Triton Systems, Inc.

Dive Helmet Communication System

Triton Systems, a technology development company that provides innovative solutions for military and commercial applications, is currently developing a communication system for helmeted divers to replace the current system developed in the 1960's. Currently these divers have difficulty communicating among themselves and with the surface due to outdated equipment and sustained background noise levels over 100 dBA. The system has been prototyped, and increased intelligibility has been demonstrated for divers both transmitting and receiving messages. While this communication system has been designed specifically for helmeted divers, it could be adapted for use by other branches of military service with unique communication system requirements. Triton's goal is to integrate and transition this technology into government and prime contractor systems for specialized communications systems.

Technology Category Alignment:
Electronics Integration
Protection, Sustainment, and Warfighter Performance

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SYSCOM: ONR
Contract: N00014-17-C-7042
WHO
SYSCOM: ONR
Sponsoring Program: SEA 00C3
Transition Target: SEA 00C3
TPOC: Mr. Kurt Yankaskas
kurt.d.yankaskas@navy.mil
Other transition opportunities: Pilot communication systems, scuba communication systems, special ops

WHAT
Operational Need and Improvement:
Helmeted divers frequently have difficulty communicating among themselves and with the surface due to outdated equipment and background noise. Noise levels inside dive helmets can reach sustained levels over 100 dBA from either regulator operation or due to underwater tools. Currently, divers will often skip breathe during communications in order to hear the incoming message. Triton's diver communication system dramatically improves communication intelligibility between the surface and the diver.

Specifications Required:
The replacement diver communication system must significantly improve both surface-to-diver and diver-to-surface communications. The system should also reduce noise level exposure to below 85 dBA. The system must address diver utility and not impair the divers ability to equalize pressure in the eardrums. The system must be robust against pressure at a depth of 300 ft of seawater, with stand splash and partial immersion, and survive a drop from 1 m as well as rough treatment by divers (getting stepped on, etc). The system must be positively buoyant. Finally, the system must be compatible with current analog umbilical and forward compatible with future fiber optic umbilical lines.

Technology Developed:
Triton's diver communication system is a drop-in replacement for the current communication system that does not modify the helmet, umbilical, or require additional batteries.

Warfighter Value:
Reducing the noise level exposure to below 85 dBA in the dive helmet will reduce the risk of noise induced hearing loss among Navy divers. Improving the intelligibility of the communication system will increase the efficiency and safety of diver operations.

HOW
Projected Business Model:
Triton's goal is to license the IP to a manufacturing partner.

Company Objectives:
Triton's goal for the diver communication system is to secure adoption through SEA 00C3.

Potential Commercial Applications:
Commercial divers

WHAT
Commercial divers
Contact:
Brian Fowler, Senior Acoustics Engineer
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