Topic #	Title	Objective	Business Area	LM SBIR POC	Email Address	Phone	SMALLs Interested	LM SMEs Interested
ST16C-001	Multiplexed Biofiltration of Volatile Organic Compounds	Develop a microfluidic platform for multiplexed biofiltration of a range of volatile organic compounds (VOCs) that accumulate in enclosed spaces as a result of metabolism, fuel combustion, and other essential processes.						
ST16C-002	Generating Material Properties From Flight Representative Structures	Develop, demonstrate and validate test methods (test articles and testing techniques) to generate thermophysical and mechanical properties for refractory composite materials for components representative of flight structures	LM Rotary and Mission Systems, Cyber, Ships and Advanced Technologies (RMS CSAT) LM Space Systems - SMD LM Missiles and Fire Control (MFC)	Gretchen Head Jesus Isarraras John Fontana	gretchen.head@lmco.com jesus.isarraras@lmco.com john.c.fontana@lmco.com	410-682-0481 408-431-3519 407-356-3968		Gretchen Head (gretchen.head@lmco.com) Jesus Isarraras (jesus.isarraras@lmco.com) John Fontana (john.c.fontana@lmco.com)
ST16C-003	Optimizing Human-Automation Team Workload through a Non-Invasive Detection System	Enable more capable human-machine teaming constructs for future systems by measuring and characterizing human-system state. Determine the feasibility and reliability of using vocal tension, laryngeal electromyography (EMG), and/or other surface potentials as indicators of operator workload strain during critical task execution and emergency communication. Demonstrate the application of a concept with supporting foundational cognitive engineering approach.	LM Missiles and Fire Control (MFC) LM Rotary and Mission Systems, Integrated Warfare Systems & Sensors (RMS IWSS)	John Fontana Sheronda Nash	john.c.fontana@lmco.com sheronda.nash@lmco.com	407-356-3968 856-359-3965		John Fontana (john.c.fontana@lmco.com) Sheronda Nash (sheronda.nash@lmco.com)
DHP16C-001	Developing Software for Pharmacodynamics and Bioassay Studies	Traditional dose-response models depend on monotonic data and often fail when applied to non-monotonic data. Assessment of dose response should be an integral part of establishing the safety and efficacy of any drug. The objective of this topic is to develop a novel approach applicable to general pharmacologic, toxicological, or other biomedical data, that exhibit a non-monotonic dose-response relationship for which traditional parametric models fail. Software will be developed to analyze dose-response relationships using both monotonic and non-monotonic data.						
DHP16C-002	Mask integrated Volatile Organic Compound (VOC) sensor for real-time warfighter physiological status monitoring in extreme and toxic environments	Develop a miniaturized, orthogonal (i.e. multi-modal) sensor system to detect and quantify exhaled volatile organic compounds (VOCs) in austere operational environments. This system will be used to establish and monitor the frequency, magnitude, and chemical make-up of exhaled VOCs to detect the generation of specific VOC profiles associated with maladaptive physiological responses, alert the operator and supervisor(s) to injury prior to performance decrement, and correlate exposure parameters to injury onset for potential mitigation prior to warfighter compromise. The developed system must be real-time, able to be integrated into all current flight masks and regulators, conform to industry standard safety guidelines with respect to use in enriched oxygen atmospheres in hypobaric and hyperbaric conditions, include ability for volatile library expansion, uploading and display of disease specific VOC algorithms, maintain a log of acquired data, and be capable of logistically maintainable use between	LM Rotary and Mission Systems, Cyber, Ships and Advanced Technologies (RMS CSAT)	Gretchen Head	gretchen.head@lmco.com	410-682-0481	Texas Research Institute (fzeller@tri-austin.com)	Gretchen Head (gretchen.head@lmco.com)
DHP16C-003	Automated Scoring Program for Rodent Ultrasonic Vocalizations (USVs)	Ongoing studies at WRAIR are focused on characterizing the rodent response to traumatic stressors in order to screen and identify novel therapeutic candidate compounds for clinical development to treat post-traumatic stress disorder (PTSD), a condition that may negatively affect the psychological health of the warfighter. This topic aims to develop an automated scoring program for identification and classification of rodent ultrasonic vocalizations. Automated scoring of these vocalizations will improve the depth of ongoing preclinical studies and may contribute to identification of a novel therapeutic candidate compound that supports the warfighter.						
DHP16C-004	Integrated system for field, clinic and laboratory preparation of biological specimens for microscopy	Develop an integrated system for field, clinic and laboratory preparation of biological specimens for microscopy and histopathology that meets the current needs for (1) Safety, (2) High quality samples, and (3) Easy handling						
DHP16C-005	Portable, Non-Contact, Quantitative, Physiology and Health Assessment Imaging System	The objective of this effort is to develop a portable, non-contact diagnostic imager that can be used by non-experts to provide quantitative metrics of tissue physiology that help guide burn care in far-forward environments.	LM Missiles and Fire Control (MFC)	John Fontana	john.c.fontana@lmco.com	407-356-3968		John Fontana (john.c.fontana@lmco.com)
DHP16C-006	Real-time Multimodal Imaging and Diagnostic Device for Determining Extent of Airway Injury and Compliance	To develop a multimodal imaging and diagnostic device to evaluate the localized relationship between the extent of airway injury and alterations in airway compliance	LM Missiles and Fire Control (MFC)	John Fontana	john.c.fontana@lmco.com	407-356-3968		John Fontana (john.c.fontana@lmco.com)
DHP16C-007	No Power Bionic Lower Extremity Prostheses	Develop and demonstrate a prosthetic foot that provides normalized biomechanics and function, with no external power requirements, for patients with below the knee amputation performing military-relevant tasks.	LM Missiles and Fire Control (MFC)	John Fontana	john.c.fontana@lmco.com	407-356-3968		John Fontana (john.c.fontana@lmco.com)
MDA16-T001	Manufacturing Efficiency and Capability: Improvement of Flow Properties of Thermal Battery Component Powders	This topic seeks research to: 1) Characterize and optimize cobalt disulfide cathode powder flow characteristics to improve manufacturability, support automation of pellet pressing operations, and reduce cost while maintaining electrical performance; 2) Identify magnesium oxide powder characteristics and electrolyte processing operations and parameters to support acceptance selection of binder suppliers and optimization of	LM Rotary and Mission Systems, Cyber, Ships and Advanced Technologies (RMS CSAT) LM Space Systems - SMD	Gretchen Head Jesus Isarraras	gretchen.head@lmco.com jesus.isarraras@lmco.com	410-682-0481 408-431-3519		Gretchen Head (gretchen.head@lmco.com) Jesus Isarraras (jesus.isarraras@lmco.com)
MDA16-T002	Deep Linking Analytics and Predictive Analysis through Advanced Machine Learning Capabilities	Develop artificial intelligence and advanced machine learning techniques to assist in the analysis and categorization of industrial base risks.	LM Aeronautics (Aero) LM Rotary and Mission Systems, Cyber, Ships and Advanced Technologies (RMS CSAT) LM Space Systems - SMD LM Missiles and Fire Control (MFC) LM Rotary and Mission Systems, Training and Logistics Solutions (RMS TLS) LM Rotary and Mission Systems, Integrated Warfare Systems & Sensors (RMS IWSS)	Craig Owens Gretchen Head Jesus Isarraras John Fontana Joshua Kitain Sheronda Nash	craig.l.owens@lmco.com gretchen.head@lmco.com jesus.isarraras@lmco.com john.c.fontana@lmco.com joshua.d.kitain@lmco.com sheronda.nash@lmco.com	817/777-6504 410-682-0481 408-431-3519 407-356-3968 4073061039 856-359-3965		Craig Owens (craig.l.owens@lmco.com) Gretchen Head (gretchen.head@lmco.com) Jesus Isarraras (jesus.isarraras@lmco.com) John Fontana (john.c.fontana@lmco.com) Joshua Kitain (joshua.d.kitain@lmco.com) Sheronda Nash (sheronda.nash@lmco.com)
MDA16-T003	Methodologies for Cost-Effective Measurement of Dynamic Material Properties or Characterization of Materials under Dynamic Loads	Develop an innovative and cost-effective laboratory-based methodology for measurement of dynamic material properties to support first-principles modeling of structural material responses under a range of energetic loadings, including explosions and high-velocity impact	LM Space Systems - SMD LM Missiles and Fire Control (MFC)	Jesus Isarraras John Fontana	jesus.isarraras@lmco.com john.c.fontana@lmco.com	408-431-3519 407-356-3968		Jesus Isarraras (jesus.isarraras@lmco.com) John Fontana (john.c.fontana@lmco.com)
