The Research and Development Center is home to the Coast Guard’s Photometric Laboratory, which supports test and evaluation of aids to navigation to improve performance, lower costs and extend maintenance intervals.

The RDC houses the Automatic Identification System Laboratory, which provides a platform to evaluate AIS data feeds from a variety of sources and test capabilities before implementing operationally.

The RDC opened the Modeling and Simulation Center of Expertise in June 2014, which provides the Coast Guard timely, cost-effective access to powerful modeling and simulations capabilities and analysis to aid decision making.

The RDC operates a Joint Maritime Test Detachment in Mobile, Alabama; it is the only facility in the world using actual ships for full-scale fire testing.

For updates on many RDT&E programs, visit the R&D Center’s website at http://www.uscg.mil/acquisition/rdc or use this QR code:

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Mission execution begins here.
measurement and analysis, and performance model validation programs.

Command, Control, Communications, Computers, Intelligence, Surveillance and Reconnaissance

The C4ISR Branch supports maritime domain awareness, command and control, tactical communications and cyber technology programs.

Environment & Waterways

The E&W Branch supports aids to navigation, pollution and non-indigenous species prevention and response, and Automatic Identification System programs.

Recent and Ongoing RDT&E Programs

Polar Icebreaker Acquisition Support
ASA Branch
The RDC is supporting development of an Operational Requirements Document and is conducting an Alternatives Assessment to help decision-makers with the acquisition of a new polar icebreaking capability to ensure the Coast Guard can continue fulfilling its statutory icebreaking mission in the polar regions.

Operational Testing of Electro-Optical/Infrared Sensor System
Aviation Branch
This program validated the effectiveness of ESS operations and provided recommendations to improve current ESS settings, configurations and employment techniques on the MH-60T and MH-65C/D helicopters to ultimately increase search and rescue and maritime domain awareness mission effectiveness.

Coast Guard Maritime Operational Effectiveness Simulation Application

M&SCOE
This program addresses the need for a streamlined capability for routine Coast Guard-wide asset allocation/force structure support initiatives, operational effectiveness assessments and systemwide trade-off studies to support strategic capability and acquisition decision-making.

Modeling and Simulation Center of Expertise

The M&SCOE, unique to the RDC, produces tools that support fleet mix analysis, tactical mission engagement “what-if” scenarios, sensor optimization, resource allocation and game theory-based scheduling tools.

Surface

The Surface Branch provides program support to Arctic missions as well as programs to enhance vessel technology, port security, law enforcement, alternative energy and weapons of mass destruction identification and prevention capabilities.

Arctic Communications
C4ISR Branch
This program validated High Frequency communication coverage models in the Arctic and helped identify inland locations for new HF infrastructure that could close gaps, improving range, clarity and consistency of communication for Coast Guard assets operating in this area.

Detection & Mitigation of Oil Within the Water Column
E&W Branch
This program focused on the development of a detection system to identify and track subsurface oil spills within the water column. Phase I developed design concepts and Phase II concentrated on prototype development and testing to ensure the Coast Guard's response capability to environmental disasters beneath the water's surface.

Non-Lethal Impact Munitions
Surface Branch
This program identified and assessed four state-of-the-art non-lethal weapon systems and six different munitions to expand the Coast Guard's non-lethal munitions capabilities in vessel-to-vessel, high-speed pursuit scenarios, ultimately providing units with greater flexibility when compelling compliance from noncompliant vessels.