

A NATIONAL RESOURCE FOR ADVANCED UNDERSEA TESTING, INNOVATION, AND COLLABORATION.

The MITRE BlueTech Lab is a state-of-the-art, indoor maritime test facility and collaborative laboratory for innovators and researchers to advance marine technology, strengthen climate resilience, and increase national security and safety.

Testing marine technologies at sea is expensive and difficult. Conducting in-water testing prior to launching costly at-sea experiments radically reduces risk. And sharing access to resources reduces costs and increases agility.

MITRE's BlueTech Lab is a testing facility that enables the regional BlueTech innovation community to rapidly prototype new technology quickly and safely.

Featuring the longest and one of the largest tanks in the region (106' x 40' x 19.7'), with a capacity of approximately 620,000 gallons—the BlueTech Lab's test tank accommodates the use of unmanned undersea and surface vehicles in a large, controlled space and enables testing of communication and acoustic sensing systems at lower transmission frequencies and longer signal lengths than other facilities.

Together, we are
enabling greater
understanding of
the world's oceans.

Located in Bedford, Massachusetts, MITRE BlueTech Lab's test tank will be open for use by research and industry partners starting fall 2023.



Featuring the longest
and one of the largest
tanks in the region

106' LONG

40' WIDE

19'+ DEEP

620,000 GALLON
CAPACITY

What We Do

Research and development, testing, rapid prototyping, and workforce development in acoustic sensing, acoustic communications, unmanned underwater vehicles, maritime autonomy, and climate science.

BlueTech Lab Capabilities

Positioning and Measurement

- Underwater video and motion capture system with localization and tracking accuracy of ~1cm.
- Precision acoustic calibration and beam pattern measurements between 5-600 kHz with 0.1° resolution
- Full-bandwidth raw data acquisition with synchronized multi-channel arbitrary waveform transmit and receive
- Catalog of underwater transducers for transmit and receive

Platforms

- Vehicles for payload testing, including surface boats, ROVs, and UUVs
- Suite of COTS Acoustic Communication (Acomms) modems

Connectivity

- Real-time collaboration and information sharing with academic, industry, and government partners across the nation via Blue Networked, Experimentation, Research, and Virtualization Environment (BlueNERVE)

Infrastructure

- Unclassified or classified experimentation up to Collateral Secret
- Two-ton overhead gantry crane
- Surface-level mobile platform with rotary stage for precise positioning
- Dry lab with shared test equipment and visitor storage



For more information about using or connecting to the MITRE BlueTech Lab, contact bluetech@mitre.org.

MITRE's mission-driven teams are dedicated to solving problems for a safer world. Through our public-private partnerships and federally funded R&D centers, we work across government and in partnership with industry to tackle challenges to the safety, stability, and well-being of our nation.

MITRE | SOLVING PROBLEMS
FOR A SAFER WORLD®