Link	Topic #	Title	Objective	Business Area	LM POC	Email Address	Phone
View Online	ST14B-001	Understanding Robust Biological Systems	Develop computational approaches to accurately model and predict the dynamics of multispecies biological networks to elucidate the fundamental design principles that lead to robust communities.				
View Online	ST14B-002	Chemical Ligands and Receptors for Engineering Biology	Develop a high-throughput platform to rapidly identify sensors highly specific to small molecules or other ligands and use this platform to identify both novel ligands and their respective sensors for use in controlling biological circuitry.				
View Online	ST14B-003	Robust and Adaptable Visual Scene Understanding	Develop feed-forward and feed-back mechanisms for combining visual inputs with expectations regarding scene content and composition. Construct a machine vision system that uses these mechanisms to demonstrate scene understanding of images or video.	LM Space Systems - STAR Labs LM Mission Systems and Training, Integrated Warfare Systems & Sensors (MST IWSS) LM Mission Systems and Training, Ship and Aviation Systems (MST SAS) LM Space Systems - SMD	Dawn Sisneros Jeff MacBride Jeffrey Poulin Jesus Isarraras	Dawn.Sisneros@lmco.com jeffrey.m.macbride@lmco.com jeffrey.poulin@lmco.com jesus.isarraras@lmco.com	303-379-3194 856/722-4407 607-751-6899 (408) 742-0314
View Online	ST14B-004	Revolutionary Airlift Innovation	Develop and demonstrate novel concepts to generate conventional airlift-equivalent lift (ton-miles/hr) without requiring manned airlift, airports, or air superiority in a time constrained scenario.	LM Aeronautics (Aero) LM Mission Systems and Training, Ship and Aviation Systems (MST SAS)	Craig Owens Jeffrey Poulin	craig.l.owens@lmco.com jeffrey.poulin@lmco.com	817/777-6504 607-751-6899
View Online	DTRA14B-001	Production of Chemical Reagents for Prompt-Agent-Defeat Weapons	The objectives of this effort are to: 1) develop the necessary manufacturing processes to produce kilogram quantities of novel halogen-containing chemical reagents, and 2) to apply these processes to manufacture several kilograms of these reagents. These novel chemical reagents have been previously researched for use to reliably destroy biological-agent targets that could pose a threat to global security.				
View Online	DTRA14B-002	Production of Inactivated Virus Vaccines Using Supralethal Irradiation	Develop a rapid, scalable, and cost-effective method for production of inactivated virus vaccines.				
View Online	DTRA14B-003	Network Analytics for High Consequence Events	The objectives of this effort are to: 1) develop a software based, open source, extendable, dynamic topology network simulator that models and analyzes dynamic information structures and exchanges across different layers over large time rgimes for both direct and cascading failures to identify cost-effective solutions for enhanced physical network robustness and recovery response time, and/or 2) develop a course-of-action analysis tool to identify methods for reducing incentives of state and non-state actors to pursue, possess, and employ WMD, and/or 3) analyze text to populate a knowledge base to support activity based queries as well as activity level analysis including patterns, trends, and anomalies.	LM Aeronautics (Aero) LM Mission Systems and Training, Integrated Warfare Systems & Sensors (MST IWSS)	Craig Owens Jeff MacBride	craig.l.owens@lmco.com jeffrey.m.macbride@lmco.com	817/777-6504 856/722-4407
View Online	DTRA14B-004	Widely Distributable Nano/Micro-scale Radiation Sensor	Design and develop a device based on a nano-sensing material that can be deployed across a large area and large variety of environments to detect sources of gamma, alpha, and beta radiation.	LM Missiles and Fire Control (MFC) LM Space Systems - STAR Labs LM Mission Systems and Training, Ship and Aviation Systems (MST SAS) LM Space Systems - SMD	Christopher Dorosky Dawn Sisneros Jeffrey Poulin Jesus Isarraras	christopher.g.dorosky@lmco.com Dawn.Sisneros@lmco.com jeffrey.poulin@lmco.com jesus.isarraras@lmco.com	972-603-2349 303-379-3194 607-751-6899 (408) 742-0314