MDA16-T004	High Performance Dual Band Long Wave Infrared Focal Plane Arrays	Develop and demonstrate high performance dual band Long Wave Infrared (LWIR) Focal Plane Array (FPA) technologies that enable precise long range object detection and tracking with light-weight/small optical systems	LM Rotary and Mission Systems, Cyber, Ships and Advanced Technologies (RMS CSAT) LM Space Systems - SMD	Gretchen Head Jesus Isarraras	gretchen.head@lmco.com jesus.isarraras@lmco.com	410-682-0481 408-431-3519		Gretchen Head (gretchen.head@lmco.com) Jesus Isarraras (jesus.isarraras@lmco.com)
MDA16-T005	Programmable Multi-Frequency Transmitter	Develop innovative low power, miniaturized, multi-frequency transmitter technologies for intelligent missile flight test transmitting system applications.	LM Rotary and Mission Systems, Cyber, Ships and Advanced Technologies (RMS CSAT) LM Missiles and Fire Control (MFC)	Gretchen Head John Fontana	gretchen.head@lmco.com john.c.fontana@lmco.com	410-682-0481 407-356-3968		Gretchen Head (gretchen.head@lmco.com) John Fontana (john.c.fontana@lmco.com)
MDA16-T006	Simultaneous Multiple Object Detection System	Develop low power; low mass technologies that can locate simultaneous multiple object interactions on a target.	LM Space Systems - SMD LM Missiles and Fire Control (MFC) LM Rotary and Mission Systems, Integrated Warfare Systems & Sensors (RMS IWSS)	Jesus Isarraras John Fontana Sheronda Nash	jesus.isarraras@lmco.com john.c.fontana@lmco.com sheronda.nash@lmco.com	408-431-3519 407-356-3968 856-359-3965		Jesus Isarraras (jesus.isarraras@lmco.com) John Fontana (john.c.fontana@lmco.com) Sheronda Nash (sheronda.nash@lmco.com)
A16-101	Self-Healing/Self Routing Wiring	The objective of this effort is to develop and demonstrate a self-healing/self-routing wiring system for Army aviation applications.	LM Rotary and Mission Systems, Cyber, Ships and Advanced Technologies (RMS CSAT) LM Space Systems - SMD LM Missiles and Fire Control (MFC)	Gretchen Head Jesus Isarraras John Fontana	gretchen.head@lmco.com jesus.isarraras@lmco.com john.c.fontana@lmco.com	410-682-0481 408-431-3519 407-356-3968		Gretchen Head (gretchen.head@lmco.com) Jesus Isarraras (jesus.isarraras@lmco.com) John Fontana (john.c.fontana@lmco.com)
A16-102	Acoustic Background Noise Analysis for Mission Planning and Community Noise	Development of a biological, geophysical, and anthropogenic based model to determine background noise level in various environments.	LM Missiles and Fire Control (MFC) LM Rotary and Mission Systems, C4 & Undersea Systems (RMS C4USS)	John Fontana Michael Weingarten	john.c.fontana@lmco.com michael.weingarten@lmco.com	407-356-3968 860-882-0343		John Fontana (john.c.fontana@lmco.com) Michael Weingarten (michael.weingarten@lmco.com)
A16-103	Imaging Through Aerodynamic Domes	Develop technology and methodology to optimize optical imaging quality for stationary and gimbaled, infrared, imaging missile seekers imaging through non-spherical domes.	LM Rotary and Mission Systems, Cyber, Ships and Advanced Technologies (RMS CSAT) LM Space Systems - SMD LM Missiles and Fire Control (MFC) LM Rotary and Mission Systems, C4 & Undersea Systems (RMS C4USS)	Gretchen Head Jesus Isarraras John Fontana Michael Weingarten	gretchen.head@lmco.com jesus.isarraras@lmco.com john.c.fontana@lmco.com michael.weingarten@lmco.com	410-682-0481 408-431-3519 407-356-3968 860-882-0343		Gretchen Head (gretchen.head@lmco.com) Jesus Isarraras (jesus.isarraras@lmco.com) John Fontana (john.c.fontana@lmco.com) Michael Weingarten (michael.weingarten@lmco.com)
A16-104	Efficient Prediction of Thermal Stresses and Distortion in Complex Optimized Missile Structures	Develop fast computational methods for predicting thermal stresses and distortion in complex structures fabricated with metal-powder bed additive processes.	LM Aeronautics (Aero) LM Missiles and Fire Control (MFC) LM Rotary and Mission Systems, C4 & Undersea Systems (RMS C4USS) LM Rotary and Mission Systems, Integrated Warfare Systems & Sensors (RMS IWSS)	Craig Owens John Fontana Michael Weingarten Sheronda Nash	craig.l.owens@lmco.com john.c.fontana@lmco.com michael.weingarten@lmco.com sheronda.nash@lmco.com	817/777-6504 407-356-3968 860-882-0343 856-359-3965		Craig Owens (craig.l.owens@lmco.com) John Fontana (john.c.fontana@lmco.com) Michael Weingarten (michael.weingarten@lmco.com) Sheronda Nash (sheronda.nash@lmco.com)
A16-105	Innovative Rendering for Simulation	Develop an enhanced rendering capability for use in simulation to evaluate PEO MS, PEO Aviation and sensor and weapon system projects and programs. Quantify the relationships between rendered scene fidelity, current rendering hardware, and computational requirements toward solutions that will support both high fidelity quasi-time limited to hard real-time weapon system simulation applications to include hardware-in-the-loop.	LM Rotary and Mission Systems, Cyber, Ships and Advanced Technologies (RMS CSAT) LM Missiles and Fire Control (MFC) LM Rotary and Mission Systems, Training and Logistics Solutions (RMS TLS) LM Rotary and Mission Systems, C4 & Undersea Systems (RMS C4USS) LM Rotary and Mission Systems, Integrated Warfare Systems & Sensors (RMS IWSS)	Gretchen Head John Fontana Joshua Kitain Michael Weingarten Sheronda Nash	gretchen.head@lmco.com john.c.fontana@lmco.com joshua.d.kitain@lmco.com michael.weingarten@lmco.com sheronda.nash@lmco.com	410-682-0481 407-356-3968 4073061039 860-882-0343 856-359-3965		Gretchen Head (gretchen.head@lmco.com) John Fontana (john.c.fontana@lmco.com) Joshua Kitain (joshua.d.kitain@lmco.com) Michael Weingarten (michael.weingarten@lmco.com) Sheronda Nash (sheronda.nash@lmco.com)

A16-106	Modeling mmW Multipath Effects in Urban Environments	Develop efficient algorithms and processes for the physics-based modeling and rapid generation of complex multipath effects within urban environments suitable for implementation within existing scene generation capabilities.	LM Missiles and Fire Control (MFC) LM Rotary and Mission Systems, Integrated Warfare Systems & Sensors (RMS IWSS)	John Fontana Sheronda Nash	john.c.fontana@lmco.com sheronda.nash@lmco.com	407-356-3968 856-359-3965		John Fontana (john.c.fontana@lmco.com) Sheronda Nash (sheronda.nash@lmco.com)
A16-107	Novel Materials for Kinetic Energy Penetrators	Identify and produce a low-cost material that matches or exceeds the performance of depleted uranium (DU) in kinetic energy (KE) penetrator applications	LM Space Systems - SMD LM Missiles and Fire Control (MFC)	Jesus Isarraras John Fontana	jesus.isarraras@lmco.com john.c.fontana@lmco.com	408-431-3519 407-356-3968		Jesus Isarraras (jesus.isarraras@lmco.com) John Fontana (john.c.fontana@lmco.com)
A16-108	Advanced Technology for Detecting and Geolocating Human Targets	Design, develop, and demonstrate a system for detecting and geolocating human targets in a GPS-denied environment based on state-of-the-art sensors, robotic systems, and wireless communication technologies	LM Rotary and Mission Systems, Cyber, Ships and Advanced Technologies (RMS CSAT) LM Missiles and Fire Control (MFC) LM Rotary and Mission Systems, C4 & Undersea Systems (RMS C4USS)	Gretchen Head John Fontana Michael Weingarten	gretchen.head@lmco.com john.c.fontana@lmco.com michael.weingarten@lmco.com	410-682-0481 407-356-3968 860-882-0343		Gretchen Head (gretchen.head@lmco.com) John Fontana (john.c.fontana@lmco.com) Michael Weingarten (michael.weingarten@lmco.com)
A16-109	Single Element Achromatic Lens [SEAL]	Design, develop, prototype and demonstrate a selection of single element, achromatic, focusing elements, that allow for the reduction of lens elements required to reproduce color-corrected imagery. Evolve the technology for manufacturability and survivability in a military environment. This technology will benefit Crew Served and Sniper fire control systems by reducing the size and weight of Fire Control devices.	LM Rotary and Mission Systems, Cyber, Ships and Advanced Technologies (RMS CSAT) LM Space Systems - SMD LM Missiles and Fire Control (MFC)	Gretchen Head Jesus Isarraras John Fontana	gretchen.head@lmco.com jesus.isarraras@lmco.com john.c.fontana@lmco.com	410-682-0481 408-431-3519 407-356-3968		Gretchen Head (gretchen.head@lmco.com) Jesus Isarraras (jesus.isarraras@lmco.com) John Fontana (john.c.fontana@lmco.com)
