

Link	Topic #	Title	Objective	Business Area	LM POC	Email Address	Phone
View Online	A16A-T001	Chemical Kinetic Pathway Effects in Turbulent Reacting Flows	Develop a methodology to assess the effects of turbulence-flame interactions on chemical kinetic pathways up to extinction and blow-out, and employ this methodology to develop tractable reduced chemical mechanisms for routine, large scale gas turbine combustor simulations that accurately capture these effects				
View Online	A16A-T002	Solid State Additive Manufacturing of Titanium Alloys	Develop an additive manufacturing technology capable of processing titanium alloys via solid state joining.	LM Space Systems - ATC LM Mission Systems and Training, Ship and Aviation Systems (MST SAS) LM Space Systems - SMD LM Missiles and Fire Control (MFC) LM Mission Systems and Training, Ship and Aviation Systems (MST SAS)	Dawn Sisneros Jeffrey Poulin Jesus Isarraras John Fontana	Dawn.Sisneros@lmco.com jeffrey.poulin@lmco.com jesus.isarraras@lmco.com john.c.fontana@lmco.com	303-379-3194 - 408-431-3519 407-356-3968
View Online	A16A-T003	Green Diode Lasers (480-550 nm Spectral Regime)	To develop longer wavelength visible diode lasers primarily aimed at green color wavelengths from 480 nm - 550 nm	LM Mission Systems and Training, Ship and Aviation Systems (MST SAS) LM Space Systems - SMD	Jeffrey Poulin Jesus Isarraras	jeffrey.poulin@lmco.com jesus.isarraras@lmco.com	x 408-431-3519
View Online	A16A-T004	Acoustically/Vibrationally Enhanced High Frequency Electromagnetic Detector for Buried Landmines	Develop a detector for landmines with enhanced performance based on linear and non-linear acoustic, vibrational, and electromagnetic (EM) combined effects.	LM Missiles and Fire Control (MFC)	John Fontana	john.c.fontana@lmco.com	407-356-3968
View Online	A16A-T005	Overcoming RTOS Barriers to Deployment of Innovative Real-Time/Embedded Systems	To enable innovative multi-core real-time software systems to be developed without expensive, time-consuming, and hazardous modification of real-time operating system (RTOS) kernels	LM Mission Systems and Training, Ship and Aviation Systems (MST SAS)	Jeffrey Poulin	jeffrey.poulin@lmco.com	
View Online	A16A-T006	Situational Awareness System	Develop and deliver a stand-alone system for online threat detection and behavioral analysis for enhanced situational awareness.	LM Space Systems - SMD LM Mission Systems and Training, Integrated Warfare Systems & Sensors (MST IWSS)	Jesus Isarraras Sheronda Nash	jesus.isarraras@lmco.com sheronda.nash@lmco.com	408-431-3519 856-359-3965
View Online	A16A-T007	Quantification Model and Systems for Assessing and Developing Resilient Wireless Communication Operation	The objective is to create a highly effective and accurate system that can identify stealthy wireless attacks. This topic will enhance the resiliency of Army and DoD cyber operations through better response to intrusions and more effective mitigation of attack impacts	LM Mission Systems and Training, Ship and Aviation Systems (MST SAS) LM Missiles and Fire Control (MFC) LM Mission Systems and Training, Integrated Warfare Systems & Sensors (MST IWSS)	Jeffrey Poulin John Fontana Sheronda Nash	jeffrey.poulin@lmco.com john.c.fontana@lmco.com sheronda.nash@lmco.com	407-356-3968 856-359-3965
View Online	A16A-T008	Field Drug Identification Kit	Development of an easy to use, field-rugged drug identification kit.				
View Online	A16A-T009	Metamorphic Buffer Layer Growth for Bulk InAs(x)Sb(1-x) LWIR Detectors	Development of metamorphic buffer layers on commercially available III-V substrates (GaAs or GaSb) for the growth of high quality III-V BULK material based long-wavelength infrared (LWIR) Pb detectors.	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
View Online	A16A-T010	Tactical Immune System (TIS)	Natural biological immune systems protect animals from dangerous foreign pathogens, including bacteria, viruses, parasites, and toxins. Their role in the body is very analogous to that of computer/cyber security systems in computing. Although there are many differences between living organisms and computer systems, we believe that the similarities are compelling and could point the way to improved computer/cyber security in the tactical environment. The analogy with immunology contributes an important point of view about how to achieve computer/cyber security, one that can potentially lead to systems built with quite different sets of assumptions, biases, and organizing principles than in the past. A Tactical Immune System capability needs to be researched and developed to be able to accurately identify self, defend against non-self threats through self-healing properties, and re-align baseline definition of self once threats are eradicated.	LM Mission Systems and Training, Integrated Warfare Systems & Sensors (MST IWSS)	Sheronda Nash	sheronda.nash@lmco.com	856-359-3965
View Online	A16A-T011	Nadir-Looking Synthetic Aperture Radar (NadirSAR)	Develop very-high-resolution (as fine as 0.1 m) three-dimensional imaging techniques that will allow current and future Army microwave/millimeter wave synthetic aperture radars (SARs) to detect and identify targets in urban canyons, concealed under foliage, and other challenging environments using data collected with circular flight path trajectories.	LM Missiles and Fire Control (MFC) LM Mission Systems and Training, Integrated Warfare Systems & Sensors (MST IWSS)	John Fontana Sheronda Nash	john.c.fontana@lmco.com sheronda.nash@lmco.com	407-356-3968 856-359-3965
View Online	A16A-T012	Man-Portable and Fieldable Mass Spectrometer for Sequencing Peptides	Develop a new miniaturized multi-order (MSn) mass spectrometer that is man-portable and capable of detecting and sequencing peptides derived from biological agents including bacteria, viruses, and toxins.				
View Online	A16A-T013	Beliefs, Values, Interests and Practices of Identities, Networks, Groups for Planning & Analysis	Using open source data, characterize population identities and interrelationships in terms of beliefs, values, interests and practices, and detect, quantify, track and provide analytical tools.				
View Online	A16A-T-014	Technologies to Target Circadian Rhythm Disruption in PTSD	To develop and demonstrate a wearable device that can monitor circadian rhythm cycles, determine daytime napping and provide a deterrent to the latter. This device will continuously collect physiological signals, and integrate them in order to estimate circadian rhythm. There may be a companion light modulation component to alter the portion of the light spectrum that regulates the circadian rhythm. The entire package will utilize a smart device which can enable health professionals to carry out further				
View Online	A16A-T015	Manufacturing of Flame Resistant (FR) Combat Printed Nonwoven Material	To manufacture large scale production run of Flame Resistant (FR) combat printed nonwoven base uniform material for wear test trial on one specific combat item such as the main body fabric of the combat shirt. (Basic material A of GL-PD-10-02E; Shirt Combat, Flame Resistant dated 19 March 2015).	LM Missiles and Fire Control (MFC)	John Fontana	john.c.fontana@lmco.com	407-356-3968

View Online	A16A-T016	Spectrum Analyzer Using Spintronic Radar Arrays	Research and development of new ultra-fast spintronic radar detectors and spectrum analyzers based on arrays of metallic or metal/insulator nano-scale magnetic diodes. These novel devices have the potential to become practical microwave detectors for military applications. They can be scaled down to ultimate nanometer sizes, they have a very low power consumption, natural frequency selectivity, ability to process very noisy external signals and are not vulnerable to ionizing radiation.	LM Missiles and Fire Control (MFC) LM Mission Systems and Training, Integrated Warfare Systems & Sensors (MST IWSS)	John Fontana Sheronda Nash	john.c.fontana@lmco.com sheronda.nash@lmco.com	407-356-3968 856-359-3965
View Online	N16A-T001	High Hestivity Magnetic Materials for Magnetic Toroid and Flat Dipole Antennas	Develop a process to produce magnetic film materials with hestivities well in excess of currently available materials for application in magnetic toroid and flat dipole antenna elements.	LM Mission Systems and Training, Ship and Aviation Systems (MST SAS) LM Missiles and Fire Control (MFC)	Jeffrey Poulin John Fontana	jeffrey.poulin@lmco.com john.c.fontana@lmco.com	407-356-3968
View Online	N16A-T002	Methods for Actionable Measures of Absolute Cognitive Workload	Develop an innovative and cost-effective capability that will provide an objective, measurable means of workload for determining impacts on individual operator, crew-level, and/or multi-team system level performance when life support or aircrew systems are added or modified.	LM Mission Systems and Training, Ship and Aviation Systems (MST SAS) LM Mission Systems and Training, Integrated Warfare Systems & Sensors (MST IWSS)	Jeffrey Poulin Sheronda Nash	jeffrey.poulin@lmco.com sheronda.nash@lmco.com	856-359-3965
View Online	N16A-T003	Innovative Multi-scale/Multi-physics based Tool for Predicting Fatigue Crack Initiation and Propagation in Aircraft Structural Components using Phase Field Model Technique	Develop innovative Phase Field Model (PFM) within numerical framework of Isogeometric Analysis (IGA) for metallic materials subjected to fatigue loading to predict 3D crack topology under complex service loading situations.	LM Space Systems - SMD LM Mission Systems and Training, Integrated Warfare Systems & Sensors (MST IWSS)	Jesus Isarraras Sheronda Nash	jesus.isarraras@lmco.com sheronda.nash@lmco.com	408-431-3519 856-359-3965
View Online	N16A-T004	Quantifying Uncertainty in the Mechanical Performance of Additively Manufactured Parts Due to Material and Process Variation	Quantify the effect of variations in process characteristics on the mechanical performance of additively manufactured (AM) parts, and develop a procedure for mitigating these effects within statistical bounds using Integrated Computational Materials Engineering (ICME) framework.	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
View Online	N16A-T005	Air Cycle Machine Low Friction, Medium Temperature, Foil Bearing Coating	Design and develop a durable low friction safe coating, and an application method, for use on foil bearings used in aircraft air cycle subsystem turbomachines.				
View Online	N16A-T006	Novel, High-Efficiency, Light-weight, Flexible Solar Cells as Electrical Power Generation Source	Develop a capability for high power conversion efficiency and stability in organic solar cells based on novel materials and an innovative device to create a reliable power generation source for naval aviation applications.				
View Online	N16A-T007	Optimized High Performance Stainless Steel Powder for Selective Laser Melting Additive Manufacturing (AM)	Develop a stainless steel powder with advanced material characteristics to improve processability, part quality, and performance using an integrated computational materials engineering (ICME) framework to enable the use of selective laser melting (SLM) AM for the replacement, and future design of stainless steel components used in Naval aviation.	LM Mission Systems and Training, Ship and Aviation Systems (MST SAS) LM Missiles and Fire Control (MFC)	Jeffrey Poulin John Fontana	jeffrey.poulin@lmco.com john.c.fontana@lmco.com	407-356-3968
View Online	N16A-T008	Novel Separator Materials for Achieving High Energy/Power Density, Safe, Long-Lasting Lithium-ion Batteries for Navy Aircraft Applications.	Develop and demonstrate novel, tailored, designer separator materials with optimized properties to maximize lithium-ion cell/battery performance, life, safety and reliability.	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
View Online	N16A-T009	Medium Voltage Direct Current (MVDC) Fault Detection, Localization, and Isolation	Develop an affordable method for detecting, localizing, and isolating faults in a Medium Voltage Direct Current (MVDC) zonal electrical power system for naval warships.	LM Mission Systems and Training, Integrated Warfare Systems & Sensors (MST IWSS)	Sheronda Nash	sheronda.nash@lmco.com	856-359-3965
View Online	N16A-T010	Additive Manufacturing for Microwave Vacuum Electron Device Cost Reduction	Develop additive manufacturing for key microwave vacuum device components that meets ondemand, flexible, and affordable manufacturing requirements.				
View Online	N16A-T011	Fully Encapsulating Dielectrics for Gaseous Helium Cooled Superconducting Power cables	Develop an encapsulating medium voltage dielectric material and application process to electrically insulate a high temperature superconducting power cable and end terminations in a gaseous Helium environment.				
View Online	N16A-T012	Medium Voltage Direct Current (MVDC) Grounding System	Develop an affordable, general method for grounding Medium Voltage Direct Current (MVDC) zonal electrical power systems for naval warships.	LM Mission Systems and Training, Integrated Warfare Systems & Sensors (MST IWSS)	Sheronda Nash	sheronda.nash@lmco.com	856-359-3965
View Online	N16A-T013	Cyber Forensic Tool Kit for Machinery Control	Develop live digital forensics that, at run time, provide a cyber-protection strategy and aid in identification of malfunctions due to malicious and non-malicious events, while ensuring minimal impact on overall system performance.	LM Mission Systems and Training, Ship and Aviation Systems (MST SAS) LM Missiles and Fire Control (MFC) LM Mission Systems and Training, Integrated Warfare Systems & Sensors (MST IWSS)	Jeffrey Poulin John Fontana Sheronda Nash	jeffrey.poulin@lmco.com john.c.fontana@lmco.com sheronda.nash@lmco.com	407-256-3968 856-359-3965
View Online	N16A-T014	Low-cost Thermal Management Technology for Combat Systems Computers	Develop a modular and scalable cooling technology for electronic computer cabinets and display consoles that do not require forced air or water-to-air cooling.	LM Mission Systems and Training, Ship and Aviation Systems (MST SAS)	Jeffrey Poulin	jeffrey.poulin@lmco.com	
View Online	N16A-T015	Reduced Cost, Repeatable, Improved Property Washout Tooling for Composite Fabrication	To develop a process capable of producing a washout tool that can be used in the manufacturing of composite structures using tape placement, Vacuum Assisted Resin Transfer Molding Process (VARTM) and Fused Deposition Modeling (FDM) technology.				
View Online	N16A-T016	Platform for Large-scale Unsupervised and Supervised Learning	Develop a platform which takes in large amounts of data from a variety of sources, analyzes it using sophisticated and fast algorithms and provides detailed interpretable probabilistic models as output.	LM Space Systems - SMD LM Missiles and Fire Control (MFC) LM Mission Systems and Training, Integrated Warfare Systems & Sensors (MST 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
View Online	N16A-T017	Computational Methods for Dynamic Scene Reconstruction	Develop and demonstrate efficient and robust computational methods for 4D space-time reconstruction of dynamic scenes by integrating data from multiple imaging sensors and ancillary information when NAVY - 38 available. Also, develop the capability to browse the reconstructed scene from different viewpoints and at different levels of detail.	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

View Online	N16A-T018	3D Acoustic Model for Geometrically Constrained Environments	Produce a 3D Acoustic model for predicting three-dimensional acoustic field parameters in environments characterized by complex geometries with variable boundary and propagation conditions. Assess the new model for use in existing, or newly developed, sonar performance estimation tools to address the optimal placement of sensors in constrained environments.	LM Mission Systems and Training, Ship and Aviation Systems (MST SAS)	Jeffrey Poulin	jeffrey.poulin@lmco.com	
View Online	N16A-T019	Thermal Barrier Coatings for Long Life in Marine Gas Turbine Engines	To develop thermal barrier coatings (TBCs) and a coating model that enables longer service and prediction of corrosion, oxidation and overall degradation when exposed to marine Naval environments as a function of corrosivity, stress, and higher temperature combinations via integrated computational material modeling.	LM Missiles and Fire Control (MFC) LM Mission Systems and Training, Under Sea Systems (MST USS)	John Fontana Michael Weingarten	john.c.fontana@lmco.com michael.weingarten@lmco.com	407-356-3968 8608820343
View Online	N16A-T020	Embedded Space Analytics	Develop a capability to detect people, places and events of interest from big data by developing anomaly detection and supervised learning algorithms that can operate effectively on compressed data and data embeddings.	LM Space Systems - SMD LM Mission Systems and Training, Integrated Warfare Systems & Sensors (MST IWSS)	Jesus Isarraras Sheronda Nash	jesus.isarraras@lmco.com sheronda.nash@lmco.com	408-431-3519 856-359-3965
View Online	N16A-T021	High Performance Energetic Propellant Ingredient Process Research and Development	Scale-up, characterize, and provide homogeneous samples of new high density energetic materials sufficient for manufacturing and characterizing a representative propellant formulation. Methods for the preparation of representative advanced energetic ingredients whose energy output exceeds HMX but with superior safety and handling characteristics are sought. The ultimate goal is to create new ingredients which have an optimized chemical route for their preparation that minimizes the number of process steps, and minimizes the costs of starting materials and reagents.	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
View Online	N16A-T022	Integrated Computational Material Engineering Approach to Additive Manufacturing for Stainless Steel (316L)	Develop an Integrated Computational Materials Engineering (ICME) approach to the Additive Manufacturing (AM) of stainless steel (316L), to predict final metal part quality and performance.	LM Mission Systems and Training, Ship and Aviation Systems (MST SAS) LM Missiles and Fire Control (MFC)	Jeffrey Poulin John Fontana	jeffrey.poulin@lmco.com john.c.fontana@lmco.com	407-356-3968
View Online	N16A-T023	Epitaxial Technologies for Gallium Oxide Ultra High Voltage Power Electronics	Develop gallium oxide epitaxial growth system to enable the realization of novel high voltage (greater than 20kV) power electronic switching and pulse power devices.	LM Space Systems - SMD	Jesus Isarraras	jesus.isarraras@lmco.com	408-431-3519
View Online	N16A-T024	Multi-Access Optical System for Communications and Sensing Applications	Develop a small form-factor, highly scalable and affordable point-to-multi-point optical sensing and communications architecture for data transfer between numerous sensors and platforms in multiple environments.	LM Space Systems - SMD LM Mission Systems and Training, Integrated Warfare Systems & Sensors (MST IWSS)	Jesus Isarraras Sheronda Nash	jesus.isarraras@lmco.com sheronda.nash@lmco.com	408-431-3519 856-359-3965
View Online	N16A-T025	Hybrid Unmanned Air / Underwater Vehicle for Explosive Ordnance Disposal (EOD) and Mine Countermeasures (MCM)	Develop a Hybrid Unmanned Air / Underwater Vehicle capable of operating in air and underwater interchangeably.	LM Mission Systems and Training, Ship and Aviation Systems (MST SAS) LM Space Systems - SMD LM Mission Systems and Training, Under Sea Systems (MST USS)	Jeffrey Poulin Jesus Isarraras Michael Weingarten	jeffrey.poulin@lmco.com jesus.isarraras@lmco.com michael.weingarten@lmco.com	408-431-3519 860-882-0343
View Online	AF16-AT01	Wafer-Level Electronic-Photonic Co-Packaging	Develop flexible, low-cost packaging techniques for large-scale, integrated optoelectronic systems based on heterogeneously integrated photonic and electronic chips.	LM Mission Systems and Training, Ship and Aviation Systems (MST SAS)	Jeffrey Poulin	jeffrey.poulin@lmco.com	
View Online	AF16-AT02	Noise Measurements in the Atmosphere	Develop & flight-test instrumentation & diagnostics to measure pressure, temperature, density and velocity fluctuations, and particulates at 100-200kft altitude. This is sorely needed to relate ground testing to flight conditions for hypersonics.	LM Missiles and Fire Control (MFC)	John Fontana	john.c.fontana@lmco.com	407-356-3968
View Online	AF16-AT03	Flexible Sensor Network and Its Embedded Integrated Circuits for Structural Health Monitoring	To endow large composite structures of air vehicles with multifunctional capabilities to sense, diagnose and determine their state of health at any time on-demand by developing flexible sensor network and its embedded integrated circuits.	LM Mission Systems and Training, Ship and Aviation Systems (MST SAS) LM Missiles and Fire Control (MFC) LM Mission Systems and Training, Integrated Warfare Systems & Sensors (MST IWSS)	Jeffrey Poulin John Fontana Sheronda Nash	jeffrey.poulin@lmco.com john.c.fontana@lmco.com sheronda.nash@lmco.com	407-256-3968 856-359-3965
View Online	AF16-AT04	Investigating Satellites Cataloged as Debris (ISCAD)	Develop innovative technology needed to create a one-person-mobile telescope, mount and camera able to track nearly all cataloged space debris, then use it to investigate whether foreign objects assessed to be debris are indeed such.	LM Mission Systems and Training, Integrated Warfare Systems & Sensors (MST IWSS)	Sheronda Nash	sheronda.nash@lmco.com	856-359-3965
View Online	AF16-AT05	Prototype for Rapid Reconstitution for Ground-based Space Situational Awareness Capability for Near-geosynchronous Objects	Design/demonstrate a ground-based electro-optic sensor for space situational awareness that performs much like a Space Surveillance Network sensor and is rapidly-constructed at low-cost. Application includes rapid reconstruction of an SSN sensor.	LM Space Systems - ATC LM Mission Systems and Training, Ship and Aviation Systems (MST SAS)	Dawn Sisneros Jeffrey Poulin	Dawn.Sisneros@lmco.com jeffrey.poulin@lmco.com	303-379-3194 -
View Online	DE-FOA-0001405	Regenerative Fuel Cell System					
View Online	AF16-AT06	Three-dimensional Measurement of Fluid Density Distribution	Develop and demonstrate a method of measuring, directly or indirectly, the three-dimensional distribution of turbulent fluid (air) density in wind-tunnel experiments at subsonic, transonic and supersonic conditions.	LM Missiles and Fire Control (MFC)	John Fontana	john.c.fontana@lmco.com	407-356-3968
View Online	AF16-AT07	Streaming Model for Field-of-Light Displays (SMFoLD)	Develop a model for the multimedia data stream required for next-generation field-of-light display (FoLD) systems to project full-parallax video-rate 3D images without eyewear. Demonstrate the model on a FoLD system in a command center environment.	LM Mission Systems and Training, Integrated Warfare Systems & Sensors (MST IWSS)	Sheronda Nash	sheronda.nash@lmco.com	856-359-3965
View Online	AF16-AT08	Training for Resilient System Design	Develop interactive and immersive training capabilities for operational system designers to increase operational system resiliency.	LM Mission Systems and Training, Integrated Warfare Systems & Sensors (MST IWSS)	Sheronda Nash	sheronda.nash@lmco.com	856-359-3965
View Online	AF16-AT09	Coordination and Performance Metrics in Command and Control Environments	Develop and demonstrate a set of performance/coordination metrics for evaluating training effectiveness for Air Support Operations Centers (ASOC) for use in command and control (C2) training systems.	LM Mission Systems and Training, Integrated Warfare Systems & Sensors (MST IWSS)	Sheronda Nash	sheronda.nash@lmco.com	856-359-3965