View Online	DTRA14B-005	Large-area, High-efficiency, Light-weight Portable Neutron Detector	Develop a light-weight, large-area, high efficiency, portable 3He neutron detector alternative detector for passive interrogation for homeland and defense security applications. Electronics are resistant to microphonics, vibration, and shock and capable of filtering the same from the detector. An optional gamma-ray sensitive radioisotope identification system must be included to eliminate NORMs. The detector must have reach back or GPS capabilities. Cost of the proposed neutron detectors should be 50% less than current 3He tubes.	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	607-751-6899 (408) 742-0314
View Online	MDA14-T001	Integrated Health Sensing for Highly Efficient Weapon Inspection and	Research and develop innovative manufacturing solutions that integrate embedded health status monitoring for critical weapon electronic printed circuit board (PCB) assemblies within cost and performance constraints. Create a capability for highly efficient inspection and sustainment that enhances overall affordability through reduced consumption, minimized dependence on funding resources, and maximum weapon service life. Address cost and performance barriers inherent with manufacturing embedded health sensing, to achieve an acceptable Return-on-Investment (ROI) and risk level with transition to realize tangible service life extension and sustainment benefits.	LM Missiles and Fire Control (MFC)	Christopher Dorosky	christopher.g.dorosky@lmco.com	972-603-2349
View Online	MDA14-T002	Failure Avoidance in Microelectronics Due to Coefficient of Thermal Expansion	Reduction of CTE induced stresses leading to failures in microelectronics due to a mismatch between the substrates and adhesives. Areas of concern are the development of methodologies for choosing the substrates and adhesives, the determination of associated metrics to ensure an appropriate selection has been made, and assurance that process parameters will not adversely impact the substrate/adhesive system.	LM Missiles and Fire Control (MFC) LM Space Systems - STAR Labs LM Mission Systems and Training, Ship and Aviation Systems (MST SAS)	Christopher Dorosky Dawn Sisneros Jeffrey Poulin	christopher.g.dorosky@lmco.com Dawn.Sisneros@lmco.com jeffrey.poulin@lmco.com	972-603-2349 303-379-3194 607-751-6899
View Online	MDA14-T003	Base Metal Electrode Capacitor Test Methods	The objective of this research and development effort is to identify and develop screening methods for Base Metal Electrode Capacitors.	LM Space Systems - STAR Labs	Dawn Sisneros	Dawn.Sisneros@lmco.com	303-379-3194
View Online	MDA14-T004	Measurement of Remaining Effective Stabilizer in Solid Propellants	Develop and demonstrate methodologies of quantitatively measuring the percentage of Remaining Effective Stabilizer (RES) in solid propellants. Depletion of stabilizer can result in decreased performance and service life of solid propellant.	LM Space Systems - SMD	Jesus Isarraras	jesus.isarraras@lmco.com	(408) 742-0314
View Online	DTRA143-001	Smart Materials To Indicate Personnel Presence In Proximity To Containers	Identify and develop a smart material with properties suitable for application in a sensor system to detect and store information that supports awareness of the presence of personnel in the immediate vicinity of containers or other points of interest.	LM Missiles and Fire Control (MFC) LM Aeronautics (Aero) LM Space Systems - STAR Labs LM Mission Systems and Training, Integrated Warfare Systems & Sensors (MST IWSS) LM Mission Systems and Training, Ship and Aviation Systems (MST SAS) LM Space Systems - SMD	Christopher Dorosky Craig Owens Dawn Sisneros Jeff MacBride Jeffrey Poulin Jesus Isarraras	christopher.g.dorosky@lmco.com craig.l.owens@lmco.com Dawn.Sisneros@lmco.com jeffrey.m.macbride@lmco.com jeffrey.poulin@lmco.com jesus.isarraras@lmco.com	972-603-2349 817/777-6504 303-379-3194 856/722-4407 607-751-6899 (408) 742-0314

View Online	DTRA143-002	Production of Chemical Reagents for Prompt-Agent-Defeat Weapons	The objectives of this effort are to: 1) develop the necessary manufacturing processes to produce kilogram quantities of novel halogen-containing chemical reagents, and 2) to apply these processes to manufacture several kilograms of these reagents. These novel chemical reagents have been previously researched for use to reliably destroy biological-agent targets that could pose a threat to global security.				
