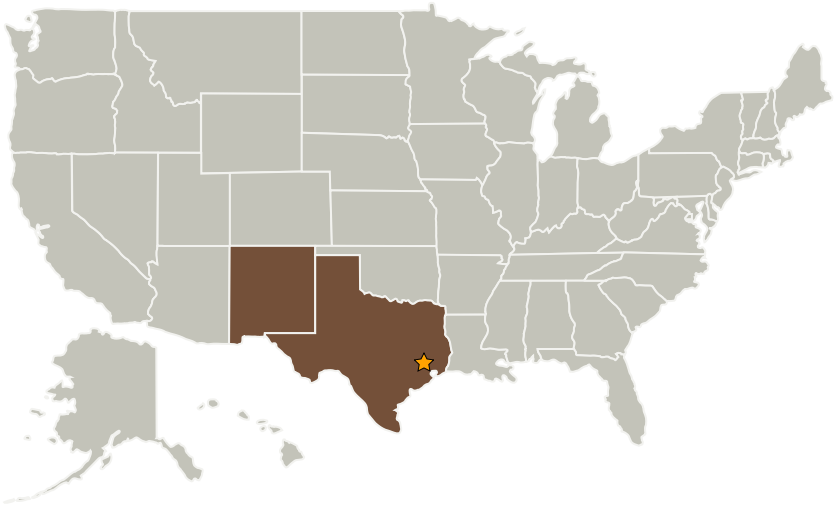
Advanced Situation Awareness Technologies, Phase I

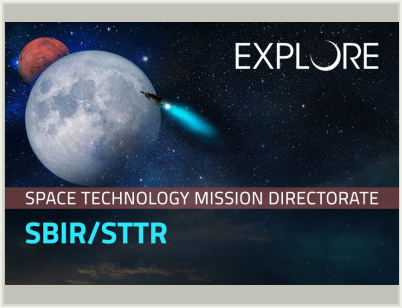
Completed Technology Project (2008 - 2008)

Project Introduction

Advanced Situation Awareness Technologies (ASAT) will facilitate exploration of the moon surface, and other planetary bodies. This powerful technology will also find application in the commercial sector, particularly submersible vehicle operation. ASAT will fuse video and other sensor technologies, with geographic databases to maximize vehicle operator situation awareness, and enhance the navigation state of the guidance and control system. During previous research and development activities RIS invented a method to use video camera data to enhance vehicle attitude estimation from gyroscopic inertial navigation systems. In non-earth environments, the absence of a strong reference field increases the problem of INS drift, and decreases operator situation awareness as a consequence. RIS will develope technology which enhances navigation and situation awareness in these challenging environments.

Primary U.S. Work Locations and Key Partners





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Organizational Responsibility

Responsible Mission Directorate:

Space Technology Mission Directorate (STMD)

Lead Center / Facility:

Johnson Space Center (JSC)

Responsible Program:

Small Business Innovation Research/Small Business Tech Transfer

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Organizations Performing Work	Role	Type	Location
★Johnson Space Center(JSC)	Lead Organization	NASA Center	Houston, Texas
Rapid Imaging Software, Inc.	Supporting Organization	Industry Women-Owned Small Business (WOSB)	Albuquerque, New Mexico

Primary U.S. Work Locations	
New Mexico	Texas

Project Management

Program Director:

Jason L Kessler

Program Manager:

Carlos Torrez

Principal Investigator:

Mike Abernathy

Technology Areas

Primary:

- TX11 Software, Modeling, Simulation, and Information Processing
  └ TX11.1 Software Development, Engineering, and Integrity
    └ TX11.1.9 Software Cyber Security