View Online	AF16-AT10	Securing the Internet of Things (IoT)	Develop commercially viable, distributed sensing and control systems--leveraging on-chip security mechanisms in state-of-the-art embedded processors--to serve as a technology demonstrators for dual-use in Air Force battlefield applications.	LM Mission Systems and Training, Ship and Aviation Systems (MST SAS) LM Missiles and Fire Control (MFC) LM Mission Systems and Training, Integrated Warfare Systems & Sensors (MST IWSS)	Jeffrey Poulin John Fontana Sheronda Nash	jeffrey.poulin@lmco.com john.c.fontana@lmco.com sheronda.nash@lmco.com	407-356-3968 856-359-3965
View Online	AF16-AT11	Diversified Hypervisors	Develop a new generation of small-footprint hypervisors that provide novel security and forensic mechanisms while resisting reverse-engineering through diversity: every instance of a hypervisor should present a unique attack surface.	LM Mission Systems and Training, Ship and Aviation Systems (MST SAS) LM Missiles and Fire Control (MFC) LM Mission Systems and Training, Integrated Warfare Systems & Sensors (MST IWSS)	Jeffrey Poulin John Fontana Sheronda Nash	jeffrey.poulin@lmco.com john.c.fontana@lmco.com sheronda.nash@lmco.com	407-356-3968 856-359-3965
View Online	AF16-AT12	Heterogeneous Data Discovery	To develop algorithms, methods and approaches that discover unanticipated events/targets of interest whose signatures are captured via an array of sensing modalities.	LM Space Systems LM Space Systems LM Mission Systems and Training, Ship and Aviation Systems (MST SAS) LM Missiles and Fire Control (MFC) LM Mission Systems and Training, Integrated Warfare Systems & Sensors (MST IWSS)	Brian Zimbelman Craig Talbot Jeffrey Poulin John Fontana Sheronda Nash	brian.zimbelman@lmco.com craig.m.talbot@lmco.com jeffrey.poulin@lmco.com john.c.fontana@lmco.com sheronda.nash@lmco.com	408-431-1563 407-356-3968 856-359-3965
View Online	AF16-AT13	High-Speed Measurements of Dynamic Flame Stabilization Processes in High-Pressure Combustion Systems	Develop volumetric, high-repetition-rate techniques to increase the spatial dimensionality of quantitative flame-position and turbulent-velocity-field measurements of unsteady combustion processes in high-pressure combustors.				
View Online	AF16-AT14	Modeling and Simulation of Lean Blowout in High-Pressure Swirl-Stabilized combustors	Develop new physics-based turbulent combustion models for predicting the onset of lean blowout in propulsion systems operating at Air Force relevant conditions including high pressures, high-speed compressible flows, and high turbulence intensities.				
View Online	AF16-AT15	Experimentally Derived Scaling Laws from Spatiotemporally Resolved Measurements in High-Pressure Combustors	Develop spectroscopic test platforms for quantitative, interference-free, spatiotemporally resolved measurements of temperature and species concentrations in turbulent combustors at pressures and temperatures AF - 33 relevant to Air Force propulsion systems.				
View Online	AF16-AT16	Novel Approaches for Integrated Controls with TMS and Power	Mitigate impacts of increased control system complexity while enabling high reliability, reduced validation costs, and advanced propulsion system performance.				
View Online	AF16-AT17	Packaging and Assemblies for High-temperature Intelligent Aerospace Controls	Develop reliable, low-weight, affordable, electronic integrated circuit (IC) level packaging and assembly for embedded, high-temperature electronic components. Emphasis on affordable high temperature electronics control systems.				
View Online	AF16-AT18	Low-cost, Reliable, and Long-life Components for the Next-Generation Aerospace Controls	Insertion of advanced commercial controls technologies into turbine engine controls in order to reduce development and acquisition costs. Customize advanced sensing and control COTS hardware and software components in high temperature/vibration.				
View Online	AF16-AT19	Embedded Computing Systems Runtime Integrity Protection	Develop novel runtime integrity protection techniques for embedded real-time computing applications.	LM Mission Systems and Training, Ship and Aviation Systems (MST SAS) LM Mission Systems and Training, Integrated Warfare Systems & Sensors (MST IWSS)	Jeffrey Poulin Sheronda Nash	jeffrey.poulin@lmco.com sheronda.nash@lmco.com	x 856-359-3965
View Online	AF16-AT20	Development of Room-Temperature Ionic Liquids for Reversible Electroplating	Create room-temperature ionic liquids that are robust, non-volatile, transparent, rad hard, and atmospherically tolerant for use in electrolytes for reversibly electroplating films with specific optical, emissive and electrical properties on demand.	LM Missiles and Fire Control (MFC)	John Fontana	john.c.fontana@lmco.com	407-356-3968
View Online	AF16-AT21	Space Object Energy Parameter and State Inference To Support Object Detection, Tracking, Identification and Classification	Focusing specifically on inferring space object energy parameters and states that could be used to classify the type of object.	LM Missiles and Fire Control (MFC) LM Mission Systems and Training, Integrated Warfare Systems & Sensors (MST IWSS)	John Fontana Sheronda Nash	john.c.fontana@lmco.com sheronda.nash@lmco.com	407-356-3968 856-359-3965
View Online	AF16-AT22	Infrared Light Emitting Diode Arrays for Target Image Projection	Develop a higher- efficiency, frame-rate, and resolution alternative to current hardware-in-the-loop scene projectors by advancing IRLLED array emitter technology.	LM Mission Systems and Training, Ship and Aviation Systems (MST SAS) LM Missiles and Fire Control (MFC)	Jeffrey Poulin John Fontana	jeffrey.poulin@lmco.com john.c.fontana@lmco.com	407-356-3968
View Online	AF16-AT23	Modeling and Simulation of Structural Energetic Materials	Develop and implement models and software tools to describe the coupled solid dynamics, interfacial phenomena and chemical reactions in energetic solid materials with heterogeneous (solid-solid-void systems) mesostructures.				
View Online	AF16-AT24	Transient Aerothermoelastic Experimental Response of a Full-Scale Curved Panel	Produce validation data for transient aerothermoelastic effects in high-fidelity coupled fluid-thermal-structure CFD modeling and simulation tools from a ground test of a full-scale curved panel in hypersonic flow.				
View Online	AF16-AT25	Small Scale Research Molecular Beam Epitaxy for Material Development	To produce a lower cost molecular beam epitaxy machine and transfer chamber that will allow significant materials development and dissimilar materials integration prior to material down selection in a development scheme.				
View Online	AF16-AT26	Novel Polymer-Derived Carbide and Boride Refractory Ceramics	Demonstrate a preceramic polymer yielding a refractory metal boride and/or carbide to be used in the manufacture of ceramic matrices for the processing of ceramic matrix composites that can withstand temperatures in excess of 1600 degrees Celsius.	LM Missiles and Fire Control (MFC)	John Fontana	john.c.fontana@lmco.com	407-356-3968
View Online	AF16-AT27	Properties Of Structural Composite Materials Using Novel Carbon Fibers	Improve mechanical properties of aerospace advanced composite materials using new and novel carbon fibers now available in pilot quantities. Demonstrate translation of these properties through fabrication and testing of a demonstration article.	LM Space Systems - ATC LM Missiles and Fire Control (MFC)	Dawn Sisneros John Fontana	Dawn.Sisneros@lmco.com john.c.fontana@lmco.com	303-379-3194 407-356-3968

View Online	AF16-AT28	Laser and Rapid-thermal Crystallization of Low-defect GeSn and SiGeSn Layers for High Performance Infrared Detectors and Integrated Si-based Optoelectronic Devices	Develop low defect laser and rapid thermally crystallized germanium tin (GeSn) and silicon germanium tin (SiGeSn) layers on silicon substrates for mid-wave infrared (MWIR) detectors and integrated Si-based optoelectronic devices.	LM Mission Systems and Training, Ship and Aviation Systems (MST SAS)	Jeffrey Poulin	jeffrey.poulin@lmco.com	
View Online	AF16-AT29	Information Theory Models for Multi-Sensor Design of Signature Exploitation Systems	Develop theoretical models that quantify and characterize the individual information contributions from multiple sensor modalities. Address diverse sensing modalities involving texture, color, materials, and geometry within the fusion problem.	LM Space Systems LM Mission Systems and Training, Integrated Warfare Systems & Sensors (MST IWSS)	Brian Zimbelman Craig Talbot Sheronda Nash	brian.zimbelman@lmco.com craig.m.talbot@lmco.com sheronda.nash@lmco.com	xxxxx 408.431.1563 856-359-3965
View Online	AF16-AT30	Space-Division-Multiplexing (SDM) Components for Infrared (IR)	Develop components such as optical isolators, modulators, switches, amplifiers, collimators, couplers, fan-outs for use in fully integrated, high-density, wide-bandwidth, space-division-multiplexing optical fiber links and infrared sensing systems.				
View Online	DHP16A-001	Bio-mathematical Models of Aggregated Tissues & Organ Properties	To develop a preliminary framework for a bio mathematical model to explain how human tissues interact / behave at their boundaries; develop a mathematical framework for translating this tissue interaction / behavior into predictive mathematical / biomechanical models able to represent tissue property transitions (e.g. muscle to tendon/ligament), aggregated tissues (connective, epithelial, muscular, and nervous), and systems of tissues/organ properties and behaviors. Demonstrate how this proposed work product is scalable and flexible and can be augmented for future use in medical simulation applications. The long term goal of this effort is to create a high fidelity, validated, reliable, robust, and reproducible simulated tissue interaction model for used by the medical research, development, and training community in products such as virtual reality part task trainers, interventional simulation systems, and to inform research and development of other dynamic interactive anatomical models.				
View Online	DTRA16A-001	Rapid Development of Weapon Payloads via Additive Manufacturing	Adapt emerging additive manufacturing techniques, e.g., so-called 3-D Printing, for use with both traditional (e.g., high explosives) and emerging (e.g., reactive structural materials) energetic material systems, develop and demonstrate capability using these additive manufacturing techniques to rapidly and/or remotely fabricate energetic material loads and munitions.	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
View Online	DTRA16A-002	Self-fragmenting Structural Reactive Materials (SF-SRM) for High Combustion Efficiency	Develop, test and evaluate a scalable metal-based reactive structural material that will self-fragment to micron or sub-micron scale fuel particles when subjected to explosive shock loading, resulting in significantly enhanced metal combustion efficiency.	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
View Online	DTRA16A-003	Innovative Mitigation of Radiation Effects in Advanced Technology Nodes	Develop generic or automated radiation hardening tools software and / or hardware tools to advance the state-of-the-art of Rad Hard by Design (RHBD) techniques in advanced technology nodes.	LM Space Systems - SMD	Jesus Isarraras	jesus.isarraras@lmco.com	408-431-3519
View Online	DTRA16A-004	Compact Laser Drivers for Photoconductive Semiconductor Switches	The objective is to develop low-cost, compact, fast-rise-time, low-jitter pulse charging and laser trigger systems for photoconductive semiconductor switches (PCSSs) (ref. 1-15) to enable their application to many DoD applications including Electromagnetic Pulse (EMP) (ref. 6) and High Power Microwave (HPM) (ref. 7) systems. Cost of the technology will be a driver for the feasibility of scaling to large arrays and to multiple pulsed power system applications.				
View Online	SOCOM16-001	Alternative or Redundant Global Positioning System Navigation	Develop either an alternate means or a redundant Global Positioning System (GPS) capability for Special Operations Forces (SOF) aircraft to acquire and maintain accurate timing, position and navigation.	LM Mission Systems and Training, Ship and Aviation Systems (MST SAS) LM Space Systems - SMD	Jeffrey Poulin Jesus Isarraras	jeffrey.poulin@lmco.com jesus.isarraras@lmco.com	408-431-3519
View Online	SOCOM16-002	Environmentally Stable Portable Point of Care Blood Analyzer	Develop an environmentally stable (temperature, humidity) portable (hand-held) point of care blood analyzer device capable of conducting standard blood chemistry analysis to improve diagnostic capabilities and clinical outcomes particularly with respect to prolonged field care.				
View Online	SOCOM16-003	Next Generation Identity Management Technologies / Tools	To develop/demonstrate next generation high performance, scalable identity management technologies and toolsets to provide automated, smart analysis tools to enable rapid, concise understanding of adversaries, knowledge of USOCOM operations and assets.				
View Online	SOCOM16-004	Optically Transparent Tapered Resistive Films	The objective of this topic is to develop an innovative film/process that provides a tapered resistive layer across the film while remaining transparent in the Visual and Near Infrared (NIR) optical bands for use in Radio Frequency (RF) applications.	LM Mission Systems and Training, Ship and Aviation Systems (MST SAS) LM Missiles and Fire Control (MFC)	Jeffrey Poulin John Fontana	jeffrey.poulin@lmco.com john.c.fontana@lmco.com	407-356-3968
View Online	SOCOM16-005	Wide Bandwidth High Frequency Digital Radio	Provide reliable, two-way, man-portable, low visibility, no intermediate infrastructure, surface-to-surface data communications within a 500 kilometer-diameter circle, delivering at least a 200 kilobits/second user data rate.	LM Mission Systems and Training, Ship and Aviation Systems (MST SAS) LM Missiles and Fire Control (MFC)	Jeffrey Poulin John Fontana	jeffrey.poulin@lmco.com john.c.fontana@lmco.com	407-356-3968

View Online	DLA161-001	Manufacturing Improvements for DLA Lithium Batteries	This topic is eligible for the DLA Direct to Phase II Pilot Program. Please see the DLA instructions for additional information. To be eligible, offerors are required to provide information demonstrating the scientific and technical merit and feasibility of a Phase I project. DLA will not evaluate the offeror's related Phase II proposal where it determines that the offeror has failed to demonstrate the scientific and technical merit and feasibility of the Phase I project. Offerors must choose between submitting a Phase I proposal OR a Direct to Phase II proposal, and may not submit both for the same topic.					
View Online	DLA161-002	Aircraft Alternative Braking System for Reduced Cost of Sustainment	The Defense Logistics Agency (DLA) seeks to provide responsive, best value supplies consistently to our customers. DLA continually investigates diverse technologies for manufacturing which would lead to the highest level of innovation in the discrete-parts support of fielded weapon systems (many of which were designed in the 1960s, 1970s and 1980s) with a future impact on both commercial technology and government applications. As such, advanced technology demonstrations for affordability and advanced industrial practices to demonstrate the combination of improved discrete-parts manufacturing and improved business methods are of interest. All these areas of manufacturing technologies provide potential avenues toward achieving breakthrough advances. Proposed efforts funded under this topic may encompass any specific discrete-parts manufacturing technology at any level resulting in a unit cost reduction. Research and Development efforts selected under this topic shall demonstrate and involve a degree of risk where the technical feasibility of the proposed work has not been fully established. Further, proposed efforts must be judged to be at a Technology Readiness Level of less than 6 -- system/subsystem model or prototype demonstration in a relevant environment -- but greater than 3 -- analytical and experimental critical function and/or characteristic proof of concept -- to receive funding consideration.					
View Online	DLA161-003	Economically Recovering Rare Earth Materials	The Defense Logistics Agency (DLA) seeks to provide responsive, best value supplies consistently to our customers. DLA continually investigates diverse technologies for manufacturing which would lead to the highest level of innovation in the discrete-parts support of fielded weapon systems (many of which were designed in the 1960s, 1970s and 1980s) with a future impact on both commercial technology and government applications. As such, advanced technology demonstrations for affordability and advanced industrial practices to demonstrate the combination of improved discrete-parts manufacturing and improved business methods are of interest. All these areas of manufacturing technologies provide potential avenues toward achieving breakthrough advances. Proposed efforts funded under this topic may encompass any specific discrete-parts or materials manufacturing or processing technology at any level resulting in a unit cost reduction. Research and Development efforts selected under this topic shall demonstrate and involve a degree of risk where the technical feasibility of the proposed work has not been fully established. Further, proposed efforts must be judged to be at a Technology Readiness Level of less than 6 -- system/subsystem model or prototype demonstration in a relevant environment -- but greater than 3 -- analytical and experimental critical function and/or characteristic proof of concept -- to receive funding consideration.					
View Online	DLA161-004	Advanced Technologies for Smart Connected Logistics	This topic is eligible for the DLA Direct to Phase II Pilot Program. Please see the DLA instructions for additional information. To be eligible, offerors are required to provide information demonstrating the scientific and technical merit and feasibility of a Phase I project. DLA will not evaluate the offeror's related Phase II proposal where it determines that the offeror has failed to demonstrate the scientific and technical merit and feasibility of the Phase I project. Offerors must choose between submitting a Phase I proposal OR a Direct to Phase II proposal, and may not submit both for the same topic.	LM Mission Systems and Training, Under Sea Systems (MST USS) LM Mission Systems and Training, Integrated Warfare Systems & Sensors (MST IWSS)	Michael Weingarten Sheronda Nash	michael.weingarten@lmco.com sheronda.nash@lmco.com	8608820343 856-359-3965	
View Online	DHP16-001	Warrior Health Avatar	Develop and demonstrate a simulation framework and physiology based modeling tools of a warfighter body that could enable definite assessment of his/her health status, physical and physiological performance, and injury trajectory by both the user and medical personnel using mobile computing platforms.					
View Online	DHP16-002	Severe Trauma Female Simulation Training System	Develop a realistic simulation-based training system to support the development of psychomotor skills to treat severe trauma on female casualties at point of injury.					

View Online	DHP16-003	Value Based Monitoring of Cycles of Care	The objective is to develop software algorithms that reuse existing Military Health System data derived from healthcare operations to assess patient health and performance outcomes for condition-specific cycles of care, and their associated costs, for the purpose of measuring value.					
View Online	DHP16-004	Automated Vision Tester Technology Development for Aircrew Clinical Vision Screening	Develop, demonstrate, and deliver a computer-based, automated vision tester (AVT) capable of conducting a full range of clinical vision screening procedures for both near and far focus distances.					
View Online	DHP16-005	Iron Status Determination Point-of-Care Device	Develop a point-of-care device that analyzes the serum iron indicators from a limited amount of blood to determine a diagnosis within minutes. The initial implementation plan for the device would be to screen military members for iron deficiency in a training setting where research has shown men and women will decrease or even deplete their iron stores due to the physiological demands of intense physical training. The device should provide rapid results with iron status analysis (normal iron, iron deficiency, or iron deficiency anemia) to guide health care personnel with information for a plan of care, yet least disruptive to training schedule.					
View Online	DHP16-006	Diagnostic Device for Detecting Biomarkers of Early Multiorgan Injury in Saliva	Develop a salivary diagnostic system for existing, clinically qualified biomarkers of toxic (i.e., chemically-induced) organ injury normally detectable in plasma and/or urine in standard clinical practice.					
View Online	DHP16-007	Creating Sterile Water for Injection (SWFI) at/near Point of Injury (POI)	Develop a hand-held, portable capability to generate small volumes of Sterile Water for Injection (SWFI) in austere locations to reconstitute dried plasma, dehydrated medications, and other freeze dried medicine at or near the point of injury. The system must be capable of maintaining the sterility of the SWFI when transferring sterile water to intravenous (IV) bags and not require any external power. To be viable, the system must be a force multiplier that is small, light, quickly deployable, and easy to use that allows medics to replace a liquid IV bag with capability to generate multiple IV bags. The source water for the system will be any potable drinking water available.					
View Online	DHP16-008	Selective Brain Cooling for Traumatic Brain Injury	Develop a selective brain cooling (SBC) device that provides measurable neuroprotective effects after a moderate or severe traumatic brain injury by cooling the brain during the acute and sub-acute post-injury phase.					
View Online	DHP16-009	Selective Aortic Arch Perfusion Technologies for Hemorrhage-induced Cardiac Arrest	Develop and refine active selective aortic occlusion and perfusion technology (SAAP) that addresses non-compressible torso hemorrhage, hemorrhage-induced traumatic cardiac arrest (HITCA) that is compatible with currently existing extra-corporeal life support systems (ECLS).					
View Online	DHP16-010	Filtration Technologies for Bridge Dialysis in Austere Medicine	Develop and refine filtration technologies that bind serum potassium in the context of hyperkalemia induced by traumatic injury and acute kidney injury.	LM Space Systems - ATC		Dawn Sisneros	Dawn.Sisneros@lmco.com	303-379-3194
View Online	DHP16-011	Device to Prevent Retained Hemothorax	Develop a device that can replace or work with existing large bore (>28 French) chest tubes to help evacuate or prevent accumulation of blood in the chest space after chest trauma or chest surgery. The device should DHP - 27 be a replacement for invasive surgical procedures such as video assisted thoracoscopic surgery (VATS) or thoracotomy. It should be able to evacuate blood without the need for suction or chest re-expansion.					
View Online	DHP16-012	Genitourinary Tissue Repair, Restoration and Protection: Preserving Fertility and Function in Wounded Warriors	Development of methods that enable protection, repair and restoration that preserve continence, sexual function, fertility and hormonal balance in male and female service members.					
View Online	SB161-002	Miniaturized Wireless Microscope and Tissue Diagnostics	Develop an injectable system no greater than one cubic-millimeter in size to identify and characterize tissue adjacent to the device at cellular resolution. Establish approaches to inject and remotely position this medical device near internal trauma or tumors.					
View Online	SB161-004	Building Trustworthy Software Systems using Big Code	Create tools and techniques that use Big Code for developing trustworthy software systems.	LM Mission Systems and Training, Integrated Warfare Systems & Sensors (MST IWSS)		Sheronda Nash	sheronda.nash@lmco.com	856-359-3965
View Online	SB161-001	Rapid Assembly and Transfer Techniques for Large DNA Constructs	Develop a novel platform for DNA assembly, transfer, and transfection that uses synthetic DNA products to assemble DNA constructs at least 50 kbp or at least 100 kbp in length for prokaryotes and eukaryotes, respectively, and transfer these into cells with a transfection efficiency of at least 1%.	LM Mission Systems and Training, Integrated Warfare Systems & Sensors (MST IWSS)		Sheronda Nash	sheronda.nash@lmco.com	856-359-3965
View Online	SB161-003	Rugged, chip-scale, optical frequency combs for real-world applications	Design, construct, test for reliability and deliver a ready-for-systems-integration or end-user use, ruggedized package, semiconductor laser-based optical frequency comb source.					
View Online	SB161-004	Building Trustworthy Software Systems using Big Code	Create tools and techniques that use Big Code for developing trustworthy software systems.	LM Mission Systems and Training, Integrated Warfare Systems & Sensors (MST IWSS)		Sheronda Nash	sheronda.nash@lmco.com	856-359-3965
View Online	SB161-005	High Dynamic Range Atomic Magnetic Gradiometer	Develop atomic magnetometers capable of high-sensitivity magnetic field gradient detection in unshielded environments.	LM Missiles and Fire Control (MFC) LM Mission Systems and Training, Under Sea Systems (MST USS)		John Fontana Michael Weingarten	john.c.fontana@lmco.com michael.weingarten@lmco.com	407-356-3968 8608820343
View Online	SB161-006	Long Link Range Maritime Communications	Develop and demonstrate innovative methods to increase the distance and predictability of maritime surface-to-surface and air-to-surface communications.	LM Mission Systems and Training, Integrated Warfare Systems & Sensors (MST IWSS)		Sheronda Nash	sheronda.nash@lmco.com	856-359-3965

View Online	SB161-007	Persistent Platform in Geosynchronous Earth Orbit	Define a persistent platform for geosynchronous Earth orbit (GEO) that would provide structural and support infrastructure for multiple payloads with diverse missions, and could accept the integration of payloads delivered to orbit after the platform is established in its orbital slot.	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
View Online	CBD161-001	Dual-Purpose Biocidal and Chemical Warfare Agent/Reactive Textile Finish	Develop textile finishes that can provide both broad spectrum biocidal activity and chemical warfare agent reactivity. Develop protective finishes for military relevant textiles that provide broad spectrum biocidal activity (Gram-positive bacteria, Gram-negative bacteria, fungi, and viruses) that are compatible with existing and/or emerging durable repellency treatments, are resilient, and provide active protection against nerve and blister agents.				
View Online	CBD161-002	Development of Chemical and Biological Aerosol and Liquid Repellent Coatings	To develop, assess, and optimize Chemical and Biological (CB) aerosol and liquid repellent coatings for use on textiles and solid surfaces.				
View Online	CBD161-003	Dermal Medical Countermeasures for Chemical Weapons Exposure	To develop low-cost, FDA-cleared toxic chemical neutralizing countermeasures for use on abraded skin or whole body.				
View Online	CBD161-004	Medical Countermeasure Development for Viral Induced Encephalitis Using Single Domain Antibodies	The objective of this effort is to identify single domain antibodies that demonstrate the capability to cross the blood brain barrier and neutralize encephalitic viruses.				
View Online	CBD161-005	Smartphone Application for Mask Sizing and Projecting Quantitative Fit	Design and develop a software application (app) for rapid identification of the appropriate size of a respiratory protective mask facepiece and to reliably predict the quantitative protective fit once the size has been determined.				
View Online	CBD161-006	Contaminated Material Transfer Case	The overall objective is to develop a high strength/low weight chemically and biologically impermeable container capable of being opened to allow the insertion of the maximum sized contents of 85 x 24 x 18 and up to 335 lbs of chemical or biological hazardous materials. After loading contents, the container would never be re-opened. The container must also be puncture resistant, leak-proof at a hydrostatic load of 36 pounds of hydrostatic pressure per square inch (psi), and remain leak-proof after a 30 foot drop at 0 degrees Fahrenheit to enable air transport without a method for pressure relief. The container will allow the safe repatriation of chemically or biologically contaminated human remains, animal remains, protective equipment, or other material in accordance with Department of Defense (DoD), federal, and international standards.				
View Online	AF161-001	Rapid Expeditionary Fuel Reclamation	Develop an expeditionary-capable system to perform rapid reclamation of fuel spilled from storage containment due to accident or damage to a condition suitable for immediate reuse.				
View Online	AF161-002	Fast-setting, High-strength Material for Expedient Pavement Repair	Develop and demonstrate performance of a material that can be used as a pavement top layer that, within a target of one hour from start of application to a prepared sublayer, can support at least 100 passes of loading equivalent to landing a C-17.				
View Online	AF161-003	Explosively Driven Fragment Imaging	Develop test diagnostics to determine the size and velocity of explosively driven particles and/or fragments ranging in size from 100s of microns to several centimeters in the largest dimension. Fragments may be inert or reactive during measurement.	LM Missiles and Fire Control (MFC)	John Fontana	john.c.fontana@lmco.com	407-356-3968
View Online	AF161-004	State-of-Health Monitoring for Plasma Sources to Correlate Ground Test and Space Environment	Develop an instrument package capable of high fidelity measurements and long-term state-of-health monitoring of plasma properties from partially ionized electric propulsion plasma source in the space environment test chambers.				
View Online	AF161-005	Heterogeneous Porous Media for Thermal Transport Mitigation in Hypersonics	Design and develop thermal insulators containing thermal radiation inhibitors for reusable application at temperature exposures exceeding 1650K over one hour, and highest possible heat load configuration that is pertinent of hypersonic platforms.	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
View Online	AF161-006	Neutral Particle Dynamics in Transient Plasma to Determine Ground Test Chamber Interactions	Develop measurement capability to determine neutral particle flow dynamics in plasma far from equilibrium.				
View Online	AF161-007	Validation of Low Hydrogen Embrittlement (LHE) Alkaline Zinc Nickel Electroplating for Steel and Aluminum Electrical Connectors, Back-Shells and Components	Demonstrate environmentally friendly, low-hydrogen embrittlement (LHE) alkaline zinc nickel plating for replacing cadmium plating on steel and aluminum electrical connectors, back-shells and components for aircraft system components.	LM Missiles and Fire Control (MFC)	John Fontana	john.c.fontana@lmco.com	407-356-3968
View Online	AF161-008	Generator Power Recapture	The objective of this topic is to increase the depot energy efficiency by utilizing electrical energy produced by testing generators.	LM Space Systems - SMD	Jesus Isarraras	jesus.isarraras@lmco.com	408-431-3519
View Online	AF161-009	Material Sensor Technology for Chemical Cleaning and Stripping Process	Find an automated method of identifying alloys (in a production environment) prior to processing in a chemical cleaning/stripping solution.				
View Online	AF161-010	Additive Manufacturing Technique for Replacement of Complex Castings	Research and develop agile/additive manufacturing technologies for Air Force to replace traditionally complex cast tooling or the current cast parts with high precision tolerances and intricate internal features that cannot be machined.	LM Space Systems - ATC LM Mission Systems and Training, Ship and Aviation Systems (MST SAS) LM Missiles and Fire Control (MFC) LM Mission Systems and Training, Under Sea Systems (MST USS)	Dawn Sisneros Jeffrey Poulin John Fontana Michael Weingarten	Dawn.Sisneros@lmco.com jeffrey.poulin@lmco.com john.c.fontana@lmco.com michael.weingarten@lmco.com	303-379-3194 - 407-356-3968 8608820343