View Online	DTRA143-003	Plume Diagnostics/Source Term Development for C-WMD Agent Defeat Testing Accuracy	To provide innovative technologies and next generation C-WMD system weapon-effects testing components/methodologies to validate effective C-WMD testing. Develop next generation plume diagnostics/modeling/source term development for effective sampling and analysis of C-WMD offensive weapons development. The ability to detect, quantify, track, and validate chemical/biological simulant and agent characteristics during multiple stages of energetic plume development (source term) seeks innovative next generation solutions from small business research & development.	LM Missiles and Fire Control (MFC) LM Space Systems - STAR Labs LM Space Systems - SMD	Christopher Dorosky Dawn Sisneros Jesus Isarraras	christopher.g.dorosky@lmco.com Dawn.Sisneros@lmco.com jesus.isarraras@lmco.com	972-603-2349 303-379-3194 (408) 742-0314
View Online	DTRA143-004	Novel Munition Technologies to Attack and Defeat Weapons of Mass Destruction (WMD)	To identify and develop new innovative technologies that can be employed to offensively attack and defeat WMD materials, equipment, processes, and operations while dramatically mitigating, and potentially negating, collateral contamination effects from the release of airborne hazardous materials.	LM Missiles and Fire Control (MFC) LM Space Systems - SMD	Christopher Dorosky Jesus Isarraras	christopher.g.dorosky@lmco.com jesus.isarraras@lmco.com	972-603-2349 (408) 742-0314
View Online	DTRA143-005	Knowledge Base Population and Reasoning	Design approach to building a comprehensive knowledge store supporting cross program knowledge sharing and discovery.	LM Aeronautics (Aero) LM Space Systems - SMD	Craig Owens Jesus Isarraras	craig.l.owens@lmco.com jesus.isarraras@lmco.com	817/777-6504 (408) 742-0314
View Online	DTRA143-007	Advanced Fast Shutter for Debris Mitigation	Develop a fast valve/shutter debris mitigation system that can close an open aperture to protect a test object of at least 3 cm diameter from debris moving at ~20 km/s. The application is to block particulate and plasma debris from cold x-ray and extreme ultra-violet (EUV) radiation sources during testing of optical components.	LM Space Systems - SMD	Jesus Isarraras	jesus.isarraras@lmco.com	(408) 742-0314
View Online	DTRA143-008	Lithography Cost Reduction for Rad Hard Integrated Circuits	The primary objective of this effort is to support the introduction and use of gridded 1D photomask design (Ref 1) or direct write technologies e-beam direct write (EBDW Ref 2) technologies for enhanced security and reduced production costs of critical ASICs at Trusted foundries. Either 1D Gridded Lithography or e-beam direct write or a combination of the two is acceptable.	LM Missiles and Fire Control (MFC) LM Space Systems - SMD	Christopher Dorosky Jesus Isarraras	christopher.g.dorosky@lmco.com jesus.isarraras@lmco.com	972-603-2349 (408) 742-0314
View Online	DTRA143-009	Post-detonation Debris Analysis for the Advancement of the Nuclear Forensics Timeline	Enable real-time analysis of post detonation debris with in-field deployable systems to provide analytical information about the nuclear yield detonation event to enable nuclear forensic assessments.	LM Missiles and Fire Control (MFC) LM Space Systems - SMD	Christopher Dorosky Jesus Isarraras	christopher.g.dorosky@lmco.com jesus.isarraras@lmco.com	972-603-2349 (408) 742-0314
View Online	SB143-001	Energy Harvesting for Next Generation Neurotechnology	Improve next generation neurotechnology by developing energy harvesting technologies to enable self-powered neural interfaces.	LM Missiles and Fire Control (MFC) LM Aeronautics (Aero) LM Mission Systems and Training, Integrated Warfare Systems & Sensors (MST IWSS)	Christopher Dorosky Craig Owens Jeff MacBride	christopher.g.dorosky@lmco.com craig.l.owens@lmco.com jeffrey.m.macbride@lmco.com	972-603-2349 817/777-6504 856/722-4407
View Online	SB143-002	Next Generation Plasma Modeling Tools	Develop next generation 3D plasma predictive design tools capable of simulating rapidly evolving plasma phenomena consisting of both kinetic and fluid behaviors, which must be deployable in modern massively parallel architectures, such as CPU-GPU systems.	LM Space Systems - SMD	Jesus Isarraras	jesus.isarraras@lmco.com	(408) 742-0314
View Online	SB143-003	Mobile Cloud Analytic Environment	Develop and demonstrate a small, lightweight cloud computing environment capable of distributed processing of very large data sources in forward deployed areas for behavior detection and modeling using locally-sensed Radio Frequency (RF) and other available data sources. Demonstrate use within and across small units and vehicles, to include manned and unmanned aircraft.	LM Space Systems - STAR Labs LM Mission Systems and Training, Integrated Warfare Systems & Sensors (MST IWSS)	Dawn Sisneros Jeff MacBride	Dawn.Sisneros@lmco.com jeffrey.m.macbride@lmco.com	303-379-3194 856/722-4407
