (3) Level 3—for airplanes with a maximum seating configuration of 7 to 9 passengers.
  (4) Level 4—for airplanes with a maximum seating configuration of 10 to 19 passengers.
  ...
How does develop an aircraft safe and more cost effective with an equivalent safety level of commercial aviation for small aircraft?
Proposed Solution

Introduce the STAMP (STPA) methodology as alternative means of compliance of the transport category airplanes (commercial aviation) process.
Actions & Plans

- Embraer proposed an alternative methodology using STPA for scope of system development **guided by safety** in the ASTM:
  - Oct/2017: Embraer/MIT proposed a new guide standard;
  - Mar/2018: Publish the draft of guide standard for review
  - Apr/2018: 1st meeting in ASTM to discuss face to face the proposal by committee

**WK60748 New Guide for Application of Systems-Theoretic Process Analysis to Aircraft**

**Work Item**

This standard provides guidance on the usage of Systems-Theoretic Process Analysis (STPA) techniques to aircraft. Provides a simplified and more rigorous approach to establishing design requirements for complex systems.

- Standard expected to be released in 4Q/2019
Thank you!

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