



### SECURING AND IMPROVING THE MARINE TRANSPORTATION SYSTEM

The maritime domain is rapidly evolving, driven by industry demand and technological innovation. This level of technological advancements creates a broad range of new challenges for the United States Coast Guard (USCG) and other stakeholders to ensure safe and unimpeded access to the nation's waterways. Currently, the USCG expends considerable time and resources to fulfill its mandate to provide for the safety and economic security of U.S. maritime ports and waterways and ensure the resiliency of the United States Maritime Transportation System (MTS).

Ensuring the free flow of goods and vessels along the MTS requires addressing evolving threats to its infrastructure and modernizing capabilities. Modern technologies are needed to monitor the status of aids to navigation and ports, to predict and assess risk, identify and respond to evolving cyber threats, and intercept non-compliant vessels (NCVs).

### USING NEW TECHNOLOGIES

The Coastal, Port, and Waterway Security project encompasses the following efforts:

- The Department of Homeland Security (DHS) Science and Technology Directorate (S&T) is developing port and waterway resiliency analytical visualization tools, data, and technologies to provide USCG waterway managers with more effective and user-friendly capabilities. This effort will enhance the USCG's Waterways Analysis and Management System and include research on other capabilities to address DHS maritime management challenges, while maintaining fiscal responsibility.
- A study has been commissioned by S&T to examine the vulnerabilities of commercial ports within the MTS. The objective of the Port Resiliency and Security research testbed effort is to produce a research study analyzing maritime port networks to understand how resources are deployed and to identify research, development, test, and evaluation needs that are unique to the MTS. This study aims to better understand how commercial port operators deploy their Informational Technology and Operational Technology systems, the resiliency of these systems, and what improvements can be made to reduce vulnerabilities

in U.S. ports, evaluate the effectiveness of current protections/mitigations, and harden the maritime port infrastructure against cyber intrusions and disruptions.



- USCG currently lacks technical capabilities for achieving vessel disablement that are reliably effective across the expected range of NCV types, including outboards and jet boats. S&T is developing a new non-lethal, contactless vessel stopping technology that can quickly and reliably disable an NCV vessel, without undue risk to the USCG crew, the NCV passengers, or the intercepted vessel. By taking proactive measures to address this issue, USCG can ensure the safety and security of U.S. borders and prevent illegal activities that threaten the nation's well-being.

### FORWARDING THE DHS MARITIME MISSION

The MTS is a complex network of interconnected systems overseen by federal, state, local, tribal, and territorial governments with overlapping authorities and missions. It is a vital part of the U.S. economy, generating 13 million jobs and contributing \$649 billion to the U.S. Gross Domestic Product. Ensuring that the systems managing the MTS are both efficient and resilient is critical to safeguarding the continued economic health of the United States and the many communities that depend on inland waterways. The tools and capabilities developed under this project will prevent disruptions to economic activity along the MTS and maintain safe operation of vessels along U.S. inland waterways.

### CUSTOMER

- USCG