View Online	AF161-011	Acoustic Emission of Frangible, Composite, Concrete and Metallic Radar Towers	Research and develop the acoustic emission (AE) technology into a non-destructive inspection (NDI) sustainment/inspection tool. This technology will be applied to towers (composite and metallic), as well as the composite concrete foundations.	LM Mission Systems and Training, Under Sea Systems (MST USS)	Michael Weingarten	michael.weingarten@lmco.com	8608820343
View Online	AF161-012	Additive/Rapid Manufacturing Reverse Engineering, Processing and Production/Integrated Solution for Agile Manufacturing of Air Force Tooling, Fixture and Prototype Production	Capability to allow Air Force Sustainment Center (AFSC) engineers and technicians to rapidly reverse engineer, process, produce, and validate tools, fixtures, and prototypes to perform depot-level maintenance.	LM Mission Systems and Training, Ship and Aviation Systems (MST SAS) LM Mission Systems and Training, Under Sea Systems (MST USS) LM Mission Systems and Training, Integrated Warfare Systems & Sensors (MST IWSS)	Jeffrey Poulin Michael Weingarten Sheronda Nash	jeffrey.poulin@lmco.com michael.weingarten@lmco.com sheronda.nash@lmco.com	8608820343 856-359-3965
View Online	AF161-013	High Precision, Non-Line-of-Sight Point Cloud Generation	Research and develop a technology capable of generating high precision point cloud scans of intricate parts with multiple internal services that are not accessible for traditional laser scanning or other line-of-sight techniques.	LM Space Systems LM Space Systems	Brian Zimbelman Craig Talbot	brian.zimbelman@lmco.com craig.m.talbot@lmco.com	xxxxx 408.431.1563
View Online	AF161-014	Reconfigurable Interface Test Adapter	Develop a reconfigurable interface test adapter (RTA) that can adapt the physical and software differences between automatic test systems' (ATS) enabling test program set (TPS) transportability.				
View Online	AF161-015	Maintenance Data Collection from Non-Networked Automatic Test Equipment	The objective of this effort is to monitor the health of automatic test equipment (ATE) systems by collecting operating time, down time, calibration and self-test results system, maintenance actions - serial number tracking of parts, etc.	LM Mission Systems and Training, Ship and Aviation Systems (MST SAS) LM Mission Systems and Training, Under Sea Systems (MST USS) Mission Systems and Training, Training and Logistics Solutions (MST TLS)	Jeffrey Poulin Michael Weingarten Randel Crowe	jeffrey.poulin@lmco.com michael.weingarten@lmco.com randy.a.crowe@lmco.com	8608820343 +1 (407) 491-1720
View Online	AF161-016	Radio Frequency Range Modernization, Compatibility and Capability Study	The equipment for testing aircraft radars is out of date and no longer supportable. New technology has to be researched and developed to modernize the radio frequency (RF) test ranges in the sustainment community.	LM Space Systems - SMD LM Mission Systems and Training, Integrated Warfare Systems & Sensors (MST IWSS)	Jesus Isarraras Sheronda Nash	jesus.isarraras@lmco.com sheronda.nash@lmco.com	408-431-3519 856-359-3965
View Online	AF161-017	Prediction of Stress Corrosion Cracking	Develop an innovative non-destructive inspection (NDI) method to detect stress corrosion cracking early in an aircraft's lifecycle.	LM Missiles and Fire Control (MFC) LM Mission Systems and Training, Under Sea Systems (MST USS)	John Fontana Michael Weingarten	john.c.fontana@lmco.com michael.weingarten@lmco.com	407-356-3968 8608820343
View Online	AF161-018	Landing Gear Fatigue Model K Modification	Develop more precise predictive models for the fatigue characteristics of landing gear by developing the modification factors.	LM Aeronautics (Aero)	Craig Owens	craig.l.owens@lmco.com	817/777-6504
View Online	AF161-019	Reconfigurable Manufacturing: A New Paradigm for Improved Performance of Depot Processes	Given an existing manufacturing system/process, reconfigure its components, controls, communications, etc., to meet new operational requirements.	LM Mission Systems and Training, Ship and Aviation Systems (MST SAS) LM Mission Systems and Training, Under Sea Systems (MST USS)	Jeffrey Poulin Michael Weingarten	jeffrey.poulin@lmco.com michael.weingarten@lmco.com	8608820343
View Online	AF161-020	Quasi-Model Development using Digital and Non-destructive Inspection Data	An effective way is needed to generate 3D models for visualization purposes without having to bear the costs of fully reverse engineering them.	LM Mission Systems and Training, Integrated Warfare Systems & Sensors (MST IWSS)	Sheronda Nash	sheronda.nash@lmco.com	856-359-3965
View Online	AF161-021	In-Process and Final Non-destructive Inspection Methods of Additive Manufactured (AM) Simulated Aerospace Critical Parts	Research, develop and establish in-process and final non-destructive inspection (NDI) monitoring requirements and methods able to identify material defects of additive-manufactured (AM) simulated critical weapon systems parts.	LM Space Systems - ATC LM Mission Systems and Training, Ship and Aviation Systems (MST SAS) LM Missiles and Fire Control (MFC)	Dawn Sisneros Jeffrey Poulin John Fontana	Dawn.Sisneros@lmco.com jeffrey.poulin@lmco.com john.c.fontana@lmco.com	303-379-3194 - 407-356-3968
View Online	AF161-022	Installed Systems Near Field Antenna Pattern Measurement System	Identify concept for probing the electromagnetic near field of electrically large test items for the purpose of installed system far field antenna radiation pattern characterization.	LM Missiles and Fire Control (MFC) LM Mission Systems and Training, Integrated Warfare Systems & Sensors (MST IWSS)	John Fontana Sheronda Nash	john.c.fontana@lmco.com sheronda.nash@lmco.com	407-356-3968 856-359-3965
View Online	AF161-023	Avian Collision Deterrents for Reflective Surfaces	Research and develop innovative avian deterrent materials for solar photovoltaic panels, building glazing and other reflective surfaces. Research may also consider deterrents for wind turbines, power lines, and other sources of avian collision.	LM Missiles and Fire Control (MFC) LM Mission Systems and Training, Under Sea Systems (MST USS)	John Fontana Michael Weingarten	john.c.fontana@lmco.com michael.weingarten@lmco.com	407-356-3968 8608820343
View Online	AF161-024	Prediction of Boundary Layer Transition on Hypersonic Vehicles in Large-Scale Wind Tunnels and Flight	Develop computational tools and methodologies to predict boundary layer transition in large-scale hypersonic wind tunnels and include relevant physics to allow the extrapolation of ground test measurements to flight conditions.	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
View Online	AF161-025	Micro-Climate Automated Recorder	Research and develop an innovative micro-meteorological recorder that can be deployed to many surface and subsurface locations (e.g., under and next to a large solar panel farm) or in burrows or other hard to reach locations.	LM Mission Systems and Training, Under Sea Systems (MST USS)	Michael Weingarten	michael.weingarten@lmco.com	8608820343
View Online	AF161-026	Real-Time Parameterized Reduced-Order-Model (ROM)-Based Aeroservoelastic Simulator	Adapt reduced order modeling (ROM) techniques to develop a flight simulation and real time simulator capable of predicting aircraft aeroservoelastic response for pilot-in-the-loop simulations or from surface positions provided by a live flight test.				
View Online	AF161-027	Millimeter-Wave Micro-SAR (MMW uSAR)	To design and develop a miniature (<5 lbs. & .5 cubic foot) dual-pol high-res MMW SAR sensor and demonstrate operation, data collection and post processing imaging capability on an aircraft (manned/unmanned) such as Scan Eagle, Penguin B or Cessna.	LM Space Systems LM Space Systems LM Mission Systems and Training, Ship and Aviation Systems (MST SAS) LM Space Systems - SMD LM Missiles and Fire Control (MFC) LM Mission Systems and Training, Integrated Warfare Systems & Sensors (MST IWSS)	Brian Zimbelman Craig Talbot Jeffrey Poulin Jesus Isarraras John Fontana Sheronda Nash	brian.zimbelman@lmco.com craig.m.talbot@lmco.com jeffrey.poulin@lmco.com jesus.isarraras@lmco.com john.c.fontana@lmco.com sheronda.nash@lmco.com	xxxxx 408.431.1563 - 408-431-3519 407-356-3968 856-359-3965
View Online	AF161-028	Cryo-Vacuum FTS using COTS Parts for Sensor Responsivity Measurements	Develop a cryo-vacuum rated Fourier Transform Spectrometer (FTS) system for use as a narrow-line infrared source for imaging sensor responsivity measurement characterization in space simulation test facilities.				
View Online	AF161-029	High Temperature Superconducting (HTS) Magnets	Develop high temperature superconducting (HTS) magnets to replace low temperature superconducting (LTS) magnets to increase performance and reduce operational cost of a supersonic magnetically levitated rocket sled.	LM Missiles and Fire Control (MFC)	John Fontana	john.c.fontana@lmco.com	407-356-3968
View Online	AF161-030	High Speed Extraction of Hyperspectral Images within a Plume Radiation Database Structure	Develop high speed (real-time) techniques to extract hyperspectral images from plume signature databases.	LM Space Systems - ATC LM Space Systems - SMD LM Missiles and Fire Control (MFC) LM Mission Systems and Training, Integrated Warfare Systems & Sensors (MST IWSS)	Dawn Sisneros Jesus Isarraras John Fontana Sheronda Nash	Dawn.Sisneros@lmco.com jesus.isarraras@lmco.com john.c.fontana@lmco.com sheronda.nash@lmco.com	303-379-3194 408-431-3519 407-356-3968 856-359-3965
View Online	AF161-031	Rapid Assessment of Structural Vulnerability	Develop software to rapidly determine residual strength of damaged aircraft structures and create structural vulnerability probability of kill tables.	LM Aeronautics (Aero) LM Mission Systems and Training, Under Sea Systems (MST USS)	Craig Owens Michael Weingarten	craig.l.owens@lmco.com michael.weingarten@lmco.com	817/777-6504 8608820343

View Online	AF161-032	IRIG Data Recorder Validation	Research and develop an innovative simplified approach to validate telemetry data recorders in accordance with Range Commanders Council (RCC) Inter-Range Instrumentation Group 106 (IRIG-106), Chapter 10 standards (Ch. 10)					
View Online	AF161-033	Precise Autonomous Vehicle Velocity Control	Demonstrate a test bed that smoothly and accurately follows a defined acceleration and velocity profile in the forward direction, decelerates to a defined stop point, and reverses direction to return to the original start position	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	
View Online	AF161-034	Fiber Metrology Verification and Validation for High Power Fiber Lasers	Develop innovative concepts, metrology methods and technologies for accurately measuring and verifying physical, refractive index and doping profile geometries of optical fibers fabricated for high power fiber lasers	LM Mission Systems and Training, Ship and Aviation Systems (MST SAS)	Jeffrey Poulin	jeffrey.poulin@lmco.com		
View Online	AF161-035	Image Processing that Supports Air-to-Air, High-Bandwidth, Image-Based, Active Tracking	Develop image processing that reduces degradation of high-bandwidth, image-based tracking on an aircraft using laser illumination of an airborne target. The goal is to maintain precision of the track algorithm to below a fifth of a pixel diameter	LM Mission Systems and Training, Ship and Aviation Systems (MST SAS) LM Space Systems - SMD LM Missiles and Fire Control (MFC) LM Mission Systems and Training, Under Sea Systems (MST USS)	Jeffrey Poulin Jesus Isarraras John Fontana Michael Weingarten	jeffrey.poulin@lmco.com jesus.isarraras@lmco.com john.c.fontana@lmco.com michael.weingarten@lmco.com	408-431-3519 407-356-3968 8608820343	
View Online	AF161-036	Mitigation of Scintillation and Speckle for Tracking Moving Targets	Develop methods to reduce negative effects of scintillation and speckle noise that arise in the active illumination of a moving target. Methods could include image processing algorithms and/or hardware development including laser illuminator	LM Mission Systems and Training, Ship and Aviation Systems (MST SAS) LM Space Systems - SMD LM Missiles and Fire Control (MFC)	Jeffrey Poulin Jesus Isarraras John Fontana	jeffrey.poulin@lmco.com jesus.isarraras@lmco.com john.c.fontana@lmco.com	408-431-3519 407-356-3968	
View Online	AF161-037	Compact Optical Inertial Reference Unit for High Energy Laser System Line-of-Sight Stabilization	Develop a compact optical inertial reference for aircraft-based, tactical, high energy laser (HEL) weapon systems, including unmanned aerial vehicles. This device provides the optical source for line-of-sight stabilization within the optical train	LM Mission Systems and Training, Ship and Aviation Systems (MST SAS) LM Space Systems - SMD LM Missiles and Fire Control (MFC)	Jeffrey Poulin Jesus Isarraras John Fontana	jeffrey.poulin@lmco.com jesus.isarraras@lmco.com john.c.fontana@lmco.com	408-431-3519 407-356-3968	
View Online	AF161-038	Generation of High Rep-rate/High Average Power USPL Sources	Improve the efficiencies of USPL systems and sub-systems to either increase the available repetition rate and/or the peak energy per pulse	LM Mission Systems and Training, Ship and Aviation Systems (MST SAS) LM Space Systems - SMD	Jeffrey Poulin Jesus Isarraras	jeffrey.poulin@lmco.com jesus.isarraras@lmco.com	408-431-3519	
View Online	AF161-039	Game-Based Combat Rescue Helicopter Aircrew Mission Training and Rehearsal	Develop a deployable, realistic, high fidelity environment for next-generation Combat Rescue Helicopter (CRH) aircrew training and rehearsal	LM Mission Systems and Training, Ship and Aviation Systems (MST SAS) LM Mission Systems and Training, Under Sea Systems (MST USS) Mission Systems and Training, Training and Logistics Solutions (MST TLS)	Jeffrey Poulin Michael Weingarten Randel Crowe	jeffrey.poulin@lmco.com michael.weingarten@lmco.com randy.a.crowe@lmco.com	8608820343 +1 (407) 491-1720	
View Online	AF161-040	Wearable Head Tracker System (WHTS)	Develop wearable head tracker system (WHTS) for use with dismounted operator digital vision devices. Approach should enable symbol placement conformal to the real world without perceptible lag or artifacts.	LM Mission Systems and Training, Ship and Aviation Systems (MST SAS) LM Mission Systems and Training, Under Sea Systems (MST USS) Mission Systems and Training, Training and Logistics Solutions (MST TLS) LM Mission Systems and Training, Integrated Warfare Systems & Sensors (MST IWSS)	Jeffrey Poulin Michael Weingarten Randel Crowe Sheronda Nash	jeffrey.poulin@lmco.com michael.weingarten@lmco.com randy.a.crowe@lmco.com sheronda.nash@lmco.com	8608820343 +1 (407) 491-1720 856-359-3965	
View Online	AF161-041	Software Architecture Evaluation Tool for Evaluating Offeror Proposals	Develop, validate and demonstrate a tool to analyze software architecture to understand propagation cost and core size of the software. Such insights will enable acquisition managers to mitigate risk and improve financial and operational performance	LM Mission Systems and Training, Ship and Aviation Systems (MST SAS) LM Mission Systems and Training, Integrated Warfare Systems & Sensors (MST IWSS)	Jeffrey Poulin Sheronda Nash	jeffrey.poulin@lmco.com sheronda.nash@lmco.com	856-359-3965	
View Online	AF161-042	Simplified Aero Model Development and Validation Environment	Create a high-fidelity, instrumented environment for rapidly developing and verifying models to improve simulator fidelity	LM Missiles and Fire Control (MFC)	John Fontana	john.c.fontana@lmco.com	407-356-3968	
View Online	AF161-043	PED Operational Domain (POD)	Leverage technologies to create efficiencies in Phase I processing, exploitation, and dissemination (PED) of full-motion video (FMV). Increase PED capabilities at current manning or maintain capabilities with less manning	LM Space Systems LM Space Systems LM Mission Systems and Training, Integrated Warfare Systems & Sensors (MST IWSS)	Brian Zimbelman Craig Talbot Sheronda Nash	brian.zimbelman@lmco.com craig.m.talbot@lmco.com sheronda.nash@lmco.com	xxxxx 408.431.1563 856-359-3965	
View Online	AF161-044	Finite Element Model of the F-35 Ejection Seat	Development of a finite element (FE) computer model of an F-35 ejection seat with human occupant for prediction of spinal injury risk to the full range of pilots during a wide range of ejection conditions	LM Aeronautics (Aero)	Craig Owens	craig.l.owens@lmco.com	817/777-6504	
View Online	AF161-045	Information Fusion to Enable Shared Perception between Humans and Machines	Establish an approach to interface design that incorporates how humans fuse information in order to create shared perception and shared understanding between humans and machines.	LM Space Systems LM Space Systems LM Space Systems - ATC LM Space Systems - SMD Mission Systems and Training, Training and Logistics Solutions (MST TLS) LM Mission Systems and Training, Integrated Warfare Systems & Sensors (MST IWSS)	Brian Zimbelman Craig Talbot Dawn Sisneros Jesus Isarraras Randel Crowe Sheronda Nash	brian.zimbelman@lmco.com craig.m.talbot@lmco.com Dawn.Sisneros@lmco.com jesus.isarraras@lmco.com randy.a.crowe@lmco.com sheronda.nash@lmco.com	xxxxx 408.431.1563 303-379-3194 408-431-3519 +1 (407) 491-1720 856-359-3965	
View Online	AF161-046	Inexpensive Haptic Devices and 3D Medical Game for the Interosseous Infusion Procedure	Development of an inexpensive, serious, 3D, medical, computer-video game for the intrasosseous infusion (IO) procedure. Verify an improved mathematical model for serious 3D computer medical games.					
View Online	AF161-047	Cognition Biomarker Measurement in Sweat as an Index of Human Performance	Develop and use non-invasive devices to monitor warfighter status through cognition biomarkers in sweat	LM Mission Systems and Training, Ship and Aviation Systems (MST SAS)	Jeffrey Poulin	jeffrey.poulin@lmco.com		
View Online	AF161-048	Microdosimetry of High Amplitude Ultrashort RF and Electric Fields	Develop a technique and device for measuring electric fields while experimenting with cells and groups of cells in a microscopic environment	LM Space Systems - SMD	Jesus Isarraras	jesus.isarraras@lmco.com	408-431-3519	
View Online	AF161-049	Multi-modal Synthetic Sensor Data Generator with Real-World Environmental Effects and Sensor Physics	Develop a software application that generates synthetic multimodal non-EQ/IR (electro-optical/infrared) sensor returns for human activities, with mathematically modeled sensor physics and real-world environment effects	LM Mission Systems and Training, Integrated Warfare Systems & Sensors (MST IWSS)	Sheronda Nash	sheronda.nash@lmco.com	856-359-3965	
View Online	AF161-050	Microcosm Forecasting Utilizing Swarm Unmanned Aerial Vehicle Technology	Using sensors on micro-unmanned aerial vehicles (UAVs), develop real-time, micro-scale weather models in urban environments	LM Mission Systems and Training, Under Sea Systems (MST USS)	Michael Weingarten	michael.weingarten@lmco.com	8608820343	
View Online	AF161-051	Airborne Network using Spectrum-Efficient Communications Technologies (ANSECT)	Develop high spectrum efficient technologies for airborne battle-space communications.	LM Missiles and Fire Control (MFC) LM Mission Systems and Training, Under Sea Systems (MST USS) LM Mission Systems and Training, Integrated Warfare Systems & Sensors (MST IWSS)	John Fontana Michael Weingarten Sheronda Nash	john.c.fontana@lmco.com michael.weingarten@lmco.com sheronda.nash@lmco.com	407-356-3968 8608820343 856-359-3965	
View Online	AF161-052	Cognitive Airborne Communications with RF Interference Mitigation and Anti-jam Capabilities (RIMA)	Develop RF interference mitigation and anti-jam technologies to support spectrum-efficient airborne networking.	LM Mission Systems and Training, Ship and Aviation Systems (MST SAS) LM Missiles and Fire Control (MFC) LM Mission Systems and Training, Under Sea Systems (MST USS) LM Mission Systems and Training, Integrated Warfare Systems & Sensors (MST IWSS)	Jeffrey Poulin John Fontana Michael Weingarten Sheronda Nash	jeffrey.poulin@lmco.com john.c.fontana@lmco.com michael.weingarten@lmco.com sheronda.nash@lmco.com	407-356-3968 8608820343 856-359-3965	
View Online	AF161-053	Airborne Cloud for the Tactical Edge User (ABC)	Provide experimental instantiations of the managed aerial layer network employing dynamic cloud capabilities that do not rely solely on SATCOM or ground entry points, but may operate for up to seven days without intervention	LM Mission Systems and Training, Integrated Warfare Systems & Sensors (MST IWSS)	Sheronda Nash	sheronda.nash@lmco.com	856-359-3965	

