

SAFEST

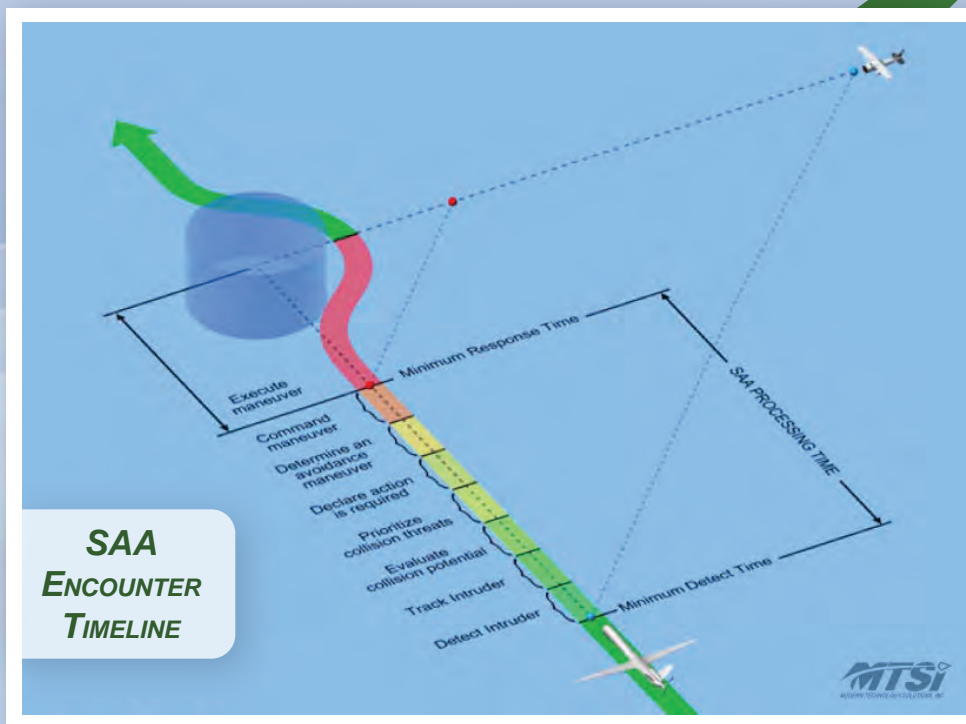
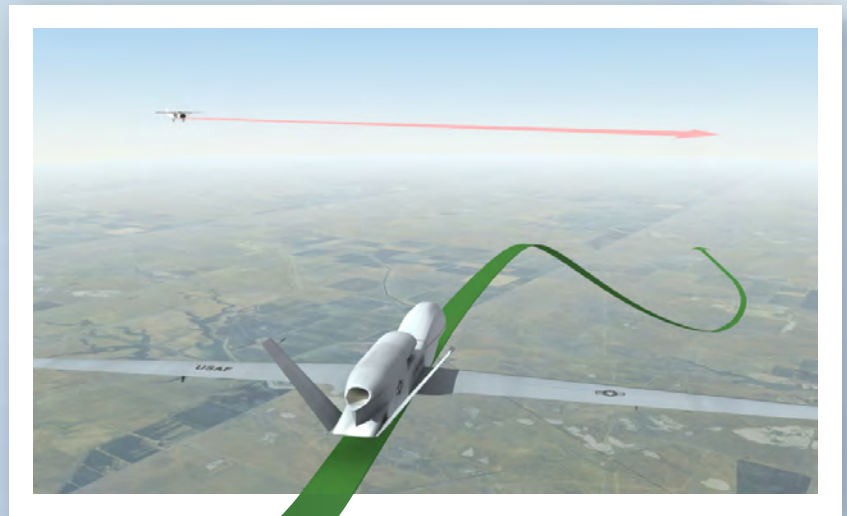
Sense and Avoid Flight Encounter Simulation Toolset



Overview

Unmanned Aircraft Systems (UAS) are more widely used than ever before in aviation history. However, UASs possess no inherent ability to “see and avoid” other aircraft to prevent collisions as required by regulations. With no pilot on board, a technical means of conducting “sense and avoid” must be used.

In response to this growing need, MTSI has developed SAFEST, a modeling and simulation capability to determine feasibility and effectiveness of possible UAS “sense and avoid” (SAA) technical solutions.



Key Benefits

- Characterize air traffic and density of airspace
- Determine probability of encounter/collision
- Determine effectiveness of Sense and Avoid system
- Perform trade studies of various detection sensors
- Data centric, physics based models
- Standardized interface for ease-of-use

Analysis Capabilities with SAFEST

Airspace Characterization Analysis

- Traffic density and aircraft types
- Airspace Class & Structure

Encounter Probability Analysis

- Rate of encounters per flight hour
- CONOPs and Airspace dependence

Collision Encounter Analysis

- Forced encounter analysis
- Ability to analyze any collision geometry, closure rate, etc.

SAA System Analysis

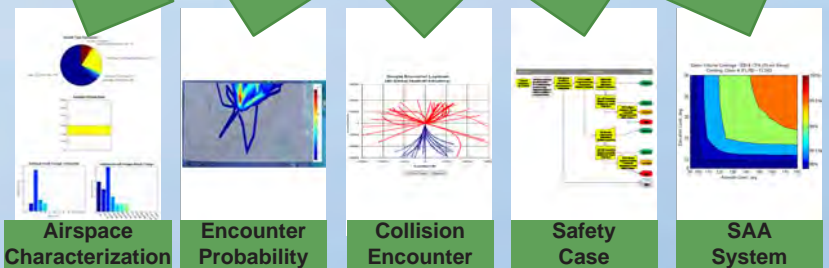
- Engineering analysis of performance requirements and capabilities
- Evaluation of sensors and algorithm performance

Safety Case Analysis

- Generate supporting evidence for Safety Risk assessments
- Ability to substantiate overall safety claims



TAILORABLE INPUTS



SAMPLE PRODUCTS

SAFEST Analysis: Repeatable, timely, and accurate results.



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