Link	Topic #	Title	Objective	Business Area	LM SMEs Interested
View Online	A17-117	Extremely High Frequency Rail-based Synthetic Aperture Radar	Develop a high-resolution, rail-based synthetic aperture radar capable of operating in bands within the 100-300 GHz frequency range.	LM Space Systems LM Missiles and Fire Control (MFC) LM Rotary and Mission Systems, Integrated Warfare Systems & Sensors (RMS IWSS)	Jesus Isarraras (jesus.isarraras@lmco.com) John Fontana (john.c.fontana@lmco.com) Rebecca Gerskhovich (rebecca.gershkovich@lmco.com)
View Online	A17-118	Improved PNT for Missile in Contested GPS Environments	Improve operational performance by enhancing position, navigation, and timing (PNT) on missile systems operating in contested GPS environments.	LM Rotary and Mission Systems, Cyber, Ships and Advanced Technologies (RMS CSAT) LM Space Systems LM Missiles and Fire Control (MFC) LM Rotary and Mission Systems, Integrated Warfare Systems & Sensors (RMS IWSS)	Gretchen Head (gretchen.head@lmco.com) Jesus Isarraras (jesus.isarraras@lmco.com) John Fontana (john.c.fontana@lmco.com) Rebecca Gerskhovich (rebecca.gershkovich@lmco.com)
View Online	A17-119	Detect, Locate, and Mitigate GPS Threats	The objective of this topic is to develop an innovative approach to detecting, locating, and potentially mitigating RF sources of GPS jamming and spoofing.	LM Rotary and Mission Systems, Cyber, Ships and Advanced Technologies (RMS CSAT) LM Missiles and Fire Control (MFC) LM Rotary and Mission Systems, Integrated Warfare Systems & Sensors (RMS IWSS)	Gretchen Head (gretchen.head@lmco.com) John Fontana (john.c.fontana@lmco.com) Rebecca Gerskhovich (rebecca.gershkovich@lmco.com)
View Online	A17-120	Volumetric Spectral Diagnostics of Particle Laden Plumes	Three-dimensional measurements of the spectral emissions from a particle laden, supersonic plume.	LM Space Systems LM Missiles and Fire Control (MFC) LM Rotary and Mission Systems, Integrated Warfare Systems & Sensors (RMS IWSS)	Jesus Isarraras (jesus.isarraras@lmco.com) John Fontana (john.c.fontana@lmco.com) Rebecca Gerskhovich (rebecca.gershkovich@lmco.com)
View Online	A17-121	Low-Order Models for the Evolution of Scalar and Vector Quantities in Supersonic Particle Laden Plumes	The production of data and low-dimensional, empirical-base models that will allow the enhancement and validation of numerical tools to move beyond anecdotal comparisons for particle-laden missile plumes.	LM Space Systems LM Missiles and Fire Control (MFC)	Jesus Isarraras (jesus.isarraras@lmco.com) John Fontana (john.c.fontana@lmco.com)
View Online	A17-122	Accurate Hybrid Flowfield Approaches for High Altitude Maneuverability	Development of hybrid flowfield modeling tools that produce accurate aerodynamic/thrust augmented maneuver forces and vehicle/exhaust plume flowfields as well as associated observable signatures for high altitude maneuvering configurations.	LM Space Systems LM Missiles and Fire Control (MFC)	Jesus Isarraras (jesus.isarraras@lmco.com) John Fontana (john.c.fontana@lmco.com)
View Online	A17-123	Observable Signatures of Missile Threats to Army Interests in the Field	Development of modeling tools that properly account for flame lifting within the exhaust plumes of missile threats to Army assets.	LM Space Systems LM Missiles and Fire Control (MFC)	Jesus Isarraras (jesus.isarraras@lmco.com) John Fontana (john.c.fontana@lmco.com)
View Online	A17-124	Significant Chemical Contributors to Observable Signatures of High Altitude Maneuvering Missiles	Identification and physical characterization of significant chemical constituents and reaction mechanisms that alter the observable signatures of maneuvering missiles at high altitudes.	LM Space Systems LM Missiles and Fire Control (MFC) LM Rotary and Mission Systems, Integrated Warfare Systems & Sensors (RMS IWSS)	Jesus Isarraras (jesus.isarraras@lmco.com) John Fontana (john.c.fontana@lmco.com) Rebecca Gerskhovich (rebecca.gershkovich@lmco.com)
View Online	A17-125	Nanometallic Matrices for Use in Energetic Formulations	To develop, scale-up and demonstrate nanometallic matrices for use in explosive and propellant energetic formulations translating to enhanced lethality and range effects.	LM Missiles and Fire Control (MFC)	John Fontana (john.c.fontana@lmco.com)
View Online	A17-126	Platform Agnostic Low SWAP-C Fire Control Radar for Counter-UAS	Develop and demonstrate an Unmanned Aerial Vehicle (UAV) mounted radar system capable of surveillance, detection, identification, and tracking of air born threats. This innovative and cost effective radar must meet the size, weight, and power characteristics to be fitted onto a Group 1 or Group 2 UAS. Track information acquired by the radar should be transmitted to an operator at a weapons system, who can request visual confirmation from the UAV's onboard camera system before	LM Rotary and Mission Systems, Cyber, Ships and Advanced Technologies (RMS CSAT) LM Missiles and Fire Control (MFC) LM Rotary and Mission Systems, C4 & Undersea Systems (RMS C4USS) LM Rotary and Mission Systems, Integrated Warfare Systems & Sensors (RMS IWSS)	Gretchen Head (gretchen.head@lmco.com) John Fontana (john.c.fontana@lmco.com) Kenneth Critz (kenneth.a.critz@lmco.com) Rebecca Gerskhovich (rebecca.gershkovich@lmco.com)
View Online	A17-127	Measurement of Force in Personnel Parachute Risers	To design and build a system that measures the strain of or the force transferred through the parachute riser fabric throughout a paratrooper jump.	LM Missiles and Fire Control (MFC)	John Fontana (john.c.fontana@lmco.com)
View Online	A17-128	Novel Detection Sensor for Small Arms Projectile Motion	Develop a new sensor to aid in the collection of small arms projectile motion characteristics. Ideally the sensor will be used for iteration counting (projectile leaves weapon) and strike location detection.	LM Missiles and Fire Control (MFC) LM Rotary and Mission Systems, Integrated Warfare Systems & Sensors (RMS IWSS)	John Fontana (john.c.fontana@lmco.com) Rebecca Gerskhovich (rebecca.gershkovich@lmco.com)
View Online	A17-129	Interchangeable Ballistic Dynamic Pressure-Temperature Sensor	Design, Fabricate and qualify a compact sensor that can be used to acquire either ballistic pressure or ballistic temperature profiles with the same form factor, that can be used in already ported gun tubes being tested.		
View Online	A17-130	Soil State Integration	Development of models for improving the state-of-the-art understanding of soil state characteristics in regions with varying observational input datasets. Input datasets may contain but are not limited to remote sensing data, climate data, and surface measurements. The objective is to develop methods of resolving	LM Missiles and Fire Control (MFC)	John Fontana (john.c.fontana@lmco.com)
View Online	A17-131	Stabilization Product to Preserve and Concentrate Biomolecules in Serum and Urine for Downstream Serological Diagnosis of Infection	To develop specific stabilization product and its application protocol capable of concentrating and preserving target molecules in serum and urine for downstream serological diagnosis.		