View Online	SB143-004	High Performance, Integrated Transistors for On-Chip Power Supplies	Develop and characterize heterogeneously on-chip integrated electronic circuits for switched power supplies that can significantly reduce size and cost while improving efficiency, therefore having transformational impact on a wide range of electronic systems.	LM Missiles and Fire Control (MFC) LM Mission Systems and Training, Integrated Warfare Systems & Sensors (MST IWSS) LM Space Systems - SMD	Christopher Dorosky Jeff MacBride Jesus Isarraras	christopher.g.dorosky@lmco.com jeffrey.m.macbride@lmco.com jesus.isarraras@lmco.com	972-603-2349 856/722-4407 (408) 742-0314
View Online	SB143-005	Robust Coordination under Extreme Uncertainty	Develop contingency generation methodologies for command and control that guarantee an acceptable level of performance under extreme uncertainty and operational constraints	LM Mission Systems and Training, Integrated Warfare Systems & Sensors (MST IWSS) LM Space Systems - SMD	Jeff MacBride Jesus Isarraras	jeffrey.m.macbride@lmco.com jesus.isarraras@lmco.com	856/722-4407 (408) 742-0314
View Online	SB143-006	Next Generation Tactical Wearable Night Vision	Develop technology for and demonstrate potential of compact, lightweight, heads-up, broad-band night vision display system for ground soldiers featuring cross-band infrared sensing and illumination for robust all-condition viewing. This revolutionary new system capability is envisioned to have the ultimate potential to replace the essential, but dated military standard Night Vision Goggles (NVG).	LM Aeronautics (Aero) LM Mission Systems and Training, Ship and Aviation Systems (MST SAS)	Craig Owens Jeffrey Poulin	craig.l.owens@lmco.com jeffrey.poulin@lmco.com	817/777-6504 607-751-6899
View Online	N143-126	Quantitative Infrared (IR) Thermal Image Comparison Software Tool	To develop analytical software that will provide the capability to quantitatively evaluate and compare infrared images. The resulting software should be capable of interfacing with existing hardware while providing quantitative data, but not limited to graphs and charts.	LM Aeronautics (Aero) LM Space Systems - STAR Labs LM Mission Systems and Training, Ship and Aviation Systems (MST SAS) LM Space Systems - SMD	Craig Owens Dawn Sisneros Jeffrey Poulin Jesus Isarraras	craig.l.owens@lmco.com Dawn.Sisneros@lmco.com jeffrey.poulin@lmco.com jesus.isarraras@lmco.com	817/777-6504 303-379-3194 607-751-6899 (408) 742-0314
View Online	N143-127	Identification and Optimization of Advanced Wireless Textiles	Develop an ensemble to advance human functionality, optimize personnel performance to account for reduced manning and to enhance the survivability of future warships by embedding technologies into the sailors uniform to create a robust human/ship command and control interface.	LM Mission Systems and Training, Integrated Warfare Systems & Sensors (MST IWSS)	Jeff MacBride	jeffrey.m.macbride@lmco.com	856/722-4407
View Online	N143-128	Advanced Textile Manufacturing Utilizing 3D Printing	Develop additive manufacturing techniques based on 3D Fused Deposit Modeling for the creation of clothing and individual equipment. The appearance and physical properties shall replicate those of existing textiles.	LM Space Systems - STAR Labs	Dawn Sisneros	Dawn.Sisneros@lmco.com	303-379-3194

View Online	N143-129	A Sensor System for Precise, Automated Position-keeping for Ocean Going Vessels	Develop a sensor technology that will allow an ocean going vessel to automatically track and maintain a relative position to a surfaced SSBN without modifying the SSBN or installing any equipment onto the SSBN. The sensor system will have an all-weather capability and meet performance requirements in environmental conditions up to Sea State 4.	LM Mission Systems and Training, Under Sea Systems (MST USS)	Jon Bell	jon.c.bell@lmco.com	401-849-0124 x144
View Online	N143-130	Replacement Nose Fairing Material	Develop, characterize and demonstrate a fully capable replacement material for the Nose Fairing.	LM Aeronautics (Aero) LM Space Systems - STAR Labs LM Space Systems - SMD	Craig Owens Dawn Sisneros Jesus Isarraras	craig.l.owens@lmco.com Dawn.Sisneros@lmco.com jesus.isarraras@lmco.com	817/777-6504 303-379-3194 (408) 742-0314
View Online	A143-092	Human-Centered Mission Command Metrics for the Tactical Computing Environment	Perform research and technology development, resulting in software that is integrated, demonstrated, and evaluated with a representative Army System of Record, which generates a set of metrics that show the effectiveness of Mission Command (MC) in austere operating environments.	LM Mission Systems and Training, Integrated Warfare Systems & Sensors (MST IWSS) LM Space Systems - SMD	Jeff MacBride Jesus Isarraras	jeffrey.m.macbride@lmco.com jesus.isarraras@lmco.com	856/722-4407 (408) 742-0314
View Online	A143-093	Validated Mathematical Model of Spatial Orientation (SO)	Develop and verify an improved mathematical model of human gravitoinertial spatial orientation (SO) which simulates perceptions resulting from the integration of orientation/motion cues provided by visual, auditory, vestibular, and somatosensory senses, especially those cues existing in the aerospace environment.	LM Missiles and Fire Control (MFC)	Christopher Dorosky	christopher.g.dorosky@lmco.com	972-603-2349