

DoD SBIR 2019.1/A Topics of Interest

Companies interested in collaborating with BAE Systems Electronic Systems should contact the SBIR Liaison Office at sbir.es@baesystems.com or by phone at 603-321-8099. BAE Systems is interested in collaboration on the identified topics below; topics not listed may be of interest, as well. We welcome all inquiries.

Topic Number	Topic Title
A19-004	Low-cost, Heat-resistant Composites for Large-caliber Armament Applications
A19-005	Innovative Muzzle Brake Design for Artillery
A19-006	Futures Emergency Management through Artificial Intelligence
A19-008	Robust Wideband Full Duplex Radios
A19-009	New Concept for a Low Distortion, High-Power, High-Efficiency mm-Wave RF Power Amplifier Circuit
A19-011	Ultra-narrow linewidth, high power semiconductor laser
A19-015	Narrowband High Reflector Microstructure for 1030-1070 nm Continuous Wave
A19-016	Extended Near Infrared Focal Plane Array development for Versatile Imaging Systems Applications
A19-017	Increased Operability and Operating Temperature of HgCdTe MWIR and LWIR FPAs
A19-018	Ultrawide-Bandgap Semiconductors: Research Opportunities and Challenges
A19-021	Modeling of Microstructural Irregularities in Additively Manufactured Materials
A19-022	Device for hydrogen on demand from aluminum alloy and water reaction
A19-024	Slant Path Optical Turbulence and Atmospheric Characterization
A19-025	Ultra-High Accuracy RF Ranging and Time/Frequency Transfer
A19-028	Machine Learning Dataset Auto Generator (ML-DAG)
A19-029	Wideband, Programmable, Multifunctional Transmitter/Receiver (TRX) Module
A19-030	Modular, Fuel Flexible Power Source
A19-031	Provenance using Blockchain on Disconnected Networks
A19-032	mmWave for Army Tactical Communications
A19-033	Metamaterial Array for SWAP Constrained Air Platforms
A19-034	Light Weight Man-portable High Frequency (HF) Antenna
A19-035	Dual Color High Operating Temperature Photonic Mid-wave Infrared Detector for Threat Warning
A19-036	Lightweight Terrestrial Remote-Recording Integrated Product (LTR-RIP)
A19-037	Machine Learning for Radio Frequency (RF) Signatures Detection and Classification System
A19-038	Resilient PNT Waveform
A19-039	Virtual Reality Collaboration Tool for Mission Command
A19-040	Transfer Learning For Video Analysis of Infrared Datasets
A19-041	Integrated Visor Optics & Electronics for Head Mounted Display
A19-042	Multi-band uncooled LWIR camera
A19-043	Small pixel LWIR active sensor

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A19-045	Low-cost, uncooled low light level imaging detectors
A19-046	Charge collection scanning transmission electron microscopy for advanced infrared semiconductor devices
A19-047	Novel Low Cost Planar III-V SLS Infrared Detector Focal Plane Arrays
A19-048	Motion Compensation for Background Estimation from On-The-Move Ground Platforms
A19-050	Engineering the interface chemistry for improved performance III-V based infrared sensors
A19-051	High Brightness Long Wave Quantum Cascade Laser Development
A19-052	Automated Discrimination and Tracking of Discrete Targets in Complex Environments
A19-053	Augmented Situational Awareness Windshield (ASAW)
A19-070	Innovative Primer Design for Large Caliber Ammunition
A19-071	Weather Situational Awareness in the Cockpit
A19-073	Secure Avionics Mobile and Windshield Display Technologies
A19-076	Expeditionary Additive Manufacturing (AM): Metallic Based Systems
A19-080	Cyber Security Tool Kits for Engineers and Soldiers
A19-082	Energy harvesting solutions for tracking flight times in aviation and missile structures
A19-083	Automated Cyber Opposition Forces
A19-084	Trust and Situational Awareness in Augmented Reality Soldier Training
A19-085	High Power High Efficiency Single Mode Diode Emitter
A19-086	High Dynamic Range Camera for High Energy Laser Fine Tracking
A19-087	Adaptive Optics System for a High Energy Laser Weapon System
A19-088	Lightweight Optical Components for High Energy Laser System
A19-089	Advanced Diesel Engine High-Pressure Fuel Injection Pump
A19-093	Wide Band Gap High Current Solid State Circuit Protection Device
A19-095	Multi-Axis Energy Attenuation Seat System
A19-097	Deep Learning Architecture for a Wide Variety of Sensors
A19-100	Identification Friend or Foe (IFF) Panel with Dynamic Contrast at Long Wave Infrared (LWIR) Wavelengths
AF191-001	Multi-Domain Command & Control
AF191-002	Space
AF191-003	Advanced Materials for Defense
AF191-004	Open Call for Robotics, 3D Printing, and Autonomous Systems Defense-Related Dual-Purpose Technologies/Solutions with a Clear Air Force Stakeholder Need
AF191-005	Open Call for Innovative Defense-Related Dual-Purpose Technologies/Solutions with a Clear Air Force Stakeholder Need
AF191-006	6U CubeSat EO/IR Solutions for Operational Weather Demo
AF191-007	Rapid CubeSat Development
AF191-008	Commercial Solutions for Innovative Space Data Analytics
AF191-009	Pitch Day in Command, Control, Communications, Intelligence, and Network (C3I&N)