A16-110	Miniaturized small-pixel Uncooled Infrared Imager for Nano Unmanned Air Vehicles	To design and develop a miniaturized uncooled infrared (IR) imager package prototype suitable for future integration onto nano-unmanned air vehicles (UAVs) and soldier-mounted situational awareness sensors	LM Rotary and Mission Systems, Cyber, Ships and Advanced Technologies (RMS CSAT) LM Space Systems - SMD LM Missiles and Fire Control (MFC) LM Rotary and Mission Systems, C4 & Undersea Systems (RMS C4USS)	Gretchen Head Jesus Isarraras John Fontana Michael Weingarten	gretchen.head@lmco.com jesus.isarraras@lmco.com john.c.fontana@lmco.com michael.weingarten@lmco.com	410-682-0481 408-431-3519 407-356-3968 860-882-0343		Gretchen Head (gretchen.head@lmco.com) Jesus Isarraras (jesus.isarraras@lmco.com) John Fontana (john.c.fontana@lmco.com) Michael Weingarten (michael.weingarten@lmco.com)
A16-111	Radar Waveform Diversity	Research and develop innovative techniques that utilize the radars ability to synthesize and directly emit diverse waveforms such as those that could be used for missions other than radar communications, data link, jamming, etc	LM Rotary and Mission Systems, Cyber, Ships and Advanced Technologies (RMS CSAT) LM Missiles and Fire Control (MFC) LM Rotary and Mission Systems, C4 & Undersea Systems (RMS C4USS)	Gretchen Head John Fontana Michael Weingarten	gretchen.head@lmco.com john.c.fontana@lmco.com michael.weingarten@lmco.com	410-682-0481 407-356-3968 860-882-0343		Gretchen Head (gretchen.head@lmco.com) John Fontana (john.c.fontana@lmco.com) Michael Weingarten (michael.weingarten@lmco.com)
A16-112	Next Generation Intelligent Power Distribution Unit (IPDU) for Tactical Microgrid	Design and develop an Intelligent Power Distribution Unit (IPDU) capable of managing a diverse set of loads and communicating with users and other microgrid assets	LM Rotary and Mission Systems, C4 & Undersea Systems (RMS C4USS)	Michael Weingarten	michael.weingarten@lmco.com	860-882-0343		Michael Weingarten (michael.weingarten@lmco.com)
A16-113	Software Based All Digital Wireless Modem	The objective of this topic is to design, develop, and fabricate a software/firmware based all Digital-IF (Intermediate Frequency) wireless communications modem, which can be hosted on a Commercial- Off- The- Shelf (COTS) computing platform or commercially supported hardware platform.	LM Rotary and Mission Systems, Cyber, Ships and Advanced Technologies (RMS CSAT) LM Space Systems - SMD LM Rotary and Mission Systems, C4 & Undersea Systems (RMS C4USS)	Gretchen Head Jesus Isarraras Michael Weingarten	gretchen.head@lmco.com jesus.isarraras@lmco.com michael.weingarten@lmco.com	410-682-0481 408-431-3519 860-882-0343		Gretchen Head (gretchen.head@lmco.com) Jesus Isarraras (jesus.isarraras@lmco.com) Michael Weingarten (michael.weingarten@lmco.com)
A16-114	Waterproofing Cargo Airdrop Equipment	Develop and apply innovative materials, films, coatings and technologies or manufacturing techniques which allow current Army airdrop related hardware and equipment to survive fresh and salt water operations without damage nor significant maintenance impact with increased reliability. No additional equipment will be required by the user; the objective is to upgrade current equipment designs rather than provide additional equipment with additional associated training, maintenance and	LM Missiles and Fire Control (MFC) LM Rotary and Mission Systems, C4 & Undersea Systems (RMS C4USS)	John Fontana Michael Weingarten	john.c.fontana@lmco.com michael.weingarten@lmco.com	407-356-3968 860-882-0343		John Fontana (john.c.fontana@lmco.com) Michael Weingarten (michael.weingarten@lmco.com)
A16-115	Development of an Improved General Purpose Tent Fabric	The objective of this effort is to develop an improved general purpose (GP) tent fabric in support of the Army Standard Family of Soft Wall Shelters (ASF-SWS) draft Capability Development Document (CDD). This fabric will enhance the survivability of tensioned or non-tensioned tents, and should exhibit a high level of flexural durability under multi-dimensional stressing in extreme	LM Missiles and Fire Control (MFC)	John Fontana	john.c.fontana@lmco.com	407-356-3968		John Fontana (john.c.fontana@lmco.com)
A16-116	Real Time On Board Video for Gun Launched Munitions	Develop novel advanced vision based precision guidance & closed-loop control, linked to real time video touch screen control, for gun-launched projectiles	LM Space Systems - SMD LM Missiles and Fire Control (MFC) LM Rotary and Mission Systems, C4 & Undersea Systems (RMS C4USS)	Jesus Isarraras John Fontana Michael Weingarten	jesus.isarraras@lmco.com john.c.fontana@lmco.com michael.weingarten@lmco.com	408-431-3519 407-356-3968 860-882-0343		Jesus Isarraras (jesus.isarraras@lmco.com) John Fontana (john.c.fontana@lmco.com) Michael Weingarten (michael.weingarten@lmco.com)
A16-117	Innovative Approaches to Agile Software Development for Secure Modular Avionics Architectures	Design and demonstrate rapid and agile approaches to secure modular avionics architectures, incorporating emerging standards-based avionics approaches such as Future Airborne Capabilities Environment (FACE), Integrated Modular Avionics (IMA), Hardware Open Systems Technologies (HOST), Open Mission Systems (OMS), Joint Common Architecture (JCA), System of Systems Architecture (SOSA), and/or other standards for reusable avionics.	LM Rotary and Mission Systems, Cyber, Ships and Advanced Technologies (RMS CSAT) LM Space Systems - SMD LM Missiles and Fire Control (MFC) LM Rotary and Mission Systems, Training and Logistics Solutions (RMS TLS) LM Rotary and Mission Systems, Integrated Warfare Systems & Sensors (RMS IWSS)	Gretchen Head Jesus Isarraras John Fontana Joshua Kitain Sheronda Nash	gretchen.head@lmco.com jesus.isarraras@lmco.com john.c.fontana@lmco.com joshua.d.kitain@lmco.com sheronda.nash@lmco.com	410-682-0481 408-431-3519 407-356-3968 4073061039 856-359-3965	Six Feet Up, Inc. (carol@sixfeetup.com)	Gretchen Head (gretchen.head@lmco.com) Jesus Isarraras (jesus.isarraras@lmco.com) John Fontana (john.c.fontana@lmco.com) Joshua Kitain (joshua.d.kitain@lmco.com) Sheronda Nash (sheronda.nash@lmco.com)
A16-118	Spectrum Allocation using Artificial Intelligence for Software Defined Radios in a Tactical Environment	The objective of this proposal is to define and develop a solution by sensing the spectrum environment and adopting a deep learning artificial intelligence algorithm to switch the modulations schemes and frequencies. This will allow mitigating interference and non-contiguous mini-bands and the proposed solution will address issues related to limitations on bandwidth and spectrum availability. The source code must be compatible with the SCA (Software Communications Architecture) 2.2.2 or later architecture and research must be conducted to evaluate the feasibility of the proposed design and a functioning prototype.	LM Rotary and Mission Systems, Cyber, Ships and Advanced Technologies (RMS CSAT) LM Missiles and Fire Control (MFC) LM Rotary and Mission Systems, C4 & Undersea Systems (RMS C4USS) LM Rotary and Mission Systems, Integrated Warfare Systems & Sensors (RMS IWSS)	Gretchen Head John Fontana Michael Weingarten Sheronda Nash	gretchen.head@lmco.com john.c.fontana@lmco.com michael.weingarten@lmco.com sheronda.nash@lmco.com	410-682-0481 407-356-3968 860-882-0343 856-359-3965		Gretchen Head (gretchen.head@lmco.com) John Fontana (john.c.fontana@lmco.com) Michael Weingarten (michael.weingarten@lmco.com) Sheronda Nash (sheronda.nash@lmco.com)
A16-119	Land Navigation Aid	While the loss of GPS would have negative impacts across a broad spectrum of combat functions, this SBIR seeks only to address the basic functions of land navigation. The intent is to develop a solution that will work with the Nett Warrior device in a Common Operating Environment (COE) V3 environment, aid small units in basic land navigation, and alert the user when the GPS signal might have been compromised. Since this solution is intended to support only basic land navigation it does not require the accuracy of real time targeting solutions.	LM Missiles and Fire Control (MFC) LM Rotary and Mission Systems, C4 & Undersea Systems (RMS C4USS)	John Fontana Michael Weingarten	john.c.fontana@lmco.com michael.weingarten@lmco.com	407-356-3968 860-882-0343		John Fontana (john.c.fontana@lmco.com) Michael Weingarten (michael.weingarten@lmco.com)
A16-120	Robotic Following using Deep Learning	Develop and demonstrate a system that purely uses deep learning and inexpensive commercial-off-the-shelf (COTS) sensors to incrementally learn and perform robotic following behaviors with large vehicles	LM Missiles and Fire Control (MFC) LM Rotary and Mission Systems, Training and Logistics Solutions (RMS TLS) LM Rotary and Mission Systems, C4 & Undersea Systems (RMS C4USS) LM Rotary and Mission Systems, Integrated Warfare Systems & Sensors (RMS IWSS)	John Fontana Joshua Kitain Michael Weingarten Sheronda Nash	john.c.fontana@lmco.com joshua.d.kitain@lmco.com michael.weingarten@lmco.com sheronda.nash@lmco.com	407-356-3968 4073061039 860-882-0343 856-359-3965		John Fontana (john.c.fontana@lmco.com) Joshua Kitain (joshua.d.kitain@lmco.com) Michael Weingarten (michael.weingarten@lmco.com) Sheronda Nash (sheronda.nash@lmco.com)