View Online	A17-132	Military Working Dog Hearing Protection/Active Communication System	Provide DOD approved working dog functional hearing protection and handler communication system. Ideally, this would be a TCAPS/Tactical Communication and Protective System type device. Such an application to the military working dog is not presently commercially available	LM Missiles and Fire Control (MFC)	John Fontana (john.c.fontana@lmco.com)

View Online	A17-133	Enhanced Fire Control Radar (FCR) Stationary Target Detection	Develop new algorithms to enhance detection and classification of stationary ground targets for rotary wing aircraft based radar.	LM Rotary and Mission Systems, Cyber, Ships and Advanced Technologies (RMS CSAT) LM Missiles and Fire Control (MFC) LM Rotary and Mission Systems, Integrated Warfare Systems & Sensors (RMS IWSS)	Gretchen Head (gretchen.head@lmco.com) John Fontana (john.c.fontana@lmco.com) Rebecca Gerskhovich (rebecca.gershkovich@lmco.com)
View Online	A17-134	UGV Electromagnetic Environment Interrogation and Exploitation	Develop a system to allow an unmanned ground vehicle to: 1) intercept radio transmissions and classify them as Friendly, Coalition or Adversary; 2) provide direction of transmissions; 3) disrupt adversary transmissions.	LM Rotary and Mission Systems, Cyber, Ships and Advanced Technologies (RMS CSAT) LM Missiles and Fire Control (MFC) LM Rotary and Mission Systems, Integrated Warfare Systems & Sensors (RMS IWSS)	Gretchen Head (gretchen.head@lmco.com) John Fontana (john.c.fontana@lmco.com) Rebecca Gerskhovich (rebecca.gershkovich@lmco.com)
View Online	N172-100	Single Surface High Altitude Low Opening Parachute	Develop a High Altitude Low Opening (HALO) parachute canopy with a single surface providing lift capability that leverages high strength bonded fabrics.	LM Rotary and Mission Systems, C4 & Undersea Systems (RMS C4USS)	Kenneth Critz (kenneth.a.critz@lmco.com)
View Online	N172-101	Shipboard Dimensional Analysis Tool (SDAT)	Marine Corps Ground Vehicle Acquisition PMOs and Navy Amphibious and Prepositioning Ships PMOs do not have a precise way of determining shipboard vehicle transportability constraints early enough in the design process. Develop an automated capability which allows the user to pull up the desired ship scan, select the vehicle of interest, specify desired vehicle-to-ship clearance distance, conduct 3D physical interference analysis, and generate reports on the transportability results.	LM Rotary and Mission Systems, C4 & Undersea Systems (RMS C4USS)	Kenneth Critz (kenneth.a.critz@lmco.com)
View Online	N172-102	Enhanced Technology for Man-Portable Targeting Systems	Reduce the Future Targeting System weight, size, and warfighter cognitive load by applying advanced algorithms, hardware (if necessary), and processing to assist the warfighter with the tasks of target detection, identification, recognition, and location.	LM Rotary and Mission Systems, Cyber, Ships and Advanced Technologies (RMS CSAT) LM Missiles and Fire Control (MFC)	Gretchen Head (gretchen.head@lmco.com) John Fontana (john.c.fontana@lmco.com)
View Online	N172-103	Electro-Magnetic Interference Composite Rigid Wall Shelter (EMI CRWS)	The objective of this topic is to develop an electro-magnetic interference (EMI) composite rigid-wall shelter (CRWS) that integrates the use of lightweight composite materials, carbon conduction paths, and corrosion resistant coatings to provide a lighter, more energy efficient, and durable capability to the Marine Corps, supporting the goals of our expeditionary operations. The EMI CRWS shall incorporate composite structural and panel components that shall be capable of meeting military and commercial EMI shielding standards, and Convention of Safe	LM Rotary and Mission Systems, Cyber, Ships and Advanced Technologies (RMS CSAT)	Gretchen Head (gretchen.head@lmco.com)
View Online	N172-104	Low Probability of Detection On the Move Communications for Artillery Batteries	Provide a low cost, high data rate, on-the-move, removable, and man-packable, communications system for the High Mobility Artillery Rocket System (HiMARS) and associated Artillery Battery systems while simultaneously providing the capability to not interfere with existing communications and minimize enemy counter targeting capabilities. Existing communications systems do not adequately manage transmit power to prevent detection and would be unsuitable for use in the Artillery Battery.	LM Rotary and Mission Systems, Integrated Warfare Systems & Sensors (RMS IWSS) LM Rotary and Mission Systems, C4 & Undersea Systems (RMS C4USS)	Rebecca Gerskhovich (rebecca.gershkovich@lmco.com) Kenneth Critz (kenneth.a.critz@lmco.com)
View Online	N172-105	Data Integrity and Confidentiality Resilient Operating System Environment for Multi-Level Security	Develop software to maintain a common trusted resilient operating system environment for hand-held devices (small), portable computers (medium), and tactical server (large) computing environments that can maintain data integrity and switch between multiple security classification levels without requiring removal of a hard disk. Data Integrity must be maintained even in the presence of “zero-day” vulnerabilities or other Information Operations threats. Resilience is to be maintained, defined as automatic rapid restoration of full operational capability to a known good state.	LM Rotary and Mission Systems, Cyber, Ships and Advanced Technologies (RMS CSAT) LM Missiles and Fire Control (MFC) LM Rotary and Mission Systems, Integrated Warfare Systems & Sensors (RMS IWSS)	Gretchen Head (gretchen.head@lmco.com) John Fontana (john.c.fontana@lmco.com) Rebecca Gerskhovich (rebecca.gershkovich@lmco.com)
View Online	N172-106	Optimize Additive Manufacturing (AM) Post-Build Heat Treatment (HT) and Hot Iso-static Pressing (HIP) Processes for Fatigue Performance using an Integrated Computational Materials Engineering (ICME) Framework	Utilizing an Integrated Computational Materials Engineering (ICME) framework, develop an innovative multi-scale, multi-physics tool capable of optimizing Additive Manufacturing (AM) post-build processes of metal (such as Ti-6Al-4V, 17-4PH, or 15-5PH) parts for fatigue performance, reducing the amount of post-processing necessary to achieve the best possible performance without deteriorating other mechanical properties.	LM Aeronautics (Aero) LM Missiles and Fire Control (MFC) LM Rotary and Mission Systems, C4 & Undersea Systems (RMS C4USS)	Craig Owens (craig.l.owens@lmco.com) John Fontana (john.c.fontana@lmco.com) Kenneth Critz (kenneth.a.critz@lmco.com)
View Online	N172-107	Low Probability of Intercept / Low Probability of Detection Underwater Acoustic Source	Develop innovative active sonar technologies to increase the availability of environmental measurements.	LM Rotary and Mission Systems, Cyber, Ships and Advanced Technologies (RMS CSAT) LM Rotary and Mission Systems, C4 & Undersea Systems (RMS C4USS) LM Rotary and Mission Systems, Integrated Warfare Systems & Sensors (RMS IWSS)	Gretchen Head (gretchen.head@lmco.com) Kenneth Critz (kenneth.a.critz@lmco.com) Rebecca Gerskhovich (rebecca.gershkovich@lmco.com)
View Online	N172-108	Fusion of Radar and Electro-Optical/Infrared (EO/IR) for Ship Classification and Identification	Develop an innovative approach that exploits new methodology in machine learning and modern mobile computing devices to fuse information obtained from different sensor types in order to achieve dramatic improvement in target classification and identification capability for space, weight and power (SWaP) constrained platforms.	LM Rotary and Mission Systems, Cyber, Ships and Advanced Technologies (RMS CSAT) LM Missiles and Fire Control (MFC) LM Rotary and Mission Systems, C4 & Undersea Systems (RMS C4USS) LM Rotary and Mission Systems, Integrated Warfare Systems & Sensors (RMS IWSS)	Gretchen Head (gretchen.head@lmco.com) John Fontana (john.c.fontana@lmco.com) Kenneth Critz (kenneth.a.critz@lmco.com) Rebecca Gerskhovich (rebecca.gershkovich@lmco.com)
View Online	N172-109	Advanced Body Force Cueing for Dynamic Interface Simulation	Develop the capability of a realistic body force cueing system, including hardware and software, for training pilots in a helicopter simulator in the shipboard environment.	LM Missiles and Fire Control (MFC) LM Rotary and Mission Systems, C4 & Undersea Systems (RMS C4USS)	John Fontana (john.c.fontana@lmco.com) Kenneth Critz (kenneth.a.critz@lmco.com)

View Online	N172-110	Virtual Antenna Array Mapping	Develop an advanced antenna array mapping technology and algorithms capable of emulating phased array antenna behavior in real-time using distributed ad-hoc antenna array layouts to provide warfighters, unmanned aerial vehicles (UAVs), and military vehicles on the move the ability to sweep or broaden the resulting beam collectively so as to communicate or jam targets.	LM Rotary and Mission Systems, Cyber, Ships and Advanced Technologies (RMS CSAT) LM Missiles and Fire Control (MFC) LM Rotary and Mission Systems, Integrated Warfare Systems & Sensors (RMS IWSS)	Gretchen Head (gretchen.head@lmco.com) John Fontana (john.c.fontana@lmco.com) Rebecca Gerskhovich (rebecca.gershkovich@lmco.com)
View Online	N172-111	Ultra-High Frequency Clutter Model for Airborne Surveillance Radar	Develop a model of clutter returns in the Ultra High Frequency (UHF) frequency band. The model will support Live-Virtual-Constructive (LVC) testing of the E-2D platform via a direct inject radar stimulator.	LM Rotary and Mission Systems, Integrated Warfare Systems & Sensors (RMS IWSS)	Rebecca Gerskhovich (rebecca.gershkovich@lmco.com)
View Online	N172-112	Relevant Image Mosaic – Image Management Algorithm Development	Develop a more sophisticated imagery storage management capability for Intelligence, Surveillance and Reconnaissance (ISR) and Remote Sensing systems than currently exists with focus on the management of imagery from various platforms, while also expanding capability to address still-frame imagery from tactical sources.	LM Rotary and Mission Systems, Cyber, Ships and Advanced Technologies (RMS CSAT) LM Missiles and Fire Control (MFC) LM Rotary and Mission Systems, C4 & Undersea Systems (RMS C4USS) LM Rotary and Mission Systems, Integrated Warfare Systems & Sensors (RMS IWSS)	Gretchen Head (gretchen.head@lmco.com) John Fontana (john.c.fontana@lmco.com) Kenneth Critz (kenneth.a.critz@lmco.com) Rebecca Gerskhovich (rebecca.gershkovich@lmco.com)
View Online	N172-113	Long Endurance Compact Sonobuoy Power Source	Develop a stand-alone sonobuoy power source capable of a six-year storage life.	LM Missiles and Fire Control (MFC) LM Rotary and Mission Systems, C4 & Undersea Systems (RMS C4USS)	John Fontana (john.c.fontana@lmco.com) Kenneth Critz (kenneth.a.critz@lmco.com)
