

Perspectives on Acquisition, Test, and Early Fielding of UAV Systems Curt Cook DOT&E



Perspectives

- <u>ACTD legacy:</u> Departure from the intent of ACTD process in most UAS programs set stage for numerous negative consequences affecting the systems' performance and pace of maturity.
- <u>**Dual-program problem:**</u> Development of the intended program continued concurrent with early fielding of immature systems. This created a dual-program problem (a deployed system and an intended system, both under development).
- <u>Limited meaningful testing</u>: As acquisition programs of the intended system took shape, service acquisition leadership and program management demonstrated an aversion to end-to-end, mission level OT&E (excepting few programs).
- **<u>Performance</u>**: The single most important performance characteristic for unmanned systems should have been high reliability--this has not been the case.

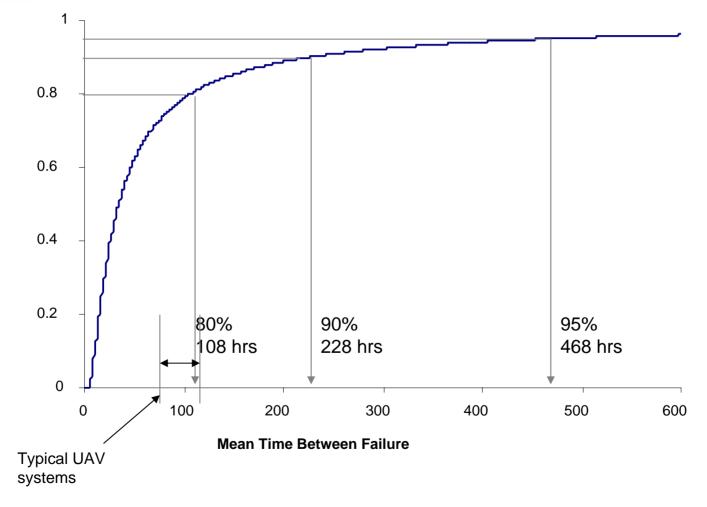


What should be done now?

- 1. Fielded systems: Invest in reliability growth and improvements to suitability.
 - Any other performance improvements must positively contribute to improved reliability and availability of the overall system.
 - Defend costs for spares, maintainability improvements, and deployability of systems.
 - Improve initial CONOPS: Document and spread the word on what worked, what didn't work, and what needs to be fixed in the integration of UASs with ground and air combat units.
- 2. Systems under development: Accomplish the fundamentals necessary for a successful program:
 - Ensure sufficient requirements traceability
 - Re-evaluate requirements for reliability and maintainability
 - Complete and validate concept of operations and support
 - Plan, resource and complete adequate developmental and operational testing

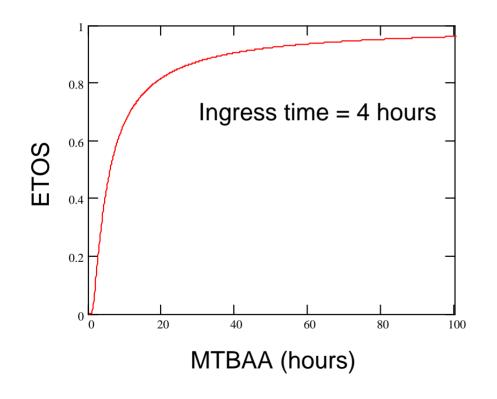


Probability of Completing a 24 Hour Mission Without a Failure





Effect of Air Aborts on Effective Time On Station



Assumes:

100 percent availability
Relief on Station (unlimited aircraft simultaneously airborne)
Instantaneous launch on request (no start up time)
No ground aborts
Exponential air abort distribution

Shows upper bound on ETOS imposed by air aborts

