EXPANDING NIA’S FOCUS

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National Institute of Aerospace is:

- An Independent Non-profit Research and Graduate Education Institute formed in 2002 by a Consortium of Six Universities and the AIAA Foundation
- Conceived by NASA Langley Research Center Conducts Collaborative Research in Engineering and Science relevant to Aerospace
- Leads and Participates in a wide range of Outreach Programs to enhance the nation’s Science and Technology Workforce
UxVs and their associated systems are proliferating in government, industrial and academic sectors of society.

In the near future multiple platform UxVs will play a vital role in the national economy.

Applications include National Defense, Search and Rescue, Homeland Security, Firefighting, Atmospheric Data Collection, Crop Survey, etc.

UxVs require major platform advances in vehicle guidance, navigation and control as well as improvements in aerodynamic efficiency and free flight in the national airspace.

Current research is fragmented and un-coordinated with regard to the national need.

CAVIAR will strengthen the workforce development pipeline.

CAVIAR will require a collaborative coordination of R&D in this important area to ensure the efficient use of limited resources to meet specific goals and priorities.

NATIONAL INSTITUTE OF AEROSPACE, MEMBER UNIVERSITIES AND COLLABORATIVE PARTNERSHIPS ARE UNIQUELY POISED TO ADDRESS THESE NEEDS.
Some Fundamental, Philosophical Questions

- How can CAVIAR help Hampton Roads be a nexus for world class interoperable robotic systems?
- Goal - CAVIAR assist Hampton Roads to be the robotic ‘go to’ R&D place
- Goal - CAVIAR effectively create industry/academic partnerships for business pursuit

- NIA funding development leadership
- Academic & Entrepreneur technical leadership
- $ for local research programs
- $ for core universities programs
- $ for research lab equipment
Start Small, Keep Scalable and Grow!

- Build on existing strategic partnerships
- Target competitive programs/proposals
- Partner with Industry and Academia
- Produce IP, Utilize Academic IP
- Exploit local unique environment and compelling multi-mode practice exercises
- Help Hampton Roads to be known as THE PLACE to test and evaluate real time interoperability!
Targets - DoD & Research

• Creation of Virtual Portable Safety Cooperative Boundary (VPSCB)

• VPSCB to answer site safety, collision avoidance question for T&E on range sites

• VPSCB to enable Hampton Roads and NIA/CAVIAR specifically to showcase unique resources

• DARPA BAA Submersible Aircraft
  – Partnered to pursue this program
  – Providing Researchers from member institutions

• Seek additional appropriate teaming, R&D opportunities

• Facilitate Research IP transfer to Business Opportunities
Targets - First Responders / Education

- Maintain existing SPAWAR Community of Interest contacts and establish new ones at DHS
- Pursue DHS R&D with multiple robotic platform solutions
- Transitioning technology from R&D to appropriate applications
- Creation of Grad Student Robotic Club
  - Create relationship with FIRST Robotics
- Explore International robotic opportunities with other Universities
- Facilitate Academic Research IP transfer and partnerships
CAVIAR GOALS

- Relentless Pursuit of Interoperable Autonomous Vehicle Opportunities to solve Problems
- A place where unmanned air, sea, and ground robotic systems can learn to ‘play together’
- State of the Art R&D
- Business and Academia Partnership
- Creation of Jobs
CAVIAR – a National Solution
Questions?