View Online	N172-114	High Bandwidth Fast Steering Mirror	Design, develop and test a 5-kHz bandwidth fast steering mirror to be used in the next generation beam control systems on airborne platforms for high power laser weapon systems.	LM Rotary and Mission Systems, Cyber, Ships and Advanced Technologies (RMS CSAT) LM Missiles and Fire Control (MFC) LM Rotary and Mission Systems, C4 & Undersea Systems (RMS C4USS)	Gretchen Head (gretchen.head@lmco.com) John Fontana (john.c.fontana@lmco.com) Kenneth Critz (kenneth.a.critz@lmco.com)
View Online	N172-115	Selective Emission of Light Utilizing Functionally-Graded Energetic Materials	Develop a functionally-graded flare grain for airborne expendable countermeasures applications with time-varying output.	LM Missiles and Fire Control (MFC)	John Fontana (john.c.fontana@lmco.com)
View Online	N172-116	Miniature Oriented Tri-Axial Fluxgate Magnetometer Sensor	Develop a miniature oriented fluxgate magnetometer similar to the AN/ASQ-10 for use across multiple operational platforms with focus on unmanned vehicles in a maritime environment.	LM Rotary and Mission Systems, Cyber, Ships and Advanced Technologies (RMS CSAT) LM Missiles and Fire Control (MFC) LM Rotary and Mission Systems, C4 & Undersea Systems (RMS C4USS) LM Rotary and Mission Systems, Integrated Warfare Systems & Sensors (RMS IWSS)	Gretchen Head (gretchen.head@lmco.com) John Fontana (john.c.fontana@lmco.com) Kenneth Critz (kenneth.a.critz@lmco.com) Rebecca Gerskhovich (rebecca.gershkovich@lmco.com)
View Online	N172-117	Mishap Awareness Scenarios and Training for Operational Readiness Responses	Develop a customizable software program that provides outputs to result in a suite of training tools and technologies that supports recreation of aviation mishap events to convey lessons learned and improve safety training through classroom based videos and interactive, immersive visualization techniques.	LM Rotary and Mission Systems, C4 & Undersea Systems (RMS C4USS)	Kenneth Critz (kenneth.a.critz@lmco.com)
View Online	N172-118	Laser Target and Analysis Board Development	Develop a laser target board designed to measure the incident power and beam shape of laser energy in an outdoor, and potentially austere, environment at range.	LM Rotary and Mission Systems, Cyber, Ships and Advanced Technologies (RMS CSAT) LM Missiles and Fire Control (MFC)	Gretchen Head (gretchen.head@lmco.com) John Fontana (john.c.fontana@lmco.com)
View Online	N172-119	Advanced Radio Frequency Link Analysis Tool	Develop a radio frequency (RF) link analysis tool, which interfaces with commercially available antenna modeling software, capable of providing comprehensive electromagnetic propagation effects and a three-dimensional availability analysis necessary for evaluating RF system performance.	LM Rotary and Mission Systems, Cyber, Ships and Advanced Technologies (RMS CSAT) LM Missiles and Fire Control (MFC) LM Rotary and Mission Systems, C4 & Undersea Systems (RMS C4USS) LM Rotary and Mission Systems, Integrated Warfare Systems & Sensors (RMS IWSS)	Gretchen Head (gretchen.head@lmco.com) John Fontana (john.c.fontana@lmco.com) Kenneth Critz (kenneth.a.critz@lmco.com) Rebecca Gerskhovich (rebecca.gershkovich@lmco.com)
View Online	N172-120	Mitigation of Helmet Vibration	Perform experimentally validated Finite Element Analysis (FEA) on the E-2D flight helmet (HGU-68/P) and develop an optimized solution to mitigate helmet vibration experienced during flight, potentially induced by the blade-pass frequency of the engines.	LM Aeronautics (Aero) LM Missiles and Fire Control (MFC)	Craig Owens (craig.l.owens@lmco.com) John Fontana (john.c.fontana@lmco.com)
View Online	N172-121	Epoxyless Connectors for Optical Fiber	Develop an innovative method for terminating optical fiber with an epoxyless connector.	LM Aeronautics (Aero) LM Rotary and Mission Systems, Cyber, Ships and Advanced Technologies (RMS CSAT) LM Rotary and Mission Systems, C4 & Undersea Systems (RMS C4USS)	Craig Owens (craig.l.owens@lmco.com) Gretchen Head (gretchen.head@lmco.com) Kenneth Critz (kenneth.a.critz@lmco.com)
View Online	N172-122	Reliable Target Area of Uncertainty from an Underwater Acoustic Source(s)	Develop a robust algorithm that produces a reliable, more precise and more accurate Area of Uncertainty (AOU) for a target location generated from a multi-static active sonar field of drifting source and receiver sonobuoys.	LM Rotary and Mission Systems, Cyber, Ships and Advanced Technologies (RMS CSAT) LM Missiles and Fire Control (MFC) LM Aeronautics (Aero)	Gretchen Head (gretchen.head@lmco.com) John Fontana (john.c.fontana@lmco.com) Craig Owens (craig.l.owens@lmco.com)
View Online	N172-123	Wave Characterization from Improved Navy Lighterage System (INLS) Warping Tug Motions	Develop a shipboard system for the Improved Navy Lighterage System (INLS) Warping Tug to determine wave characteristics (significant wave height, period and direction) in near-real time using Warping Tug motions as input.	LM Missiles and Fire Control (MFC) LM Rotary and Mission Systems, C4 & Undersea Systems (RMS C4USS)	John Fontana (john.c.fontana@lmco.com) Kenneth Critz (kenneth.a.critz@lmco.com)
View Online	N172-124	Inflatable Multi-Platform Recovery System	Develop a man-portable, rapidly deployable, inflatable tactical surface system to facilitate the high-speed surface tow of a disabled undersea vehicle (e.g. SEAL Delivery Vehicle, Shallow Water Combat Submersible) behind any small craft capable of achieving 20 knots speed over water (e.g., rigid hull inflatable boat). Note: The small craft towing vessel and inflation source (e.g. compressed air/SCUBA bottles) will be provided and are not part of the desired inflatable system.	LM Missiles and Fire Control (MFC) LM Rotary and Mission Systems, C4 & Undersea Systems (RMS C4USS)	John Fontana (john.c.fontana@lmco.com) Kenneth Critz (kenneth.a.critz@lmco.com)
View Online	N172-125	Out-of-Autoclave Composite Curing Utilizing Nanostructured Heaters	: To develop innovative approaches to cure and repair composite aircraft structures without utilizing an autoclave ("Out of Autoclave Composites") using nanostructured heaters.	LM Aeronautics (Aero) LM Rotary and Mission Systems, Cyber, Ships and Advanced Technologies (RMS CSAT) LM Missiles and Fire Control (MFC) LM Rotary and Mission Systems, C4 & Undersea Systems (RMS C4USS)	Craig Owens (craig.l.owens@lmco.com) Gretchen Head (gretchen.head@lmco.com) John Fontana (john.c.fontana@lmco.com) Kenneth Critz (kenneth.a.critz@lmco.com)

View Online	N172-126	Lead-Salt Infrared Detectors	Develop infrared detectors which can operate at room temperature with detectivity greater than 1 x 10^11cm Hz^1/2/W and noise-equivalent power (NEP) less than 1 pW/Hz^1/2 with cutoff wavelengths spanning the range of 3.5 to 4.6 microns for Command, Control, Communications, Computers, Intelligence, Surveillance, and Reconnaissance (C4ISR) Naval applications.	LM Missiles and Fire Control (MFC)	John Fontana (john.c.fontana@lmco.com)
View Online	N172-127	Space Clock Initiative	Design a clock capable of achieving a stability <10-15/sqrt(tau) with flicker floor <10-17 that is compatible with use in space.		
View Online	N172-128	Manufacturing Process Development for High Temperature Polymer or Nanocomposite Films for Dielectric Capacitors	Develop manufacturing processes for a viable high temperature polymer or nanocomposite dielectric film that maintains a 95% or higher charge/discharge efficiency to 400 volts/micron at 125 C and energy storage capability better than biaxially oriented polypropylene (BOPP) (at room temperature).	LM Aeronautics (Aero)	Craig Owens (craig.l.owens@lmco.com)
View Online	N172-129	Numerical Methods Combat Power and Energy Systems (CPES)	Develop innovative mathematical techniques for the characterization of total ship power and energy system performance that includes new high energy, pulse load weapon systems. Performance characterization supports early stage ship design synthesis.	LM Rotary and Mission Systems, Cyber, Ships and Advanced Technologies (RMS CSAT) LM Rotary and Mission Systems, C4 & Undersea Systems (RMS C4USS) LM Rotary and Mission Systems, Integrated Warfare Systems & Sensors (RMS IWSS)	Gretchen Head (gretchen.head@lmco.com) Kenneth Critz (kenneth.a.critz@lmco.com) Rebecca Gerskhovich (rebecca.gershkovich@lmco.com)
View Online	N172-130	Electromagnetic Shielding	Develop a multi-functional material system or component of minimal thickness to protect components from the extreme magnetic fields generated during acceleration of a launch package from an electromagnetic launcher. Adequate compressive strength (100-300 KPSI) and minimal weight and volume should be considered.	LM Missiles and Fire Control (MFC) LM Rotary and Mission Systems, C4 & Undersea Systems (RMS C4USS)	John Fontana (john.c.fontana@lmco.com) Kenneth Critz (kenneth.a.critz@lmco.com)
View Online	N172-131	Resolving organizational inefficiencies through crowdsourcing	Develop a computational model and a platform that can identify and resolve inefficiencies in large hierarchical organizations using crowdsourcing techniques.	LM Missiles and Fire Control (MFC) LM Rotary and Mission Systems, C4 & Undersea Systems (RMS C4USS)	John Fontana (john.c.fontana@lmco.com) Kenneth Critz (kenneth.a.critz@lmco.com)
View Online	N172-132	Adaptive Physical Training	Apply adaptive training concepts to tailor physical fitness training in order to increase physical fitness and readiness.	LM Missiles and Fire Control (MFC) LM Rotary and Mission Systems, C4 & Undersea Systems (RMS C4USS)	John Fontana (john.c.fontana@lmco.com) Kenneth Critz (kenneth.a.critz@lmco.com)
View Online	N172-133	ACV Autonomous Sled Technologies	With the Marine Corps acquisition of the Amphibious Combat Vehicle (ACV) 1.1, there is a need to move the vehicles from ship to shore at higher speeds and greater ranges than can be provided by the vehicle itself. The goal is to develop a low cost detachable vehicle augmentation system, referred to as a sled, to provide the ACV with improved range and speed as it moves from ship to shore.	LM Rotary and Mission Systems, C4 & Undersea Systems (RMS C4USS)	Kenneth Critz (kenneth.a.critz@lmco.com)
View Online	N172-134	Abrasive Blasting Nozzle Noise Control	Develop technologies to improve the acoustics performance of abrasive blasting nozzles for paint and surface coatings removal. The objective is to investigate the noise generation mechanisms of abrasive blasting operations and develop a quiet, effective and efficient nozzle. This development is to optimize the acoustics and productivity performance of blasting nozzles and demonstrate a	LM Aeronautics (Aero)	Craig Owens (craig.l.owens@lmco.com)
