

# Department of the Navy SBIR/STTR Transition Program

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

ONR Approval #43-5915-19

Topic # N162-130

Rapid Sealing Technology for Navy Undersea Surveillance System Cable Joints  
Grid Logic Incorporated

## WHO

**SYSCOM:** ONR

**Sponsoring Program:**

**Transition Target:** Raytheon Integrated Defense Systems program

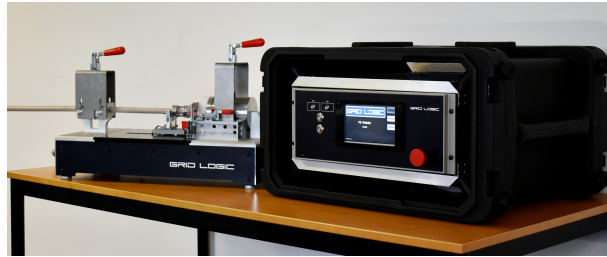
**TPOC:**

Dr. Ignacio Perez  
[ignacio.perez1@navy.mil](mailto:ignacio.perez1@navy.mil)

**Other transition opportunities:**

Commercial undersea communications cable laying providers.

U.S. Navy and commercial high-performance, long-term sealing for surface and subsurface electronics.



Copyright Grid Logic Inc. 2019. All rights reserved.

## WHAT

**Operational Need and Improvement:** Permitted rapid deployment of undersea cables and similar electronic devices.

Delivered process time reductions from hours to minutes in Navy application.

**Specifications Required:** Specifications developed with Raytheon Integrated Defense Systems.

**Technology Developed:** Thermoplastic welder and method for manufacturing high-performance thermoplastic components that can be sealed for demanding applications.

--Non-contact

--Very low processing time relative to current methods

--Tight process control

--Automation of qualified recipes for joint formation

--Mobility and potential for operating devices in harsh conditions

**Warfighter Value:** Enables new U.S. Navy scenarios for rapidly and inexpensively sealing electronic devices and assembling plastic components on site or in expeditionary environments.

## WHEN

**Contract Number:** N68335-18-C-0831 **Ending on:** November 7, 2019

Milestone	Risk Level	Measure of Success	Ending TRL	Date
Initial welder prototypes available for Raytheon tests	Low	Performance to specification	7	1st QTR FY20
Thermoplastic component manufacturing method	Low	Performance to specification	7	4th QTR FY19
Weld quality performance data	Low	Performance to specification	7	1st QTR FY20
Preparation for transition event	Med	Performance to cost and specification	7	1st QTR FY20

## HOW

**Projected Business Model:** Grid Logic will sell thermoplastic welders customized to applications. It will also provide certified thermoplastic component kits to meet demanding application environments.

**Company Objectives:** Sale and support of welding devices and certified components to standards set for demanding applications.

**Potential Commercial Applications:** Undersea cable laying operations.  
Oil field and mining piping operations.

**Contact:** George Caravias, Chief Executive Officer  
[caravias@grid-logic.com](mailto:caravias@grid-logic.com) 810-728-2468