



Autonomous Distress Tracking (ADT) and Timely Recovery of Flight Data (TRFD)

Jessie Turner | Associate Technical Fellow | Airplane Systems – Avionics

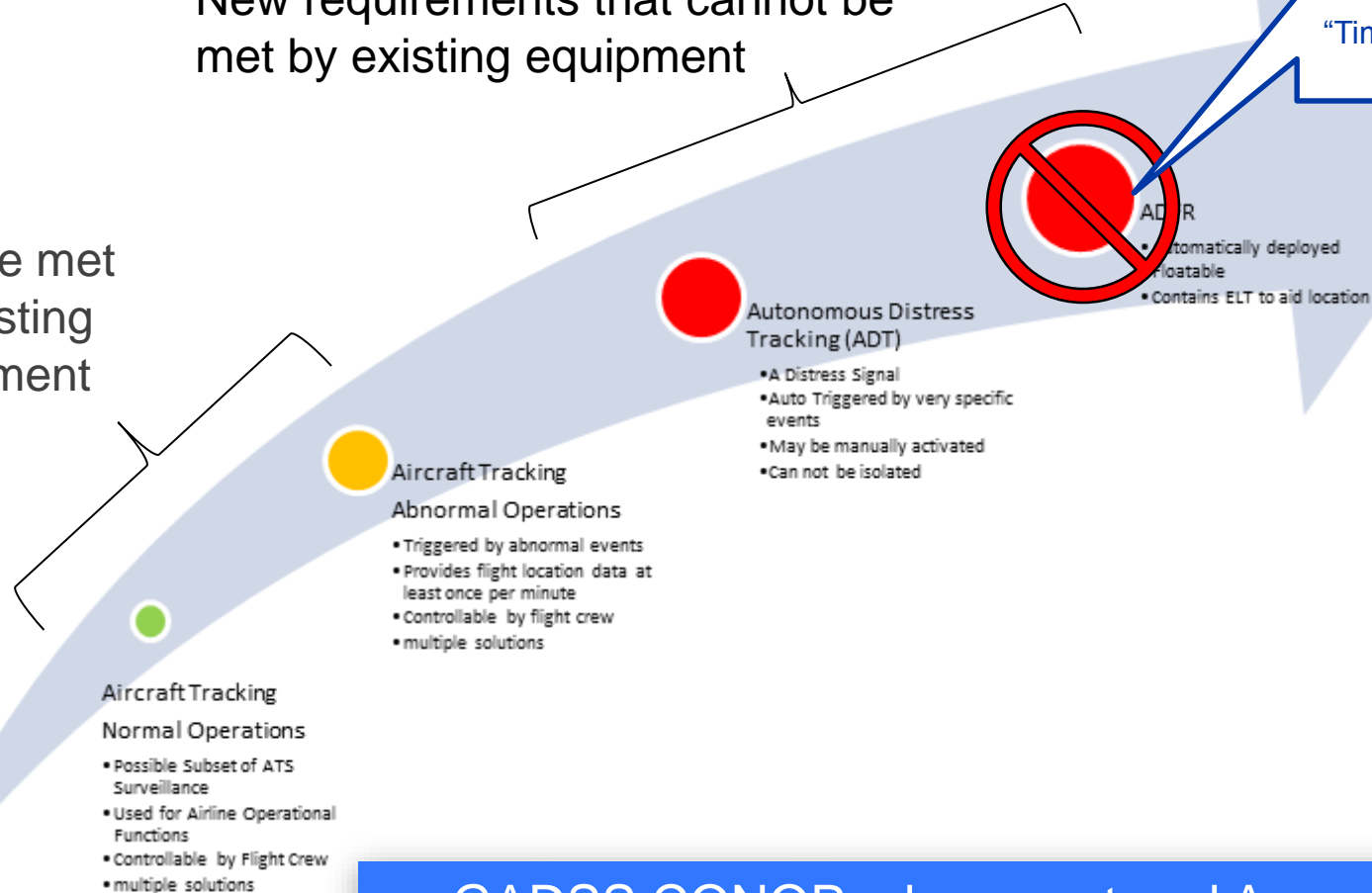
AEEC Systems Architecture and Interfaces (SAI) Meeting

October 11-12, 2016

GADSS Target Concept – Solutions Meeting the Requirements

New requirements that cannot be met by existing equipment

Can be met by existing equipment



ICAO has agreed to change to performance based requirements "Timely Recovery of Flight Data"

GADSS CONOPs document and Annex 6 changes are good indicators of where the regulators are headed



Regulatory Situation

- **ICAO Air Navigation Commission** has approved pending Annex 6 changes for ELT, Distress Tracking, and Data Recovery in March 2016.
 - Normal Tracking – November 8, 2018 (all aircraft)
 - Autonomous Distress Tracking (ADT) - Jan. 1, 2021 (Forward-Fit Only)
 - Fixed Emergency Locator Transmitter (ELT) not required if equipped with ADT.
 - Automatically Deployable Flight Data Recorder (ADFR) requirement modified. Now states that new type certs (applications for type cert submitted after Jan. 1, 2021) “shall be equipped with a means approved by the State of the Operator, to recover flight recorder data and make it available in a timely manner.”
- **The European Commission** has published Commission Regulation (EU) 2015/2338 (amendment to Annex I of Regulation (EU) No. 965/2012) on flight recorders, underwater locating devices, and aircraft tracking systems and released Draft Acceptable Means of Compliance (AMC) and Guidance Material (GM) for a “focused” consultation.
 - Requirements are similar to ICAO. Following are significant differences:
 - Normal Tracking: All other previously equipped airplanes must perform normal tracking (no retrofit). After 2021 Reporting rate increases to 3 min. unless equipped for distress tracking
 - Distress Tracking: Accuracy increases to 3 nautical miles after 2023.
 - Low Frequency-Underwater Location Devices (FL-ULD): not required if equipped with Autonomous Distress Tracking

Autonomous Distress Tracking (ADT) APIM

- Target APIM approval at the April 2017 AEEC General Session
- Phase 1 – Requirements Capture (3 months: May-July 2017)
- Phase 2 - Develop Candidate Architectures that meet the requirements (6 months: Aug. 2017 – Feb. 2018)
- Phase 3 - Choose an architecture(s) in which to develop detailed equipment and aircraft installation requirements (9 months: Mar. 2018 – Jan. 2019)
- Propose that work is accomplished within the SAI Subcommittee

Timely Recovery of Flight Data (TRFD) APIM

- Target APIM approval at the April 2017 AEEC General Session
- Phase 1 – Requirements Capture (6 months: June-Dec. 2018)
- Phase 2 - Develop Candidate Architectures that meet the requirements (12 months: Jan. 2019 – Dec. 2019)
- Phase 3 - Choose an architecture(s) in which to develop detailed equipment and aircraft installation requirements (13 months: Jan. 2020 – Jan. 2021)
- Propose that work is accomplished within the SAI Subcommittee

Summary

- Aircraft mandates for Autonomous Distress Tracking (ADT) are on the horizon.
- Aircraft design changes will be needed for new aircraft designs to meet new flight data recovery certification requirements
- We must partner together to provide industry-harmonized, optimum solutions!