View Online	N172-135	Fast Rise-time High Power Radio Frequency (HPRF) Pulse Shaping	Develop, design, and build an affordable, compact HPRF pulse shaping device or switch that can operate at L and S band frequencies from 1 to 4 gigahertz (GHz) and handle up to 8 megawatts (MW) of power. The solution should provide the unique capability to shape a square pulse envelope of 10 nanoseconds (ns) for both rise and fall times and vary pulse widths from 10 ns to 2.5 microseconds (µs). The final product must provide a high degree of flexibility in the pulse shape and the ability to support high (1 kHz) pulse repetition rates.	LM Missiles and Fire Control (MFC) LM Rotary and Mission Systems, Integrated Warfare Systems & Sensors (RMS IWSS)	John Fontana (john.c.fontana@lmco.com) Rebecca Gerskhovich (rebecca.gershkovich@lmco.com)
View Online	N172-136	Navy Approved Multi-Factor Authentication for Personal Mobile Devices	Define and develop a software-based solution the U.S. Navy to validate the existence and security posture of government-purpose mobile apps that use Multi-Factor Authentication (MFA) into mobile device applications would employ differing categories (knowledge, possession, and inherence) in concert to authenticate users relying on varying infrastructure to ensure continuity of service during single (ideally multiple) points of failure.	LM Rotary and Mission Systems, Cyber, Ships and Advanced Technologies (RMS CSAT) LM Missiles and Fire Control (MFC) LM Rotary and Mission Systems, Integrated Warfare Systems & Sensors (RMS IWSS)	Gretchen Head (gretchen.head@lmco.com) John Fontana (john.c.fontana@lmco.com) Rebecca Gerskhovich (rebecca.gershkovich@lmco.com)
View Online	N172-137	Advanced Cooling Technologies for Multifunctional Information Distribution System (MIDS) Terminals	identify and/or develop innovative heat transfer technologies or novel approaches to address MIDS JTRS thermal concerns. Document, assess and rank any new cooling technology based on applicability, performance and integration complexity to a military communications and data terminals. Pursue feasible technology candidate (s) for transition into MIDS JTRS terminals.	LM Missiles and Fire Control (MFC) LM Rotary and Mission Systems, C4 & Undersea Systems (RMS C4USS) LM Rotary and Mission Systems, Integrated Warfare Systems & Sensors (RMS IWSS)	John Fontana (john.c.fontana@lmco.com) Kenneth Critz (kenneth.a.critz@lmco.com) Rebecca Gerskhovich (rebecca.gershkovich@lmco.com)
View Online	N172-138	Circumvention and Recovery Radiation Effects Mitigation For Modern Electronics	Develop a Circumvention and Recovery (C&R) power and data management design to support functions for shutdown, restart and recovery of high performance processors, memory, System on Chip platforms, Radio Frequency, and advanced inertial measurement sensor subsystems.	LM Space Systems LM Space Systems LM Missiles and Fire Control (MFC) LM RMS IWSS	Jesus Isarraras (jesus.isarraras@lmco.com) John Fontana (john.c.fontana@lmco.com) Rebecca Gerskhovich (rebecca.gershkovich@lmco.com)

View Online	N172-139	Safe Primary Battery	Develop and demonstrate advanced battery technologies for a primary battery that can meet submarine launched ballistic missile requirements with a specific energy equal to or greater than current silver zinc battery technologies.	LM Space Systems LM Rotary and Mission Systems, C4 & Undersea Systems (RMS C4USS)	Jesus Isarraras (jesus.isarraras@lmco.com) Kenneth Critz (kenneth.a.critz@lmco.com)
View Online	N172-140	High Power Solid State Electronic Switch for Use in Exploding Foil Initiator Applications	Develop and demonstrate a high power electronic solid state switch which may be used to initiate an exploding foil initiator for use in Submarine Launched Ballistic Missile (SLBM) systems and/or private sector space launch platforms such as the SpaceX Falcon 9 rocket.	LM Space Systems LM Missiles and Fire Control (MFC)	Jesus Isarraras (jesus.isarraras@lmco.com) John Fontana (john.c.fontana@lmco.com)
View Online	N172-141	Alternative Mixing Technologies for High-Energy, Solid Materials for Large Gas Generator Propellant	Develop and demonstrate alternative methods for mixing of high-energy, solid propellants for large, up to 20 gallons in volume, gas generators for Navy strategic missile post-boost propulsion systems, other large missiles, and launch vehicles.	LM Space Systems LM Missiles and Fire Control (MFC)	Jesus Isarraras (jesus.isarraras@lmco.com) John Fontana (john.c.fontana@lmco.com)
View Online	AF172-001	Damage Tolerance Analysis of Grinding Burn Cracks in High Strength Steels	Develop special methods, data, or applications for the modeling and crack growth analysis of thermally induced cracks located in grinding burns of high strength steel landing gear parts.	LM Aeronautics (Aero) LM Missiles and Fire Control (MFC) LM Rotary and Mission Systems, C4 & Undersea Systems (RMS C4USS)	Craig Owens (craig.l.owens@lmco.com) John Fontana (john.c.fontana@lmco.com) Kenneth Critz (kenneth.a.critz@lmco.com)
View Online	AF172-002	Demonstration and Validation of Brush LHE Alkaline Zn-Ni as a Brush Cadmium (Cd) Alternative	The objective of this effort is to demonstrate and validate LHE alkaline Zn-Ni brush plating as a replacement for selective (brush) Cd plating on Cd plated, aluminum coated (such as IVD), or LHE alkaline Zn-Ni plated components.	LM Missiles and Fire Control (MFC)	John Fontana (john.c.fontana@lmco.com)
View Online	AF172-003	UV cured maskant robotic application with self-masking	Develop a robotic application system for Dymax UV cured maskants that ALSO masks the areas that are to be plasma sprayed. Without the need to trim the maskant overspray after the application or have to mask prior to the application of the mask.	LM Aeronautics (Aero) LM Missiles and Fire Control (MFC)	Craig Owens (craig.l.owens@lmco.com) John Fontana (john.c.fontana@lmco.com)
View Online	AF172-004	Constant Speed Drive Input Shaft Monitor	An effective method is needed to determine revolutions of Constant Speed Drives in support of Condition Based Maintenance (CBM)	LM Aeronautics (Aero) LM Rotary and Mission Systems, C4 & Undersea Systems (RMS C4USS)	Craig Owens (craig.l.owens@lmco.com) Kenneth Critz (kenneth.a.critz@lmco.com)
View Online	AF172-005	Hardware Modeler Replacement for Digital Device Simulation	The D300 hardware modeler supports development and maintenance of test programs to test and indicate repair actions for avionic circuit card assemblies. The replacement is required to maintain this capability for current and future avionic repairs.		
View Online	AF172-006	Unique Modular, High Power, Cascadable Amplifier for support of EMP Direct Drive Testing	Determine feasibility and develop concepts for a high power, modular amplifier design to support wideband (10 kHz–2 GHz), with minimum 10 kW Average Power, and capability to drive load impedances from short to open circuits for Direct Drive testing.	LM Missiles and Fire Control (MFC) LM Rotary and Mission Systems, C4 & Undersea Systems (RMS C4USS) LM Rotary and Mission Systems, Integrated Warfare Systems & Sensors (RMS IWSS)	John Fontana (john.c.fontana@lmco.com) Kenneth Critz (kenneth.a.critz@lmco.com) Rebecca Gerskhovich (rebecca.gershkovich@lmco.com)
View Online	AF172-007	Conversational Personal Assistants for Air Force Operations Centers	Develop and demonstrate a conversational personal assistant application for operators in an Air Operations Center environment.	LM Missiles and Fire Control (MFC)	John Fontana (john.c.fontana@lmco.com)
View Online	AF172-007	Conversational Personal Assistants for Air Force Operations Centers	Develop and demonstrate a conversational personal assistant application for operators in an Air Operations Center environment.	LM Rotary and Mission Systems, C4 & Undersea Systems (RMS C4USS)	Kenneth Critz (kenneth.a.critz@lmco.com)
View Online	AF172-008	Cost Estimating Relationships for Evaluation of Rapidly Evolving Technologies	To develop methodologies, tools and associate procedures to enable the assessment of the life cycle costs and enhanced capabilities associated with the incorporation of emerging technologies.	LM Aeronautics (Aero) LM Space Systems LM Missiles and Fire Control (MFC) LM Rotary and Mission Systems, Integrated Warfare Systems & Sensors (RMS IWSS)	Craig Owens (craig.l.owens@lmco.com) Jesus Isarraras (jesus.isarraras@lmco.com) John Fontana (john.c.fontana@lmco.com) Rebecca Gerskhovich (rebecca.gershkovich@lmco.com)
View Online	AF172-009	Applications Using New Satellite Communications Constellations	Develop and demonstrate applications or services that take advantage of new and emerging non-geostationary orbit (NGSO) satellite communications constellations. Help condense the time between deployment of NGSO constellations and their operational use by the Air Force.	LM Space Systems LM Missiles and Fire Control (MFC)	Jesus Isarraras (jesus.isarraras@lmco.com) John Fontana (john.c.fontana@lmco.com)
View Online	AF172-010	Threat Detection Using Artificial Intelligence and Machine Learning	Adapt and apply multi-int sensing and machine learning to identify, understand and help mitigate threats to Air Force installations.	LM Rotary and Mission Systems, Cyber, Ships and Advanced Technologies (RMS CSAT) LM Space Systems LM Missiles and Fire Control (MFC) LM Rotary and Mission Systems, Integrated Warfare Systems & Sensors (RMS IWSS)	Gretchen Head (gretchen.head@lmco.com) Jesus Isarraras (jesus.isarraras@lmco.com) John Fontana (john.c.fontana@lmco.com) Rebecca Gerskhovich (rebecca.gershkovich@lmco.com)
View Online	AF172-011	MWIR InAsSb APD Receiver	Design, develop, demonstrate, and produce a prototype III/V avalanche photodiode receiver array in 3.0-4.6 micron range with better than 250 noise equivalent photon sensitivity and greater than 100 MHz bandwidth.	LM Space Systems LM Missiles and Fire Control (MFC)	Jesus Isarraras (jesus.isarraras@lmco.com) John Fontana (john.c.fontana@lmco.com)
View Online	OSD172-DI1	Improving the Ranking and Prioritization of Attack-related Events	Develop methods to focus limited human security specialist resources on highest value indicators, and increasingly automate responses, when continuously monitoring complex collections of IT assets for signs of an attack.	LM Space Systems LM Missiles and Fire Control (MFC) LM Rotary and Mission Systems, Integrated Warfare Systems & Sensors (RMS IWSS)	Jesus Isarraras (jesus.isarraras@lmco.com) John Fontana (john.c.fontana@lmco.com) Rebecca Gerskhovich (rebecca.gershkovich@lmco.com)

