Department of the Navy SBIR/STTR Transition Program

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NAVAIR SPR 2022-713

Topic # N201-024
Augmented Reality Headset for Maintainers
BANC3, Inc

WHO

SYSCOM: NAVAIR

Sponsoring Program: NAVAIR PMA-260 (Common Aviation Support Equipment program office)

BANC3-owned & developed graphic (2021).

Transition Target: Our Navy and Marine Corps customers are maintainers: Augmented Reality (AR) headsets that meet Navy and Marine Corps maintainence requirements for cybersecurity, data infrastructure, and environmental requirements are critical; hardware that can run PMA-260's AR-remote support / assistance software to support various aircraft maintenance tasks is equally important.

TPOC: (732) 323-1833

Other Transition Opportunities: Banc3 would like to build and expand upon existing relationships with Department of Defense customers needing AR in aerospace, sea, ground combat and logistics fields, as well as other government agencies such as DHA, VA, and DHS. Commercial markets with applicable use cases include Healthcare, Automotive, Education, and Telecommunications.

Notes:

WHAT

Operational Need and Improvement: To increase Navy and Marine Corps aircraft maintainer capabilities & efficiency, NAVAIR is seeking an Augmented Reality headset for remote assistance capable of connecting two users from any location worldwide through a virtual environment. The AR headset also needs to meet cybersecurity, data infrastructure, and environmental requirements at the Organizational (O-), Intermediate (I-), and Depot (D-) levels of maintenance aviation activities for Navy and Marine corps.

Specifications Required: - Cybersecurity & data infrastructure that meets applicable DISA Security Technical Implementation Guides (STIGs) requirements
- Common Access Card (CAC) integration to provide multi-factor authentication
MIL-STD-810G Environmental Conditions, Methods 501.5, 502.5, 509.5, 516.6
- Display viewable in direct sunlight and during night operations
- EMI Compliance: MIL-STD-461E
- HERO Compliance: OD 30393 HERO Design Guide

Technology Developed: BANC3 is developing an Augmented Reality headset to meet Navy and Marine cybersecurity, data infrastructure, and environmental requirements and with the needed capabilities for integration with PMA 260's software in development, Augmented Reality Remote Maintenance Support Service (ARRMSS), for AR/MR remote assistance for complex and irregular maintenance actions.

Warfighter Value: Enhances efficiency and effectiveness of Navy and Marine corps maintainers by connecting them to SMEs / specialized personnel to assist through a virtual environment.

WHEN

Contract Number: N68335-21-C-0599 **Ending on:** Jan 12, 2023

Milestone	Risk Level	Measure of Success	Ending TRL	Date
Display Hardware	Low	Contain a display that is viewable in different maintenance locations (i.e., restricted data areas, weather conditions, and lighting conditions including direct sunlight).	9	4th QTR FY20
DISA Android STIG Requirements	Low	Developed and tested the DISA STIG. Created a version of the Android OS to cater to AR STIG for DOD	6	1st QTR FY22
Software Architecture enabling two-factor authentication	Low	Securely accessing the devices	6	2nd QTR FY22
Offline Functionality	Low	Eliminate the need for a wireless connection to the internet (to access applications and to enable several features) or having location information available.	6	3rd QTR FY22
Headset Functionality	Low	Allow all functionality within the headset (i.e., spatial cognition, displaying indications, sensor input, etc.)	9	4th QTR FY22

HOW

Projected Business Model: Short-term development still requires DoD support, with SBIR Phase 2 enhancement and follow-on funding from a Program of Record.
Transition / Longer Term strategy involves broadening our commercial customer base by applying core AR headset technology in Healthcare, Automotive, and Telecommunications markets.

Company Objectives: Beyond successful transition of our AR headset to primary target application for NAVAIR, we are seeking corporate partnerships to enhance depth and breadth of capabilities across a variety of industries, particularly Healthcare, Automotive, and Telecommunications as well as new government, enterprise, and commercial customers seeking to engage and scale use of our technology to meet their needs / use cases.

Potential Commercial Applications: Healthcare (remote assistance to First Responders, Telehealth / Telemedicine), Automotive / Factories (maintenance of complex equipment), Education (trade/technical schools, other distance learning), Telecommunications (field support), Field Services Industries.

Contact: Pam Puttagunta, President
pamputtagunta@banc3.com (609) 759-1919