A16-121	Active fan/blower noise reduction	Develop an actively controlled system to reduce the noise emitted from cooling fan and/or blower noise by no less than 10 dB	LM Rotary and Mission Systems, Cyber, Ships and Advanced Technologies (RMS CSAT) LM Missiles and Fire Control (MFC) LM Rotary and Mission Systems, Integrated Warfare Systems & Sensors (RMS IWSS)	Gretchen Head John Fontana Sheronda Nash	gretchen.head@lmco.com john.c.fontana@lmco.com sheronda.nash@lmco.com	410-682-0481 407-356-3968 856-359-3965		Gretchen Head (gretchen.head@lmco.com) John Fontana (john.c.fontana@lmco.com) Sheronda Nash (sheronda.nash@lmco.com)
A16-122	Metallic Coatings for Structural Enhancement of Polymers and Composites for Reduced Weight Missile Structure	Develop processes, characterize material properties and integrate process modeling with structural finite element analysis to accommodate the integration of metallic coated polymers for reduced weight missile structures.	LM Aeronautics (Aero) LM Rotary and Mission Systems, Cyber, Ships and Advanced Technologies (RMS CSAT) LM Space Systems - SMD LM Missiles and Fire Control (MFC) LM Rotary and Mission Systems, C4 & Undersea Systems (RMS C4USS)	Craig Owens Gretchen Head Jesus Isarraras John Fontana Michael Weingarten	craig.l.owens@lmco.com gretchen.head@lmco.com jesus.isarraras@lmco.com john.c.fontana@lmco.com michael.weingarten@lmco.com	817/777-6504 410-682-0481 408-431-3519 407-356-3968 860-882-0343	Lockheed Martin (dan.blass@lmco.com)	Craig Owens (craig.l.owens@lmco.com) Gretchen Head (gretchen.head@lmco.com) Jesus Isarraras (jesus.isarraras@lmco.com) John Fontana (john.c.fontana@lmco.com) Michael Weingarten (michael.weingarten@lmco.com)
A16-123	Miniaturization of high average power, high peak power, wide bandwidth antennas	The objective of this effort is to develop compact high power broadband antennas that can withstand the electrical and thermal stresses of high repetition rate signals.	LM Rotary and Mission Systems, Cyber, Ships and Advanced Technologies (RMS CSAT) LM Missiles and Fire Control (MFC) LM Rotary and Mission Systems, C4 & Undersea Systems (RMS C4USS) LM Rotary and Mission Systems, Integrated Warfare Systems & Sensors (RMS IWSS)	Gretchen Head John Fontana Michael Weingarten Sheronda Nash	gretchen.head@lmco.com john.c.fontana@lmco.com michael.weingarten@lmco.com sheronda.nash@lmco.com	410-682-0481 407-356-3968 860-882-0343 856-359-3965		Gretchen Head (gretchen.head@lmco.com) John Fontana (john.c.fontana@lmco.com) Michael Weingarten (michael.weingarten@lmco.com) Sheronda Nash (sheronda.nash@lmco.com)
A16-124	Boron Suboxide Powder Synthesis for Ultra-high Hardness Ceramics	To develop new manufacturing methods for Boron Suboxide ceramic powder.	LM Missiles and Fire Control (MFC)	John Fontana	john.c.fontana@lmco.com	407-356-3968		John Fontana (john.c.fontana@lmco.com)
A16-125	Sniper Missed-Distance Corrective Offset	Provide a definitive, reliable, and repeatable means for a sniper team spotter to visually track and precisely determine the missed-distance offset point of a snipers round from the intended target.	LM Missiles and Fire Control (MFC) LM Rotary and Mission Systems, C4 & Undersea Systems (RMS C4USS)	John Fontana Michael Weingarten	john.c.fontana@lmco.com michael.weingarten@lmco.com	407-356-3968 860-882-0343		John Fontana (john.c.fontana@lmco.com) Michael Weingarten (michael.weingarten@lmco.com)
A16-126	Flame Retardant, Launderable Electro-textile Connectors	Develop the ability of Army Aircrews to utilize their flame resistant clothing for transport of power and data without sacrificing launderability or achievements in weight and bulk reduction.						
A16-127	Soldier Borne Cross Domain Solution	The Offeror should provide a detailed system and circuit-level design in preparation to implement for prototyping and testing in Phase II	LM Missiles and Fire Control (MFC) LM Rotary and Mission Systems, C4 & Undersea Systems (RMS C4USS)	John Fontana Michael Weingarten	john.c.fontana@lmco.com michael.weingarten@lmco.com	407-356-3968 860-882-0343		John Fontana (john.c.fontana@lmco.com) Michael Weingarten (michael.weingarten@lmco.com)
A16-128	Comprehensive Sky Compass (CSC)	Design and Demonstrate a Comprehensive Sky Compass (CSC) which includes a base celestial compass including sun, stars, moon and planet solutions together with an integrated sky polarization compass	LM Space Systems - SMD LM Missiles and Fire Control (MFC)	Jesus Isarraras John Fontana	jesus.isarraras@lmco.com john.c.fontana@lmco.com	408-431-3519 407-356-3968	Texas Research Institute (fzeller@tri-austin.com)	Jesus Isarraras (jesus.isarraras@lmco.com) John Fontana (john.c.fontana@lmco.com)
A16-129	Augmented/Mixed Reality for Live Fire Ranges	Develop a see-through Augmented Reality (AR) protocol and prototype to create realistic simulated human avatar overlays on top of/in lieu of standard silhouette representations and to replicate night/obscurant conditions (opaqueness) during live fire familiarization training. The research would focus on the development of AR technology that supports range scanning with one eye, and weapon sighting with the other. The AR technology would have to operate and support M4 and M16 weapon platforms utilizing various sights (iron, Red Dot, CCO, and ACOG).	LM Missiles and Fire Control (MFC) LM Rotary and Mission Systems, Training and Logistics Solutions (RMS TLS) LM Rotary and Mission Systems, C4 & Undersea Systems (RMS C4USS)	John Fontana Joshua Kitain Michael Weingarten	john.c.fontana@lmco.com joshua.d.kitain@lmco.com michael.weingarten@lmco.com	407-356-3968 4073061039 860-882-0343		John Fontana (john.c.fontana@lmco.com) Joshua Kitain (joshua.d.kitain@lmco.com) Michael Weingarten (michael.weingarten@lmco.com)

A16-130	Compact Infrared Polarimeter for Target Tracking in Clutter	The U.S. Army has a need for advanced tracking capabilities in cluttered environments for high energy laser weapon systems. Current methodologies used include a passive wide field of view mid-wave infrared sensor. This solicitation is seeking innovative approaches to developing compact, lightweight polarimeters capable of measuring a full stokes vector. This is often referred to as a 3D polarimeter and includes horizontal and vertical linear polarization, linear polarization at +45 and -45 degrees, and right and left circular polarization. Mid-wave and long-wave infrared passive sensors are of interest. The system must be fast enough to track moving targets and detect a full Stokes vector at rates up to 200 Hz.	LM Rotary and Mission Systems, Cyber, Ships and Advanced Technologies (RMS CSAT) LM Missiles and Fire Control (MFC)	Gretchen Head John Fontana	gretchen.head@lmco.com john.c.fontana@lmco.com	410-682-0481 407-356-3968		Gretchen Head (gretchen.head@lmco.com) John Fontana (john.c.fontana@lmco.com)
A16-131	Parallel Intermixing of Lithium-Ion 6T Batteries with Dissimilar Chemistries	Lithium-ion 6T pack embedded hardware and software solutions that allow for parallel intermixing of Lithium-ion 6Ts with dissimilar chemistries without impacting battery life or safety and while providing improved performance.	LM Aeronautics (Aero) LM Rotary and Mission Systems, Cyber, Ships and Advanced Technologies (RMS CSAT) LM Missiles and Fire Control (MFC) LM Rotary and Mission Systems, C4 & Undersea Systems (RMS C4USS)	Craig Owens Gretchen Head John Fontana Michael Weingarten	craig.l.owens@lmco.com gretchen.head@lmco.com john.c.fontana@lmco.com michael.weingarten@lmco.com	817/777-6504 410-682-0481 407-356-3968 860-882-0343	Texas Research Institute (fzeller@tri-austin.com)	Craig Owens (craig.l.owens@lmco.com) Gretchen Head (gretchen.head@lmco.com) John Fontana (john.c.fontana@lmco.com) Michael Weingarten (michael.weingarten@lmco.com)