View Online	OSD172-DI2	Micro-Platform Protection (MiPP)	Develop capabilities to facilitate the application of cyber protection techniques, methodologies, algorithms, and capabilities to micro-platform devices in development, ultimately reducing their capacity to become significant threat vectors.	LM Rotary and Mission Systems, Cyber, Ships and Advanced Technologies (RMS CSAT) LM Space Systems LM Missiles and Fire Control (MFC) LM Rotary and Mission Systems, C4 & Undersea Systems (RMS C4USS) LM Rotary and Mission Systems, Integrated Warfare Systems & Sensors (RMS IWSS)	Gretchen Head (gretchen.head@lmco.com) Jesus Isarraras (jesus.isarraras@lmco.com) John Fontana (john.c.fontana@lmco.com) Kenneth Critz (kenneth.a.critz@lmco.com) Rebecca Gerskhovich (rebecca.gershkovich@lmco.com)
View Online	OSD172-DI3	Automated Reconfiguration of Mission Assets	Provide a capability that can rapidly and automatically reconfigure protected IT assets (e.g., multi-tier servers) in response to an ongoing cyber-attack.	LM Rotary and Mission Systems, Cyber, Ships and Advanced Technologies (RMS CSAT) LM Space Systems LM Missiles and Fire Control (MFC) LM Rotary and Mission Systems, Integrated Warfare Systems & Sensors (RMS IWSS)	Gretchen Head (gretchen.head@lmco.com) Jesus Isarraras (jesus.isarraras@lmco.com) John Fontana (john.c.fontana@lmco.com) Rebecca Gerskhovich (rebecca.gershkovich@lmco.com)
View Online	OSD172-DI4	Network Isolation of Industrial Control System (ICS) Devices via Permanent Host Identifiers	Develop a solution to isolate critical ICS devices from general network traffic while maintaining network connectivity between devices, between devices and trusted administration entities, and without deploying additional code to the devices.	LM Rotary and Mission Systems, Cyber, Ships and Advanced Technologies (RMS CSAT) LM Rotary and Mission Systems, Integrated Warfare Systems & Sensors (RMS IWSS)	Gretchen Head (gretchen.head@lmco.com) Rebecca Gerskhovich (rebecca.gershkovich@lmco.com)
View Online	SB172-001	Compact and Scalable Bidirectional Electronic BioInterfaces	Design and fabricate electronic bidirectional "headstage" system(s) for performing large-scale neurophysiology studies involving multichannel neural recording and microstimulation in awake and freely behaving animals.	LM Missiles and Fire Control (MFC)	John Fontana (john.c.fontana@lmco.com)
View Online	SB172-002	Improved Mass Production of Beneficial Insects	Develop innovative engineering (e.g., automation or bio-sensing technologies), genetic, and/or genomic approaches to reduce the negative characteristics associated with insect colony production to be used for a variety of purposes in agricultural production or agricultural research (e.g., edible insects, natural enemies for biological control of agricultural pests, pathogens, or weeds, etc.). Projects focusing on mosquito production are discouraged from applying.	LM Missiles and Fire Control (MFC)	John Fontana (john.c.fontana@lmco.com)
View Online	SB172-003	Development of Gene-Encoded Monoclonal Antibody Potency Assay	Develop generalizable gene-encoded monoclonal antibody (mAb) potency assays for assessing formulated nucleic acid constructs that encode prophylactic monoclonal antibodies. Demonstrate and validate the technology for at least three distinct indications.	LM Missiles and Fire Control (MFC)	John Fontana (john.c.fontana@lmco.com)
View Online	SB172-004	Super-Resolving Phase Filter for Improved 3D Printing, Machining and Imaging	Design and fabricate an optical phase filter capable of modifying an incident wave into a “super-resolved spot”, i.e. into a beam that is more tightly focused than a diffraction-limited focal spot. The optical phase filter design should permit its use at Ultra-Violet (UV), visible, and Infrared (IR) wavelengths. The objective is to provide at least an order of 10 improvement in current spot sizes for 3D printing, laser cutting and welding and an improved point spread function for imaging while maintaining high transmission efficiency for all applications.	LM Space Systems LM Missiles and Fire Control (MFC)	Jesus Isarraras (jesus.isarraras@lmco.com) John Fontana (john.c.fontana@lmco.com)
View Online	SB172-005	Plug and Play Analysis and Simulation	Develop and test one or more techniques for plug and play interoperability of computer-aided engineering (CAE) and computer-aided design (CAD) that would allow automated use of new and legacy simulation tools with CAD models obtained from a variety of sources.	LM Rotary and Mission Systems, Cyber, Ships and Advanced Technologies (RMS CSAT) LM Space Systems LM Rotary and Mission Systems, Integrated Warfare Systems & Sensors (RMS IWSS)	Gretchen Head (gretchen.head@lmco.com) Jesus Isarraras (jesus.isarraras@lmco.com) Rebecca Gerskhovich (rebecca.gershkovich@lmco.com)
View Online	SB172-006	Collective Allostatic Load	Design, develop, validate, and deploy integrated systems for collecting, aggregating, processing, and analyzing data related to “Collective Allostatic Load” (CAL), to provide quantitative and predictive measures of a team or group’s performance resilience or dysfunction in the face of potentially multiple acute and chronic stressors. Envisioned capabilities will enable near-real time measurement of a group’s state beyond the simple aggregation of	LM Rotary and Mission Systems, Integrated Warfare Systems & Sensors (RMS IWSS)	Rebecca Gerskhovich (rebecca.gershkovich@lmco.com)
View Online	SB172-007	Analyzing Human Dimensions of Software Engineering Processes	Develop approaches to associate human behaviors, across the software development lifecycle, with the production of correct versus faulty or insecure code.	LM Rotary and Mission Systems, Cyber, Ships and Advanced Technologies (RMS CSAT) LM Missiles and Fire Control (MFC) LM Rotary and Mission Systems, Integrated Warfare Systems & Sensors (RMS IWSS)	Gretchen Head (gretchen.head@lmco.com) John Fontana (john.c.fontana@lmco.com) Rebecca Gerskhovich (rebecca.gershkovich@lmco.com)
View Online	SB172-008	Ecosystem of Secure Software Components around the seL4 Microkernel	Build out the open-source ecosystem of secure software components around the seL4 operating system microkernel.	LM Rotary and Mission Systems, Cyber, Ships and Advanced Technologies (RMS CSAT) LM Rotary and Mission Systems, Integrated Warfare Systems & Sensors (RMS IWSS)	Gretchen Head (gretchen.head@lmco.com) Rebecca Gerskhovich (rebecca.gershkovich@lmco.com)
View Online	SB172-009	Accelerated Low-power Motion Planning for Real-time Interactive Autonomy	Develop a system for embedded real-time motion trajectory planning in novel environments and on diverse Size, Weight, and Power (SWaP)-constrained platforms.	LM Space Systems LM Missiles and Fire Control (MFC)	Jesus Isarraras (jesus.isarraras@lmco.com) John Fontana (john.c.fontana@lmco.com)
View Online	SB172-010	Electronically Switchable Optical Filter	Develop and demonstrate a compact, electronically actuated two state optical filter that can rapidly switch between broadband transmission, and narrow line bandpass with high out of band optical rejection.	LM Rotary and Mission Systems, Cyber, Ships and Advanced Technologies (RMS CSAT) LM Space Systems LM Missiles and Fire Control (MFC)	Gretchen Head (gretchen.head@lmco.com) Jesus Isarraras (jesus.isarraras@lmco.com) John Fontana (john.c.fontana@lmco.com)

View Online	DHA172-001	Reconfigurable/Recyclable Modules for Patient Simulators	To create low-cost, sensor-laden soft materials with mechanical properties similar to specific human tissues which can be dissolved and re-fabricated into different shapes with little or no additional materials required, with the exception of replacement sensors. These low-cost, sensor-laden soft materials would provide add-on compatibility with at least one generic manikin or part-task trainer in at least one common anatomic site for intrusive medical interventions.		
View Online	DHA172-002	eTextile Point of Injury Integrity Integrated Circuit	This research should provide technical non-repudiation of combat-related records generated at the time of injury. The National Institute of Standards and Technology Federal Information Processing Standards (NIST FIPS) 140-2 level 3/4 approved hardware-based cryptographic modules with a weight, size, and power budget no greater than the integrated circuit on a Personal Identity Verification/Common Access Card (PIV/CAC); this will generate a digital signature across the injury record. A prototype		
View Online	DHA172-003	Hybrid Smart Client/Web Browser Based Light MHS GENESIS Application for Agile Theater Operations	To develop a prototype light web-browser-based smart client application that looks and appears to operate like the Department of Defense (DoD) Military Health System (MHS) MHS GENESIS (1) electronic health record (EHR) system for deployed military treatment facilities (MTFs). This light capability would license or emulate (with license) the Cerner EHR Graphical User Interface (GUI) used in the MHS GENESIS product, would present only a small technical footprint, and could be employed as both a smart		
View Online	DHA172-004	Medical Information System Software Maintenance Capability	The objective of this topic is to develop and demonstrate an innovative software maintenance capability on Windows, Linux, and Android-based platforms that enable Military Health System program management offices to establish and perform automated maintenance tasks on file systems, operating systems, webservers, databases, medical information system applications, and other system components through a software maintenance agent. The innovation of this research is prototyping of a technical concept and approach to provide an inclusive cross platform software maintenance application that allows for execution of user specified maintenance instructions with decision support to allow for maintenance of complex systems such as current and future Electronic Health Record. This innovation will incrementally advance the state of the art maintenance mechanisms to remove the training requirement and task performance required of end users to perform information system maintenance in a deployed		
View Online	DHA172-005	Finger Pulse Oximeter for Patient Identification and Predictive Algorithms	The objective of this topic is to research, prototype, and demonstrate a wireless finger pulse oximeter with an on board optical fingerprint sensor integrated with an embedded ultra-wideband wireless transmission capability. The fingerprint sensor will enable the medic treating the casualty to identity of the patient and enhance the capability to associate a variety of vital signs; i.e. Arterial Oxygen Saturation (SPO2), Photoplethysmogram (PPG) waveforms, etc. from multiple patient medical encounters.		