View Online	AF161-054	Big Data Analytics	To research, identify and demonstrate the tools and techniques that can be used to leverage large volumes of security data to enhance real-time analysis of security alerts.	LM Space Systems - ATC LM Space Systems - SMD LM Missiles and Fire Control (MFC) LM Mission Systems and Training, Integrated Warfare Systems & Sensors (MST IWSS)	Dawn Sisneros Jesus Isarraras John Fontana Sheronda Nash	Dawn.Sisneros@lmco.com jesus.isarraras@lmco.com john.c.fontana@lmco.com sheronda.nash@lmco.com	303-379-3194 408-431-3519 407-356-3968 856-359-3965
View Online	AF161-055	Survivable, Secure and Dependable Wireless Communications	Develop a secure wireless communications systems that is dependable, survivable, and jam resistant, with low probability of detection, interception, and exploitation.	LM Space Systems LM Space Systems LM Space Systems - ATC LM Mission Systems and Training, Ship and Aviation Systems (MST SAS) LM Space Systems - SMD LM Missiles and Fire Control (MFC) LM Mission Systems and Training, Under Sea Systems (MST USS)	Brian Zimbelman Craig Talbot Dawn Sisneros Jeffrey Poulin Jesus Isarraras John Fontana Michael Weingarten	brian.zimbelman@lmco.com craig.m.talbot@lmco.com Dawn.Sisneros@lmco.com jeffrey.poulin@lmco.com jesus.isarraras@lmco.com john.c.fontana@lmco.com michael.weingarten@lmco.com	xxxx 408.431.1563 303-379-3194 . 408-431-3519 407-356-3968 8608820343
View Online	AF161-056	Fusion of Multiple Motion Information Sources	Assist intelligence analysts gain understanding of individuals and networks, focused on the activity and transactions associated with an entity, population, or area of interest, by fusion of multiple motion information sources.	LM Space Systems LM Space Systems LM Space Systems - SMD LM Missiles and Fire Control (MFC) LM Mission Systems and Training, Integrated Warfare Systems & Sensors (MST IWSS)	Brian Zimbelman Craig Talbot Jesus Isarraras John Fontana Sheronda Nash	brian.zimbelman@lmco.com craig.m.talbot@lmco.com jesus.isarraras@lmco.com john.c.fontana@lmco.com sheronda.nash@lmco.com	xxxx 408.431.1563 408-431-3519 407-356-3968 856-359-3965
View Online	AF161-057	Secure and Survivable Antennas for Communication in a Nuclear Environment	Design, simulate, and develop prototype of a secure and survivable antenna for communication in a nuclear environment providing coverage over frequency bands of interest.	LM Mission Systems and Training, Ship and Aviation Systems (MST SAS) LM Space Systems - SMD LM Missiles and Fire Control (MFC) LM Mission Systems and Training, Integrated Warfare Systems & Sensors (MST IWSS)	Jeffrey Poulin Jesus Isarraras John Fontana Sheronda Nash	jeffrey.poulin@lmco.com jesus.isarraras@lmco.com john.c.fontana@lmco.com sheronda.nash@lmco.com	408-431-3519 407-356-3968 856-359-3965
View Online	AF161-058	Modular, Secure and Affordable Design for NextGen ADS-B Integration	Develop a modular, secure, and affordable solution for Automatic Dependent Surveillance Broadcast (ADS-B) for Air Force platforms.	LM Mission Systems and Training, Ship and Aviation Systems (MST SAS)	Jeffrey Poulin	jeffrey.poulin@lmco.com	
View Online	AF161-059	Event Recognition for Space Situational Awareness	Develop means and methods in leveraging the available multi-INT data to understand currently evolving space situations as a means to provide indications and warnings (I&W) left of the event.	LM Space Systems LM Space Systems LM Space Systems - ATC LM Space Systems - SMD LM Mission Systems and Training, Integrated Warfare Systems & Sensors (MST IWSS)	Brian Zimbelman Craig Talbot Dawn Sisneros Jesus Isarraras Sheronda Nash	brian.zimbelman@lmco.com craig.m.talbot@lmco.com Dawn.Sisneros@lmco.com jesus.isarraras@lmco.com sheronda.nash@lmco.com	xxxx 408.431.1563 303-379-3194 408-431-3519 856-359-3965
View Online	AF161-060	Anti-Fragility for Virtualized Systems	This topic seeks to apply the concepts of anti-fragility[1] to the domain of software for the purposes of survival and recovery during and after a system compromise.	LM Mission Systems and Training, Ship and Aviation Systems (MST SAS) LM Mission Systems and Training, Integrated Warfare Systems & Sensors (MST IWSS)	Jeffrey Poulin Sheronda Nash	jeffrey.poulin@lmco.com sheronda.nash@lmco.com	856-359-3965
View Online	AF161-061	Object Based Production (OBP) for Satellite Characterization	The goal of this effort is to create algorithms which quickly identify, catalog and exploit collected space data and fuse it with other satellite information and satellite tracking data collected across the DoD.	LM Space Systems LM Space Systems LM Space Systems - SMD LM Mission Systems and Training, Integrated Warfare Systems & Sensors (MST IWSS)	Brian Zimbelman Craig Talbot Jesus Isarraras Sheronda Nash	brian.zimbelman@lmco.com craig.m.talbot@lmco.com jesus.isarraras@lmco.com sheronda.nash@lmco.com	xxxx 408.431.1563 408-431-3519 856-359-3965
View Online	AF161-062	Innovative TWTs for VV Band Communications	New design techniques needed to improve manufacturability of TWTs for high frequency, VV/Eband, high data rate RF communications. High power amplification needed with improved efficiency to reduce operation power requirements, improve reliability.	LM Missiles and Fire Control (MFC)	John Fontana	john.c.fontana@lmco.com	407-356-3968
View Online	AF161-063	Mission Visualization	Software prototype that derives and visualizes assets through mission-level impact of space-based threats and spawns collection req., in form of differentiating events, to enable analyst to discern projected state is progressing toward fruition.	LM Space Systems LM Space Systems LM Space Systems - SMD LM Mission Systems and Training, Integrated Warfare Systems & Sensors (MST IWSS)	Brian Zimbelman Craig Talbot Jesus Isarraras Sheronda Nash	brian.zimbelman@lmco.com craig.m.talbot@lmco.com jesus.isarraras@lmco.com sheronda.nash@lmco.com	xxxx 408.431.1563 408-431-3519 856-359-3965
View Online	AF161-064	Coordinated Data, Better Information, Enhanced Decision Making	Develop and demonstrate an IT data mapping and archival system for the Robotic Laser Coating Removal Mapping System (RLCRMS) that preferably leverages an Air Force NIPRNET accredited system to offer greater decision-making ability for Air Force.	LM Space Systems - SMD	Jesus Isarraras	jesus.isarraras@lmco.com	408-431-3519
View Online	AF161-065	Information Synthesis Algorithms for Sense and Avoid (SAA)	Develop information synthesis algorithms that increase unmanned aircraft systems (UAS) situational awareness during SAA activities in the terminal airspace (TA).	LM Mission Systems and Training, Ship and Aviation Systems (MST SAS) LM Missiles and Fire Control (MFC) LM Mission Systems and Training, Under Sea Systems (MST USS) LM Mission Systems and Training, Integrated Warfare Systems & Sensors (MST IWSS)	Jeffrey Poulin John Fontana Michael Weingarten Sheronda Nash	jeffrey.poulin@lmco.com john.c.fontana@lmco.com michael.weingarten@lmco.com sheronda.nash@lmco.com	407-356-3968 8608820343 856-359-3965 817/777-6504
View Online	AF161-066	Rapid and Reliable Identification of Counterfeit Electronic Components	Develop and implement new methods for rapid and reliable forensic investigation and identification of counterfeit electronic components.	LM Aeronautics (Aero) LM Mission Systems and Training, Ship and Aviation Systems (MST SAS) LM Space Systems - SMD LM Missiles and Fire Control (MFC) LM Mission Systems and Training, Integrated Warfare Systems & Sensors (MST IWSS)	Craig Owens Jeffrey Poulin Jesus Isarraras John Fontana Sheronda Nash	craig.l.owens@lmco.com jeffrey.poulin@lmco.com jesus.isarraras@lmco.com john.c.fontana@lmco.com sheronda.nash@lmco.com	817/777-6504 . 408-431-3519 407-356-3968 856-359-3965
View Online	AF161-067	High-Performance Body Armor-Integrated, Multifunctional Batteries for Dismounted Soldier	Develop and demonstrate a high performance (greater than 200 Wh/kg), fail-safe, multifunctional battery integrated into small arms protective insert (SAPI) hard body armor plate for improved weight reduction on the dismounted soldier.	LM Mission Systems and Training, Ship and Aviation Systems (MST SAS) LM Space Systems - SMD LM Mission Systems and Training, Under Sea Systems (MST USS)	Jeffrey Poulin Jesus Isarraras Michael Weingarten	jeffrey.poulin@lmco.com jesus.isarraras@lmco.com michael.weingarten@lmco.com	408-431-3519 8608820343
View Online	AF161-068	High-Temperature Electric Wires	Develop electrical conductor that has >50% higher electrical conductivity per mass than comparably rated copper (Cu) or aluminum (Al) wires, with improved operability at higher temperatures (~500 to 600 degrees F) and superior mechanical properties.	LM Aeronautics (Aero) LM Missiles and Fire Control (MFC)	Craig Owens John Fontana	craig.l.owens@lmco.com john.c.fontana@lmco.com	817/777-6504 407-356-3968
View Online	AF161-069	Physics-based airframe stress calculations at flow-separation dominated flight conditions for aircraft operational clearance, life prediction and inspection scheduling	More accurately predict performance, remaining life and inspection intervals for an aircraft by converting actual usage data at flow-separation dominated flight conditions into stresses on the structure via physicsbased, aeroservoelastic simulations	LM Aeronautics (Aero) LM Mission Systems and Training, Under Sea Systems (MST USS)	Craig Owens Michael Weingarten	craig.l.owens@lmco.com michael.weingarten@lmco.com	817/777-6504 8608820343
View Online	AF161-070	Advanced Circuit Technologies for Reliable, Low Cost, High-Temperature Electronic Controls	Develop conceptual designs and approaches that reduce the cost and increase the reliability of printed wiring boards (PWBs) and circuit subassemblies used for high-temperature electronic control assemblies in aerospace and engine applications.	LM Aeronautics (Aero) LM Mission Systems and Training, Ship and Aviation Systems (MST SAS) LM Space Systems - SMD LM Missiles and Fire Control (MFC) LM Mission Systems and Training, Integrated Warfare Systems & Sensors (MST IWSS)	Craig Owens Jeffrey Poulin Jesus Isarraras John Fontana Sheronda Nash	craig.l.owens@lmco.com jeffrey.poulin@lmco.com jesus.isarraras@lmco.com john.c.fontana@lmco.com sheronda.nash@lmco.com	817/777-6504 . 408-431-3519 407-356-3968 856-359-3965
View Online	AF161-071	High-Speed Measurements of Flame-Stabilization Processes in Vitiated Augmentor Environments for Understanding Screech, Rumble, and Blowoff	Develop a high-repetition rate technique to measure velocity fields (three-velocity components and all nine-strain rate components) in bluff-body flames with sufficient temporal and spatial resolution for understanding flame stabilization processes.	LM Aeronautics (Aero)	Craig Owens	craig.l.owens@lmco.com	817/777-6504

View Online	AF161-072	Structurally Embedded Heat Exchanger	Demonstrate feasibility of combining a heat exchanger and structural wall of an aircraft propulsion inlet, fan and/or auxiliary fan stream case to reduce overall system weight and cold flow pressure losses while <u>satisfying engine requirements</u> .	LM Aeronautics (Aero) LM Space Systems - SMD	Craig Owens Jesus Isarraras	craig.lowens@lmco.com jesus.isarraras@lmco.com	817/777-6504 408-431-3519
View Online	AF161-073	Online Chemical Diagnostics for Fuel System Flows	Develop diagnostic techniques and analytical instrumentation capable of characterizing the changing chemical composition of flowing jet fuels in thermally stressed environments representative of next-generation <u>aircraft energy management systems</u> .	LM Aeronautics (Aero)	Craig Owens	craig.lowens@lmco.com	817/777-6504
View Online	AF161-074	Durable Pre-cooling Heat Exchangers for High Mach Flight	Enable turbomachinery operation in excess of Mach 4 by pre-cooling the incoming air. Utilize modern materials, manufacturing, and design processes to design a <u>durable pre-cooling heat exchanger</u> .				
View Online	AF161-075	Automated Synthesis of Propulsion-Power-Thermal Architectures	Establish a methodology to synthesize innovative architectures to explore and evaluate the full design space of next-generation aerospace propulsion systems. This methodology should highly integrate propulsion, <u>power, and thermal components</u> .				
View Online	AF161-076	Probabilistic Design of Fuel Thermal Management Systems	The objective of this research is to accommodate the variability and uncertainty of jet fuel properties during the design of next-generation thermal management systems <u>for tactical aircraft</u> .				
View Online	AF161-077	Fast Valve for Starting Hypersonic Wind Tunnels	Develop a full-bore valve for air that is capable of opening quickly, sealing well against pressure, and <u>with long fatigue life</u> .				
View Online	AF161-078	Integration of "Cold Atom" Technologies into Prototype for Use in Heavy Aircraft	Design and demonstrate a prototype compact "cold atom"-based guidance system (GPS-unaided) to <u>be used in typical Air Force heavy aircraft environments</u> .	LM Mission Systems and Training, Integrated Warfare Systems & Sensors (MST IWSS)	Sheronda Nash	sheronda.nash@lmco.com	856-359-3965
View Online	AF161-079	Embedded Computing Cyber Testing and Assessment Methods	Develop toolsets and metrics for cyber-security testing and vulnerability evaluations of embedded <u>real-time computing systems</u> .	LM Mission Systems and Training, Ship and Aviation Systems (MST SAS) LM Missiles and Fire Control (MFC)	Jeffrey Poulin John Fontana	jeffrey.poulin@lmco.com john.c.fontana@lmco.com	407-356-3968 856-359-3965
View Online	AF161-080	Additive Manufacturing Techniques	Identify cost effective additive manufacturing techniques sufficient to prototype and produce future components supporting current and future ICBM programs.	LM Mission Systems and Training, Integrated Warfare Systems & Sensors (MST IWSS) LM Space Systems - SMD LM Missiles and Fire Control (MFC)	Sheronda Nash Dawn Sisneros Jesus Isarraras John Fontana	sheronda.nash@lmco.com Dawn.Sisneros@lmco.com jesus.isarraras@lmco.com john.c.fontana@lmco.com	303-379-3194 408-431-3519 407-356-3968
View Online	AF161-081	Precision Spacecraft Instrumentation Booms	Support communications, imaging, and space weather missions with development of medium-length, high precision spacecraft booms with compact packaging and <u>deployment with low-cost mechanisms</u> .				
View Online	AF161-082	L Band Analog to Digital and Digital to Analog Converter	Develop a space-qualified L-band analog-to-digital converter.	LM Mission Systems and Training, Integrated Warfare Systems & Sensors (MST IWSS)	Sheronda Nash	sheronda.nash@lmco.com	856-359-3965
View Online	AF161-083	GNSS Jammer Location Using Multipath Exploitation	Develop a ground-based GNSS Jammer Location capability utilizing a single GNSS receiver capable of estimating the position of a GNSS jammer within 100 meters, and estimating jammer position within 10 meters <u>when networked with other sensors</u> .	LM Mission Systems and Training, Ship and Aviation Systems (MST SAS) LM Missiles and Fire Control (MFC)	Jeffrey Poulin John Fontana	jeffrey.poulin@lmco.com john.c.fontana@lmco.com	407-356-3968
View Online	AF161-084	Cognitive UHF Radio for Enhanced GPS Crosslinks	Develop advanced VHF/UHF inter-satellite radio network utilizing dynamic spectrum access and non-directional antennas to achieve 1-2 Mbps average data rates, providing GPS autonomous navigation and near <u>real-time command and control (C2)</u> .	LM Space Systems - SMD	Jesus Isarraras	jesus.isarraras@lmco.com	408-431-3519
View Online	AF161-085	Improved Satellite Catalog Processing for Rapid Object Characterization	Develop algorithms to enable rapid cataloging and characterization of space objects in support of <u>space system threat indications and warning</u> .	LM Space Systems - SMD LM Mission Systems and Training, Integrated Warfare Systems & Sensors (MST IWSS)	Jesus Isarraras Sheronda Nash	jesus.isarraras@lmco.com sheronda.nash@lmco.com	408-431-3519 856-359-3965
View Online	AF161-086	Solid-State Power Amplifier Thermal Management	Develop low-cost, low-mass thermal management solutions to address the high heat flux and temperature of next generation GaN power amplifiers or phased <u>arrays</u> .	LM Mission Systems and Training, Ship and Aviation Systems (MST SAS) LM Missiles and Fire Control (MFC) LM Mission Systems and Training, Integrated Warfare Systems & Sensors (MST IWSS)	Jeffrey Poulin John Fontana Sheronda Nash	jeffrey.poulin@lmco.com john.c.fontana@lmco.com sheronda.nash@lmco.com	407-356-3968 856-359-3965
View Online	AF161-087	Algorithm Development for WFOV Mission Data Processing	Develop and test candidate front-end exceedance generation processing algorithms which may be employed in the mission data processing of wide field-of-view (WFOV) <u>Overhead Persistent Infrared (OPIR) data</u> .	LM Mission Systems and Training, Ship and Aviation Systems (MST SAS) LM Space Systems - SMD	Jeffrey Poulin Jesus Isarraras	jeffrey.poulin@lmco.com jesus.isarraras@lmco.com	408-431-3519
View Online	AF161-088	Integrated Code Base and High Performance Embedded Computing Tool	Develop an integrated code base suite and a tool set that can generate high-performance, hardware <u>platform-specific code</u> .				
View Online	AF161-089	Development of Flat Lens Technology	Develop an ultra thin, flat lens that will focus light in the visible region, without the discontinuities <u>imparted by a Fresnel lens</u> .	LM Space Systems - SMD LM Missiles and Fire Control (MFC) Mission Systems and Training, Training and Logistics Solutions (MST TIS)	Jesus Isarraras John Fontana Bandel Crowe	jesus.isarraras@lmco.com john.c.fontana@lmco.com randy.a.crowe@lmco.com	408-431-3519 407-356-3968 +1 (407) 491-1720
View Online	AF161-090	High Data Rate/Low SWaP-C GPS Crosslinks	Develop scalable, flexible lower SWaP-C GPS crosslink capability that allows future operational systems to forego significant dependence upon ground clock and ephemeris refresh with concurrent support of realtime <u>command and control and ops data</u> .	LM Mission Systems and Training, Integrated Warfare Systems & Sensors (MST IWSS)	Sheronda Nash	sheronda.nash@lmco.com	856-359-3965
View Online	AF161-091	Low Probability of Intercept PNT Augmentation Network	Develop a Low Probability of Intercept (LPI) Position, Navigation, and Timing (PNT) augmentation network to provide secure PNT with less than 10 meters horizontal accuracy to ground users in a GPS-denied <u>environment</u> .	LM Mission Systems and Training, Ship and Aviation Systems (MST SAS) LM Missiles and Fire Control (MFC)	Jeffrey Poulin John Fontana	jeffrey.poulin@lmco.com john.c.fontana@lmco.com	407-356-3968
View Online	AF161-092	Hypervelocity and Plasma Reentry Research Testbed	Develop a hypersonic materials testbed for characterization of multiple types of novel reentry <u>materials</u> .	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
View Online	AF161-093	Multi-material Additive Manufacturing for Advanced Space Systems	Develop a multi-material additive manufacturing approach using space compatible materials to produce spacecraft components or systems that offer improvements in <u>mass, cost, schedule, and/or performance</u> .	LM Space Systems - ATC LM Space Systems - SMD LM Missiles and Fire Control (MFC)	Dawn Sisneros Jesus Isarraras John Fontana	Dawn.Sisneros@lmco.com jesus.isarraras@lmco.com john.c.fontana@lmco.com	303-379-3194 408-431-3519 407-356-3968
View Online	AF161-094	Robust spacecraft solar array technology	Spacecraft solar arrays represent a large target for potential adversarial action. Technologies are sought which have the potential to provide enhanced solar array resilience with minimal impact to overall array <u>performance metrics</u> .	LM Space Systems - SMD	Jesus Isarraras	jesus.isarraras@lmco.com	408-431-3519

View Online	AF161-095	Resilient Structural Sensing Technologies for Responsive Anomaly Resolution	Develop robust structural health monitoring technologies to rapidly assess health of spacecraft with minimal risk from environmental hazards preventing functionality. Demonstrate hardware in simulated environments (thermal, charging, radiation, etc.)					
View Online	AF161-096	On-orbit Calibration of Staring Imaging Sensors Using Innovative Techniques and Field-deployable Instrumentation with High Radiometric and Temporal Sensitivity	Develop, test, and evaluate innovative measurement methods for calibration and performance characterization of on-orbit imaging sensors designed to detect temporal phenomena in the short-wave infrared.	LM Mission Systems and Training, Ship and Aviation Systems (MST SAS) LM Space Systems - SMD LM Missiles and Fire Control (MFC)	Jeffrey Poulin Jesus Isarraras John Fontana	jeffrey.poulin@lmco.com jesus.isarraras@lmco.com john.c.fontana@lmco.com	408-431-3519 407-356-3968	
View Online	AF161-097	Novel High Transmittance Curved Surface Laser Eye and Sensor Protection	Demonstrate new high transmittance protection technology for large-area, curved and complex shaped visors and optics. This topic is focused on developing laser and HPM solutions other than dyes and dielectric reflective coatings currently in use.					
View Online	AF161-098	Enhanced Starting Reliability and High Altitude Operation of Internal Combustion Engines on Miniature Munitions	This topic seeks an innovative solution for a small aircraft engine to be capable of reliable self-start and high altitude operation after in-flight dispense from a carrier aircraft.					
View Online	AF161-099	Ultra Miniature Beam Steered Laser Radar System	Develop real-time 3D laser radar system for use in mapping and collision avoidance for Group 1 (1-20 lbs) and Group 2 (21-55 lbs) small hand-launched and rail-launched remote piloted air vehicles.	LM Mission Systems and Training, Ship and Aviation Systems (MST SAS) LM Space Systems - SMD LM Missiles and Fire Control (MFC) LM Mission Systems and Training, Under Sea Systems (MST USS)	Jeffrey Poulin Jesus Isarraras John Fontana Michael Weingarten	jeffrey.poulin@lmco.com jesus.isarraras@lmco.com john.c.fontana@lmco.com michael.weingarten@lmco.com	408-431-3519 407-356-3968 8608820343	
View Online	AF161-100	Multi-Axis Precision Seeker-Laser Pointing Gimbal	Develop a line-of-sight stabilized miniature gimbal for a nose-mount application in a small weapon/unmanned air vehicle (UAV) that can precisely point a laser rangefinder, laser jammer or designator beam via Coude Path across all three gimbal axes.	LM Mission Systems and Training, Ship and Aviation Systems (MST SAS) LM Space Systems - SMD LM Missiles and Fire Control (MFC)	Jeffrey Poulin Jesus Isarraras John Fontana	jeffrey.poulin@lmco.com jesus.isarraras@lmco.com john.c.fontana@lmco.com	408-431-3519 407-356-3968	
View Online	AF161-101	Fiber Optic Networking Technology for Advanced Payload Integration on F-35 and other Platforms	Address the current and future needs of weapon systems' increasing demand for new data communication speed and flexibility. Wavelength division multiplexing (WDM) will provide high speed digital information channels to new weapons and weapon systems.	LM Mission Systems and Training, Ship and Aviation Systems (MST SAS) LM Mission Systems and Training, Under Sea Systems (MST USS)	Jeffrey Poulin Michael Weingarten	jeffrey.poulin@lmco.com michael.weingarten@lmco.com	8608820343	
View Online	AF161-102	High Fidelity Algorithm to Model the Statistical Variations of Ground Target Signatures in Scene Generator Systems	Investigate and identify innovative techniques to represent statistical variation of target signature in visible, infrared (including both mid-wave and long-wave infrared), and millimeter wave spectra.	LM Space Systems - SMD LM Missiles and Fire Control (MFC) LM Mission Systems and Training, Under Sea Systems (MST USS) LM Mission Systems and Training, Integrated Warfare Systems & Sensors (MST IWSS)	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 8608820343	
View Online	AF161-103	Low Signal to Noise Ratio Radar Technology Investigation	Investigate and develop innovative compact long-range, multi-mode, high frequency, low transmitted signal-to-noise (S/N) ratio radar system concepts that will enhance performance, robustness, and survivability of precision terminal guided weapons.	LM Missiles and Fire Control (MFC) LM Mission Systems and Training, Integrated Warfare Systems & Sensors (MST IWSS)	John Fontana Sheronda Nash	john.c.fontana@lmco.com sheronda.nash@lmco.com	407-356-3968 856-359-3965	
View Online	AF161-105	Sensors for Remote Airfield Assessment	Develop a small form factor lightweight sensor(s) that can work with satellite or RPA survey to rapidly assess the load bearing capability of soil, roads, and runways and clearances, grade, and obstructions to support aircraft operations.	LM Mission Systems and Training, Ship and Aviation Systems (MST SAS)	Jeffrey Poulin	jeffrey.poulin@lmco.com		
View Online	AF161-106	Compact SWIR DFOV Optics	Develop a near infrared (NIR) and short-wave IR (SWIR) dual-field-of-view (DFOV) optical system compatible with small unmanned aerial system (UAS) gimbals to support day/night imaging and targeting of ground targets.	LM Mission Systems and Training, Ship and Aviation Systems (MST SAS) LM Space Systems - SMD	Jeffrey Poulin Jesus Isarraras	jeffrey.poulin@lmco.com jesus.isarraras@lmco.com	408-431-3519	
View Online	AF161-107	Integrating the EPIC Hydrocode with MEVA and Endgame Framework	Design and implement an EPIC Hydrocode module in the Modular Effectiveness Vulnerability Assessment (MEVA) code. The two codes should be fully linked under the Endgame Framework architecture.					
View Online	AF161-108	Innovative, Cost-Effective Techniques for Antenna Electronic Beam Steering	Investigate low-cost alternatives to steerable antennas for the munitions application.	LM Mission Systems and Training, Ship and Aviation Systems (MST SAS) LM Space Systems - SMD LM Missiles and Fire Control (MFC) LM Mission Systems and Training, Under Sea Systems (MST USS)	Jeffrey Poulin Jesus Isarraras John Fontana Michael Weingarten	jeffrey.poulin@lmco.com jesus.isarraras@lmco.com john.c.fontana@lmco.com michael.weingarten@lmco.com	408-431-3519 407-356-3968 8608820343	
View Online	AF161-109	Develop Urban Target Cumulative Structural Damage Models	Develop innovative models that simulate urban target cumulative structural damage caused by multiple weapons.					
View Online	AF161-110	Ultra-Wideband Structurally Integrated Antenna Architectures	Design ultra-wideband structurally integrated antennas suitable for the next generation of radar seekers. These seekers will require a very large field of regard while maintaining beam-shaping capabilities.	LM Mission Systems and Training, Ship and Aviation Systems (MST SAS) LM Missiles and Fire Control (MFC) LM Mission Systems and Training, Integrated Warfare Systems & Sensors (MST IWSS)	Jeffrey Poulin John Fontana Sheronda Nash	jeffrey.poulin@lmco.com john.c.fontana@lmco.com sheronda.nash@lmco.com	407-356-3968 856-359-3965	
View Online	AF161-111	Manufacturability Improvements for Highly Integrated Monolithic Exploding Foil Initiator	Maturation and transition of a highly-integrated monolithic exploding foil initiator (EFI) which focuses on enhanced performance, survivability and manufacturability, while complementing long-life, high-G, and AF-169 high reliability requirements.	LM Space Systems - SMD	Jesus Isarraras	jesus.isarraras@lmco.com	408-431-3519	
View Online	AF161-112	Armament Life-cycle Status Monitoring Device	External non-invasive collection of environmental data on armament without modification. Selfpowered RFID-like system with status sensor/analysis suite, memory/reader feeding logistics databases. Max G loadline. min/max temperature data desirable.					
View Online	AF161-112	Armament Life-cycle Status Monitoring Device	External non-invasive collection of environmental data on armament without modification. Selfpowered RFID-like system with status sensor/analysis suite, memory/reader feeding logistics databases. Max G loadline. min/max temperature data desirable.					
View Online	AF161-113	Direct Measurement of Protection System Breakdown and Corrosion Processes within Aircraft Structures	Develop sensors and monitoring systems for direct detection of coating protection system breakdown for aircraft structures.	LM Aeronautics (Aero)	Craig Owens	craig.l.owens@lmco.com	817/777-6504	
View Online	AF161-114	Alternative Nondestructive Testing Inspection Method of In-service Aircraft Bolts and Wheels	Develop and establish alternative and effective non-destructive inspection (NDI) methods for in-service bolt and wheels currently inspected by magnetic particle (MT) and penetrant testing (PT) methods.	LM Aeronautics (Aero) LM Missiles and Fire Control (MFC)	Craig Owens John Fontana	craig.l.owens@lmco.com john.c.fontana@lmco.com	817/777-6504 407-356-3968	