A16-132	Advanced Material for Electrical Power Cables	The goal of this proposed project is to develop, demonstrate, build and characterize several different gauge size cables which will be capable of increase current carrying capacity as compared to a standard copper electrical power cable of similar gauge size. If this proposed SBIR is successful, there would be the potential for significant weight and size reductions in power cables across the military, industrial, and commercial markets.	LM Aeronautics (Aero) LM Rotary and Mission Systems, Cyber, Ships and Advanced Technologies (RMS CSAT) LM Space Systems - SMD LM Missiles and Fire Control (MFC) LM Rotary and Mission Systems, C4 & Undersea Systems (RMS C4USS) LM Rotary and Mission Systems, Integrated Warfare Systems & Sensors (RMS IWSS)	Craig Owens Gretchen Head Jesus Isarraras John Fontana Michael Weingarten Sheronda Nash	craig.l.owens@lmco.com gretchen.head@lmco.com jesus.isarraras@lmco.com john.c.fontana@lmco.com michael.weingarten@lmco.com sheronda.nash@lmco.com	817/777-6504 410-682-0481 408-431-3519 407-356-3968 860-882-0343 856-359-3965		Craig Owens (craig.l.owens@lmco.com) Gretchen Head (gretchen.head@lmco.com) Jesus Isarraras (jesus.isarraras@lmco.com) John Fontana (john.c.fontana@lmco.com) Michael Weingarten (michael.weingarten@lmco.com) Sheronda Nash (sheronda.nash@lmco.com)
A16-133	Fuel Efficiency for Tactical Wheel Vehicles and Convoys	Develop a Cruise Control Enhancement (CCE) based on terrain data to improve fuel efficiency, applicable to both manually driven and autonomous ground vehicles.	LM Missiles and Fire Control (MFC)	John Fontana	john.c.fontana@lmco.com	407-356-3968		John Fontana (john.c.fontana@lmco.com)
A16-134	Automated Tuning and Calibration of By-Wire Vehicles for Automated Driving Functions	Develop and demonstrate methods to allow automatic tuning and self-calibration of by-wire vehicles.	LM Missiles and Fire Control (MFC)	John Fontana	john.c.fontana@lmco.com	407-356-3968		John Fontana (john.c.fontana@lmco.com)
A16-135	Solid Hydrogen Storage	A solid-state system for storing hydrogen is desired to fuel hydrogen fuel cells for ground vehicle power. The system should have a storage efficiency no worse than a conventional 10,000 psi tank and operate at moderate temperature and moderate pressures.	LM Rotary and Mission Systems, Cyber, Ships and Advanced Technologies (RMS CSAT) LM Space Systems - SMD LM Missiles and Fire Control (MFC) LM Rotary and Mission Systems, C4 & Undersea Systems (RMS C4USS)	Gretchen Head Jesus Isarraras John Fontana Michael Weingarten	gretchen.head@lmco.com jesus.isarraras@lmco.com john.c.fontana@lmco.com michael.weingarten@lmco.com	410-682-0481 408-431-3519 407-356-3968 860-882-0343		Gretchen Head (gretchen.head@lmco.com) Jesus Isarraras (jesus.isarraras@lmco.com) John Fontana (john.c.fontana@lmco.com) Michael Weingarten (michael.weingarten@lmco.com)
N163-137	Novel Pyrrhotite Detection Method in Concrete Aggregate	The objective of this SBIR topic is to develop a portable device or test kit for analyzing the presence of pyrrhotite in damaged concrete structures, as well as loose aggregate before it is mixed into fresh concrete. The ultimate goal of this technology is the prevention of costly repairs and replacement of concrete structures still in their early life cycle.						
N163-138	Analysis Tools for Managing Commercial Off-The-Shelf (COTS) Obsolescence	Develop a COTS obsolescence advanced planning and decision analysis tool built on an open source framework to automate business decisions and what if analysis for the Consolidated Afloat Networks and Enterprise Services (CANES) programs end of life (EOL) and end of support (EOS) components to assist in the obsolescence management strategy.	LM Rotary and Mission Systems, Cyber, Ships and Advanced Technologies (RMS CSAT) LM Space Systems - SMD LM Missiles and Fire Control (MFC) LM Rotary and Mission Systems, Training and Logistics Solutions (RMS TLS) LM Rotary and Mission Systems, C4 & Undersea Systems (RMS C4USS) LM Rotary and Mission Systems, Integrated Warfare Systems & Sensors (RMS IWSS)	Gretchen Head Jesus Isarraras John Fontana Joshua Kitain Michael Weingarten Sheronda Nash	gretchen.head@lmco.com jesus.isarraras@lmco.com john.c.fontana@lmco.com joshua.d.kitain@lmco.com michael.weingarten@lmco.com sheronda.nash@lmco.com	410-682-0481 408-431-3519 407-356-3968 4073061039 860-882-0343 856-359-3965		Gretchen Head (gretchen.head@lmco.com) Jesus Isarraras (jesus.isarraras@lmco.com) John Fontana (john.c.fontana@lmco.com) Joshua Kitain (joshua.d.kitain@lmco.com) Michael Weingarten (michael.weingarten@lmco.com) Sheronda Nash (sheronda.nash@lmco.com)
N163-139	Shipboard Non-Emitting Target Imaging and Identification System	Develop a compact system capable of identifying non-RF emitting targets at long range in both day/night operations from a ship-based platform. Ranges of interest are >150NM for airborne targets and >25NM for targets operating at or near the ocean surface. Desired target resolution should be approximately 10cm for accurate target identification.	LM Rotary and Mission Systems, Cyber, Ships and Advanced Technologies (RMS CSAT) LM Missiles and Fire Control (MFC) LM Rotary and Mission Systems, C4 & Undersea Systems (RMS C4USS) LM Rotary and Mission Systems, Integrated Warfare Systems & Sensors (RMS IWSS)	Gretchen Head John Fontana Michael Weingarten Sheronda Nash	gretchen.head@lmco.com john.c.fontana@lmco.com michael.weingarten@lmco.com sheronda.nash@lmco.com	410-682-0481 407-356-3968 860-882-0343 856-359-3965	Oceanit Laboratories (wkearns@oceanit.com)	Gretchen Head (gretchen.head@lmco.com) John Fontana (john.c.fontana@lmco.com) Michael Weingarten (michael.weingarten@lmco.com) Sheronda Nash (sheronda.nash@lmco.com)
N163-140	Curved (Convex) Surface Global Positioning System (GPS) Antenna Design for Submarine Launched Ballistic Missile (SLBM) Trident D5 Flight Test Reentry Bodies	Development of a GPS antenna design and computing algorithm required to acquire GPS on a reentry body during flight.	LM Rotary and Mission Systems, Cyber, Ships and Advanced Technologies (RMS CSAT) LM Space Systems - SMD	Gretchen Head Jesus Isarraras	gretchen.head@lmco.com jesus.isarraras@lmco.com	410-682-0481 408-431-3519		Gretchen Head (gretchen.head@lmco.com) Jesus Isarraras (jesus.isarraras@lmco.com)
N163-D01	Direct to Phase II - Non Powered Hearing Protection Device with Enhanced Situational Awareness and Localization for Impulse and Blast Noise	This SBIR topic seeks to mature the technology for a low cost, passive ear protection device to be worn as an earplug and/or in a headset that will allow the warfighter to maintain situational awareness but filter out harmful noise threats with a Noise Reduction Rating (NRR) performance of greater than 30dB for	LM Missiles and Fire Control (MFC) LM Rotary and Mission Systems, C4 & Undersea Systems (RMS C4USS)	John Fontana Michael Weingarten	john.c.fontana@lmco.com michael.weingarten@lmco.com	407-356-3968 860-882-0343		John Fontana (john.c.fontana@lmco.com) Michael Weingarten (michael.weingarten@lmco.com)
N163-D02	Direct to Phase II Supply Chain Risk Analysis Management Solution (SCRAMS)	Develop an automated process and software tool to identify specific suppliers and associated Information and Communications Technology (ICT) components based on inputs, cues and user-determined parameters. The software tool will need to provide the capability to complete a federated search of available government and internet web-based data and databases, facilitate data discovery, and perform anomaly detection and have analytical capabilities to recognize risks (based on user-determined indicators), be scalable, and provide formatting for export into Microsoft Office products.	LM Aeronautics (Aero) LM Space Systems - SMD LM Rotary and Mission Systems, Training and Logistics Solutions (RMS TLS) LM Rotary and Mission Systems, C4 & Undersea Systems (RMS C4USS) LM Rotary and Mission Systems, Integrated Warfare Systems & Sensors (RMS IWSS)	Craig Owens Jesus Isarraras Joshua Kitain Michael Weingarten Sheronda Nash	craig.l.owens@lmco.com jesus.isarraras@lmco.com joshua.d.kitain@lmco.com michael.weingarten@lmco.com sheronda.nash@lmco.com	817/777-6504 408-431-3519 4073061039 860-882-0343 856-359-3965		Craig Owens (craig.l.owens@lmco.com) Jesus Isarraras (jesus.isarraras@lmco.com) Joshua Kitain (joshua.d.kitain@lmco.com) Michael Weingarten (michael.weingarten@lmco.com) Sheronda Nash (sheronda.nash@lmco.com)
AF163-D001	Small Satellite System for Space Surveillance	Develop a low earth orbit small satellite system suitable for detecting and locating near-GEO (geo-synchronous orbit) space objects of apparent visible magnitude 16 Mv or brighter. The project shall serve as a pathfinder in assessing the feasibility and affordability of developing a low cost constellation for routine and frequent updates to the GEO catalog.	LM Space Systems - SMD	Jesus Isarraras	jesus.isarraras@lmco.com	408-431-3519		Jesus Isarraras (jesus.isarraras@lmco.com)
SB163-001	Tools for Sharing and Analyzing Neuroscience Data	Develop and demonstrate an open data platform comprising software tools for parsing, storing, aggregating, analyzing, and sharing complex neuroscience data.						