View Online	DHA172-006	Mobile Causality Display Toolkit for Tactical Combat Casualty Care	The objective of this topic is to develop and demonstrate a robust and ruggedized mobile causality display toolkit for Tactical Combat Casualty Care (TC3).	LM Missiles and Fire Control (MFC)	John Fontana (john.c.fontana@lmco.com)
View Online	DHA172-007	Next-Generation Ear Seals for Circumaural Headsets and Hearing Protectors	Develop improved circumaural ear seals for hearing protection and communication devices that have the ability to better fit to the features of the Service member's head and eyewear providing an improved seal, reducing environmental stress while providing an improved level of noise attenuation to help reduce incidence of		
View Online	DHA172-008	Point of Care Test for Disease Severity and Risk Stratification	Develop an easy to use diagnostic tool for risk stratification and disease severity at point of care utilizing the complete blood count test.		
View Online	DHA172-009	Complex Crystalloid Resuscitative Fluid	Develop a novel crystalloid resuscitative fluid which improves outcome following severe hemorrhage when compared to the current standard of care crystalloid.		
View Online	DHA172-010	Medical Wearable for First Responder Assessment and Remote Monitoring	Develop and deliver a low power biometric wearable device capable of collection, storage, and transmission of electrocardiogram (EKG) rhythm, temperature, pulse, and other vital human physiological function data. System must provide near real-time remote patient monitoring in combat, transport, and surgical environments	LM Missiles and Fire Control (MFC)	John Fontana (john.c.fontana@lmco.com)

View Online	DHA172-011	Concentrated Lactated Ringer's Injectable Solution	Develop an FDA-approved concentrated Lactated Ringer's injection solution at reduced weight, cube and/or cost of current product(s).		
View Online	DHA172-012	Solutions for Restoration of Urinary Function and Control	To develop, design, and demonstrate new technology or therapies that will replace or restore damaged, missing or non-functional urinary system and allow patient control over urination.		
View Online	DHA172-013	Minimally Invasive Delivery of Therapy to the Inner Ear	To develop an easily-administered medical device that will safely deliver intratympanic medical treatments to the inner ear, where the hearing and vestibular systems are housed.	LM Missiles and Fire Control (MFC)	John Fontana (john.c.fontana@lmco.com)
View Online	DHA172-014	Development of an Individualized Portable Platform to Deliver Vestibular Rehabilitation	To develop a customizable platform to deliver vestibular rehabilitation using technology to improve compliance to home program, adapt rehab strategies to individual needs, and return individuals to duty more efficiently.	LM Missiles and Fire Control (MFC)	John Fontana (john.c.fontana@lmco.com)
View Online	DLA172-001	Increase Competition through Small Business Source Approval Aircraft Launch and Recovery Equipment (ALRE) Critical Safety/Critical Application Items (CSI/CAI)	Improve product availability and increase competition through the development of Small Business eligible manufacturing sources for Aircraft Launch and Recovery Equipment (ALRE) Critical Safety/Critical Application Items (CSI/CAI)	LM Aeronautics (Aero)	Craig Owens (craig.l.owens@lmco.com)
View Online	DLA172-002	Increase Competition through Small Business Source Approval for DLA Land and Maritime FMD Hard to Source Items	Improve product availability and increase competition through the development of Small Business eligible manufacturing sources for DLA Land and Maritime FMD Hard to Source Items.		
View Online	DMEA172-001	Computerized Automatic Delayering and Polishing System	Develop a tool for automated, procedural delayering and polishing of semiconductor microelectronic devices		
View Online	DMEA172-002	Through-Lens Fiducial Marking System	Develop a tool for through-lens fiducial marking on the backside of semiconductor devices.	LM Rotary and Mission Systems, Integrated Warfare Systems & Sensors (RMS IWSS)	Rebecca Gerskhovich (rebecca.gershkovich@lmco.com)
View Online	DTRA172-001	Applications of Ultra-Low Cost Differential Pressure Sensors to the Large N Acoustic Sensor Problem	To develop an economically feasible solution to the Large N sensor problem for acoustic measurements	LM Rotary and Mission Systems, Integrated Warfare Systems & Sensors (RMS IWSS)	Rebecca Gerskhovich (rebecca.gershkovich@lmco.com)
View Online	DTRA172-002	High Performance Computing (HPC) Tools for Topology Aware Mapping of Inter-node communication	Modern High Performance Computers often feature a hierarchal interconnect topology that features non-uniform latency and or bandwidth between nodes. The objective of this project is to develop approaches for building a (HPC) High Performance Computing oriented performance Toolkit containing libraries, runtime, and or tools that can be used by an application developer to perform topology-aware domain placement on distributed	LM Rotary and Mission Systems, Integrated Warfare Systems & Sensors (RMS IWSS)	Rebecca Gerskhovich (rebecca.gershkovich@lmco.com)
View Online	DTRA172-003	Tools for Memory Hierarchy Optimization on Pre-Exascale HPC Architectures	The objective of this project is to develop a performance analysis toolkit (augmenting an existing overall performance tools framework) that can be utilized by developers to guide code modernization and optimization for upcoming pre-Exascale high performance computing (HPC) platforms. Planned pre-Exascale HPC platforms will feature many-core systems with deep memory	LM Rotary and Mission Systems, Integrated Warfare Systems & Sensors (RMS IWSS)	Rebecca Gerskhovich (rebecca.gershkovich@lmco.com)

View Online	DTRA172-004	Automated Approaches to Analyze and Identify Dual Use Research of Concern from Scientific Publications	Conduct proof of concept studies that will enable the automatic identification of open scientific publications that pose dual use concern.	LM Rotary and Mission Systems, Cyber, Ships and Advanced Technologies (RMS CSAT)	Gretchen Head (gretchen.head@lmco.com)
View Online	DTRA172-005	Development of Ultracapacitors with High Energy Density and Low Leakage	Develop an ultracapacitor with energy greater than 450 Wh/L, retain charge for at least 30 days, and operate from -40 degrees C to +60 degrees C.	LM Missiles and Fire Control (MFC) LM Rotary and Mission Systems, Integrated Warfare Systems & Sensors (RMS IWSS)	John Fontana (john.c.fontana@lmco.com) Rebecca Gerskhovich (rebecca.gershkovich@lmco.com)
View Online	DTRA172-006	Hardware-in-the-Loop Scintillation Simulator for MILSATCOM links in a Nuclear Disturbed Communication Environment	To develop a simulator or simulators that accurately replicate the statistics that describe the radio frequency channel parameters, for satellite communication links, in a nuclear scintillated environment.	LM Rotary and Mission Systems, Integrated Warfare Systems & Sensors (RMS IWSS)	Rebecca Gerskhovich (rebecca.gershkovich@lmco.com)
View Online	DTRA172-007	Non-Saturating, Real-Time Battlefield Dosimeter	To develop a compact neutron/gamma real-time dosimeter for replacement of currently deployed systems such as the UDR-13 and PDR-75A. Proposed systems must provide highly accurate dose measurements within a few seconds of dwell time, and avoid saturation while measuring the extremely high radiation flux from	LM Rotary and Mission Systems, Integrated Warfare Systems & Sensors (RMS IWSS)	Rebecca Gerskhovich (rebecca.gershkovich@lmco.com)
View Online	DTRA172-008	Field Debris Analysis for Nuclear Forensics	Develop a field-deployable mass spectrometer for nuclear forensics debris analysis.	LM Missiles and Fire Control (MFC) LM Rotary and Mission Systems, Integrated Warfare Systems & Sensors (RMS IWSS)	John Fontana (john.c.fontana@lmco.com) Rebecca Gerskhovich (rebecca.gershkovich@lmco.com)
View Online	MDA17-001	High Speed Missile to Missile Communications	Seek innovative solutions for High Speed Missile to Missile communications; either modifying the existing radio frequency (RF) communications data downlink or implementing an alternative design for an interceptor missile.	LM Space Systems LM Missiles and Fire Control (MFC) LM Rotary and Mission Systems, Integrated Warfare Systems & Sensors (RMS IWSS)	Jesus Isarraras (jesus.isarraras@lmco.com) John Fontana (john.c.fontana@lmco.com) Rebecca Gerskhovich (rebecca.gershkovich@lmco.com)
View Online	MDA17-002	Resource Utilization Prediction and Planning for Complex Simulations	Develop a capability to predict run time and network resource loading of complex federations of missile defense engineering and/or Hardware-in-the-loop (HWIL) simulations, assess scenario features driving resource loading, and predict affected components to warn of un-executable scenario designs, assist configuring Modeling and Simulation (M&S) networks, and support automated batch scheduling.	LM Rotary and Mission Systems, Integrated Warfare Systems & Sensors (RMS IWSS) LM Rotary and Mission Systems, C4 & Undersea Systems (RMS C4USS)	Rebecca Gerskhovich (rebecca.gershkovich@lmco.com) Kenneth Critz (kenneth.a.critz@lmco.com)
View Online	MDA17-003	Intelligent Dynamic Data Logging	Develop innovative software to reduce run time inline simulation processor usage, memory usage, and network data bandwidth requirements to manage analytical data capture and storage.	LM Rotary and Mission Systems, Integrated Warfare Systems & Sensors (RMS IWSS) LM Rotary and Mission Systems, C4 & Undersea Systems (RMS C4USS)	Rebecca Gerskhovich (rebecca.gershkovich@lmco.com) Kenneth Critz (kenneth.a.critz@lmco.com)
View Online	MDA17-004	Run Time Data Compression Techniques	Develop innovative data compression techniques to reduce federate and/or distributed simulation data transmission times and storage capacity requirements.	LM Rotary and Mission Systems, Cyber, Ships and Advanced Technologies (RMS CSAT) LM Rotary and Mission Systems, Integrated Warfare Systems & Sensors (RMS IWSS)	Gretchen Head (gretchen.head@lmco.com) Rebecca Gerskhovich (rebecca.gershkovich@lmco.com)