View Online	AF161-115	Direct Measurement of Bondline Temperature During Composite Repair/Fabrication	Develop improved methods to measure bond-line temperature during composite material repair or fabrication without introducing critical flaws or unduly increasing the burden/time to the repair technician.	LM Missiles and Fire Control (MFC)	John Fontana	john.c.fontana@lmco.com	407-356-3968
View Online	AF161-116	Rapid, Local Characterization of the Fatigue Crack Growth Behavior	Develop an experimental method that can rapidly and cost-effectively characterize the local fatigue crack growth behavior in a metallic material to assess the impact of local microstructural variations.	LM Missiles and Fire Control (MFC) LM Mission Systems and Training, Under Sea Systems (MST USS)	John Fontana Michael Weingarten	john.c.fontana@lmco.com michael.weingarten@lmco.com	407-356-3968 8608820343
View Online	AF161-117	Automated High Speed Grind for- High Pressure Compressor Blade Repair	Develop an automated capability to identify/characterize surface damage in high pressure compressor (HPC) blades and apply high speed grinding operations to reliably and repeatably perform blend repairs in an Air Force desert environment.				
View Online	AF161-118	Blade Repair of Integrally Bladed Disks (IBDs)	Develop and demonstrate a repair for the blade tips/edges of integrally bladed disks (IBDs).				
View Online	AF161-119	Non-Destructive Inspection for Repaired Integrally Bladed Disk Airfoils	Develop, demonstrate, and verify a non-destructive inspection (NDI) technique to assess the integrity and microstructure state of repaired integrally bladed disk (IBD) airfoils.				
View Online	AF161-120	Development of a High-Temperature Bond Coat for Environmental Barrier Coatings on SiC/SiC Ceramic Matrix Composites (CMCs)	Demonstrate bond-coat for environmental barrier coatings (EBC) on silicon carbide fiber-reinforced silicon carbide matrix composites (CMC) that can protect substrate in a combustion environment while maintaining 2700 degrees F at EBC/CMC interface.	LM Space Systems - SMD LM Missiles and Fire Control (MFC) LM Mission Systems and Training, Under Sea Systems (MST USS)	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 8608820343
View Online	AF161-121	NDI Tool for Heat Damage Detection in Composites	Develop correlations of FTIR signature to material property degradation induced by heat damage for BMI 5250-4/IM7. Transition a turn-key BMI composite heat damage detection technology and state-of-the-art reference standards to Air Force and Navy.	LM Missiles and Fire Control (MFC)	John Fontana	john.c.fontana@lmco.com	407-356-3968
View Online	AF161-122	Novel Moderate Temperature Polymeric Absorbing Material	Formulate and characterize a novel moderate temperature (upper-bound temperature = 650 degrees F) spray-applied polymeric, absorbing material for hot engine exhaust washed environments.	LM Missiles and Fire Control (MFC)	John Fontana	john.c.fontana@lmco.com	407-356-3968
View Online	AF161-123	MQ-9 Lightweight Anti-Ice/De-Ice Solution	Provide an improved understanding of how adverse weather conditions impact the flying conditions for remotely powered aircraft (RPA). Develop and conclusively demonstrate a lightweight anti-ice/de-ice solution for the MQ-9 RPA.				
View Online	AF161-124	Accelerated Adhesive Cure for Nutplate Repair	Develop a technique that provides a controlled temperature profile to an adhesive bondline (under a nutplate) so as to cure the adhesive in 4hrs while meeting the same requirements as those of the adhesive cured for 24 hours at room temperature.	LM Aeronautics (Aero)	Craig Owens	craig.lowens@lmco.com	817/777-6504
View Online	AF161-125	Self-Referencing Positioning System	Integrate a novel and innovative, spatial positioning system with an existing, commercially available 3D non-destructive evaluation (NDE) system to provide precisely positioned measurement sets suitable for use in change detection.	LM Aeronautics (Aero) LM Mission Systems and Training, Integrated Warfare Systems & Sensors (MST IWSS)	Craig Owens Sheronda Nash	craig.lowens@lmco.com sheronda.nash@lmco.com	817/777-6504 856-359-3965
View Online	AF161-126	Structural High Power Microwave, Nuclear and Electromagnetic Pulse Protection of Organic Matrix Composite and Ceramic Materials for Munitions	Novel materials development, scale-up, and demonstration focused on providing protection from Nuclear EMP, Nuclear Particle, HPM effects and thermal management as a form fit replacement of traditional BMI, epoxy or ceramic structural materials.	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
View Online	AF161-127	Chromium-Free Flexible Primer	Develop replacement for high Volatile Organic Compound (VOC), chromium-containing polysulfide flexible aerospace primer.	LM Aeronautics (Aero)	Craig Owens	craig.lowens@lmco.com	817/777-6504
View Online	AF161-128	Materials Processing for Heterogeneous Integration of Optical Isolators	Develop materials processing techniques for heterogeneous integration of high performance magneto-optical materials into integrated optics substrates, such as Silicon and Indium Phosphide.				
View Online	AF161-129	Certification Modeling for Composites with Voids and Wrinkles for Engines and Structures	Model the effects of voids/wrinkles on interlaminar strength and fatigue, detect defect locations, test curved specimens, and develop void/wrinkle generation models for composite structures to improve part integrity and reduce rejection rates.				
View Online	AF161-130	Innovative Application and Modifications of Scanning Kelvin Probe Technologies for Measurement of Coating Degradation and Detection of Corrosion	Investigate enhancements and augmentations of Scanning Kelvin Probe (SKP)-based techniques as means of characterizing and quantifying the degradation of protective coatings and detecting corrosion.	LM Mission Systems and Training, Integrated Warfare Systems & Sensors (MST IWSS)	Sheronda Nash	sheronda.nash@lmco.com	856-359-3965
View Online	AF161-131	Airborne Graph Analytics Applications for Multi-sensor Fusion and Integration	Develop graphic analytic methods to store sensor data and algorithms to support information fusion.	LM Space Systems - SMD LM Mission Systems and Training, Integrated Warfare Systems & Sensors (MST IWSS)	Jesus Isarraras Sheronda Nash	jesus.isarraras@lmco.com sheronda.nash@lmco.com	408-431-3519 856-359-3965
View Online	AF161-132	Fully-Adaptive Radar Modeling and Simulation Development	Develop a radar modeling and simulation environment to address the needs of a fully-adaptive radar.	LM Missiles and Fire Control (MFC) LM Mission Systems and Training, Integrated Warfare Systems & Sensors (MST IWSS)	John Fontana Sheronda Nash	john.c.fontana@lmco.com sheronda.nash@lmco.com	407-356-3968 856-359-3965
View Online	AF161-133	Radar Agnostic, Low Computation Synthetic Aperture Radar (SAR) Automatic Target Recognition (ATR)	Develop a reduced feature SAR ATR technique to classify ground vehicles based on simple features in order to simplify/reduce the overhead and logistics of maintaining SAR ATR capability for multiple platforms against evolving target sets.	LM Space Systems LM Space Systems LM Mission Systems and Training, Ship and Aviation Systems (MST SAS) LM Mission Systems and Training, Under Sea Systems (MST USS) LM Mission Systems and Training, Integrated Warfare Systems & Sensors (MST IWSS)	Brian Zimelman Craig Talbot Jeffrey Poulin Michael Weingarten	brian.zimelman@lmco.com craig.m.talbot@lmco.com jeffrey.poulin@lmco.com michael.weingarten@lmco.com	xxxxx 408.431.1563 - 8608820343
View Online	AF161-134	Low Profile Multiband Airborne Satellite Communications (SATCOM) Antenna	Develop a low-profile, low-weight, low-cost active electronically steered array for the X/Ku/Ka/Qband satellite communications for aircraft and Group 5-sized unmanned air vehicles (UAVs).	LM Mission Systems and Training, Ship and Aviation Systems (MST SAS) LM Mission Systems and Training, Under Sea Systems (MST USS) LM Mission Systems and Training, Integrated Warfare Systems & Sensors (MST IWSS)	Jeffrey Poulin Michael Weingarten Sheronda Nash	jeffrey.poulin@lmco.com michael.weingarten@lmco.com sheronda.nash@lmco.com	8608820343 856-359-3965
View Online	AF161-135	Lightweight Infrared Search and Track Systems	Develop a lightweight infrared (IR) search and track (IRST) system for applications to air-launched, air-recoverable airborne platforms.	LM Mission Systems and Training, Ship and Aviation Systems (MST SAS) LM Space Systems - SMD LM Missiles and Fire Control (MFC)	Jeffrey Poulin Jesus Isarraras John Fontana	jeffrey.poulin@lmco.com jesus.isarraras@lmco.com john.c.fontana@lmco.com	408-431-3519 407-356-3968
View Online	AF161-136	Deployable Lightweight Upper Air Sensing System	Develop a lightweight, deployable sensor system to gather meteorological data for the lowest 15,000 feet of the atmosphere.	LM Mission Systems and Training, Under Sea Systems (MST USS)	Michael Weingarten	michael.weingarten@lmco.com	8608820343
View Online	AF161-137	Wideband Efficient Dual Polarized High Frequency (HF) Communication Antenna	Design and development of dual polarized high frequency (HF) antenna covering 3 to 30 MHz is required. Must support both transmit and receive functions with an instantaneous bandwidth of 10 MHz. Both ground and airborne antenna solutions are sought.	LM Mission Systems and Training, Ship and Aviation Systems (MST SAS)	Jeffrey Poulin	jeffrey.poulin@lmco.com	

View Online	AF161-138	Cognitive Processing and Exploitation of 3D Laser Imaging Detection and Ranging(LIDAR) Imagery Data	Develop algorithms that emulate the human cognitive process to analyze 3D LIDAR data to identify areas of interest to cue human analysts for further analysis to reduce the analyst's workload.	LM Space Systems - ATC LM Space Systems - SMD LM Missiles and Fire Control (MFC)	Dawn Sisneros Jesus Isarraras John Fontana	Dawn.Sisneros@lmco.com jesus.isarraras@lmco.com john.c.fontana@lmco.com	303-379-3194 408-431-3519 407-356-3968
View Online	AF161-139	Automated Target Recognition (ATR) Detection from Laser Imaging Detection and Ranging (LIDAR) Data	Develop a low size, weight, and power (SWaP) ATR capability for installation on-board the unmanned aerial system (UAS) or in a pod configuration along with the LIDAR sensor	LM Space Systems LM Space Systems LM Mission Systems and Training, Ship and Aviation Systems (MST SAS) LM Space Systems - SMD LM Mission Systems and Training, Under Sea Systems (MST USS) LM Mission Systems and Training, Integrated Warfare Systems & Sensors (MST IWSS)	Brian Zimelman Craig Talbot Jeffrey Poulin Jesus Isarraras Michael Weingarten Sheronda Nash	brian.zimelman@lmco.com craig.m.talbot@lmco.com jeffrey.poulin@lmco.com jesus.isarraras@lmco.com michael.weingarten@lmco.com sheronda.nash@lmco.com	xxxxx 408.431.1563 - 408-431-3519 8608820343 856-359-3965
View Online	AF161-140	Multi-Attribute Circuit Authentication and Reliability Techniques	Develop and implement integrated circuit (IC) design and analysis techniques for authentication of microelectronics throughout its lifecycle.	LM Mission Systems and Training, Ship and Aviation Systems (MST SAS) LM Mission Systems and Training, Integrated Warfare Systems & Sensors (MST IWSS)	Jeffrey Poulin Sheronda Nash	jeffrey.poulin@lmco.com sheronda.nash@lmco.com	856-359-3965
View Online	AF161-141	Integrated Circuit Authentication and Reliability Tool and Techniques	Develop and implement analysis tools and techniques for authentication and end of life prediction of a packaged integrated circuit (IC) at any point in its life cycle.	LM Mission Systems and Training, Integrated Warfare Systems & Sensors (MST IWSS)	Sheronda Nash	sheronda.nash@lmco.com	856-359-3965
View Online	AF161-142	Integrated Circuit (IC) Die Extraction and Reassembly	Develop and assess tools/techniques to evaluate performance, lifetime, and safety of integrated circuits re-packaged using DER techniques for suppliers to certify parts for DoD and high-reliability commercial AF - 212 applications.	LM Mission Systems and Training, Ship and Aviation Systems (MST SAS) LM Missiles and Fire Control (MFC)	Jeffrey Poulin John Fontana	jeffrey.poulin@lmco.com john.c.fontana@lmco.com	407-356-3968
View Online	AF161-143	Electronic Image Stabilization for Staring Infrared Search and Track (IRST) Sensors	Develop concepts for stabilizing video frame rate imagery in staring (non-scanned) infrared arch and track (IRST) that utilize large format focal plane arrays (FPAs) in the presence of the full aircraft kinematic environment.	LM Aeronautics (Aero) LM Mission Systems and Training, Ship and Aviation Systems (MST SAS) LM Missiles and Fire Control (MFC) LM Mission Systems and Training, Under Sea Systems (MST USS)	Craig Owens Jeffrey Poulin John Fontana Michael Weingarten	craig.l.owens@lmco.com jeffrey.poulin@lmco.com john.c.fontana@lmco.com michael.weingarten@lmco.com	817/777-6504 - 407-356-3968 8608820343
View Online	AF161-144	Continuous High Pulse Repetition Frequency (HPRF) Mode for Anti-Access/Area Denial (AZAD)	Research the use of continuous HPRF to improve detection range and other improvements for air-to-air and air-to-ground scenarios. Also, determine optimum tracking techniques to resolve ambiguities, computational requirements, and cost trade-offs.	LM Aeronautics (Aero) LM Mission Systems and Training, Integrated Warfare Systems & Sensors (MST IWSS)	Craig Owens Sheronda Nash	craig.l.owens@lmco.com sheronda.nash@lmco.com	817/777-6504 856-359-3965
View Online	AF161-145	Compact Wideband Direction Finder	Develop a compact, wideband aperture for direction finding (DF) with a broad field of view, polarization independence, and an operating bandwidth of 2 to 18 GHz.	LM Aeronautics (Aero) LM Mission Systems and Training, Ship and Aviation Systems (MST SAS) LM Missiles and Fire Control (MFC) LM Mission Systems and Training, Integrated Warfare Systems & Sensors (MST IWSS)	Craig Owens Jeffrey Poulin John Fontana Sheronda Nash	craig.l.owens@lmco.com jeffrey.poulin@lmco.com john.c.fontana@lmco.com sheronda.nash@lmco.com	817/777-6504 - 407-356-3968 856-359-3965
View Online	AF161-146	V-Band Terminal Low Noise Amplifier	Develop low noise amplifiers (LNAs) operating from 71 to 76 GHz with noise figures suitable for future satellite communications (SATCOM) ground terminal applications.	LM Mission Systems and Training, Integrated Warfare Systems & Sensors (MST IWSS)	Sheronda Nash	sheronda.nash@lmco.com	856-359-3965
View Online	AF161-147	High Performance Global Positioning System (GPS) M-Code Acquisition Engine	Develop high-performance acquisition engine for direct acquisition of global positioning system (GPS) M-Code that can achieve time to first fix (TTFF) of 120 seconds with initial time uncertainty (ITU) of 10 ms and jamming/signal ratio of 51 dB.	LM Mission Systems and Training, Ship and Aviation Systems (MST SAS)	Jeffrey Poulin	jeffrey.poulin@lmco.com	
View Online	AF161-148	Q-Band Uplink Solid State Power Amplifier (SSPA)	Develop efficient Q-band solid-state power amplifiers (SSPAs) for low-cost ground terminal applications.	LM Mission Systems and Training, Integrated Warfare Systems & Sensors (MST IWSS)	Sheronda Nash	sheronda.nash@lmco.com	856-359-3965
View Online	AF161-149	Synergistic/Combine Radio Frequency/Electro-Optical (RF/EO) Processing for Synthetic Aperture Imaging (SAR)	Develop synergistic signal processing hardware and algorithms for joint processing of synthetic aperture radar (SAR) and synthetic aperture ladar (SAL) data that demonstrates both shared processing hardware as well as enhanced imaging performance.	LM Mission Systems and Training, Ship and Aviation Systems (MST SAS) LM Mission Systems and Training, Under Sea Systems (MST USS) LM Mission Systems and Training, Integrated Warfare Systems & Sensors (MST IWSS)	Jeffrey Poulin Michael Weingarten Sheronda Nash	jeffrey.poulin@lmco.com michael.weingarten@lmco.com sheronda.nash@lmco.com	8608820343 856-359-3965
View Online	AF161-150	Cloud Services for Trustworthy Microelectronics Assurance	Develop a process for hardware assurance in the design and integrity of microelectronics across the life cycle that can be accessed by end-node users.	LM Mission Systems and Training, Ship and Aviation Systems (MST SAS) LM Mission Systems and Training, Integrated Warfare Systems & Sensors (MST IWSS)	Jeffrey Poulin Sheronda Nash	jeffrey.poulin@lmco.com sheronda.nash@lmco.com	856-359-3965
View Online	AF161-151	Automated 3D Reconstruction of a Scene From Persistent Aerial Reconnaissance Video at High Zoom	Develop aerial sensor processing algorithms to create measurable 3D reconstructions of a scene assuming persistent aerial reconnaissance under high zoom level.	LM Mission Systems and Training, Ship and Aviation Systems (MST SAS) LM Missiles and Fire Control (MFC) LM Mission Systems and Training, Under Sea Systems (MST USS) LM Mission Systems and Training, Integrated Warfare Systems & Sensors (MST IWSS)	Jeffrey Poulin John Fontana Michael Weingarten Sheronda Nash	jeffrey.poulin@lmco.com john.c.fontana@lmco.com michael.weingarten@lmco.com sheronda.nash@lmco.com	407-356-3968 8608820343 856-359-3965
View Online	AF161-152	Broadband Beam Steering Devices for Midwave Infrared (MWIR)	Develop novel broadband laser beam steering technologies and concepts that will reduce cost, size, weight, and power consumption (C-SWAP) while improving effectiveness of future infrared countermeasure (IBCM) systems.	LM Space Systems - SMD LM Missiles and Fire Control (MFC) LM Mission Systems and Training, Under Sea Systems (MST USS)	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 8608820343
View Online	AF161-153	Fusion of Kinematic and Identification (ID) Information	Develop tools to enable integration of multi-INT sources for contested and permissive environments. Emphasis on integration of kinematic, feature, and classification information to improve detection, tracking, and assessment of targets and networks.	LM Space Systems - SMD LM Mission Systems and Training, Under Sea Systems (MST USS) LM Mission Systems and Training, Integrated Warfare Systems & Sensors (MST IWSS)	Jesus Isarraras Michael Weingarten Sheronda Nash	jesus.isarraras@lmco.com michael.weingarten@lmco.com sheronda.nash@lmco.com	408-431-3519 8608820343 856-359-3965
View Online	AF161-224	Hypersonic Weapon Airframe Simulator for Thermal Loading and Structural Vibration	This topic is intended to develop a hardware-in-the-loop motion simulator that provides guidance and control sensor measurements representative of a hypersonic flight environment, including effects of high thermal loading and structural vibration.	LM Space Systems - SMD	Jesus Isarraras	jesus.isarraras@lmco.com	408-431-3519
View Online	N161-001	Mid Frequency Active Sonobuoy	Develop an A-size Anti-Submarine Warfare (ASW) acoustic Mid-Frequency Active Sonobuoy (MFAS) capable of deployment and remote operation from Littoral Combat Ship (LCS), MH-60R, MQ-8 Fire Scout, and P8A ASW platforms, and in compliance with the Chief of Naval Operation (CNO) recent Integrated Warfare Capability (IWC) initiative requiring integration across platform boundaries.	LM Mission Systems and Training, Ship and Aviation Systems (MST SAS) LM Mission Systems and Training, Under Sea Systems (MST USS)	Jeffrey Poulin Michael Weingarten	jeffrey.poulin@lmco.com michael.weingarten@lmco.com	8608820343