SB163-002	Genetic/Genomic Approaches to Improve Insect Production for Human Use	Develop genetic or genomic approaches to reduce the negative characteristics associated with insect colony maintenance or recovery of insect-derived products and demonstrate genetic modification of insects to improve the nutritional quality of final food, feed or pharma products.	LM Missiles and Fire Control (MFC)	John Fontana	john.c.fontana@lmco.com	407-356-3968		John Fontana (john.c.fontana@lmco.com)
SB163-003	Next Generation Genome Editing Tools	Enhance the utility of genome editing tools by developing nuclease-based effectors that have reduced off- target effects and increased efficiency of delivery across a range of eukaryotic hosts.						
SB163-004	Real-Time Metrology and Feedback Control for Additive Manufacturing	Develop a real-time system for active feedback control and process characterization of multi-material additive manufacturing.	LM Rotary and Mission Systems, Cyber, Ships and Advanced Technologies (RMS CSAT) LM Space Systems - SMD LM Missiles and Fire Control (MFC) LM Rotary and Mission Systems, C4 & Undersea Systems (RMS C4USS)	Gretchen Head Jesus Isarraras John Fontana Michael Weingarten	gretchen.head@lmco.com jesus.isarraras@lmco.com john.c.fontana@lmco.com michael.weingarten@lmco.com	410-682-0481 408-431-3519 407-356-3968 860-882-0343		Gretchen Head (gretchen.head@lmco.com) Jesus Isarraras (jesus.isarraras@lmco.com) John Fontana (john.c.fontana@lmco.com) Michael Weingarten (michael.weingarten@lmco.com)
SB163-005	TRUsted Structures Technology (TRUST)	Develop and test one or more techniques to detect whether an additively manufactured part has been tampered with, or deviates from its specification thereby jeopardizing its integrity, ideally without requiring extensive destructive or non-destructive inspection. The secondary objective is to prevent stealing of a part	LM Aeronautics (Aero) LM Rotary and Mission Systems, Cyber, Ships and Advanced Technologies (RMS CSAT) LM Space Systems - SMD LM Missiles and Fire Control (MFC) LM Rotary and Mission Systems, C4 & Undersea Systems (RMS C4USS)	Craig Owens Gretchen Head Jesus Isarraras John Fontana Michael Weingarten	craig.l.owens@lmco.com gretchen.head@lmco.com jesus.isarraras@lmco.com john.c.fontana@lmco.com michael.weingarten@lmco.com	817/777-6504 410-682-0481 408-431-3519 407-356-3968 860-882-0343		Craig Owens (craig.l.owens@lmco.com) Gretchen Head (gretchen.head@lmco.com) Jesus Isarraras (jesus.isarraras@lmco.com) John Fontana (john.c.fontana@lmco.com) Michael Weingarten (michael.weingarten@lmco.com)
SB163-006	Real-time Audio Authentication to Combat Vishing Attacks	Develop algorithms and systems capable of authenticating audio in real time to combat the emerging threat that takes advantage of minimal security in telephony systems and perceived trust in the caller to obtain sensitive, high value personal, financial, and	LM Rotary and Mission Systems, Cyber, Ships and Advanced Technologies (RMS CSAT) LM Missiles and Fire Control (MFC) LM Rotary and Mission Systems, C4 & Undersea Systems (RMS C4USS) LM Rotary and Mission Systems, Integrated Warfare Systems & Sensors (RMS IWSS)	Gretchen Head John Fontana Michael Weingarten Sheronda Nash	gretchen.head@lmco.com john.c.fontana@lmco.com michael.weingarten@lmco.com sheronda.nash@lmco.com	410-682-0481 407-356-3968 860-882-0343 856-359-3965		Gretchen Head (gretchen.head@lmco.com) John Fontana (john.c.fontana@lmco.com) Michael Weingarten (michael.weingarten@lmco.com) Sheronda Nash (sheronda.nash@lmco.com)
SB163-007	Explainable Machine Learning for Resource Allocation	Develop machine learning techniques capable of both learning to match resources to needs and explaining the rationale for those matches to human decision makers.	LM Rotary and Mission Systems, Cyber, Ships and Advanced Technologies (RMS CSAT) LM Missiles and Fire Control (MFC) LM Rotary and Mission Systems, Training and Logistics Solutions (RMS TLS) LM Rotary and Mission Systems, C4 & Undersea Systems (RMS C4USS)	Gretchen Head John Fontana Joshua Kitain Michael Weingarten	gretchen.head@lmco.com john.c.fontana@lmco.com joshua.d.kitain@lmco.com michael.weingarten@lmco.com	410-682-0481 407-356-3968 4073061039 860-882-0343		Gretchen Head (gretchen.head@lmco.com) John Fontana (john.c.fontana@lmco.com) Joshua Kitain (joshua.d.kitain@lmco.com) Michael Weingarten (michael.weingarten@lmco.com)
SB163-009	Low Voltage Power Sources for Long-Life Electronics	Produce primary cell batteries or alternative power sources whose voltages can be fine-tuned by adjusting the voltaic chemistry and / or structure of the cells and that can directly output stable voltages in the 0.3 to 0.7 V range without the use of power hungry electronic voltage regulators.	LM Rotary and Mission Systems, Cyber, Ships and Advanced Technologies (RMS CSAT) LM Space Systems - SMD LM Rotary and Mission Systems, C4 & Undersea Systems (RMS C4USS)	Gretchen Head Jesus Isarraras Michael Weingarten	gretchen.head@lmco.com jesus.isarraras@lmco.com michael.weingarten@lmco.com	410-682-0481 408-431-3519 860-882-0343		Gretchen Head (gretchen.head@lmco.com) Jesus Isarraras (jesus.isarraras@lmco.com) Michael Weingarten (michael.weingarten@lmco.com)
SB163-011	Wide Area Undersea Communications Through Intelligent Mobile Networks	Develop and demonstrate innovative method to increase the reliability, range, and expanse of acoustic undersea communications throughout large ocean basins.	LM Space Systems - SMD LM Rotary and Mission Systems, C4 & Undersea Systems (RMS C4USS) LM Rotary and Mission Systems, Integrated Warfare Systems & Sensors (RMS IWSS)	Jesus Isarraras Michael Weingarten Sheronda Nash	jesus.isarraras@lmco.com michael.weingarten@lmco.com sheronda.nash@lmco.com	408-431-3519 860-882-0343 856-359-3965		Jesus Isarraras (jesus.isarraras@lmco.com) Michael Weingarten (michael.weingarten@lmco.com) Sheronda Nash (sheronda.nash@lmco.com)

SB163-012	Adapter Multifunctional Elements Reconfigured in a Coherent Array (AMERICA)	Design, prototype, and demonstrate in a ground-based experiment, the Evolved Expendable Launch Vehicle (EELV) Secondary Payload Adapter (ESPA), which may be physically deconstructed to realize a phased array antenna built directly onto an adjoined microsatellite secondary payload	LM Missiles and Fire Control (MFC)	John Fontana	john.c.fontana@lmco.com	407-356-3968		John Fontana (john.c.fontana@lmco.com)
H-SB014.2-002	Autonomous Detection and Healing of Software Vulnerabilities							
SB163-008	Assessing Deterrence in the Gray Zone	Develop and demonstrate technologies to enable measuring and explaining the success of deterrent strategies and tactics in Gray Zone conflicts	LM Rotary and Mission Systems, Integrated Warfare Systems & Sensors (RMS IWSS)	Sheronda Nash	sheronda.nash@lmco.com	856-359-3965		Sheronda Nash (sheronda.nash@lmco.com)
SB163-010	Compact, Efficient, Fiber-Coupled High Power Laser Diode Pump Module	Develop a high-power, fiber-coupled laser diode pump module with high efficiency in a compact package that is consistent with the stringent size and weight requirements for air platform integration	LM Aeronautics (Aero) LM Rotary and Mission Systems, Cyber, Ships and Advanced Technologies (RMS CSAT) LM Space Systems - SMD LM Rotary and Mission Systems, C4 & Undersea Systems (RMS C4USS)	Craig Owens Gretchen Head Jesus Isarraras Michael Weingarten	craig.l.owens@lmco.com gretchen.head@lmco.com jesus.isarraras@lmco.com michael.weingarten@lmco.com	817/777-6504 410-682-0481 408-431-3519 860-882-0343		Craig Owens (craig.l.owens@lmco.com) Gretchen Head (gretchen.head@lmco.com) Jesus Isarraras (jesus.isarraras@lmco.com) Michael Weingarten (michael.weingarten@lmco.com)
SB163-013	Task Accomplishing Systems from Composable Kits (TASCK)	Develop the ability to rapidly compose task-oriented, task-performing platforms using a combination of modular mechanical elements (e.g., actuation, structural, energy), service-oriented software, digitally encapsulated electronics, and on-demand middleware, orchestrated through a compositional toolchain.						