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AF191-010	Pitch Day Investment in Battlefield Air Operations Family of Systems Technologies
AF191-020	Autonomy for Supporting Strategic Reasoning about Intelligence Collection Management for Multi-Domain Operations
AF191-021	Personal Assistant for Intelligence, Surveillance and Reconnaissance (ISR) Analysts
AF191-035	Data/Model Fusion for Missile Signature Modeling
AF191-038	Diffuse Screens for Dynamic Infrared Scene Projection Systems
AF191-040	Development of Test Technologies and Methodologies for Advanced Focal Plane Arrays
AF191-048	Develop a Wireless Instrumentation System (WIS)
AF191-049	Cybersecurity for Standalone Airgap Systems
AF191-053	Illuminators for applications involving coherent detection
AF191-056	Low-Cost, High-Bandwidth Fast Steering Mirror (FSM)
AF191-059	FSO and RF Integrated Aerial Communications (FaRIA-C)
AF191-060	Collaboration and Interoperability for Distributed Mission Analysis
AF191-061	Bandwidth Constrained Electronic Warfare
AF191-062	Distributed Deep Learning and Sensing
AF191-063	Information Flow Control for Microkernels
AF191-065	Network Sensing and Analytics for Low Bandwidth Cyber Protection Team (CPT) Deployment Scenarios
AF191-070	Thermal Management for High Power SmallSats
AF191-071	Flexible Solar Arrays for Small Spacecraft Buses
AF191-072	Spacecraft Fault Detection Identification & Causation Using Machine Learning
AF191-074	Cryogenic Radiation-Hard Read-out Integrated Circuit Electronics Process Design Kit
AF191-075	Advanced Manufacturing and Assembly Approaches for Reduced Cost Small Satellite Constellations
AF191-076	Advanced Power Source Technologies
AF191-079	Next Generation Laser Designator
AF191-086	High-Speed Environment Modeling and Simulation Tool
AF191-087	Multi-Band Seeker Antennas
AF191-092	AgilePod® Capability Enhancements: Wideband Multi-Function RF Sensing
AF191-095	Integrated Circuit (IC) Die Extraction & Reassembly Automation
AF191-099	Low Cost Additive Manufacturing for Cast Tooling
AF191-102	AgilePod® Capability Enhancements: LiDAR
AF191-106	Developing Sustainable and Adaptive Small Engine Manufacturing
AF191-D001	Low Cost Laser Communications Ground Terminal Network
AF19A-T001	Maintaining Human-Machine Shared Awareness in Distributed Operations with Degraded Communications
AF19A-T010	Virtual Reality for Multi-INT Deep Learning (VR-MDL)
AF19A-T014	Next Generation Energy Storage Devices Capable of 400 Wh/kg and Long Life
AF19A-T015	Space-Based Computational Imaging Systems