View Online	N161-002	Alternative Positioning, Navigation and Timing (PNT) Technologies for Global Positioning System (GPS)-Degraded and GPS-Denied Operation	Develop innovative systems that allow for affordable, robust, alternative forms of radiofrequency (RF) based Positioning, Navigation and Timing (PNT), providing an available substitute in environments where the Global Positioning System (GPS) functionality is degraded or completely denied.	LM Space Systems LM Aeronautics (Aero) LM Space Systems LM Space Systems - ATC LM Mission Systems and Training, Ship and Aviation Systems (MST SAS) LM Space Systems - SMD LM Missiles and Fire Control (MFC) LM Mission Systems and Training, Under Sea Systems (MST USS) LM Mission Systems and Training, Integrated Warfare Systems & Sensors (MST IWSS)	Brian Zimbelman Craig Owens Craig Talbot Dawn Sisneros Jeffrey Poulin Jesus Isarraras John Fontana Michael Weingarten Sheronda Nash	brian.zimbelman@lmco.com craig.lowens@lmco.com craig.m.talbot@lmco.com Dawn.Sisneros@lmco.com jeffrey.poulin@lmco.com jesus.isarraras@lmco.com john.c.fontana@lmco.com michael.weingarten@lmco.com sheronda.nash@lmco.com	xxxxx 817/777-6504 408.431.1563 303-379-3194 - 408-431-3519 407-356-3968 8608820343 856-359-3965
View Online	N161-003	Aerial Refueling Tanker and Receiver Aerodynamic Interaction Modeling and Simulation	Develop a modeling and simulation (M&S) approach and toolset to calculate the incremental forces and moments on the receiver aircraft due to tanker wake during aerial refueling operations.				
View Online	N161-004	Maritime Traffic Model Aided Tracking	Develop a significant capability increase in tracker performance by utilizing improved motion prediction of vessels by exploiting the maritime traffic model these vessels must obey.	LM Space Systems LM Space Systems LM Mission Systems and Training, Ship and Aviation Systems (MST SAS) LM Space Systems - SMD LM Missiles and Fire Control (MFC) LM Mission Systems and Training, Under Sea Systems (MST USS) LM Mission Systems and Training, Integrated Warfare Systems & Sensors (MST IWSS)	Brian Zimbelman Craig Talbot Jeffrey Poulin Jesus Isarraras John Fontana Michael Weingarten Sheronda Nash	brian.zimbelman@lmco.com craig.m.talbot@lmco.com jeffrey.poulin@lmco.com jesus.isarraras@lmco.com john.c.fontana@lmco.com michael.weingarten@lmco.com sheronda.nash@lmco.com	xxxxx 408.431.1563 - 408-431-3519 407-356-3968 8608820343 856-359-3965
View Online	N161-005	Compact Ultraviolet (UV) Laser Emitter in the 320-355 Nanometer (nm) Spectral Range	Develop a compact, robust and efficient high-power ultraviolet (UV) laser emitter operating at room temperature in the wavelength range between 320-355 nanometer (nm).	LM Aeronautics (Aero) LM Space Systems - SMD LM Missiles and Fire Control (MFC)	Craig Owens Jesus Isarraras John Fontana	craig.lowens@lmco.com jesus.isarraras@lmco.com john.c.fontana@lmco.com	817/777-6504 408-431-3519 407-356-3968
View Online	N161-006	Large Aperture Agile Scanning Mirror	Develop a large aperture, agile, scanning mirror for passive and active optical remote sensors.	LM Space Systems LM Space Systems LM Space Systems - SMD LM Missiles and Fire Control (MFC)	Brian Zimbelman Craig Talbot Jesus Isarraras John Fontana	brian.zimbelman@lmco.com craig.m.talbot@lmco.com jesus.isarraras@lmco.com john.c.fontana@lmco.com	xxxxx 408.431.1563 408-431-3519 407-356-3968
View Online	N161-007	Immersive Parachute Descent Procedure, Malfunction and Decision-Making Training System	Develop a novel reconfigurable device training system that provides immersive Parachute Descent Procedure (PDP), malfunction and decision-making training to allow the survival training community to deliver crossplatform training without the need for multiple training systems or platform specific peripherals.				
View Online	N161-009	Innovative Sensing Fasteners for Aircraft Fatigue Monitoring	Develop a sensor capability that can be incorporated onto a common aerospace fastener to monitor for in-hole fatigue crack initiation in multi-layered joints.	LM Mission Systems and Training, Under Sea Systems (MST USS)	Michael Weingarten	michael.weingarten@lmco.com	8608820343
View Online	N161-010	Novel Method to Utilize Multi-scale Physics-based Technique for Crack Path Determination in Fiber-reinforced Composites	Develop an innovative technique utilizing peridynamic theory to determine crack path in fiberreinforced composite structures.	LM Missiles and Fire Control (MFC)	John Fontana	john.c.fontana@lmco.com	407-356-3968
View Online	N161-011	Turbomachinery Distortion Characterization by Non-intrusive Measurement Methods	Develop a non-intrusive measurement capability to quantify the distortion profile at the inlet of the fan and compressor of an aircraft engine.	LM Aeronautics (Aero)	Craig Owens	craig.lowens@lmco.com	817/777-6504
View Online	N161-012	Next Generation Lithium-ion (Li-ion) Batteries (NGLB) with Novel High Energy Anode Architectures	Develop Next Generation Lithium-Ion Batteries with Novel High Energy Anode Architecture.	LM Space Systems - ATC LM Space Systems - SMD LM Missiles and Fire Control (MFC) LM Mission Systems and Training, Under Sea Systems (MST USS)	Dawn Sisneros Jesus Isarraras John Fontana Michael Weingarten	Dawn.Sisneros@lmco.com jesus.isarraras@lmco.com john.c.fontana@lmco.com michael.weingarten@lmco.com	303-379-3194 408-431-3519 407-356-3968 8608820343
View Online	N161-013	Image Correspondence Figure of Merit (FOM)	Develop an algorithm and a software simulation system that can reliably determine and predict the quality of correspondence between two images of different types, modes, sources, or perspectives.	LM Mission Systems and Training, Ship and Aviation Systems (MST SAS) LM Mission Systems and Training, Under Sea Systems (MST USS) LM Mission Systems and Training, Integrated Warfare Systems & Sensors (MST IWSS)	Jeffrey Poulin Michael Weingarten Sheronda Nash	jeffrey.poulin@lmco.com michael.weingarten@lmco.com sheronda.nash@lmco.com	8608820343 856-359-3965
View Online	N161-014	Robust Electronics for Aircraft End Speed Indicator	Develop technology that enables an aircraft end speed system to operate without failure in the shock, vibration and temperature extremes experienced in steam catapult spaces aboard aircraft carriers.				
View Online	N161-015	Collaborative Undersea Warfare Mission Planning for Manned and Unmanned Vehicles	Develop a mission planning software tool that optimizes the Undersea Warfare (USW) mission planning environment across multiple platforms/multiple domains (air, surface, and subsurface) with diverse sensors allowing for USW assets to develop integrated mission solutions that include advanced 3-D visualization techniques and the optimization of existing software algorithm processes.	LM Mission Systems and Training, Ship and Aviation Systems (MST SAS) LM Space Systems - SMD LM Mission Systems and Training, Under Sea Systems (MST USS) LM Mission Systems and Training, Integrated Warfare Systems & Sensors (MST IWSS)	Jeffrey Poulin Jesus Isarraras Michael Weingarten Sheronda Nash	jeffrey.poulin@lmco.com jesus.isarraras@lmco.com michael.weingarten@lmco.com sheronda.nash@lmco.com	408-431-3519 8608820343 856-359-3965
View Online	N161-016	iPhone Operating System (iOS) Framework and Application Development for electronic Kneeboard	Develop an iPhone Operating System (iOS) framework and application(s) for moving the Weaponing and Stores Planning (WASP) program, flight and mission planning, emergency procedures, and other relevant mission tools to the Apple iPad scheduled to be implemented into the Fleet for what is referred to as the Electronic Kneeboard.	LM Mission Systems and Training, Under Sea Systems (MST USS) LM Mission Systems and Training, Integrated Warfare Systems & Sensors (MST IWSS)	Michael Weingarten Sheronda Nash	michael.weingarten@lmco.com sheronda.nash@lmco.com	8608820343 856-359-3965
View Online	N161-017	Efficient On-Aircraft Composite Repair Process Requiring Minimal Support Equipment	Develop an efficient on-aircraft repair process, requiring minimal support equipment, for structural components made of organic-matrix composite materials that can restore structural capabilities of those components.	LM Aeronautics (Aero) LM Missiles and Fire Control (MFC)	Craig Owens John Fontana	craig.lowens@lmco.com john.c.fontana@lmco.com	817/777-6504 407-356-3968
View Online	N161-018	Physics-Based Maritime Target Classification and False Alarms Mitigation	Develop near real-time computationally efficient machine learning techniques to significantly improve classification performance of Inverse Synthetic Aperture Radar (ISAR) imagery Synthetic Aperture Radar (SAR) imagery and High Range Resolution (HRR) based maritime classification aids in the presence of vessels not resident in an existing classification database from returns.	LM Mission Systems and Training, Ship and Aviation Systems (MST SAS) LM Space Systems - SMD LM Missiles and Fire Control (MFC) LM Mission Systems and Training, Integrated Warfare Systems & Sensors (MST IWSS)	Jeffrey Poulin Jesus Isarraras John Fontana Sheronda Nash	jeffrey.poulin@lmco.com jesus.isarraras@lmco.com john.c.fontana@lmco.com sheronda.nash@lmco.com	408-431-3519 407-356-3968 856-359-3965

View Online	N161-019	Multi-Frequency Shock Survivable Fuze Components	Design and develop new technology for a system consisting of a firing switch, delay element and high voltage capacitors capable of surviving high amplitude and high frequency shock environments experienced in multiwarhead systems and during high speed penetration of hardened ship hull targets combined with the more traditional lower amplitude and frequency shock environment experienced during deeply buried target penetration.	LM Space Systems - SMD LM Mission Systems and Training, Under Sea Systems (MST USS)	Jesus Isarraras Michael Weingarten	jesus.isarraras@lmco.com michael.weingarten@lmco.com	408-431-3519 8608820343
View Online	N161-020	Human Computer Interfacing (HCI) for Autonomous Detect and Avoid (DAA) Systems on Unmanned Aircraft Systems (UAS)	Develop and validate Human Computer Interfacing (HCI) for governing the interaction of autonomous Detect and Avoid (DAA) maneuvers and human-initiated inputs, creating a holistic DAA capability. This would include display format of conveying current and impending autonomous maneuvering information. The HCI developed as a result of this project could apply to future DAA algorithm validation for Group 3-5 fixed-wing aircraft.	LM Space Systems - SMD LM Mission Systems and Training, Under Sea Systems (MST USS) LM Mission Systems and Training, Integrated Warfare Systems & Sensors (MST IWSS)	Jesus Isarraras Michael Weingarten Sheronda Nash	jesus.isarraras@lmco.com michael.weingarten@lmco.com sheronda.nash@lmco.com	408-431-3519 8608820343 856-359-3965
View Online	N161-021	Variable Amplitude Passive Aircraft Vibration and Noise Reduction	Develop an improved tuned vibration reduction solution for application to propeller excited high vibration levels in Navy turboprop aircraft.	LM Mission Systems and Training, Under Sea Systems (MST USS)	Michael Weingarten	michael.weingarten@lmco.com	8608820343
View Online	N161-022	Shaped Radome and Embedded Frequency Selective Surface Modeling for Large-Scale Platforms	Develop software tool(s) that accurately predicts on-platform electromagnetic interactions with realistic antenna radome covers, including those with an embedded frequency selective surface (FSS).	LM Mission Systems and Training, Ship and Aviation Systems (MST SAS)	Jeffrey Poulin	jeffrey.poulin@lmco.com	
View Online	N161-023	Sinking Hose System for Amphibious Bulk Liquid Transfer System (ABLTS)	Develop a new submersible hose system for the Amphibious Bulk Liquid Transfer System (ABLTS). When not in use, the hose must be stowed-flat on a hose-reel similar to ABLTS. Once deployed and full of the working fluid, the specific gravity of the hose must make it negatively buoyant, causing it to sink and rest on the seafloor.				
View Online	N161-024	Ruggedized, Condition-Based Maintenance for Vacuum Insulation Systems	Develop a small-scale vacuum maintenance device for use in Navy cryogenic and superconducting applications.				
View Online	N161-025	Digital Early Warning Receiver (EWR) for the Next Generation Submarine Electronic Warfare (EW)	Develop a digital Early Warning Receiver (EWR) for the Next Generation Submarine Electronic Warfare (EW) Suite.				
View Online	N161-026	Fault Current Limiting (FCL) Distribution Cable	Develop an innovative inherently fault current limiting cable topology for DC or AC distribution systems that immediately reacts to fault conditions and is suitable for shipboard use.				
View Online	N161-027	Shallow Water Communications for Mine Warfare	Develop an innovative secure communication capability for Navy mine warfare systems to enable two-way remote command and control of a minefield deployed across the hostile littoral environments.	LM Mission Systems and Training, Under Sea Systems (MST USS)	Michael Weingarten	michael.weingarten@lmco.com	8608820343
View Online	N161-029	Shipboard Cabling using Rugged Wavelength Division Multiplexing	Develop a robust shipboard cabling solution using Rugged Wavelength Division Multiplexing (RWDM).				
View Online	N161-030	Safe High Density Undersea Power Source	Develop a high power density source required for longer system life of an autonomous undersea surveillance system.	LM Mission Systems and Training, Under Sea Systems (MST USS)	Michael Weingarten	michael.weingarten@lmco.com	8608820343
View Online	N161-031	Efficient, Low-Loss Combiner Technology for Affordable Transmit and Receive Module Mfg	Develop a low-loss microwave power combiner technology that is compatible with gallium nitride (GaN) based transmit and receive (T/R) modules.	LM Mission Systems and Training, Ship and Aviation Systems (MST SAS) LM Mission Systems and Training, Integrated Warfare Systems & Sensors (MST IWSS)	Jeffrey Poulin Sheronda Nash	jeffrey.poulin@lmco.com sheronda.nash@lmco.com	856-359-3965
View Online	N161-032	Tactical Video Distribution to Shipboard Consoles, Video Walls, and Tablets	Develop an innovative video distribution capability to improve Command and Control information sharing to warfighters for mission execution.	LM Mission Systems and Training, Ship and Aviation Systems (MST SAS) LM Mission Systems and Training, Under Sea Systems (MST USS)	Jeffrey Poulin Michael Weingarten	jeffrey.poulin@lmco.com michael.weingarten@lmco.com	8608820343
View Online	N161-033	Low Power Fiber-based Laser Range Finder	Develop a compact, fiber-based, low power laser range finder to accurately point and resolve ranges.	LM Mission Systems and Training, Ship and Aviation Systems (MST SAS) LM Missiles and Fire Control (MFC)	Jeffrey Poulin John Fontana	jeffrey.poulin@lmco.com john.c.fontana@lmco.com	407-356-3968
View Online	N161-034	Radio Frequency over Fiber (RfF) for the Next Generation Submarine Electronic Warfare (EW) System	To develop a modular, low cost, high performance Radio Frequency over Fiber (RfF) to be utilized by undersea platforms.	LM Mission Systems and Training, Ship and Aviation Systems (MST SAS) LM Mission Systems and Training, Under Sea Systems (MST USS)	Jeffrey Poulin Michael Weingarten	jeffrey.poulin@lmco.com michael.weingarten@lmco.com	8608820343
View Online	N161-035	Underwater Near Field High Data Rate Non-Acoustic Communications	Develop a non-acoustic full duplex High Data Rate communications path between a submerged attack submarine and an external entity at short, tactically useful ranges.	LM Mission Systems and Training, Under Sea Systems (MST USS)	Michael Weingarten	michael.weingarten@lmco.com	8608820343
View Online	N161-036	Reduced Cost Fabrication of Optical Sapphire Hyper-hemispheres for Submarine Masts	Develop a cost effective set of tools or processes for fabricating sapphire hyper-hemispheres or similar shaped optical window components.				
View Online	N161-037	Versatile Robotic Mission Module Mover (VRM3)	Develop a transporter for 24 Metric Ton (MT), twenty-foot equivalent unit (TEU) intermodal (ISO) containers from a pier, across ramp, and to the mission deck of a joint High Speed Vessel (HSV).	LM Missiles and Fire Control (MFC) LM Mission Systems and Training, Under Sea Systems (MST USS)	John Fontana Michael Weingarten	john.c.fontana@lmco.com michael.weingarten@lmco.com	407-356-3968 8608820343
View Online	N161-038	Shipboard Additive Manufacturing (AM)/3D Printing	Develop a NAVSEA qualified material and an Additive Manufacturing (AM) methodology to produce defect free parts and maintain geometric tolerances in a shipboard environment.	LM Space Systems - ATC LM Mission Systems and Training, Ship and Aviation Systems (MST SAS) LM Missiles and Fire Control (MFC) LM Mission Systems and Training, Under Sea Systems (MST USS)	Dawn Sisneros Jeffrey Poulin John Fontana Michael Weingarten	Dawn.Sisneros@lmco.com jeffrey.poulin@lmco.com john.c.fontana@lmco.com michael.weingarten@lmco.com	303-379-3194 - 407-356-3968 8608820343
View Online	N161-039	Extremely Small, High Performance Intelligence, Surveillance, and Reconnaissance (ISR) Payloads for Expendable Undersea Platforms	Develop an extremely small, high performance Intelligence, Surveillance, and Reconnaissance (ISR) payload for expendable undersea platforms.	LM Space Systems LM Space Systems LM Mission Systems and Training, Under Sea Systems (MST USS)	Brian Zimbelman Craig Talbot Michael Weingarten	brian.zimbelman@lmco.com craig.m.talbot@lmco.com michael.weingarten@lmco.com	xxxxx 408.431.1563 8608820343
View Online	N161-040	Advanced Materials for Carbon Dioxide (CO2) Capture	Develop advanced materials for their potential use as a submarine CO2 removal system.	LM Mission Systems and Training, Under Sea Systems (MST USS)	Michael Weingarten	michael.weingarten@lmco.com	8608820343
View Online	N161-041	Guided Missile Submarine SSGN Seawater System Antifouling	Develop a system that will inhibit biological fouling of seawater system piping and components that will result in the reduction of total ownership cost from existing submarine fouling removal procedures.	LM Mission Systems and Training, Under Sea Systems (MST USS)	Michael Weingarten	michael.weingarten@lmco.com	8608820343
View Online	N161-042	Theater Multi-Mission Planner	Develop a theater level multi-mission planner that can assess tradeoffs in mission performance versus risk.	LM Space Systems LM Space Systems LM Space Systems - SMD LM Mission Systems and Training, Under Sea Systems (MST USS)	Brian Zimbelman Craig Talbot Jesus Isarraras Michael Weingarten	brian.zimbelman@lmco.com craig.m.talbot@lmco.com jesus.isarraras@lmco.com michael.weingarten@lmco.com	xxxxx 408.431.1563 408-431-3519 8608820343

View Online	N161-043	Automated Verification and Validation for Distributed Testing	Develop an innovative testing framework for automated Verification and Validation to support distributed system testing between the AN/SQJ-89 Undersea Warfare Combat System and Aegis Weapons System (AWS).	LM Space Systems - SMD LM Mission Systems and Training, Integrated Warfare Systems & Sensors (MST IWSS)	Jesus Isarraras Sheronda Nash	jesus.isarraras@lmco.com sheronda.nash@lmco.com	408-431-3519 856-359-3965
View Online	N161-044	OHO Class External Hull Antifouling	Develop a rapidly installable and removable system that will minimize, inhibit, or remove marine biological fouling on the external surface area of the boat (hull and control surfaces).	LM Mission Systems and Training, Under Sea Systems (MST USS)	Michael Weingarten	michael.weingarten@lmco.com	8608820343
View Online	N161-045	Coastal Battlefield Reconnaissance and Analysis (COBRA) Hardware In The Loop Software Sensor Simulator	Develop a Hardware in the Loop (HIL) test-bed for current and future Multi-Spectral Imaging (MSI), Simultaneous Multi-Spectral Imaging (SMSI), and future Coastal Battlefield Reconnaissance and Analysis (COBRA) NAVY - 86 Phase II sensors				
View Online	N161-046	Ceramic-Metal Joining for Hypersonic Vehicle and Missile Components	Develop innovative techniques for joining ceramic components to metal airframe components that will withstand the aerothermal heating of high-speed air vehicles.	LM Space Systems - ATC LM Space Systems - SMD LM Missiles and Fire Control (MFC) LM Mission Systems and Training, Under Sea Systems (MST USS)	Dawn Sisneros Jesus Isarraras John Fontana Michael Weingarten	Dawn.Sisneros@lmco.com jesus.isarraras@lmco.com john.c.fontana@lmco.com michael.weingarten@lmco.com	303-379-3194 408-431-3519 407-356-3968 8608820343
View Online	N161-047	Lithium Battery Early Warning Fault Indication System	Develop an innovative early warning battery fault indication system with low energy input and a target volume of 125 cm ³ for sensors and electronics.	LM Space Systems - ATC LM Mission Systems and Training, Ship and Aviation Systems (MST SAS) LM Space Systems - SMD LM Mission Systems and Training, Under Sea Systems (MST USS) LM Mission Systems and Training, Integrated Warfare Systems & Sensors (MST IWSS)	Dawn Sisneros Jeffrey Poulin Jesus Isarraras Michael Weingarten	Dawn.Sisneros@lmco.com jeffrey.poulin@lmco.com jesus.isarraras@lmco.com michael.weingarten@lmco.com	303-379-3194 - 408-431-3519 8608820343
View Online	N161-048	Miniaturized Electric Actuation System	Develop seawater submergible miniaturized Electric Actuation System (EAS) with power densities comparable to an equivalent size hydraulic actuation system.	LM Space Systems - SMD LM Mission Systems and Training, Under Sea Systems (MST USS)	Jesus Isarraras Michael Weingarten	jesus.isarraras@lmco.com michael.weingarten@lmco.com	408-431-3519 8608820343
View Online	N161-049	Joint Tactical Radio System (JTRS) Compliant Anti-Jam Waveform for Littoral Combat Ship (LCS) Unmanned Vehicle Beyond Line of Sight	Develop an affordable, innovative Joint Tactical Radio System (JTRS) compliant waveform to satisfy competing LCS unmanned vehicle Beyond Line of Sight (BLOS) communication requirements for high data rate, multiple nodes, and anti-jam	LM Mission Systems and Training, Ship and Aviation Systems (MST SAS) LM Mission Systems and Training, Under Sea Systems (MST USS)	Jeffrey Poulin Michael Weingarten	jeffrey.poulin@lmco.com michael.weingarten@lmco.com	8608820343
View Online	N161-050	Undersea Domain Multi-level Security Data Miner	Develop an intuitive multi-level security data-mining algorithm to access historical trends and collected data that meets user security requirements through a unified operator interface for mission planning development and conclusions.	LM Space Systems - SMD LM Mission Systems and Training, Under Sea Systems (MST USS)	Jesus Isarraras Michael Weingarten	jesus.isarraras@lmco.com michael.weingarten@lmco.com	408-431-3519 8608820343
View Online	N161-051	Modular Expendable Electronic Warfare (EW) Decoy Buoy for Undersea Platforms	Develop a low cost, expendable Electronic Warfare (EW) decoy buoy that can be launched out of a submarine 3-inch launcher	LM Mission Systems and Training, Ship and Aviation Systems (MST SAS) LM Mission Systems and Training, Under Sea Systems (MST USS)	Jeffrey Poulin Michael Weingarten	jeffrey.poulin@lmco.com michael.weingarten@lmco.com	8608820343
View Online	N161-052	Advanced Heat Spreader Technology for Gallium Nitride (GaN) Monolithic Microwave Integrated Circuits (MMICs)	Develop an innovative, low-cost Monolithic Microwave Integrated Circuits (MMICs) heat spreader technology for high-power density GaN microwave power amplifiers	LM Space Systems - ATC LM Mission Systems and Training, Ship and Aviation Systems (MST SAS) LM Space Systems - SMD LM Mission Systems and Training, Integrated Warfare Systems & Sensors (MST IWSS)	Dawn Sisneros Jeffrey Poulin Jesus Isarraras Sheronda Nash	Dawn.Sisneros@lmco.com jeffrey.poulin@lmco.com jesus.isarraras@lmco.com sheronda.nash@lmco.com	303-379-3194 - 408-431-3519 856-359-3965
View Online	N161-053	Modular Tethered Antennas for Undersea Platforms	Develop a modular, reconfigurable, tethered antenna lift body for undersea platforms that will support two-way Radio Frequency (RF) communication, imaging sensors, broadband Intelligence, Surveillance and Reconnaissance (ISR) antennas, and Global Positioning System (GPS) operation	LM Mission Systems and Training, Under Sea Systems (MST USS)	Michael Weingarten	michael.weingarten@lmco.com	8608820343
View Online	N161-054	Maritime Electromagnetic Maneuver Warfare (EMW) Environmental Sensing	To enable Navy ships to measure the full set of environmental variables at multiple heights remotely from a single fixed position on the exterior decks or mast; to include pressure, temperature, horizontal wind speed and direction, visibility, and absolute humidity at multiple levels without using in situ sensors or expendables				
View Online	N161-055	Imaging through Fog	Develop and demonstrate a passive Electro-Optical (EO)/Infrared (IR) - EO-IR - imaging system that employs coordinated, jointly optimized, acquisition and processing of multi-modal (spectral, temporal, polarization, quantum etc.) data to enhance the operational range by 10X compared to a single-mode imaging system in the presence of obscuration	LM Mission Systems and Training, Ship and Aviation Systems (MST SAS) LM Space Systems - SMD LM Missiles and Fire Control (MFC) LM Mission Systems and Training, Under Sea Systems (MST USS)	Jeffrey Poulin Jesus Isarraras John Fontana Michael Weingarten	jeffrey.poulin@lmco.com jesus.isarraras@lmco.com john.c.fontana@lmco.com michael.weingarten@lmco.com	408-431-3519 407-356-3968 8608820343
View Online	N161-056	Intuitive, High Confidence Human-Machine Interface Symbolology for Carrier Landing	Develop and demonstrate Head-Up/Helmet-Mounted Display symbology for pilots to perform tactical jet landings on an aircraft carrier in highly degraded visibility and deck motion conditions, using advanced flight control augmentation and precision ship-relative navigation.				
View Online	N161-057	Short-Wave Polarimetric Imager	Develop and demonstrate a short wave infrared (SWIR) band polarimetric imager consisting of an uncooled indium gallium arsenide (InGaAs) focal plane array with an aligned, pixel pitch-matched micro-grid polarizer (Bayer-type) array. The SWIR InGaAs polarizer camera should be compact, rugged and with sufficient frame rate to enable on-the-move operation	LM Mission Systems and Training, Ship and Aviation Systems (MST SAS) LM Mission Systems and Training, Under Sea Systems (MST USS)	Jeffrey Poulin Michael Weingarten	jeffrey.poulin@lmco.com michael.weingarten@lmco.com	8608820343
View Online	N161-058	Computer-Aided Cryptographic Algorithm Design and Exploration Workbench	Design and develop an integrated workbench and tools for computer-aided design and exploration for cryptographic algorithms	LM Mission Systems and Training, Integrated Warfare Systems & Sensors (MST IWSS)	Sheronda Nash	sheronda.nash@lmco.com	856-359-3965
View Online	N161-059	Very High Powered, Low Frequency Underwater Projectors	To develop, fabricate, and demonstrate a low frequency, very high-powered underwater transducer that exploits the enhanced properties of PMN-PT textured ceramic.	LM Mission Systems and Training, Under Sea Systems (MST USS)	Michael Weingarten	michael.weingarten@lmco.com	8608820343
View Online	N161-060	Measuring and Assessing Maneuver Squad Leader Adaptability	To develop an automated measure of adaptability, including the three enabling cognitive constructs of cognitive flexibility, change detection, and anomaly detection, to support U.S. Marine Corps efforts to quantify the small unit decision-making (SUDM) ability of maneuver squad leaders.	Mission Systems and Training, Training and Logistics Solutions (MST TLS)	Randel Crowe	randy.a.crowe@lmco.com	+1 (407) 491-1720

