

# NAVY Transition Assistance Program

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## NEED & CUSTOMER REQUIREMENT

**Need:** More aircraft today are lost due to mishaps than are lost in combat. Between 70-80 percent of the losses are attributable to preventable human error – which is often difficult to predict and typically unintentional. Systems such as the Military Flight Operations Quality Assurance (MFOQA) provide a knowledge management process that analyzes flight data to identify human error and impending material failure before they lead to mishaps. More specifically, shipboard operations need post mission digital debrief and analysis of shipboard operations using high fidelity, merged and corrected, moving ship and aircraft positional information.

**Value to the Warfighter:** Provide the ability to debrief and analyze pilot performance in the shipboard recovery phase of maritime operations.

**Operational Gap:** Currently, land-based operations are depicted accurately from takeoff to landing with incredible fidelity. However, a similar capability does not exist for carrier-based aircraft due to the complexities of landing on a moving platform for Operational, Safety and Training purposes.

**Customer Specifications:** Correct, compensate and display merged moving ship and aircraft positions at a fidelity level that support post-landing debriefing and enables automated and user defined corrections to data.

**Technology Description:** Implementation of data compensation algorithms, aircraft carrier specific configurations resulting in compensated data with increased fidelity necessary for post flight debrief of embarked operations. The implementation will provide techniques for interacting with the algorithm and manipulating data for the purposes of increasing the accuracy of the playback.

## TECHNOLOGY DEVELOPMENT MILESTONES (SBIR/STTR)

Milestone	TRL	Risk	Measure of Success	TRL Date
Phase I: Read, process and display data from multiple sources	2	Low	Demonstrate ability to read data, display data in different Spatial Reference Frames (SRFs) and apply correction algorithm	March 2012
Phase II: Obtain and analyze a matched aircraft and carrier data set.	4	Moderate	Analyze parametric data from aircraft and carrier data sets for applicability to time-synchronized data compensation algorithm.	December 2013
Phase II: Prototype of a post flight analysis of landing on an aircraft carrier.	7	Low	Demonstrate prototype of a debrief and analysis of aircraft landing with a matched carrier data set.	June 2014

**Open contract:** N68335-13-C-0204 ending January 30, 2015

**Image Citation:** Photo courtesy of the US Navy, [http://www.navy.mil/view\\_image.asp?id=133653](http://www.navy.mil/view_image.asp?id=133653)

## N112-111 - BGI LLC

### Animation and Analysis of Shipboard Aircraft Recovery Using Ship's Geo-Referenced Data

#### SPONSORSHIP of original SBIR/STTR Topic

**SYSCOM:** NAVAIR

**Transition Target:** Military Flight Operations Quality Assurance (MFOQA)

**Original Sponsoring Program:** Air Combat Electronics Program Office (PMA 209)

**TPOC Contact Information:**  
301-757-6712



#### TECHNOLOGY TRANSITION OPPORTUNITIES (PHASE III)

**Other Potential Applications:** Rotary Wing Carrier Operations, Simulation Modeling Verification, Training Analysis, Engineering Analysis, Flight Test Engineering Analysis, Aircrew Debriefing.

**Business Model:** BGI will provide technical services to organizations that utilize this technology.

BGI is a project-based company that provides a wide variety of military, aviation and engineering related services. Training is our core expertise. However, in the last few years services have expanded in such areas as operational support, safety, sustainment and all aspects of systems engineering.

**Objective:** Proliferation of the technology to a wide user base, services to match the needs of individual user communities needing a meaningful display and analysis of disparate data sources.