

## NASA SBIR/STTR Technologies

# Spectral Imaging Visualization And Tracking System

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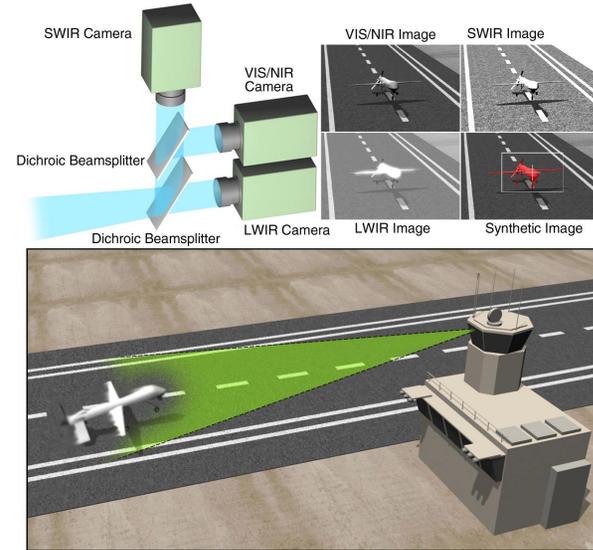
### Identification and Significance of Innovation

NASA is seeking technologies to enable a safer and more reliable space transportation capability; specifically, innovative ways to visualize and track vehicles during launch and landing are needed. Current optical imaging systems usually use standard cameras, which are sensitive light, only to visible light, with sufficient contrast only in daytime operation under good weather conditions. POC's proposed Spectral Imaging Visualization And Tracking System (SPIVAT) offers a superior and reliable visualization and tracking capability for day and night operation under all weather conditions.

Expected TRL Range at the end of contract (1-9):

Phase I: Level 4

Phase II: Level 6



### Technical Objectives and Work Plan

The overall goal of this project is to demonstrate for the first time the feasibility of SPIVAT in Phase I. Specific technical objectives include:

- Development of a preliminary design of the proposed SPIVAT system
- Identification of technologies for implementing the subsystems of the SPIVAT
- Integration, testing, and evaluation of the SPIVAT system for enhanced visualization and tracking
- Preliminary establishment of the SPIVAT technology for commercial applications.

The work plan includes the following tasks:

- Develop detailed technical requirements for proposed SPIVAT system
- Design SPIVAT Phase I system
- Analyze COTS components to ensure the system requirements are fulfilled
- Procure and test COTS components
- Develop hyperspectral/multispectral image fusion algorithms for target visualization and tracking
- Perform feasibility analysis
- Explore the commercial potential and product viability.

### NASA and Non-NASA Applications

The success of the SPIVAT project will ensure technology is available to NASA to visualize and track vehicles during launch and landing, with greatly extended capability. The SPIVAT technology can be directly applied to air traffic control, law enforcement, security, search and rescue, fire fighting, hunting, and the automotive industry.

### Contacts

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