SB163-014	Gun-launched Integrated Guidance Navigation and Control	Develop, test, and validate innovative material systems, components, and structures for a four-channel control actuation system (CAS) with an integrated inertial measurement unit (IMU) and guidance electronics unit (GEU) capable of surviving the high-g launch environment and imparting precise maneuverability to guided projectiles throughout supersonic flight.	LM Space Systems - SMD LM Missiles and Fire Control (MFC)	Jesus Isarraras John Fontana	jesus.isarraras@lmco.com john.c.fontana@lmco.com	408-431-3519 407-356-3968		Jesus Isarraras (jesus.isarraras@lmco.com) John Fontana (john.c.fontana@lmco.com)
DHP163-001	Improved Human Machine Interface Usability for Clinical Healthcare Providers to Enter Data into Electronic Health Records	The objective of this initiative is to develop innovative and unique technologies that doctors, nurses, medics EMTs and other health care providers can use to keep working with their patients, and still document in the Electronic Health Record in a hands-free manner. Currently, healthcare providers have to stop what they are doing and type into a keyboard to document patient care. The desired hands-free solution will facilitate clinical providers/first responders ability to document on-site patient intake, assessment, point of care treatment and patient data to enable clinical data entry into the patient Electronic Health Record (EHR). Many busy healthcare providers, EMTs, first responders, and those military medical providers in dispersed military operations may not have the advantage of the organized logistics and casualty care systems and rely on memory until access to data entry is possible. This topic seeks new and innovative alternative data entry approach for Healthcare Providers to enter Electronic Health Record data into a computerized documentation system while keeping their hands completely free to work with patients.	LM Rotary and Mission Systems, Training and Logistics Solutions (RMS TLS)	Joshua Kitain	joshua.d.kitain@lmco.com	4073061039		Joshua Kitain (joshua.d.kitain@lmco.com)
DHP163-002	Scene Registration Augmented Reality as an Educational Tool to Identify Underlying Anatomy during Medical Simulation Training	Develop, demonstrate, test, and evaluate a scene registration educational tool that registers/transmits/updates from a simulated patients position/orientation using information to correlate accurately with 3-D anatomical dynamic models replicating position/orientation.	LM Missiles and Fire Control (MFC) LM Rotary and Mission Systems, Training and Logistics Solutions (RMS TLS)	John Fontana Joshua Kitain	john.c.fontana@lmco.com joshua.d.kitain@lmco.com	407-356-3968 4073061039		John Fontana (john.c.fontana@lmco.com) Joshua Kitain (joshua.d.kitain@lmco.com)
DHP163-003	Delivery System for Cryopreserved Eukaryotic Cell Vaccines	Develop an integrated system for automated thermostabilization by cryopreservation of eukaryotic cell vaccine(s), storage and delivery to the clinic/point of use.						
DHP163-004	Automated Tick Collecting Device	To develop a self-propelled (automated) tick collection device that is capable of operating in diverse habitats under various environmental conditions						
DHP163-005	Pathogen-specific and serotype-independent antibody reagents for diagnosis of Shigella spp. and non-typhoidal Salmonella	Develop and validate antibodies for broad-spectrum detection of Shigella spp. and non-typhoidal Salmonella enterica. The antibody or antibody mixture should be of sufficient sensitivity to bind concentrations of these bacteria that are found in stool samples from diseased patients, be readily incorporated into both ELISA and lateral flow immunoassay platforms, and be compatible with use in an austere environment (resistant to degradation in environmental extremes).						
DHP163-006	Point of Injury Device to Maintain and Stabilize Moderate-Severe Traumatic Brain Injury (TBI) Casualties	Development of a novel device for the stabilization of moderate to severe brain injury at point of injury/point of need that can be used by first responders in the deployed environment (medics and corpsmen)	LM Missiles and Fire Control (MFC)	John Fontana	john.c.fontana@lmco.com	407-356-3968		John Fontana (john.c.fontana@lmco.com)
DHP163-007	Point of Injury Therapy to Maintain and Stabilize Moderate-Severe Traumatic Brain Injury (TBI) Casualties	Development of a novel treatment for the stabilization of moderate to severe brain injury at point of injury/point of need that can be used by first responders in the deployed environment (medics and corpsmen)						
DHP163-008	Flight Medic Ultra-Wideband Microphone Toggle (UMT) Device	The objective of this topic is to research, develop, and demonstrate a ruggedized Ultra-wideband Microphone Toggle (UMT) communications device which will enable Flight Medics or others to direct input from their headset microphone to either the vehicle or aircraft intercom system, or to either of two secure Ultra-Wideband (UWB) applications on a Nett Warrior Smartphone aka End User Device (EUD): 1) an existing UWB Voice-to-Text application or, 2) UWB Push-to-Talk verbal communication with another Medic via their Nett Warrior EUDs.						
DHP163-009	Methods of Target Maintenance until Reinnervation after Peripheral Nerve Injury	This topic seeks non-conduit solutions to improve functional recovery from peripheral nerve injury by addressing factors distal to the site of a peripheral nerve injury. This topic does not include nerve guide, conduit, or scaffold technology, nor factors, cells, or other adjuvants associated with same.						
DLA163-001	Subsistence Supply Chain Manufacturing Improvements	Develop and promote manufacturing improvements in the subsistence supply chain. Leverage the latest technologies, encourage innovation and modernization, and to maximize capability and capacity in subsistence. The research seeks to identify and test of low-risk, high-impact technology, quality and process improvements of the individual and group combat rations, and improvements in subsistence products/equipment. Research projects shall involve current trends related to combat rations, field feeding solutions, food innovations, and nutrition and health.	LM Rotary and Mission Systems, Training and Logistics Solutions (RMS TLS)	Joshua Kitain	joshua.d.kitain@lmco.com	4073061039		Joshua Kitain (joshua.d.kitain@lmco.com)
DLA163-002	Materiel Receipt Acknowledgement for Direct Shipments	The objective of this topic is to provide a best practice process and supporting technology requirements that will provide customers who receive material directly from DLA or DLA suppliers a user-friendly process for effective acknowledgement of receipt for these shipments	LM Rotary and Mission Systems, Training and Logistics Solutions (RMS TLS) LM Rotary and Mission Systems, C4 & Undersea Systems (RMS C4USS)	Joshua Kitain Michael Weingarten	joshua.d.kitain@lmco.com michael.weingarten@lmco.com	4073061039 860-882-0343		Joshua Kitain (joshua.d.kitain@lmco.com) Michael Weingarten (michael.weingarten@lmco.com)
DLA163-003	Tamper Resistant/Anti-Counterfeit Package Labeling	The Department of Defense (DOD) establishes internal DOD policies for detecting, avoiding, and remediating counterfeit parts in the DOD supply chain, and allocates responsibility among various DOD offices and functions for administering or developing those counterfeit prevention policies. Department of Defense Instruction (DODI) 4140.67, titled DoD Counterfeit Prevention Policy, was issued on April 26, 2013, and prescribes the federal governments efforts to deal with the epidemic of counterfeit parts that led to the inclusion of a provision specifically targeted at counterfeit electronic parts in the fiscal year 2012 National Defense Authorization Act (NDAA). The Defense Logistics Agency (DLA) understands the challenges for our Original Equipment Manufacturers (OEMs) and Distributors that make up our supply base with regard to the development and implementation of technological solutions for counterfeit prevention. In an effort to meet the DODI 4140.67, DLA would like to explore technologies in tamper resistance/anti-counterfeit package labeling technologies.	LM Rotary and Mission Systems, Cyber, Ships and Advanced Technologies (RMS CSAT) LM Space Systems - SMD LM Missiles and Fire Control (MFC) LM Rotary and Mission Systems, Training and Logistics Solutions (RMS TLS) LM Rotary and Mission Systems, C4 & Undersea Systems (RMS C4USS) LM Rotary and Mission Systems, Integrated Warfare Systems & Sensors (RMS IWSS)	Gretchen Head Jesus Isarraras John Fontana Joshua Kitain Michael Weingarten Sheronda Nash	gretchen.head@lmco.com jesus.isarraras@lmco.com john.c.fontana@lmco.com joshua.d.kitain@lmco.com michael.weingarten@lmco.com sheronda.nash@lmco.com	410-682-0481 408-431-3519 407-356-3968 4073061039 860-882-0343 856-359-3965		Gretchen Head (gretchen.head@lmco.com) Jesus Isarraras (jesus.isarraras@lmco.com) John Fontana (john.c.fontana@lmco.com) Joshua Kitain (joshua.d.kitain@lmco.com) Michael Weingarten (michael.weingarten@lmco.com) Sheronda Nash (sheronda.nash@lmco.com)