View Online	MDA17-005	Endo-atmospheric Electro-Optical/Infrared Seeker Windows	This topic seeks highly innovative solutions to the challenges of robust transparent window materials and configurations for electro-optical/infrared (EO/IR) seeker windows capable of surviving and performing in endo-atmospheric interceptor environments characterized by high heating rates, temperatures, pressures, and accelerations.	LM Space Systems LM Missiles and Fire Control (MFC)	Jesus Isarraras (jesus.isarraras@lmco.com) John Fontana (john.c.fontana@lmco.com)
View Online	MDA17-006	Advanced Lightweight, Low Cost, High-g Seeker Gimbal	Develop an innovative design for a lightweight, low cost, precision, seeker gimbal assembly that can operate in endo and exo-atmospheric environments inducing high stress levels, i.e., temperature, vibration, shock, and sustained high-g.	LM Space Systems LM Missiles and Fire Control (MFC)	Jesus Isarraras (jesus.isarraras@lmco.com) John Fontana (john.c.fontana@lmco.com)
View Online	MDA17-007	Advanced High-g Accelerometers in Small Form Factor for Inertial Measurement Unit Applications	Develop and demonstrate innovative approaches for advanced accelerometer technology that enhances an Inertial Measurement Unit's (IMU's) high-g operability and survivability.	LM Space Systems LM Missiles and Fire Control (MFC)	Jesus Isarraras (jesus.isarraras@lmco.com) John Fontana (john.c.fontana@lmco.com)
View Online	MDA17-008	Advanced High-G Propulsion Controls Technology	Identify, evaluate, develop, and demonstrate innovative propulsion control system technology that advances the State-of-the-Art (SOTA).	LM Space Systems LM Missiles and Fire Control (MFC)	Jesus Isarraras (jesus.isarraras@lmco.com) John Fontana (john.c.fontana@lmco.com)
View Online	MDA17-009	Radar Cross Section Testing for Modeling and Simulations	Develop innovative methods to expedite Radar Cross Section (RCS) testing.	LM Missiles and Fire Control (MFC) LM Rotary and Mission Systems, Integrated Warfare Systems & Sensors (RMS IWSS)	John Fontana (john.c.fontana@lmco.com) Rebecca Gerskhovich (rebecca.gershkovich@lmco.com)
View Online	MDA17-010	"Green" Liquid Propellant Upper Stage Engine for Air Launched Targets	Develop and demonstrate enabling technologies for a liquid upper stage engine utilizing low-toxicity, non-cryogenic liquid propellants.	LM Space Systems LM Missiles and Fire Control (MFC)	Jesus Isarraras (jesus.isarraras@lmco.com) John Fontana (john.c.fontana@lmco.com)
View Online	MDA17-011	3D Printed Component Packages for Semiconductor Die	Design and develop an additive manufacturing process to three-dimensionally (3D) print a package around a bare semiconductor die that will comply with MIL-PRF-38535.	LM Rotary and Mission Systems, Cyber, Ships and Advanced Technologies (RMS CSAT) LM Space Systems LM Missiles and Fire Control (MFC)	Gretchen Head (gretchen.head@lmco.com) Jesus Isarraras (jesus.isarraras@lmco.com) John Fontana (john.c.fontana@lmco.com)
View Online	MDA17-012	3D Printed Microscale Radiation Shield	Develop a new and innovative 3D printing process that additively prints a three-dimensional radiation shield around the microelectronic piece-part.	LM Space Systems LM Rotary and Mission Systems, C4 & Undersea Systems (RMS C4USS)	Jesus Isarraras (jesus.isarraras@lmco.com) Kenneth Critz (kenneth.a.critz@lmco.com)
View Online	MDA17-013	Radio Frequency Transparent Thermal Protection System Materials	Develop a material that is transparent to certain radio frequencies (RF) and opaque in others, that can act as a thermal protection system (TPS).	LM Space Systems LM Missiles and Fire Control (MFC) LM Rotary and Mission Systems, C4 & Undersea Systems (RMS C4USS) LM Rotary and Mission Systems, Integrated Warfare Systems & Sensors (RMS IWSS)	Jesus Isarraras (jesus.isarraras@lmco.com) John Fontana (john.c.fontana@lmco.com) Kenneth Critz (kenneth.a.critz@lmco.com) Rebecca Gerskhovich (rebecca.gershkovich@lmco.com)

View Online	MDA17-014	Improvements in Flight Control Response Time	Develop an advanced closed loop control system that minimizes reaction time latencies during missile flight.	LM Space Systems LM Missiles and Fire Control (MFC)	Jesus Isarraras (jesus.isarraras@lmco.com) John Fontana (john.c.fontana@lmco.com)
View Online	MDA17-015	Miniaturized Avionics for Missile Systems	Design and develop future missile systems avionics based upon innovative Commercial-off-the-shelf (COTS) components. Develop innovative approaches to leveraging modern miniaturized electronics to the fullest extent possible as replacements for existing missile system avionics.	LM Space Systems LM Missiles and Fire Control (MFC) LM Rotary and Mission Systems, C4 & Undersea Systems (RMS C4USS)	Jesus Isarraras (jesus.isarraras@lmco.com) John Fontana (john.c.fontana@lmco.com) Kenneth Critz (kenneth.a.critz@lmco.com)
View Online	NGA172-001	Accurate 3D Model Generation from Multiple Images	Extracting high resolution 3D models from images of textured and non-textured surfaces in an uncontrolled environment.	LM Rotary and Mission Systems, Cyber, Ships and Advanced Technologies (RMS CSAT) LM Missiles and Fire Control (MFC) LM Rotary and Mission Systems, C4 & Undersea Systems (RMS C4USS)	Gretchen Head (gretchen.head@lmco.com) John Fontana (john.c.fontana@lmco.com) Kenneth Critz (kenneth.a.critz@lmco.com)
View Online	NGA172-002	Low-Shot Detection in Remote Sensing Imagery	Develop novel techniques to identify and locate uncommon targets in overhead and aerial imagery, specifically when few prior examples are available. Initial focus will be on panchromatic electro-optical (EO) imagery with a subsequent extension to multi-spectral imagery (MSI) and/or synthetic aperture radar (SAR) imagery.	LM Rotary and Mission Systems, Cyber, Ships and Advanced Technologies (RMS CSAT) LM Missiles and Fire Control (MFC) LM Rotary and Mission Systems, Integrated Warfare Systems & Sensors (RMS IWSS)	Gretchen Head (gretchen.head@lmco.com) John Fontana (john.c.fontana@lmco.com) Rebecca Gerskhovich (rebecca.gershkovich@lmco.com)
View Online	NGA172-003	Signal Matching via Computationally Efficient Hashing	Develop a fast automated signal matching algorithm based on hashing algorithms.	LM Rotary and Mission Systems, Cyber, Ships and Advanced Technologies (RMS CSAT) LM Missiles and Fire Control (MFC) LM Rotary and Mission Systems, Integrated Warfare Systems & Sensors (RMS IWSS)	Gretchen Head (gretchen.head@lmco.com) John Fontana (john.c.fontana@lmco.com) Rebecca Gerskhovich (rebecca.gershkovich@lmco.com)
View Online	NGA172-004	Advanced Image Segmentation for Radar Imagery	Construct a computer vision system for synthetic aperture radar imagery (SAR) to demonstrate segmentation into terrain types.	LM Rotary and Mission Systems, Cyber, Ships and Advanced Technologies (RMS CSAT) LM Missiles and Fire Control (MFC) LM Rotary and Mission Systems, Integrated Warfare Systems & Sensors (RMS IWSS)	Gretchen Head (gretchen.head@lmco.com) John Fontana (john.c.fontana@lmco.com) Rebecca Gerskhovich (rebecca.gershkovich@lmco.com)
View Online	NGA172-005	Super Resolution of Satellite Imagery using Multi-Sensor Fusion	Develop algorithms for enhancing resolution of satellite imagery from one source that leverages information from other satellite image sources that might have different resolution and different phenomenology.	LM Missiles and Fire Control (MFC)	John Fontana (john.c.fontana@lmco.com)
View Online	NGA172-006	Elevation Data in Urban Environments	Develop algorithms and techniques that provide superior digital elevation data constituting the surfaces of fixed structures in urban or highly structured environments using remote sensing image data.	LM Space Systems LM Missiles and Fire Control (MFC)	Jesus Isarraras (jesus.isarraras@lmco.com) John Fontana (john.c.fontana@lmco.com)
View Online	NGA172-007	Conflation of 3D Foundation Data	Provide highly accurate foundation data of buildings and linear structures by conflating information from multiple available images and volunteered information.	LM Space Systems LM Missiles and Fire Control (MFC)	Jesus Isarraras (jesus.isarraras@lmco.com) John Fontana (john.c.fontana@lmco.com)
View Online	NGA172-008	Enabling Temporal Response of OLEO 4K Displays for Smooth and Continuous High MTF Visualization	Develop novel ways to update display electronics to maximize native OLED performance within exploitation displays for high-end imagery visualization needs. Design and breadboard prototype techniques that demonstrate sustaining dynamic sharp pixel edge rendering by OLEO primitives with novel drive circuits, interfaced with an interoperable display port interface.	LM Rotary and Mission Systems, Cyber, Ships and Advanced Technologies (RMS CSAT) LM Rotary and Mission Systems, Integrated Warfare Systems & Sensors (RMS IWSS)	Gretchen Head (gretchen.head@lmco.com) Rebecca Gerskhovich (rebecca.gershkovich@lmco.com)
View Online	NGA172-009	Improved Image Processing for Low Resolution Imagery with Inter-Frame Pose Variation	Develop robust, automated super resolution image processing techniques to use on low resolution video of objects under a changing pose.	LM Missiles and Fire Control (MFC)	John Fontana (john.c.fontana@lmco.com)
View Online	SOCOM172-001	Canine Response Inhibitors	Develop response inhibitors for adversarial domesticated and feral canines to preclude operators from having to temporarily move from an objective area.	LM Missiles and Fire Control (MFC)	John Fontana (john.c.fontana@lmco.com)
View Online	SOCOM172-002	Enhanced Canine Performance, Protection and Survivability	Develop novel nutraceutical and/or pharmaceuticals to enhance important USSOCOM Multi-Purpose Canine (MPC) performance attributes that optimize their performance, improve recovery time when wounded and increase their survivability.	LM Missiles and Fire Control (MFC)	John Fontana (john.c.fontana@lmco.com)
View Online	SOCOM172-003	Foreign Like Weapon Production Capability	Develop an innovative domestic capability to produce fully functioning facsimiles of foreign made weapons that are equal to or better than what is currently being produced internationally.	LM Missiles and Fire Control (MFC)	John Fontana (john.c.fontana@lmco.com)
