

# Department of the Navy SBIR/STTR Transition Program

DISTRIBUTION STATEMENT A. Approved for public release. Distribution is unlimited.

NAVSEA #2021-0386

Topic # N19A-T011

Remotely Operated Vehicle (ROV) Deployed Underwater Attachment

Texas Research Institute Austin, Inc.

## WHO

**SYSCOM:** NAVSEA

**Sponsoring Program:** Code D24

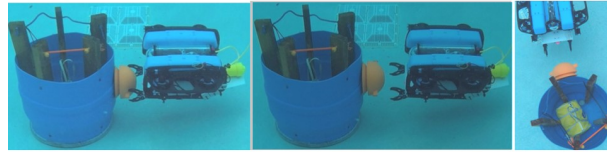
**Transition Target:** Next Generation EOD Underwater Response Vehicle

**TPOC:**

(301)744-5095

**Other transition opportunities:**

Commercial underwater repair and construction and off shore oil and gas industries.



*Pictures of the CDS being released after simulated bonding.*

Copyright TRI 2021

## WHAT

**Operational Need and Improvement:** The Navy needs the ability to non-intrusively attach specialized explosive ordnance disposal (EOD) by remotely operated vehicles (ROV) to neutralize underwater threats.

**Specifications Required:** The Navy has particular interest in strong underwater adhesives or other non-intrusive attachment systems that can be integrated onto ROV's to deliver specialized EOD tools. Attachment methods must be able to adapt to EOD tools without modification and must not increase the influence signature of the ROV.

**Technology Developed:** We have developed a new class of adhesives for underwater applications, the adhesive has exhibited excellent strength in all underwater conditions. The interface between the explosive ordnance disposal (EOD) should easily transition to the next generation of EOD ROV's.

**Warfighter Value:** We will be able to demonstrate the feasibility of a modular charge delivery system (CDS) that uses a quick reacting adhesive that allows the ability to neutralize a mine by precision placement of a mechanical disruptor using an ROV. The adhesive will work on all surface types, water temperatures, and degree of water salinity. This technology will reduce the risk to divers who currently manually attach the EOD's.

## WHEN

**Contract Number:** N68335-21-C-0029 **Ending on:** December 3, 2021

Milestone	Risk Level	Measure of Success	Ending TRL	Date
Finalize underwater adhesive formulation	Med	Cure in less than 1 minute	6	November 2021
Integrate the system to ROV	Med	Tank Testing	6	May 2022
Tank testing of the system	Med	Functions correctly tank testing	6	May 2022
Sea Testing of system	High	Functions effectively at sea	7	November 2022

## HOW

**Projected Business Model:** The commercialization strategy will to both make and sell the rapidly curing underwater adhesive for use in underwater repair and construction along with Navy applications.

**Company Objectives:** We will add the rapid cure underwater adhesive to a line of subsea products already made and sold through the marketing arm TRI Applied Technologies, Inc. We currently have subsea products that are sold to the Navy and commercial customers to include, NCC coating, marine greases, and polyurethane over mold systems.

**Potential Commercial Applications:** Other potential markets would include off shore oil and gas and various subsea repair and construction markets. We will work with teaming partners and distribution to assist and transition the technology to these market segments.

**Contact:** Vince Newton, Director Business Development  
vnewton@tri-austin.com 7039444763