BRIDGING THE VALLEY OF DEATH

Many research and technology prototypes that would be operationally useful to the United States Coast Guard (USCG) are developed for basic research and fail to reach their transition and delivery phases. This translational research “valley of death” can decrease USCG readiness, effectiveness, and efficiency. Bridging that valley from basic research prototypes to operational capabilities can help advance and deliver innovative, impactful, and operationally relevant technologies to USCG operators, enhancing their safety and effectiveness.

To achieve these goals, the Science and Technology Directorate (S&T) partnered with the USCG Research and Development Center’s (RDC) Science & Technology Innovation Center (STIC) to utilize RDC resources. This alliance also assists in defining gaps and requirements, as well as allowing for rapid operational assessments and testing. These capabilities outline necessary technology adaptations and integration needs to ensure successful transition and delivery of developed solutions.

RAPIDLY ADDRESSING USCG NEEDS

The STIC addresses emergent USCG needs by leveraging, modifying, or adapting technologies to meet those requirements. Due to the dynamic nature of urgent and emergent USCG functional baseline characteristics, the STIC focuses on research, development, test, and evaluation (RDT&E) areas, such as:

- Command, Control, Communications, Computers, Intelligence, Surveillance, and Reconnaissance
- Environment and Waterways
- Modeling and Simulation
- Surface Technology
- Systems and Unmanned Technology (Air, Surface, Subsurface)

The RDT&E and technology solutions are obtained through a variety of deliverables, which are tailored to the unique functional characteristics of each solution pursued. These deliverables include:

- Formulation of operational view concepts
- Development of design drawings or documentation
- Technology assessments, tests, or demonstrations in relevant environments

COLLABORATION IMPACT

This S&T and USCG RDC collaborative project will enhance USCG’s operational effectiveness. The goal is to bridge translational research through adaptation, integration, and testing to prepare innovative technologies for transition and delivery.

The collaboration focuses on high technology readiness level technologies that require operational testing and assessments to determine their utility in the field, and what adaptations might be necessary for USCG missions and operations. The STIC assumes the role of operational test agent for potential technology solutions to help bridge the valley and ensure successful transition and delivery.

RECENT TECHNOLOGIES

The following technologies were operationally tested and evaluated in FY21:

- Mobile Tethered Video Systems
- Inland Brush Cutter
- Unmanned Vehicle Sensors
- Laser Corrosion Removal
- Counter Narcotics Go-Kits
- Diesel Outboards for Small Boats
- Trillium Ball Electro-Optical/Infra-Red Sensor
- Stabilized Binoculars
- Drone Mapping
- Window Clarity System
- LED Safety Lighting
- 3D Metal Printer

PERFORMER/PARTNER

- U.S. Coast Guard Research and Development Center