View Online	SOCOM172-004	Group 1 (<20 pounds) Unmanned Aerial System for Special Operations Forces Tactical-Level Intelligence, Surveillance, and Reconnaissance Operations	The objective of this topic is to develop innovative Group 1 (< 20 pounds) Unmanned Aerial Systems (UAS) to satisfy intelligence, surveillance, and reconnaissance capability gaps that support United States Army Special Operations Forces missions.	LM Rotary and Mission Systems, Cyber, Ships and Advanced Technologies (RMS CSAT) LM Rotary and Mission Systems, C4 & Undersea Systems (RMS C4USS) LM Rotary and Mission Systems, Integrated Warfare Systems & Sensors (RMS IWSS)	Gretchen Head (gretchen.head@lmco.com) Kenneth Critz (kenneth.a.critz@lmco.com) Rebecca Gerskhovich (rebecca.gershkovich@lmco.com)
View Online	SOCOM172-005	Group 2 (<55lbs) Unmanned Aerial System for Special Operations Forces Tactical-Level Intelligence, Surveillance, and Reconnaissance Operations	The objective of this topic is to develop innovative Group 2 (< 55 lbs.) Unmanned Aerial Systems (UAS) to satisfy intelligence, surveillance, and reconnaissance capability gaps that support United States Army Special Operations Forces missions.	LM Rotary and Mission Systems, Cyber, Ships and Advanced Technologies (RMS CSAT) LM Missiles and Fire Control (MFC) LM Rotary and Mission Systems, Integrated Warfare Systems & Sensors (RMS IWSS)	Gretchen Head (gretchen.head@lmco.com) John Fontana (john.c.fontana@lmco.com) Kenneth Critz (kenneth.a.critz@lmco.com)
View Online	SOCOM172-006	High Accuracy Mortar Fire Control System	The objective of this topic is to develop innovative technologies that increase the probability of a first round hit or effects on target with a standard 60mm, 81mm or 120mm mortar tube; using standard munitions and charges; out to the maximum effective range of the weapon system. Focus will be on an easy to operate, self-contained suite of sensors and computational power mounted to the weapon.	LM Missiles and Fire Control (MFC)	John Fontana (john.c.fontana@lmco.com)

View Online	AF17B-T001	AFFF Disposal	A novel technology that achieves permanent disposal of Aqueous Film-Forming Foam (AFFF) and associated perfluorocarbon components.	LM Rotary and Mission Systems, Integrated Warfare Systems & Sensors (RMS IWSS)	Kenneth Critz (kenneth.a.critz@lmco.com)
View Online	AF17B-T002	Closed-Loop Feedback Control for Transcranial Direct Current Stimulation	Develop a physiological recording and feedback control system to monitor operator cognitive state and control a small, head mounted transcranial direct current stimulation system.	LM Missiles and Fire Control (MFC)	John Fontana (john.c.fontana@lmco.com)
View Online	AF17B-T003	Resilient Directional Mesh Enhanced Tactical Airborne Networks	Develop reliable and resilient directional airborne networking technologies to support enhanced and assured mission success while maintaining backward compatibility with data link technologies currently in use by airborne platforms.	LM Missiles and Fire Control (MFC) LM Rotary and Mission Systems, Integrated Warfare Systems & Sensors (RMS IWSS)	John Fontana (john.c.fontana@lmco.com) Rebecca Gerskhovich (rebecca.gershkovich@lmco.com)
View Online	AF17B-T003	Resilient Directional Mesh Enhanced Tactical Airborne Networks	Develop reliable and resilient directional airborne networking technologies to support enhanced and assured mission success while maintaining backward compatibility with data link technologies currently in use by airborne platforms.	LM Rotary and Mission Systems, C4 & Undersea Systems (RMS C4USS)	Kenneth Critz (kenneth.a.critz@lmco.com)
View Online	AF17B-T004	Mission and Information Assurance through Cyber Atomics	Develop a cyber assurance system that expands the reach of information management and control to the network, and processes operations in an atomic manner to secure operations from harm and manipulation.	LM Rotary and Mission Systems, Cyber, Ships and Advanced Technologies (RMS CSAT) LM Space Systems LM Missiles and Fire Control (MFC) LM Rotary and Mission Systems, Integrated Warfare Systems & Sensors (RMS IWSS)	Gretchen Head (gretchen.head@lmco.com) Jesus Isarraras (jesus.isarraras@lmco.com) John Fontana (john.c.fontana@lmco.com) Rebecca Gerskhovich (rebecca.gershkovich@lmco.com)
View Online	N17B-T031	Materials Modeling Tool for Alloy Design to Streamline the Development of High Temperature, High-Entropy Alloys for Advanced Propulsion Systems	Develop a materials modeling tool for alloy design to streamline development of high temperature, high-entropy alloys for advanced propulsion systems.	LM Missiles and Fire Control (MFC)	John Fontana (john.c.fontana@lmco.com)
View Online	N17B-T032	Techniques to Adjust Computational Trends Involving Changing Data (TACTIC-D)	Develop technology based on statistical or computational methods to assist in the continued tracking of training performance and proficiency trends as underlying tactical data changes.	LM Rotary and Mission Systems, Integrated Warfare Systems & Sensors (RMS IWSS)	Rebecca Gerskhovich (rebecca.gershkovich@lmco.com)
View Online	N17B-T033	Optimized Build Plate Design Tool for Metal Laser Powder Bed Additive Manufacturing	Develop a software tool capable of optimizing the build plate design for metal powder bed additive manufacturing (AM) systems based on part geometry and features, part location and orientation with respect to the build plate and build direction, as well as the thermal effects inherent in AM. The part's location, orientation, and support structure will be optimized to minimize induced residual stress, control geometric distortion, effectively manage heat dissipation, and mitigate the effort needed in post-process support removal.	LM Aeronautics (Aero) LM Rotary and Mission Systems, C4 & Undersea Systems (RMS C4USS)	Craig Owens (craig.l.owens@lmco.com) Kenneth Critz (kenneth.a.critz@lmco.com)
View Online	N17B-T034	Risk-Based Unmanned Air System (UAS) Mission Path Planning Capability	Develop an Unmanned Air System (UAS) pre-flight mission planning capability that utilizes path planning algorithms to minimize risk to personnel and property during UAS flight operations while reducing preparation times.	LM Aeronautics (Aero) LM Rotary and Mission Systems, Cyber, Ships and Advanced Technologies (RMS CSAT) LM Missiles and Fire Control (MFC)	Craig Owens (craig.l.owens@lmco.com) Gretchen Head (gretchen.head@lmco.com) John Fontana (john.c.fontana@lmco.com)
View Online	N17B-T035	Mission Success Assessment and Mitigation Recommendations Using a Cognitive System	Develop a cognitive system as a selectable Unmanned Aircraft System Control Segment (U CS) Service with potential application in Naval Air Systems Command (NAVAIR) Common Control System (CCS).	LM Aeronautics (Aero) LM Rotary and Mission Systems, Cyber, Ships and Advanced Technologies (RMS CSAT) LM Missiles and Fire Control (MFC) LM Rotary and Mission Systems, Integrated Warfare Systems & Sensors (RMS IWSS)	Craig Owens (craig.l.owens@lmco.com) Gretchen Head (gretchen.head@lmco.com) John Fontana (john.c.fontana@lmco.com) Rebecca Gerskhovich (rebecca.gershkovich@lmco.com)
View Online	DHA172-002	eTextile Point of Injury Integrity Integrated Circuit	This research should provide technical non-repudiation of combat-related records generated at the time of injury. The National Institute of Standards and Technology Federal Information Processing Standards (NIST FIPS) 140-2 level 3/4 approved hardware-based cryptographic modules with a weight, size, and power budget no greater than the integrated circuit on a Personal Identity Verification/Common Access Card (PIV/CAC); this will generate a digital signature across the injury record. A prototype will be constructed and the resulting record will be loaded into the warfighter's medical record. Workflows will be developed for reducing duplicate medical records, ensuring medical information is associated with the correct injured party, ensuring the integrity of the medical sensor information recorded at the time of injury, and back end systems (Purple Heart Medals and VA disability eligibility).	LM Rotary and Mission Systems, C4 & Undersea Systems (RMS C4USS)	Kenneth Critz (kenneth.a.critz@lmco.com)
View Online	DHA17B-001	Handoff Training for Combat Casualty Care (HTC3)	Develop a training framework capable of working with current DoD systems that employs virtual, mixed, and/or live simulation training strategies capable of providing caregivers the opportunity to master handoff protocols from the point of injury through the continuum of care.		
View Online	DHA17B-002	Handoffs for Joint Service Casualty Care (HJSCC)	Develop and validate empirically derived combat casualty handoff protocols and tools which can be used across all military branches of the armed forces with the potential application to other healthcare settings.		

View Online	DHA17B-003	Fast Parameter Identification for Personalized Pharmacokinetics	To develop a novel and fast computing scheme for constructing personalized pharmacokinetic models. The scheme must rely on (i) a limited set of measurements for each individual patient and (ii) a knowledge base of existing well-calibrated models for a collection of diverse individual in order to approximate in silico the structure of metabolic interactions for a given individual patient by solving a parameter identification problem.	LM Missiles and Fire Control (MFC)	John Fontana (john.c.fontana@lmco.com)
View Online	DHA17B-004	Robust Biochemical and Biomarker Rapid Detection and Assay System for Field Use	Devise and develop a rugged diagnostic platform for general biochemical and biomarker analysis, which can be used under prolonged field conditions and in isolated, austere environments.	LM Rotary and Mission Systems, Cyber, Ships and Advanced Technologies (RMS CSAT) LM Missiles and Fire Control (MFC)	Gretchen Head (gretchen.head@lmco.com) John Fontana (john.c.fontana@lmco.com)
View Online	DHA17B-005	Oxygen Production and Delivery on Demand	To develop an efficient technology for medical grade oxygen generation with water as the feedstock and to provide a potential solution (deliverable prototype hardware) for the Army's medical oxygen requirement (or other DoD requirement).		