View Online	N161-061	Non-aqueous Environmentally Benign Surface Preparation for Aluminum Pretreatment Process	Develop an innovative method, process, or technology to replace aqueous hazardous materials used for surface preparation of aluminum alloys prior to application of chemical conversion coating or anodization as a corrosion protective coating and pre-paint adhesion promoter.	LM Mission Systems and Training, Under Sea Systems (MST USS)	Michael Weingarten	michael.weingarten@lmco.com	8608820343
View Online	N161-062	Low Size, Weight, Power and Cost (SWaP-C) Cryogenic Heat Exchangers based on Highly Anisotropic Materials	Develop low SWaP-C Cryogenic Heat Exchangers based on Highly Anisotropic Materials by harvesting advances in anisotropic materials science to enable reduced volume, weight, and manufacturing cost for low temperature heat exchangers to enable cryogenic technologies to be deployed on SWaP-C sensitive platforms, e.g. UAV and satellites.	LM Mission Systems and Training, Ship and Aviation Systems (MST SAS) LM Space Systems - SMD	Jeffrey Poulin Jesus Isarraras	jeffrey.poulin@lmco.com jesus.isarraras@lmco.com	408-431-3519
View Online	N161-063	High Energy, High Repetition Rate, non-chirped pulse amplification (CPA), Ultra Short Pulsed Laser (USPL) Systems	Develop robust, high pulse energy (10mJ-100mJ), high repetition rate (>1 kHz repetition rate), ultrashort pulse (<1 ps) laser amplifier system operating at a near-infrared (NIR) or mid-wavelength infrared (MWIR) wavelength that employs a non-chirped pulse amplification architecture.	LM Space Systems - SMD	Jesus Isarraras	jesus.isarraras@lmco.com	408-431-3519
View Online	N161-064	Development of a Portable Platelet Apheresis Machine	Development of a single-person carry, ruggedized, battery operated, automatic platelet apheresis device to provide fresh, leukocyte-reduced, platelets in the field.				
View Online	N161-065	Ocean Sensing Lab on a Chip	Create a ruggedized Lab on a Chip (LoC) that can be integrated into a shipboard corrosion control system to measure ocean water chemistry.	LM Missiles and Fire Control (MFC) LM Mission Systems and Training, Under Sea Systems (MST USS) LM Mission Systems and Training, Integrated Warfare Systems & Sensors (MST IWSS)	John Fontana Michael Weingarten Sheronda Nash	john.c.fontana@lmco.com michael.weingarten@lmco.com sheronda.nash@lmco.com	407-356-3968 8608820343 856-359-3965
View Online	N161-066	Medium Voltage Silicon Carbide Power Components	Develop medium voltage (6500V, >100A) silicon carbide (SiC) metal oxide semiconductor field-effect transistor (MOSFET) dual half-bridge power switching module. The module will implement an anti-parallel diode utilizing the SiC MOSFET internal body diode to enable high-power density, multi-megawatt power electronic converters for propulsion motor drives and shipboard power systems.	LM Space Systems - SMD	Jesus Isarraras	jesus.isarraras@lmco.com	408-431-3519
View Online	N161-067	Novel Materials and Components for New Liquid Monopropellant Propulsion Systems	Design and develop materials and systems for new ionic liquid monopropellants capable of providing improved safety with full propulsive capabilities. Focus on the design and demonstration of an electrically controlled ionic liquid monopropellant motor comprising the igniter, vessel, valves, and controls is sought.	LM Space Systems - SMD LM Missiles and Fire Control (MFC) LM Mission Systems and Training, Under Sea Systems (MST USS)	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 8608820343
View Online	N161-068	Low Probability of Detection Acoustic Communication	To develop an acoustic modem system employing stealthy techniques for sending information through ocean acoustic channels at modest to moderate bit rates (100s of bits per second) over ranges of 1 to 10 km.	LM Mission Systems and Training, Under Sea Systems (MST USS)	Michael Weingarten	michael.weingarten@lmco.com	8608820343
View Online	N161-069	Effective Crack Arrestors for On-Board Fatigue Crack Repair of Aluminum Ship Structures	Develop and implement an effective method to incorporate crack growth stopping features which can be performed by ships force. Develop a repair selection toolkit for design and performance evaluation of repaired aluminum ship structures that can be utilized by ships force for emergent cracking issues.	LM Mission Systems and Training, Under Sea Systems (MST USS)	Michael Weingarten	michael.weingarten@lmco.com	8608820343
View Online	N161-070	Retrofitting Code into Binary Executables and Firmware to Add New Functionality for Embedded Systems	Investigate, design, and develop an automated or semi-automated tool for inserting new instructions and functionality into existing (compiled) binary executables and firmware for embedded systems.	LM Mission Systems and Training, Integrated Warfare Systems & Sensors (MST IWSS)	Sheronda Nash	sheronda.nash@lmco.com	856-359-3965
View Online	N161-071	Additive Manufacturing Development of Naval Platform Heat Exchangers	Develop methodology for metal additive manufacturing (AM) processing via ICME (integrated computational materials (science and) engineering) to minimize thickness/weight of heat exchangers and also allow for conformal designs that maximize thermal efficiencies and capacities for systems on Naval and Marine Corps platforms. The proposed effort should also explore the science base of AM process factors that will lead to development of the evaluation criteria and methodologies to qualify (AM) components across the Naval Enterprise.	LM Mission Systems and Training, Ship and Aviation Systems (MST SAS) LM Missiles and Fire Control (MFC) LM Mission Systems and Training, Under Sea Systems (MST USS)	Jeffrey Poulin John Fontana Michael Weingarten	jeffrey.poulin@lmco.com john.c.fontana@lmco.com michael.weingarten@lmco.com	407-356-3968 8608820343
View Online	N161-072	Expeditionary Solid Oxide Fuel Cell	Develop innovative power and energy technologies to replace current combustion engine generators with efficient solid oxide fuel cell technologies for tactical systems.	LM Mission Systems and Training, Ship and Aviation Systems (MST SAS) LM Mission Systems and Training, Under Sea Systems (MST USS)	Jeffrey Poulin Michael Weingarten	jeffrey.poulin@lmco.com michael.weingarten@lmco.com	8608820343
View Online	A16-001	Reduced-Order Inflow Model for Propeller-Airframe Flow Interaction Noise Assessment	Development of an efficient, physics-based model that simulates dominant source noise mechanisms associated with the interactional aerodynamics between the airframe and a pusher-propeller system.	LM Mission Systems and Training, Under Sea Systems (MST USS)	Michael Weingarten	michael.weingarten@lmco.com	8608820343
View Online	A16-002	Metal Matrix Composite Bearing Liner Installation for Rotorcraft Drive Systems	Develop an innovative room temperature installation method to achieve precision interference fits for bearing liners made of fiber reinforced metal matrix composites used in aerospace drive system assemblies.				
View Online	A16-003	Rotorcraft Chaff Dispense Modeling	Develop and validate tools for modeling of rotorcraft chaff dispense and radar cross section. Of particular interest is the initial dispense trajectory and bloom.				
View Online	A16-004	High-Strain Capable, High-Strength Composites	The objective of this effort is to increase strain capability in composite aerospace structures while maintaining strength and stiffness through innovative material applications.	LM Mission Systems and Training, Ship and Aviation Systems (MST SAS) LM Space Systems - SMD LM Missiles and Fire Control (MFC)	Jeffrey Poulin Jesus Isarraras John Fontana	jeffrey.poulin@lmco.com jesus.isarraras@lmco.com john.c.fontana@lmco.com	408-431-3519 407-356-3968
View Online	A16-005	Three-Dimensional Imagery Presentation from Multiple Aircraft Sensors	To support future Mission Commander situational awareness and decision-making through the development of presentation techniques capable of fusing visual information collected from multiple distributed sensors into a single, cohesive, three-dimensional display.	LM Mission Systems and Training, Ship and Aviation Systems (MST SAS) LM Missiles and Fire Control (MFC) LM Mission Systems and Training, Under Sea Systems (MST USS) LM Mission Systems and Training, Integrated Warfare Systems & Sensors (MST IWSS)	Jeffrey Poulin John Fontana Michael Weingarten Sheronda Nash	jeffrey.poulin@lmco.com john.c.fontana@lmco.com michael.weingarten@lmco.com sheronda.nash@lmco.com	407-356-3968 8608820343 856-359-3965

View Online	A16-006	Printable Materials with Embedded Electronics and Radio Frequency Components	Develop a set of prototypes utilizing additive manufacturing with embedded electronic components and RF waveguide/antenna components and demonstrate an RF dual-pool or fractal front-end.	LM Space Systems - ATC LM Mission Systems and Training, Ship and Aviation Systems (MST SAS) LM Space Systems - SMD LM Missiles and Fire Control (MFC) LM Mission Systems and Training, Under Sea Systems (MST USS) LM Mission Systems and Training, Integrated Warfare Systems & Sensors (MST IWS)	Dawn Sisneros Jeffrey Poulin Jesus Isarraras John Fontana Michael Weingarten Sheronda Nash	Dawn.Sisneros@lmco.com jeffrey.poulin@lmco.com jesus.isarraras@lmco.com john.c.fontana@lmco.com michael.weingarten@lmco.com sheronda.nash@lmco.com	303-379-3194 - 408-431-3519 407-356-3968 8608820343 856-359-3965
View Online	A16-007	Innovative Hypervelocity Control Techniques for future Army Aerospace Vehicle	Innovative component control technology concepts (with an associate conceptual aerospace vehicle) are sought that would enable the development of a future class of Army maneuvering hypervelocity vehicles. Aerodynamic control technologies and associated Navigation, Guidance and Control (NGC) techniques should identify and address the technology gaps that prevent the vehicle from maneuvering at hypersonic speeds. Potential technology gaps that might face future hypervelocity vehicles traveling at speeds up to Mach 18 could include: regions of non-continuum flow, laminar and turbulent flow transition, order of magnitude pressure variation between windward and leeward control force application, multi-phase flow, ablation issues, significant center of	LM Space Systems - ATC LM Space Systems - SMD LM Missiles and Fire Control (MFC)	Dawn Sisneros Jesus Isarraras John Fontana	Dawn.Sisneros@lmco.com jesus.isarraras@lmco.com john.c.fontana@lmco.com	303-379-3194 408-431-3519 407-356-3968
View Online	A16-008	Dynamic Vehicle Modeling Composed of Mechanical and Thermal Interaction with High-Resolution Synthetic Scenes	Develop efficient vehicle modeling capability utilizing physics-based techniques and state of the art computational applications to obtain dynamic high-resolution, on-the-fly, thermal and mechanical interaction with terrain model scenes. The vehicles model shall interface and dynamically interact with terrain modeling toolsets and be suitable for implementation within existing scene generation technology.	LM Space Systems - ATC LM Space Systems - SMD	Dawn Sisneros Jesus Isarraras	Dawn.Sisneros@lmco.com jesus.isarraras@lmco.com	303-379-3194 408-431-3519
View Online	A16-009	Laser Source with Variable Pulse Width Capability	Design and build an inexpensive 1064 nanometer laser source that can be integrated into seeker test facilities to evaluate the effects of laser pulse width on seeker performance.	LM Space Systems - ATC LM Space Systems - SMD	Dawn Sisneros Jesus Isarraras	Dawn.Sisneros@lmco.com jesus.isarraras@lmco.com	303-379-3194 408-431-3519
View Online	A16-017	High Quality Factor, Thin-Film, Electrically Tunable Varactors and Filters	Develop high quality factor (Q) electrically tunable varactors and filters from thin film materials for application in military and commercial communications systems in the 1 - 6 GHz frequency range.	LM Space Systems - ATC LM Space Systems - SMD LM Missiles and Fire Control (MFC)	Dawn Sisneros Jesus Isarraras John Fontana	Dawn.Sisneros@lmco.com jesus.isarraras@lmco.com john.c.fontana@lmco.com	303-379-3194 408-431-3519 407-356-3968
View Online	A16-018	Development of a Non-Contact Transmission for Helicopter Applications	Develop a non-contact transmission for helicopter applications that converts high speed engine outputs to high torque mast shafting which eliminates gear contacts within the transmission.	LM Mission Systems and Training, Under Sea Systems (MST USS)	Michael Weingarten	michael.weingarten@lmco.com	8608820343
View Online	A16-019	Bone Conduction Audio & Vibrotactile Transducer for Dual-Use Communication	To develop a dual-mode transducer that provides both bone conduction (BC) sound transmission and vibrotactile capabilities. The transducer will be used as an alternative means of communication for company and below echelons to improve situation awareness (SA), and alleviate information overload on the auditory and visual channels currently faced by Warfighters on the battlefield.	LM Mission Systems and Training, Ship and Aviation Systems (MST SAS)	Jeffrey Poulin	jeffrey.poulin@lmco.com	
View Online	A16-020	Low-Loss Commercial Deposition Technology for Thick Ferrites and Ferrite/Insulator Films on Printed Circuit Boards	The goal of the research is to develop a low-temperature spin spray deposition of low-loss, high quality nanocrystalline ferrite films and thick ferrite/insulator layers for non-reciprocal and tunable RF device circuits integrated on large scale printed circuit board (PCB) panels.	LM Space Systems - SMD	Jesus Isarraras	jesus.isarraras@lmco.com	408-431-3519
View Online	A16-021	Electronic grade, single crystal or large-grain polycrystalline diamond wafer development.	Develop a growth technique providing large-area low surface-roughness diamond wafers with minimum grains for surface channel based electronic devices.				
View Online	A16-022	Development of Lightweight Heat Exchangers for Man-Portable Battery Recharging System	Development of new heat exchangers to be used with thermoelectric power generation systems that enable 1.) enhanced heat dissipation, and 2.) reduced weight.	LM Mission Systems and Training, Ship and Aviation Systems (MST SAS) LM Mission Systems and Training, Under Sea Systems (MST USS)	Jeffrey Poulin Michael Weingarten	jeffrey.poulin@lmco.com michael.weingarten@lmco.com	8608820343
View Online	A16-023	Processing of Metallic Scrap Materials for Battlefield Additive Manufacturing	The objective of this program is to develop a process for producing metallic powder from battlefield scrap, reclaimed and/or recycled materials for use with 3D printing / additive manufacturing equipment. The concept of utilizing indigenous materials in-theater, at a forward operating base (FOB) could potentially reduce the huge logistics tail needed to conduct wars on foreign soil, saving valuable resources and lives. This effort can also be	LM Space Systems - ATC LM Missiles and Fire Control (MFC)	Dawn Sisneros John Fontana	Dawn.Sisneros@lmco.com john.c.fontana@lmco.com	303-379-3194 407-356-3968
View Online	A16-024	Development of a high resolution long wave infrared (LWIR) Polarimetric imaging system for long range human identification	To develop a passive long-wave-infrared (LWIR) polarimetric imaging platform that is designed for robust biometric identification appropriate for both day and night operation. Such a system must be capable of both short (1-5 meters) and long-range (1-2 km) operation in which calibrated polarimetric imagery/video is generated and displayed in real-time, e.g., Stokes and Stokes product imagery/video, degree-of-linear-polarization (DoLP)	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
View Online	A16-025	On-Demand Property Modification for Performance Enhancement of Adaptive Systems	To demonstrate on-demand dynamic property improvements in response to externally applied fields for real-time control and performance enhancement of adaptive systems in-theater.				

View Online	A16-026	Optical Thin Film Technologies for High Energy Lasers	To develop a new integrated photonic technology with high thermal conductivity crystalline substrates and epitaxial thin films to demonstrate high power laser waveguide and phase control capabilities for directed energy. With the efficient coupling of off-chip lasers, photonic integrated circuit beam combining, beam steering, and routing could be achieved using active phase control, beam splitting, and switching to produce miniaturized high energy laser systems.	LM Space Systems - ATC LM Mission Systems and Training, Ship and Aviation Systems (MST SAS) LM Space Systems - SMD LM Missiles and Fire Control (MFC)	Dawn Sisneros Jeffrey Poulin Jesus Isarraras John Fontana	Dawn.Sisneros@lmco.com jeffrey.poulin@lmco.com jesus.isarraras@lmco.com john.c.fontana@lmco.com	303-379-3194 - 408-431-3519 407-356-3968
View Online	A16-027	Cyber Battlefield Operating System Simulation Tools for LVC Simulations	The objective is to develop innovative methods and software tools to provide the effects of cyber attack and defense in the Army's current Live Virtual and Constructive (LVC) Simulation Systems. This functionality must be accomplished while maintaining the Information Assurance (IA) compliance requirements required by training systems which are typically compromised on other non-simulators.	LM Mission Systems and Training, Integrated Warfare Systems & Sensors (MST IWSS)	Sheronda Nash	sheronda.nash@lmco.com	856-359-3965
View Online	A16-028	Miniature, software-defined Man-Portable Doppler Radar (MPDR) for Atmospheric Measurement	Develop and demonstrate an innovative compact, man-portable, ruggedized software-defined Doppler RADAR (Radio Detection And Ranging) system for the measurement of atmospheric winds and adverse weather features (e.g. thunderstorms, cloud fronts, etc) that will have advanced characteristics such as adjustable RF waveforms allowing for versatile radar adaptability.	LM Missiles and Fire Control (MFC) LM Mission Systems and Training, Under Sea Systems (MST USS) LM Mission Systems and Training, Integrated Warfare Systems & Sensors (MST IWSS)	John Fontana Michael Weingarten Sheronda Nash	john.c.fontana@lmco.com michael.weingarten@lmco.com sheronda.nash@lmco.com	407-356-3968 8608820343 856-359-3965
View Online	A16-029	Computationally Driven Development of Energy Absorbing Materials and Manufacturing Processes for Rotorcraft	Develop lightweight, energy absorbing materials, manufacturing processes, and subsequent methods to evaluate technologies that increase occupant survivability and airframe crashworthiness.				
View Online	A16-030	Mode 5 Identification Friend or Foe (IFF) simulation and subsequent RF injection	Enhance an existing tactical network simulation in order to provide Mode 5 Identification Friend or Foe (IFF) simulation and subsequent Radio Frequency (RF) injection (1090 MHz) of up to 1000 simultaneous simulated tactical aircraft to passive air traffic control receiver hardware.	LM Mission Systems and Training, Under Sea Systems (MST USS) LM Mission Systems and Training, Integrated Warfare Systems & Sensors (MST IWSS)	Michael Weingarten Sheronda Nash	michael.weingarten@lmco.com sheronda.nash@lmco.com	8608820343 856-359-3965
View Online	A16-031	Forest/Jungle Positioning Based on Geo-Registered Images from Foliage Penetrating Radar	Develop and demonstrate the ability to resolve the pattern of trees in a forest/jungle environment and determine one's own position relative to a geo-registered map.	LM Missiles and Fire Control (MFC)	John Fontana	john.c.fontana@lmco.com	407-356-3968
View Online	A16-032	Innovative X-Band Antenna Architecture for BFT 3	The objective of this SBIR topic is to design and develop an innovative phased array antenna architecture and feed system that promotes the development of low cost, full duplex, single aperture phased arrays at X-Band.	LM Space Systems - ATC LM Mission Systems and Training, Ship and Aviation Systems (MST SAS) LM Space Systems - SMD LM Missiles and Fire Control (MFC)	Dawn Sisneros Jeffrey Poulin Jesus Isarraras John Fontana	Dawn.Sisneros@lmco.com jeffrey.poulin@lmco.com jesus.isarraras@lmco.com john.c.fontana@lmco.com	303-379-3194 - 408-431-3519 407-356-3968
View Online	A16-033	Multi-Band Body Wearable Antenna	Develop body wearable antenna providing capability to fully integrate and operate with all current generation soldier radios (PRC-148,152,RT-1523); operating in multiple radio frequency bands, with multiple modulation techniques.	LM Mission Systems and Training, Ship and Aviation Systems (MST SAS) LM Missiles and Fire Control (MFC)	Jeffrey Poulin John Fontana	jeffrey.poulin@lmco.com john.c.fontana@lmco.com	407-356-3968
View Online	A16-034	Open Architecture Antenna Controller for Directional MANET	To develop a generic Open Modular Antennae Controller Architecture that works for legacy, IP and futuristic waveforms as a turnkey solution.	LM Mission Systems and Training, Under Sea Systems (MST USS)	Michael Weingarten	michael.weingarten@lmco.com	8608820343
View Online	A16-035	Multi Product UHF L-band System Extension (MPULSE)	The objective of this topic is to develop innovative and efficient methods for broadening the interfacing capability for Position Location Information (PLI) systems to transceiver across multiple wireless systems to enhance PLI reliability.				
View Online	A16-036	Mission Command of Micro-Robot Swarms: How to select individual agent actions so as to evoke a specific emergent swarm behavior	Design and build a system that is capable of decomposing complex operational goals into individual behaviors for members of a micro-robotic swarm, and allowing those individuals the ability to modify their behaviors to accomplish the overall goal in changing situations.	LM Space Systems - SMD LM Mission Systems and Training, Under Sea Systems (MST USS) LM Mission Systems and Training, Integrated Warfare Systems & Sensors (MST IWSS)	Jesus Isarraras Michael Weingarten Sheronda Nash	jesus.isarraras@lmco.com michael.weingarten@lmco.com sheronda.nash@lmco.com	408-431-3519 8608820343 856-359-3965
View Online	A16-037	Predicting, Prognosticating, and Diagnosing via Heuristics and Learned Patterns	Develop and demonstrate a system that can predict the needs of the warfighter in real time based on such quantities as tempo of operations and weather conditions.	LM Space Systems - SMD LM Missiles and Fire Control (MFC) LM Mission Systems and Training, Integrated Warfare Systems & Sensors (MST 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
View Online	A16-038	Superimposing Computer-Generated Imagery within Mission Command Environments.	To improve execution of Mission Command by establishing approaches for Commanders and Staff to acquire more detailed information of their external environment, through composite view technologies combined with computer-generated sensory input, and a natural means of interacting with information.	LM Space Systems - SMD LM Missiles and Fire Control (MFC) LM Mission Systems and Training, Under Sea Systems (MST USS) LM Mission Systems and Training, Integrated Warfare Systems & Sensors (MST IWSS)	Jesus Isarraras John Fontana Michael Weingarten Sheronda Nash	jesus.isarraras@lmco.com john.c.fontana@lmco.com michael.weingarten@lmco.com sheronda.nash@lmco.com	408-431-3519 407-356-3968 8608820343 856-359-3965
View Online	A16-039	Thin Film High-k Dielectric Semiconductor Materials Development for IRFPAs	Research, investigate growth techniques and processing methods to develop a semiconductor high-k dielectric material that is optimized to provide high charge capacitive density per unit area for IRFPA imaging applications. The goal is to develop a semiconductor material that exhibits properties of high k dielectric constant over a wide operating temperature range, low leakage current, high breakdown voltage, and provide very low 1/f noise and RTS noise characteristics for Readout Integrated Circuit (ROIC) capacitor implementation. In addition, the material should also be of good producibility, good reliability, and compatible with the current readout fabrication technology.	LM Mission Systems and Training, Ship and Aviation Systems (MST SAS) LM Space Systems - SMD LM Missiles and Fire Control (MFC)	Jeffrey Poulin Jesus Isarraras John Fontana	jeffrey.poulin@lmco.com jesus.isarraras@lmco.com john.c.fontana@lmco.com	408-431-3519 407-356-3968
View Online	A16-040	Digital Readout Integrated Circuits With Efficient, Low Power On-chip Data Compression Development	Design and develop a digital Readout Integrated Circuits (ROIC) technology with on-chip data compression that will enable very fast readout rates. In addition the digital ROIC will be low noise, low power, provide >16 bits of dynamic range in large format, small pixel pitch.	LM Mission Systems and Training, Ship and Aviation Systems (MST SAS) LM Space Systems - SMD	Jeffrey Poulin Jesus Isarraras	jeffrey.poulin@lmco.com jesus.isarraras@lmco.com	408-431-3519