MDA16-020	Rayon Replacement for High Temperature Materials	Develop, characterize, and manufacture innovative high temperature composites that 1) exploit newly available carbonized fibers and 2) eliminate and/or mitigate the issue associated with availability of carbonized rayon	LM Aeronautics (Aero) LM Space Systems - SMD LM Missiles and Fire Control (MFC)	Craig Owens Jesus Isarraras John Fontana	craig.l.owens@lmco.com jesus.isarraras@lmco.com john.c.fontana@lmco.com	817/777-6504 408-431-3519 407-356-3968		Craig Owens (craig.l.owens@lmco.com) Jesus Isarraras (jesus.isarraras@lmco.com) John Fontana (john.c.fontana@lmco.com)
MDA16-021	Thermophysical Property Characterization of Decomposing Aerospace Materials	Seek innovative technologies that provide complete thermophysical characterization of aerospace vehicle materials during the various stages of partial decomposition associated with rocket boosted ascent and reentry.	LM Space Systems - SMD	Jesus Isarraras	jesus.isarraras@lmco.com	408-431-3519		Jesus Isarraras (jesus.isarraras@lmco.com)
MDA16-022	Artificial Scene Generator	Develop a technology capable of generating pre-planned scenes in exo- and endo-atmospheric flight test conditions operating over various frequency bands of the electromagnetic spectrum.	LM Space Systems - SMD LM Missiles and Fire Control (MFC)	Jesus Isarraras John Fontana	jesus.isarraras@lmco.com john.c.fontana@lmco.com	408-431-3519 407-356-3968		Jesus Isarraras (jesus.isarraras@lmco.com) John Fontana (john.c.fontana@lmco.com)
MDA16-023	Programmable Signal Generator Module	Develop innovative beacon technologies capable of generating custom pre-preprogrammed signals that consume low power, are miniaturized, and are low cost for use in various future missile flight test systems	LM Rotary and Mission Systems, C4 & Undersea Systems (RMS C4USS)	Michael Weingarten	michael.weingarten@lmco.com	860-882-0343		Michael Weingarten (michael.weingarten@lmco.com)
SOCOM163-001	Acoustic Signature Reduction	The objective of this effort is to reduce acoustic signatures of existing Special Operations Forces (SOF) fixed wing aircraft (manned and unmanned) using innovative technology solutions.	LM Aeronautics (Aero) LM Rotary and Mission Systems, Cyber, Ships and Advanced Technologies (RMS CSAT) LM Missiles and Fire Control (MFC) LM Rotary and Mission Systems, C4 & Undersea Systems (RMS C4USS)	Craig Owens Gretchen Head John Fontana Michael Weingarten	craig.l.owens@lmco.com gretchen.head@lmco.com john.c.fontana@lmco.com michael.weingarten@lmco.com	817/777-6504 410-682-0481 407-356-3968 860-882-0343		Craig Owens (craig.l.owens@lmco.com) Gretchen Head (gretchen.head@lmco.com) John Fontana (john.c.fontana@lmco.com) Michael Weingarten (michael.weingarten@lmco.com)
SOCOM163-002	Advanced Durability Systems for Unmanned Aerial Vehicle Propulsion	The objective of this technology pursuit is to improve Unmanned Aerial Vehicle (UAV) engine propulsion performance and durability using advanced designs/materials for bearing, housing, and rotating components/systems.	LM Rotary and Mission Systems, Cyber, Ships and Advanced Technologies (RMS CSAT) LM Missiles and Fire Control (MFC) LM Rotary and Mission Systems, C4 & Undersea Systems (RMS C4USS)	Gretchen Head John Fontana Michael Weingarten	gretchen.head@lmco.com john.c.fontana@lmco.com michael.weingarten@lmco.com	410-682-0481 407-356-3968 860-882-0343	UES Inc. (vsundar@ues.com)	Gretchen Head (gretchen.head@lmco.com) John Fontana (john.c.fontana@lmco.com) Michael Weingarten (michael.weingarten@lmco.com)
SOCOM163-003	Advanced Tactical Facial Recognition at a Distance Technology	To develop and demonstrate innovative advanced tactical facial recognition technologies at ranges of 650 meters to 1 kilometer to enhance tactical situation awareness and support positive identification of persons of interest. The tactical facial recognition technologies need to be capable of being reduced to man-portable size, weight, and power (SWAP) requirements. While this effort is focused on ground tactical applications, the expandability to airborne Intelligence, Surveillance, Target Acquisition, and Reconnaissance (ISTAR) applications is desired.	LM Rotary and Mission Systems, Cyber, Ships and Advanced Technologies (RMS CSAT) LM Missiles and Fire Control (MFC) LM Rotary and Mission Systems, Training and Logistics Solutions (RMS TLS) LM Rotary and Mission Systems, Integrated Warfare Systems & Sensors (RMS IWSS)	Gretchen Head John Fontana Joshua Kitain Sheronda Nash	gretchen.head@lmco.com john.c.fontana@lmco.com joshua.d.kitain@lmco.com sheronda.nash@lmco.com	410-682-0481 407-356-3968 4073061039 856-359-3965		Gretchen Head (gretchen.head@lmco.com) John Fontana (john.c.fontana@lmco.com) Joshua Kitain (joshua.d.kitain@lmco.com) Sheronda Nash (sheronda.nash@lmco.com)
SOCOM163-004	Blood and Pharmaceutical Cooling and Storage System	Design an innovative portable device to safely cool (including freeze), transport and store blood, blood components, pharmaceuticals and related serums or solutions in remote and austere environments with limited reach back logistics support.	LM Missiles and Fire Control (MFC)	John Fontana	john.c.fontana@lmco.com	407-356-3968		John Fontana (john.c.fontana@lmco.com)
SOCOM163-005	Cloud Data Synchronization with Limited Bandwidth Communications	Develop a system to preposition and synchronize data between capabilities deployed in austere environments and commercial or private cloud infrastructures	LM Rotary and Mission Systems, C4 & Undersea Systems (RMS C4USS)	Michael Weingarten	michael.weingarten@lmco.com	860-882-0343		Michael Weingarten (michael.weingarten@lmco.com)
SOCOM163-006	Color Night Vision Sensor	The objective of this technology pursuit is to develop high resolution true color night vision sensors.	LM Aeronautics (Aero) LM Rotary and Mission Systems, Cyber, Ships and Advanced Technologies (RMS CSAT) LM Space Systems - SMD LM Missiles and Fire Control (MFC) LM Rotary and Mission Systems, C4 & Undersea Systems (RMS C4USS)	Craig Owens Gretchen Head Jesus Isarraras John Fontana Michael Weingarten	craig.l.owens@lmco.com gretchen.head@lmco.com jesus.isarraras@lmco.com john.c.fontana@lmco.com michael.weingarten@lmco.com	817/777-6504 410-682-0481 408-431-3519 407-356-3968 860-882-0343		Craig Owens (craig.l.owens@lmco.com) Gretchen Head (gretchen.head@lmco.com) Jesus Isarraras (jesus.isarraras@lmco.com) John Fontana (john.c.fontana@lmco.com) Michael Weingarten (michael.weingarten@lmco.com)
SOCOM163-007	Freeze Dried Plasma for Canines	Develop a stable, lyophilized plasma formulation for rapid use in canine trauma resuscitation that demonstrates safety and efficacy.						
SOCOM163-008	Tactical Sensor Data Processing, Exploitation, and Dissemination	Special Operations Forces (SOF) require access to SOF-specific detailed tactical planning data to support military operations. To meet this requirement, highly accurate 3D Building Information Modeling (BIM), Computer Aided Design (CAD), and Geographic Information System (GIS) data is generated through garrison production as well as mobile collection in preparation for or during ongoing crises and contingency operations.	LM Space Systems - SMD	Jesus Isarraras	jesus.isarraras@lmco.com	408-431-3519		Jesus Isarraras (jesus.isarraras@lmco.com)
SOCOM163-009	Transparent Emissive Microdisplay	Design and fabricate a full-color transparent emissive microdisplay for use in a multi-imaging plane system.	LM Rotary and Mission Systems, Cyber, Ships and Advanced Technologies (RMS CSAT) LM Missiles and Fire Control (MFC) LM Rotary and Mission Systems, C4 & Undersea Systems (RMS C4USS)	Gretchen Head John Fontana Michael Weingarten	gretchen.head@lmco.com john.c.fontana@lmco.com michael.weingarten@lmco.com	410-682-0481 407-356-3968 860-882-0343		Gretchen Head (gretchen.head@lmco.com) John Fontana (john.c.fontana@lmco.com) Michael Weingarten (michael.weingarten@lmco.com)