Department of the Navy SBIR/STTR Transition Program

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ONR Approval #43-5915-19

Topic # N172-131

Resolving organizational inefficiencies through crowdsourcing

Sonalysts, Inc.

WHO

SYSCOM: ONR

Sponsoring Program: Mathematical Decision Science (ONR Code 311)

Transition Target: Program of Record TBD. ACQUISITION PROGRAM: The Distributed Common Ground System-Navy (DCGS-N)

TPOC:
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Other transition opportunities:

Notes: VARI's adaptability and scalability make it applicable for almost any organization (DoN or otherwise) for a variety of purposes, including crowdsourcing of: Continuous Organizational Improvement, Capability Based Assessments (CBAs), Navy/Joint Operational Planning, Continuous Command Climate Surveys, ALL-SOURCE Intelligence Analysis, and setting priorities/allocations for programs or research portfolios.

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WHAT

Operational Need and Improvement: Inefficiencies naturally form in large and hierarchical organizations due to their structure and complex reporting rules. Consultants usually have incomplete information and do not provide continuous monitoring and assessment. Crowdsourcing is a promising approach, but most online platforms for debate and voting are unstructured, text-based, and are difficult to follow. Further, organizational members and leadership/decision makers often think and speak in different terms, requiring a structured approach that enables effective communication.

Specifications Required: Any crowdsourcing system must meet several high-level characteristics and/or specifications.
Quality of outputs: Analytical products that are logically structured, concise, and based on sound argumentation rather than personal biases and emotions.
Efficiency: It must enable the output of quality products with the lowest amount of collective contributor time possible (both creating and reviewing/voting on products).
Engagement: Contributor anonymity must be preserved and the system must show progress of ideas to retain contributor interest and enable continuous production of ideas.

Technology Developed: Visual Argumentation for Resolving Inefficiencies (VARI) combines state-of-the-art crowdsourcing algorithms with intuitive visual representations to efficiently exploit the breadth/depth of the crowd's knowledge. VARI has four main phases, where the first two are focused on eliciting and characterizing the problem, while the latter two phases are focused on ideating and developing consensus on solutions to acknowledged inefficiencies. VARI uses state-of-the-art algorithms to account for contributor credibility and conflicts of interest among contributors. Interactive visual metaphors are provided to aid in navigating argumentation and making sense of results. VARI can be deployed on LANs, WANs, cloud solutions, or on government networks (e.g. NIPR, SIPR, JWICS) as required in subsequent phases.

Warfighter Value: Regardless of organization or application, VARI enables Warfighters to efficiently and effectively identify problems and come to consensus on the best solutions for them. At a higher level, VARI enables the rapid collection, processing, exploitation, and dissemination of information to decision makers in a structured and repeatable, yet adaptable, format.

WHEN

Contract Number: N00014-19-C-1012 **Ending on:** September 29, 2020

Milestone	Risk Level	Measure of Success	Ending TRL	Date
Formulate System Concept and Designs	N/A	Concepts and Designs Vetted by TPOC	2	3rd QTR FY18
Conduct Component Validation & Demonstration Using Sample Data	N/A	Component Validation/Demonstration w/ Sample Data	4	1st QTR FY19
Full System Demonstration with Multiple Organizations	Med	Identification of System Capabilities and Limitations Through Experimentation	6	4th QTR FY20
Successful Completion of Testing Required to Transition to Navy and/or Commercial Entities	Low	System Successfully Deployed on Relevant Network	8	2nd QTR FY22

HOW

Projected Business Model: Sonalysts will develop VARI and provide it to DoN, DoD, IC, and Commercial customers by either licensing instances of the software (and providing technical support, as required), or through a Software as a Service (SaaS) paradigm. We will refine and adapt VARI to meet different needs (e.g. Capability Based Assessments or ALL-SOURCE intelligence analysis), as required by different customers. Further, we will consider selling rights to VARI for larger companies that specialize in software development and configuration management tools as a plugin or widget in a larger suite of collaboration tools.

Company Objectives: Sonalysts will develop VARI such that it becomes a continuous presence across different levels and organizations in the US Navy. Also in the near/intermediate term we also aim to modify the tool based on specific requirements to support crowdsourcing intelligence analysis from analysts across different disciplines and areas of expertise. In the intermediate/long term, we intend for VARI to become a standard crowdsourcing capability in the toolkit of major consulting and design thinking firms.

Potential Commercial Applications: VARI represents a new capability that satisfies an unmet need for structured, efficient, quality argumentation to resolve problems. It can be deployed in commercial organizations as a means for continuous improvement and innovation more generally, or within web-based collaboration tools for software or product development as a specific application. VARI is scalable for organizations of only a few dozen, up to tens of thousands.

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