View Online	A16-041	Use of Augmented Reality in Experimentation with New Equipment Training for Electro-Optic Infrared (EOIR) Sensors	Provide an enhanced, real-world experimentation and training capability to Soldiers that are learning to use new EOIR sensor modalities.	LM Space Systems - SMD LM Mission Systems and Training, Under Sea Systems (MST USS) Mission Systems and Training, Training and Logistics Solutions (MST TLS) LM Mission Systems and Training, Integrated Warfare Systems & Sensors (MST IWSS)	Jesus Isarraras Michael Weingarten Randel Crowe Sheronda Nash	jesus.isarraras@lmco.com michael.weingarten@lmco.com randy.a.crowe@lmco.com sheronda.nash@lmco.com	408-431-3519 8608820343 +1 (407) 491-1720 856-359-3965
View Online	A16-042	Extended Short-Wavelength Infrared (SWIR) Focal Plane Arrays (FPA) for Hyperspectral Imaging	Develop short-wavelength infrared focal plane arrays (SWIR FPA) for hyperspectral imaging at an extended cutoff wavelength of 2.5 m and an operating temperature above 200 Kelvin using III-V semiconductor materials.	LM Mission Systems and Training, Ship and Aviation Systems (MST SAS) LM Space Systems - SMD LM Missiles and Fire Control (MFC) LM Mission Systems and Training, Under Sea Systems (MST USS)	Jeffrey Poulin Jesus Isarraras John Fontana Michael Weingarten	jeffrey.poulin@lmco.com jesus.isarraras@lmco.com john.c.fontana@lmco.com michael.weingarten@lmco.com	408-431-3519 407-356-3968 8608820343
View Online	A16-043	Enterprise Enabled Intelligent Agents to Optimize Intelligence, Surveillance, and Reconnaissance (ISR) Collection	The scope of this SBIR is to investigate the deployment of Intelligent Agents across the ISR collection enterprise to optimize and perform efficient ISR collection with limited or reduced resources.	LM Space Systems - ATC LM Missiles and Fire Control (MFC) LM Mission Systems and Training, Integrated Warfare Systems & Sensors (MST IWSS)	Dawn Sisneros John Fontana Sheronda Nash	Dawn.Sisneros@lmco.com john.c.fontana@lmco.com sheronda.nash@lmco.com	303-379-3194 407-356-3968 856-359-3965
View Online	A16-044	Simple Cognitive Based Visualization	The objective of this SBIR is to increase cognitive performance through novel visualization techniques to reduce overall cognitive load leading to a natural ability to function more effectively.	LM Space Systems - ATC LM Mission Systems and Training, Ship and Aviation Systems (MST SAS) LM Space Systems - SMD LM Missiles and Fire Control (MFC) LM Mission Systems and Training, Under Sea Systems (MST USS) LM Mission Systems and Training, Integrated Warfare Systems & Sensors (MST IWSS)	Dawn Sisneros Jeffrey Poulin Jesus Isarraras John Fontana Michael Weingarten Sheronda Nash	Dawn.Sisneros@lmco.com jeffrey.poulin@lmco.com jesus.isarraras@lmco.com john.c.fontana@lmco.com michael.weingarten@lmco.com sheronda.nash@lmco.com	303-379-3194 - 408-431-3519 407-356-3968 8608820343 856-359-3965
View Online	A16-045	Portable Ultraviolet Raman Imaging Spectrometer for Explosives Detection	To develop an ultraviolet (UV) imaging Raman spectroscopic system with an excitation wavelength of 262 nm or shorter. The spectrometer should be capable of imaging an area >4 cm ² in less than 30 seconds at a standoff distance of 1 meter. The objective is to develop a portable system capable of examining explosive ARMY - 59 particulate on surfaces.	LM Mission Systems and Training, Ship and Aviation Systems (MST SAS) LM Missiles and Fire Control (MFC) LM Mission Systems and Training, Under Sea Systems (MST USS)	Jeffrey Poulin John Fontana Michael Weingarten	jeffrey.poulin@lmco.com john.c.fontana@lmco.com michael.weingarten@lmco.com	407-356-3968 8608820343
View Online	A16-046	TITLE: High Conductivity Carbon Microfibers for Infrared Obscuration	To develop a means to increase the electrical conductivity of carbon microfibers. Fiber diameters should be as small as possible within the constraint of fiber linearity. This may prove to be in the vicinity of 50 nm or might involve smaller nanostructures. There are three essential requirements for the fiber produced. The length requirement is vital to the electromagnetic properties; the distribution must be relatively narrow with a length of about 3 m in order to produce a strong resonance within the FIR atmospheric transmission window (8 to 12 m). Further, there must not be debris of smaller sizes resulting from any of the processes involved. Even small mass percentages of the latter will destroy the infrared optical efficiency. And, finally, the resulting fibers must be easily	LM Missiles and Fire Control (MFC) LM Mission Systems and Training, Under Sea Systems (MST USS)	John Fontana Michael Weingarten	john.c.fontana@lmco.com michael.weingarten@lmco.com	407-356-3968 8608820343
View Online	A16-047	Leveraging Networked Mobile Devices to Improve Terrain Analysis and Intelligence Preparation of the Battlefield	Develop a scalable, mobile-based technology that enables Army mobile devices (or similar commercially available mobile devices) to operate as deployable environmental sensors, supporting improved terrain analysis, Intelligence Preparation of the Battlefield, and Commander's Situational Awareness.	LM Mission Systems and Training, Ship and Aviation Systems (MST SAS) LM Missiles and Fire Control (MFC) LM Mission Systems and Training, Under Sea Systems (MST USS)	Jeffrey Poulin John Fontana Michael Weingarten	jeffrey.poulin@lmco.com john.c.fontana@lmco.com michael.weingarten@lmco.com	407-356-3968 8608820343
View Online	A16-048	Heuristic-based Prognostic and Diagnostic Method for Installations	Establish an innovative approach for and demonstrate methodology and modeling tools to provide prognostics and diagnostics for installation based microgrid equipment.	LM Mission Systems and Training, Under Sea Systems (MST USS) LM Mission Systems and Training, Integrated Warfare Systems & Sensors (MST IWSS)	Michael Weingarten Sheronda Nash	michael.weingarten@lmco.com sheronda.nash@lmco.com	8608820343 856-359-3965
View Online	A16-049	Conservation and Maintenance of Trauma Injured Tissues for Autologous Repair and Reconstruction	Tissue salvage and maintenance using perfusion or equivalent approach to retain function				
View Online	A16-050	On-Demand Cell and Tissue Biologics for Mass Casualty Response	A capability is sought to ensure off-the-shelf, large volumes of stockpiled cell and tissue biologics that would be in high demand following a mass casualty event in military theaters of operation, in humanitarian response operations, or events on the homeland.				
View Online	A16-051	Particulate delivery system for next-generation malaria vaccine	Develop next generation particulate, virus-like particle (VLP) vaccine delivery systems to display antigenic and molecular immunomodulating elements that are capable of inducing long-lived sterile protection against malaria challenge.				
View Online	A16-052	Semi-Autonomous Airway Management Device	Develop, test and manufacture a novel sensor system for semi-autonomous endotracheal intubation and airway management in a combat casualty care environment.				
View Online	A16-053	Secure Wireless Disposable Pulse Oximeter Patch that Generates a PPG Waveform	The objective of this topic is to research, develop, and demonstrate a secure wireless disposable pulse oximeter patch/bandage sensor type device that uses skin reflection to generate a Photoplethysmogram (PPG) waveform. Fingertip, transmissive absorption pulse oximeters that just generate a Peripheral Capillary Oxygen Saturation (SPO2) number are becoming more common on the battlefield at the point of injury, but most of these devices are not disposable, do not generate PPG waveforms and medical information cannot be captured wirelessly on a Medic and Corpsman End User Devices (EUD), Smartphones. This research topic is looking to develop a disposable wireless small pulse oximeter adhesive bandage sensor type device that will wirelessly transmit a SPO2 number and a PPG waveform to a EUD. The medical data generated will be electronically entered into the Tactical Combat Casualty Care (TC3) card and a patient status algorithm developed by the US Army Institute of Surgical Research (USAISR) will use the PPG waveform to generate the Compensatory Reserve Index (CRI) (U.S. Food and Drug Administration (FDA) approval pending) for the casualty. This topic also has the potential of integrating with other military projects in larger open source architecture.	LM Mission Systems and Training, Ship and Aviation Systems (MST SAS)	Jeffrey Poulin	jeffrey.poulin@lmco.com	

View Online	A16-054	Machine Learning & Medical Predictive Algorithm for Medical Applications on End User Devices	The objective of this topic is to research, develop, and demonstrate a Machine Learning & Medical Predictive Algorithm (MPA) application that is installed on a mobile End User Device by merging Tactical Combat Casualty Care Guidelines with information generated on site from the DD Form 1380 electronic Tactical Combat Casualty Care (TC3) card, from wireless physiological monitoring sensors, and from the Compensatory Reserve Index (CRI) predictive algorithm. This topic also has the potential of integrating with other military projects in	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
View Online	A16-055	Miniature, point-of-care device for establishing sterile connections in combat environments	To develop and field a miniature, point-of-care device for establishing clean and sterile catheter connections in combat environments.				
View Online	A16-056	Portable Occult Hemorrhage Detector and Resuscitation System	Develop a device that is capable of detecting occult hemorrhage at its earliest stages without the need for arterial access or complex imaging technology. Upon detection of occult hemorrhage, the device must also be capable of guiding resuscitation to prevent fluid overload. The final system will be fully automated so that a caregiver and a medic could operate the system with similar care results while operating in a prolonged field care scenario. The final system will also continuously communicate intraabdominal pressure and urine output to the end user to guide fluid resuscitation.				
View Online	A16-057	IND-Enabling Studies for Development of a Novel Therapeutic Agent for the Treatment of Combat-Related Posttraumatic Stress Disorder	Perform Investigational New Drug (IND)-enabling studies to support commercial development of a novel therapeutic agent to reduce or resolve symptoms of combat-related posttraumatic stress disorder (PTSD).				
View Online	A16-058	Device Solution to Enhance Vascular Access by Reducing Pain and Simplifying Procedure	Develop, design, demonstrate, and manufacture a medical device that enhances venous access by reducing pain and simplifying the procedure.				
View Online	A16-059	Effective targeted treatment of peripheral neuropathy	Design and develop a medical device or combination therapy to effectively treat targeted areas of peripheral neuropathy, avoiding large systemic doses and side effects of current treatment options.				
View Online	A16-060	Visual and Physical Footprint Reduction of Parachutes on the Ground	Develop innovative materiel solutions for cargo and personnel parachutes that both reduce the footprint and signature of landed parachutes and have the ability to survive the challenging airdrop environment.	LM Space Systems - ATC LM Mission Systems and Training, Under Sea Systems (MST USS)	Dawn Sisneros Michael Weingarten	Dawn.Sisneros@lmco.com michael.weingarten@lmco.com	303-379-3194 8608820343
View Online	A16-061	Continuous Mode Conveyor Cooking Appliance for Unitized Group Rations (UGRA)	Develop a reliable, continuous mode conveyor cooking system that prepares military Unitized Group Ration, A (UGR-A) rations without the need for an entire kitchen ensemble. This appliance will utilize not only convective and radiation heat transfer, but also microwave energy. Additional goals are to minimize weight, increase ARMY - 86 efficiency, enable operation from multiple power sources, and				
View Online	A16-062	High Pressure Resistant, Non-Powered, Flexible Chemical/Biological Protective Closure System	The overall objective is to develop a flexible Chemical/Biological (CB) resistant closure system that does not leak liquid (goal of a 36 PSI dynamic load) (2), (3), (4) or air (goal of a 16 PSI static load) (2), (3), (4). This closure system will maintain an air tight seal while subjected to both positive and negative pressures on either side of the seal while providing a low life cycle cost (goal of less than \$15 per foot).				
View Online	A16-063	Adjustable Reusable Platform for Expeditionary Military Shelters	With the majority of Army shelters setup on non-reusable wooden platforms in order to prolong the shelters' lives and to reduce logistical demands while improving the Warfighters' quality of life, a reusable system that can adjust to a variety of terrain is preferred. With a few options emerging from leading manufacturers, we do not currently have the assets to properly compare them in order to make a recommendation on which designs are optimal when asked by those in the field. A reusable system would ideally reduce packaging waste, be modular in design, and improve the energy efficiency of the shelter. New designs, and modifications to existing platform systems are anticipated to meet military applications. Material selection and adjustability for varying terrain are the focal areas to be investigated under this topic. This topic addressed Army Warfighting Challenge 16 Set the Theater, Sustain Operations, and maintain Freedom of Movement.				
View Online	A16-064	Biofidelic Headform for Evaluation of Head Protection Against Blast, Sound and Blunt Trauma Threats	Design, fabricate and demonstrate a repeatable and accurate anatomical, biofidelic surrogate of the human head and neck for use in experimental evaluation of soldier protective equipment designed to mitigate injury from blast, acoustic and blunt impact threats.				
View Online	A16-065	Nanostructured Metal Alloy for Individual Armor	Develop and demonstrate a nanostructured metal alloy and fabrication process which produces components having high ballistic performance relative to their weight. It can be part of a hybrid material system.	LM Missiles and Fire Control (MFC)	John Fontana	john.c.fontana@lmco.com	407-356-3968
View Online	A16-066	Solid State High Voltage Switching Device for Multi-Point Initiation	The objective of this effort is to develop a small, low cost, solid state, high voltage switching device for electronic fuzing applications. Emphasis during all phases of this project should be on developing a device that meets performance requirements with minimized cost and no larger than the size of the current prototypes (preferably smaller).	LM Space Systems - SMD LM Mission Systems and Training, Under Sea Systems (MST USS)	Jesus Isarraras Michael Weingarten	jesus.isarraras@lmco.com michael.weingarten@lmco.com	408-431-3519 8608820343

View Online	A16-067	Next Generation Materials for Armor Piercing (AP) Small Caliber Projectiles	Develop novel material technologies to replace the current tungsten carbide solution that will meet density and hardness requirements with the objective of reducing the manufacturing cost of the small caliber armor piercing projectile.	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
View Online	A16-069	Airborne Based Sense and Avoid (ABSAA) Sensor for Tracking Non-cooperative Aircraft for RQ-7 Shadow and Larger UAS	To develop a low cost, low SWAP (size, weight and power) ABSAA sensor.	LM Mission Systems and Training, Ship and Aviation Systems (MST SAS)	Jeffrey Poulin	jeffrey.poulin@lmco.com	
View Online	A16-070	The Internet of Things for Body Area Networks	The objective of this call for proposal is to develop a technique and methodology to implement the Internet of Things (IoT) in a novel way to Body Area Networks (BANs) for dismounted soldiers wearing health sensors, position location devices, etc. to collect, record and analyze data stream factor and more accurately.	LM Mission Systems and Training, Ship and Aviation Systems (MST SAS) LM Missiles and Fire Control (MFC)	Jeffrey Poulin John Fontana	jeffrey.poulin@lmco.com john.c.fontana@lmco.com	407-356-3968
View Online	A16-071	Back Extraction Blast Seat	Develop a seat that will protect and accommodate the Soldier in an event, and enable evacuation of an injured Soldier post-event without extraction from the seat.				
View Online	A16-072	In-Field Repair Procedure for Fiber-Reinforced Composite Structures	To develop and demonstrate an in-field process and procedure for repairing damaged fiber reinforced composite structures without removing it from service.	LM Mission Systems and Training, Ship and Aviation Systems (MST SAS) LM Missiles and Fire Control (MFC) LM Mission Systems and Training, Under Sea Systems (MST USS)	Jeffrey Poulin John Fontana Michael Weingarten	jeffrey.poulin@lmco.com john.c.fontana@lmco.com michael.weingarten@lmco.com	407-356-3968 8608820343
View Online	A16-073	Abrams Engine Stall Detection Sensor	Develop a solution capable of detecting the onset of compressor stall or stall precursors in gas turbine engines for the purpose of enabling the suppression of rotating stall prior to a surge event.				
View Online	A16-074	Two-Speed Final Drive for Recovery Vehicle	Develop a solution for heavy (70-80 ton) tracked vehicle to increase towing capacity while still maintaining the platforms maximum speed.				
View Online	A16-075	Synthetic Megacity Representation in Army Modeling and Simulation (M&S) Environments	Develop an innovative synthetic megacity representation to support future immersive Army enterprise M&S environments (test, training, acquisition, intelligence, experimentation, analysis). This representation must support multi-level, dense urban terrain, massive civilian populations, and their social, political, and economic interactions within Army operations.	LM Missiles and Fire Control (MFC) Mission Systems and Training, Training and Logistics Solutions (MST TLS)	John Fontana Randel Crowe	john.c.fontana@lmco.com randy.a.crowe@lmco.com	407-356-3968 +1 (407) 491-1720
View Online	A16-076	Augmented/Mixed Reality for Force-on-Force Combat Casualty Care Training	Develop an Augmented Reality protocol and prototype to create visual replication (with visual and haptic cues) of simulated wounds/injuries based on Force-on-Force combat casualty assessments and care. The research would focus on the development and modeling of various wounds and injuries, and couple with a motion sensing (hand tracking) and speech recognition technology to allow for Combat Life Savers and/or medic treatment (treatment actions) of the injuries while in out in the field conditions. The research and development would utilize the MILES detectors as AR fiducial markers for body positioning and	Mission Systems and Training, Training and Logistics Solutions (MST TLS)	Randel Crowe	randy.a.crowe@lmco.com	+1 (407) 491-1720
View Online	A16-077	Micro-Electro-Mechanical Systems (MEMS) for Image Stabilization in Small Missiles	Small missile seekers for applications such as Lethal Miniature Aerial Munitions System (LMAMS), lack functionality typically present in larger and more expensive missile seekers. The objective of this effort is to develop a Micro-Electro-Mechanical System (MEMS) image stabilization device with the MEMS components and the associated MEMS control electronics in one package, allowing implementation in a more compact, innovative, flexible, and cost effective re-use of software programmable radio technology to support missile uplink/downlink (UL/DL) capabilities for multiple missiles.	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
View Online	A16-078	Repurposed Software Programmable Radio Technology to Support Flexible Missile Uplink/Downlink Implementations	The Army has interest in innovative, flexible, and cost effective re-use of software programmable radio technology to support missile uplink/downlink (UL/DL) capabilities for multiple missiles.	LM Space Systems - SMD LM Missiles and Fire Control (MFC) LM Mission Systems and Training, Integrated Warfare Systems & Sensors (MST 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
View Online	A16-079	High Bandwidth Redundant Communication Links for Small Satellites	Develop a transceiver payload that can provide high bandwidth downlink in Ka band and a backup moderately high bandwidth downlink in X band for small satellites in Low Earth Orbit.	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
View Online	A16-080	High Power Direct Diode Laser	The U.S. Army has a need for a high power diode laser array that will generate upwards of 50KW of output power and can be focused over multiple kilometers to a near diffraction limited spot. Smaller scale proof-of-concept experiments for developing a high power beam from a laser diode array are being sought. Novel approaches for combining the output of multiple laser diodes in an array would benefit future Army directed energy weapon systems goals. Approaches of interest include coherently beam combining, spectrally beam combining, and other innovative methods that increase output power and beam quality of standard diode lasers. The diode laser array must have a long coherence length or be capable of propagating over kilometer type distances and focusing in a near diffraction limited spot. Diffraction limited spot requirements assume propagation in a vacuum and not in atmosphere. Propagation through atmosphere will cause additional beam degradations that are not expected to be addressed in this SBIR.	LM Mission Systems and Training, Ship and Aviation Systems (MST SAS) LM Space Systems - SMD LM Missiles and Fire Control (MFC)	Jeffrey Poulin Jesus Isarraras John Fontana	jeffrey.poulin@lmco.com jesus.isarraras@lmco.com john.c.fontana@lmco.com	408-431-3519 407-356-3968
View Online	A16-081	Advanced Reverse Osmosis Elements	Under this topic, the Government invites proposals for the development and demonstration of a new state of the art spiral wound reverse osmosis (RO) element where the active membrane surface area has been modified using a physical process to print/overlay a nanoscale pattern directly onto the standard thin film composite polyamide RO membrane currently used by the Army for desalination to improve membrane life therefore reducing logistics on the battlefield.	LM Space Systems - SMD LM Mission Systems and Training, Under Sea Systems (MST USS)	Jesus Isarraras Michael Weingarten	jesus.isarraras@lmco.com michael.weingarten@lmco.com	408-431-3519 8608820343

View Online	A16-082	Structural Battery Development for Military Vehicle Applications	Structural battery design engineered and embedded in the vehicle structure and/or armor for integrated on-board and increased power and energy for ground vehicles.	LM Space Systems - SMD LM Mission Systems and Training, Under Sea Systems (MST USS)	Jesus Isarraras Michael Weingarten	jesus.isarraras@lmco.com michael.weingarten@lmco.com	408-431-3519 8608820343
View Online	A16-083	Laser Protection for Day Cameras	Develop technology approaches to protect vehicle vision system day cameras from being damaged significantly by pulsed lasers with wavelengths in the visible spectrum.	LM Mission Systems and Training, Ship and Aviation Systems (MST SAS) LM Space Systems - SMD LM Missiles and Fire Control (MFC)	Jeffrey Poulin Jesus Isarraras John Fontana	jeffrey.poulin@lmco.com jesus.isarraras@lmco.com john.c.fontana@lmco.com	408-431-3519 407-356-3968
View Online	A16-084	High Power Density Diesel Engine Piston Temperature Measurement System	Develop a laboratory measurement system capable of capturing and recording transient temperatures on a piston in a diesel engine during engine operation. This capability is sought to address the problems associated with traditional piston temperature systems which include: difficulty of implementation, durability, recorded signal quality, and dynamic temperature response.				
View Online	A16-085	Lifecycle Test Optimization	Develop and deploy a system reliability testing and optimization tool which will concretely describe the value of subsystem level tests and incorporate the results into system-level evaluations.				
View Online	A16-086	High Fidelity Simulator for Hardware-in-the-Loop Testing	To develop a high spatial fidelity electro-optical (EO) simulator for hardware-in-the-loop testing 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
View Online	A16-087	Gallium Nitride (GaN) based 28 VDC Circuit Protection and Distribution	Design a 28VDC, 32-channel gallium nitride (GaN) based power distribution box capable of operating across on all military ground vehicles. As compared to silicon based designs, using GaN materials should reduce size, weight, and cooling requirements while increasing maximum current throughput.	LM Space Systems - SMD	Jesus Isarraras	jesus.isarraras@lmco.com	408-431-3519
View Online	A16-088	Gallium Nitride (GaN) based 28 VDC to 120 VAC Inverter	Develop hardware to demonstrate the application of commercially available GaN electronic switching devices to reduce the size, weight and power (SWaP) loss of low voltage power conversion hardware within the Combat Vehicle Prototype (CVP) Next Generation Power Architecture.	LM Space Systems - SMD	Jesus Isarraras	jesus.isarraras@lmco.com	408-431-3519
View Online	A16-089	Robotic/Automated Occupant Assist of Unmanned Ground Vehicles	The objective is to develop a robotic/automated occupant ingress/egress or loading/unloading assist system for use on a mobile ground robot.				
View Online	A16-015	Innovative, shock-load resistant Pulsed Power supply		LM Mission Systems and Training, Under Sea Systems (MST USS)	Michael Weingarten	michael.weingarten@lmco.com	8608820343