

# Department of the Navy SBIR/STTR Transition Program

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

NAVWAR SR-2020-216

Topic # N172-137

Advanced Cooling Technologies for Multifunctional Information Distribution System (MIDS) Terminals

ROCCOR, LLC

## WHO

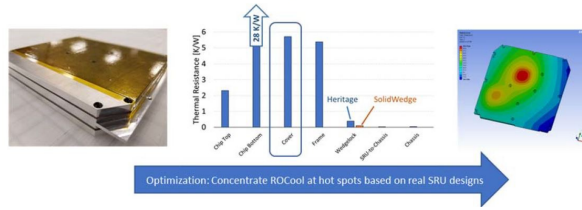
**SYSCOM:** NAVWAR

**Sponsoring Program:** MIDS JTRS

**Transition Target:** MIDS-JTRS

**TPOC:**

**Other transition opportunities:**



## WHAT

**Operational Need and Improvement:** The next generation of Multifunctional Information Distribution System (MIDS) radio terminals are currently under development and the Navy is in need of improved thermal management technologies to enable the current state of the art signal processing capabilities within the currently deployed fleet environment.

**Specifications Required:** A 30% improvement in heat transfer without adverse impact to terminal reliability performance

**Technology Developed:** ROCool, an ultra thermally conductive patch made from pyrolytic graphite sheets (PGS).

**Warfighter Value:** Minimally invasive patch can be applied to existing architectures in order to provide enabling thermal enhancements and increasing SWAP.

## WHEN

**Contract Number:** N68335-19-C-0517

Milestone	Risk Level	Measure of Success	Ending TRL	Date
End of Phase I	N/A	Award of Phase II	TRL 3	February 2019
End of Phase II Base	Med	A thorough understanding of the MIDS JTRS baseline thermal performance. Successful thermal performance testing of ROCool on relevant hardware	TRL 4	TBD
End of Phase II Option 1	Med	Successful environmental tests of ROCool on relevant hardware	TRL 5	TBD
End of Phase II Option 2	High	Successful thermal and environmental testing at the MIDS JTRS system level on relevant hardware	TRL 6	TBD

## HOW

**Projected Business Model:** The ultimate goal is to provide ROCool patches to ViaSat and DLS for integration into the MIDS JTRS terminal. Roccor will leverage its expertise in composites manufacturing and facilities to produce the ROCool patches in house.

**Company Objectives:** To position Roccor's thermal management technologies for insertion into a program of record. In particular, results from the Phase II program will justify follow-on investments (e.g., sequential Phase II or Phase III program) through which mature, flight-ready systems can be developed for the MIDS JTRS vendors. Roccor envisions directly supplying ViaSat and DLS with SBIR-developed hardware for qualification testing.

**Potential Commercial Applications:** Electronic packages continue to grow both smaller and more powerful, enabling revolutionary new capability but giving rise to unprecedented needs for heat spreading and dissipation. Roccor will extend the development proposed herein to commercial and military markets ranging from telecom equipment and server farms to directed energy and satellite tactical communications.

**Contact:** Mario Saldana, Lead Thermal Engineer  
[mario.saldana@roccor.com](mailto:mario.saldana@roccor.com) 5593039944