

NASA SBIR/STTR Technologies

A2.01-9364 - Uninhabited Traffic Management System Evaluator (UTME)



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Identification and Significance of Innovation

The key innovation of this effort is the development of an Uninhabited Aerial System (UAS) Traffic Manager Evaluator (UTME) specifically targeted at evaluating potential air traffic systems for handling low-altitude UAS flights. At low altitudes, the conventional air traffic management systems are ineffective, so a low-altitude air traffic control system specifically for UAS is under consideration. But how should such a UAS Traffic Management (UTM) system be structured? What are the fundamental requirements? How can different proposals for handling such traffic be evaluated? A UTM evaluator, which is the system proposed here, will help answer these questions.

Estimated TRL at beginning and end of contract: (Begin: 2 End: 3)

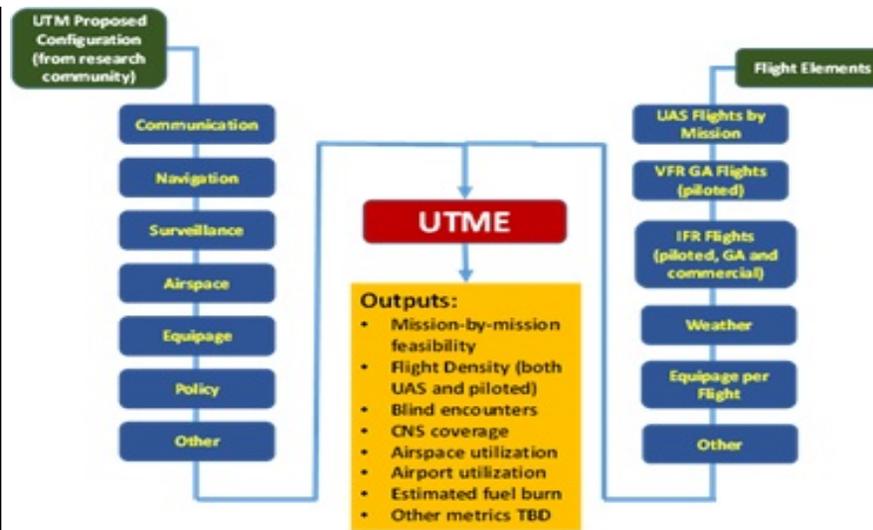
Technical Objectives and Work Plan

There are three technical objectives in this project:

1. Complete UTME design and interface specification
2. Outline and define a piece of the UTME design that can be implemented as a prototype.
3. Test the prototype with a sample UTM to show its feasibility.

-The work plan will demonstrate the feasibility of UTME by completing the following tasks:

- Complete the requirements analysis for UTME.
- Design the interface for UTME.
- Complete the algorithmic design for UTME.
- Implement a portion of UTME as a prototype.
- Test the prototype with a simplified UAS Traffic Management application.



NASA Applications

NASA researchers can directly use UTME to evaluate tradeoffs when designing a UAS Traffic Management system.

Non-NASA Applications

UAS manufacturers can use UTME to determine whether changes in their design would be necessary, or to identify operating characteristics of their systems early enough to allow time to modify the design.

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NON-PROPRIETARY DATA