Department of the Navy SBIR/STTR Transition Program

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ONR Approval #43-5882-19

Topic # N162-123
Holographic Enabled Display System for Force-on-Force Marine Training
Creative MicroSystems Corp.

WHO

SYSCOM: ONR

Sponsoring Program:

Transition Target: Mobile Fire Support Trainer

TPOC:
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Other transition opportunities:
Improving training and simulation speed, quality and cost and increasing situational awareness of warfighters is applicable across all military domains.

Notes: Image shows a wide field of view AR display with military assets overlaid on a real world environment.

Ultra Wide 180° FOV
Bright Full Spectrum Color
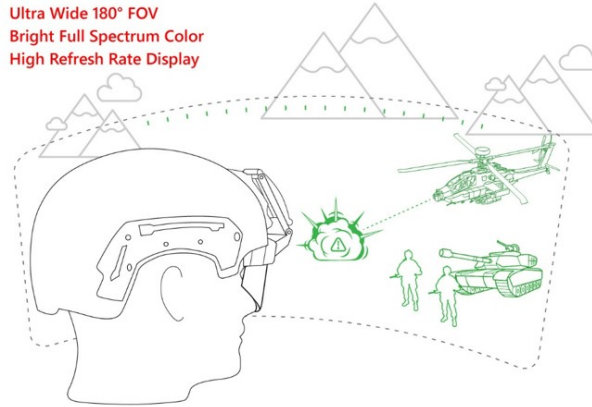High Refresh Rate Display

Image Courtesy of Creative Microsystems Corp.

WHAT

Operational Need and Improvement: Augmented Reality (AR) can replace or supplement parts of the training scenario with simulated virtual objects overlaid on the user's real world vision. AR reduces required space, equipment, safety risks, and has substantial cost benefits. This system will dramatically increase the usability by providing a daylight bright, wide FOV display that will increase the realism and effectiveness of the training scenarios.

Specifications Required: Develop a helmet mounted, ultra-wide FOV display, with high resolution and sunlight/night capable, which is compatible with the standard warfighter training equipment.

Technology Developed: Develop a helmet mounted, ultra-wide FOV display, with high resolution and sunlight/night capable, which is compatible with the standard warfighter training equipment.

Warfighter Value: Enhanced force-on-force training simulations to improve the training experience, resulting in higher warfighter performance. Increased warfighter situational awareness with overlaid data or in response to a stimulus, resulting in higher mission effectiveness. Display provides minimal disruption to natural vision so there is no effect or eye strain to impact warfighter's existing capabilities

WHEN

Contract Number: N68335-18-C-0177   **Ending on:** January 31, 2020

Milestone	Risk Level	Measure of Success	Ending TRL	Date
Demonstration of Build #1- Initial Capability	N/A	Display available for viewing at the HPT&E Spring Technical Review	3	2nd QTR FY19
Demonstration of Build #2 at WAR Build 5 Event	N/A	Display demonstration during WAR Build 5 event at Quantico, VA	3	3rd QTR FY19
Deomstration of Build #3	Med	Display available for viewing at the HPT&E Fall Technical Review	3	4th QTR FY19

HOW

Projected Business Model: Creative Microsystems Corp. has the onsite capabilities to provide low volume custom display systems and submodules. We are also willing to partner with larger primes or contract manufacturing for larger volume projects.

Company Objectives: Creative MicroSystems is a world leader in ruggedized, outdoor Augmented Reality display systems that use our proprietary holographic Imageguide™ display technology. Our displays are changing the paradigm with sunlight readability without sunshades, extremely wide field of view, and rugged, compact designs. We are dedicated to creating custom AR solutions for customers and have a proven track record of delivering see through AR displays that provide minimal disruption to natural vision while delivering critical information to the user in a non-intrusive manner based on human factors testing and customer requirements.

Potential Commercial Applications: AR is an rapidly expanding marketplace and Creative Microsystems is helping to create the displays that will take it to the next level by extending the user environment to the outdoors and creating custom solutions for customer.

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