Topic Number	Topic Title
AF19A-T017	Tunable bioinspired spatially-varying random photonic crystals
AF19A-T018	Hardware-in-the-loop test bed for magnetic field navigation
AF19A-T019	Efficient numerical methods for mesoscale modeling of energetic materials
DHA191-004	Delayed/Disconnected, Intermittently-Connected, Low-Bandwidth (DIL) Communications Capability in Support of Military Medical Systems Availability in Dispersed and Denied Operations
N191-001	Multi-Color Long-wave Infrared (LWIR) Imagers for Infantry Applications
N191-003	Optically-Aided, Non-Global Positioning System (GPS) for Aircraft Navigation Over Water
N191-006	Compact Radio Frequency-to-Optical Transmitter for Airborne Military Environments
N191-008	Improved Quantum Efficiency Photo-Detector
N191-010	Miniature Diode-Pumped Solid State Laser for Military and Aerospace Environments
N191-011	Automatic Threat Radar Waveform Recognition
N191-013	Maritime Big Data Analytics
N191-014	Brightness Scaling of Quantum Cascade Lasers
N191-016	Clustering and Association for Active Sonar Tracking and Classification
N191-017	Enhanced Visualization for Situational Understanding
N191-018	Automated Event Logging for Improved Electronic Warfare Operations
N191-021	Automated Curvilinear Mineline Detection
N191-026	Antennas and Antenna Radomes with Extreme Thermal Shock Resistance for Missile Applications
N191-030	Risk Reduction and Resiliency Modeling Software for Industrial Control Systems
N191-031	Quantum Cascade Laser Manufacturing Cost Reduction
N191-032	Artificial Intelligence Real-Time Track Modeling and Simulation for Combat Systems
N191-034	Automated Multi-System Course of Action Analysis Using Artificial Intelligence
N191-036	Big Data Tools for High-speed Threat Detection and Classification
N191-037	Cyber Secure Backbone for Autonomous Vehicles
N191-039	High Operating Temperature (HOT) Short-Wave Infrared/Mid-Wave Infrared (SWIR/MWIR) Dual-band 2-channel and Broadband Detectors for Weapon Targeting and IR Seekers
N191-040	Open Cell Ring Down Spectrometer to Measure Atmospheric Visible and Infrared Ambient Light Extinction
N191-041	Development of Long-Life, Energy-Dense Batteries Using Alpha-Beta Emitting Isotopes/Isomers
N191-042	Developing an Intermediate Augmented Reality Capability for Infantry
N19A-T001	Optimized Higher Power Microwave Sources
N19A-T002	Enhanced Sensor Resource Management Utilizing Bayesian Inference
N19A-T004	Process to Mitigate Catastrophic Optical Damage to Quantum Cascade Lasers
N19A-T005	Quantum Cascade Laser Array with Integral Wavelength Beam Combining
N19A-T006	Atomic Triaxial Magnetometer

Topic Number	Topic Title
N19A-T008	Optical Emulator of Complex Electromagnetic Maneuverability (EM) Systems with Nanophotonics
N19A-T009	3-Band PicoSecond High Energy Compact (SWaP) Laser System for Marine Wave Boundary Layer Atmospheric Characterization Instrument Development
N19A-T010	Comprehensive Surf Zone Modeling Tool
N19A-T011	Remotely Operated Vehicle (ROV) Deployed Underwater Attachment
N19A-T012	Unified Logging Architecture for Performance and Cybersecurity Monitoring
N19A-T014	Low-Cost, High-Density, Harsh Environment, Miniature Electrical Connector
N19A-T015	Marine Atmospheric Modeling, Data Collection, Visualization & Metrological Toolset for Submarine Electromagnetic (EM) Maneuverability
N19A-T016	Quench Monitoring and Control System for High-Temperature Superconducting Coils
N19A-T018	FPGA Vulnerability Analysis Tools
N19A-T020	Data Analytics and Machine Learning to Accelerate Materials Design and Processing Development
N19A-T021	Forensic Models of Cyberspace Behaviors
N19A-T022	Reduced Order Modeling (ROM) for UUV/USV Environmental Awareness
N19A-T023	Photonic-Integrated-Circuit Spectrometer
NGA191-001	Unsupervised Techniques for SAR Imagery
NGA191-002	Crowd-Sourcing Statistical Study for Automated Video Quality Assessment Ground Truth
NGA191-003	Automated VNIIRS Assessment of Motion Imagery
NGA191-004	Improved still frames and denoised motion imagery from distressed full motion video (FMV)
NGA191-005	Collaborative Recommender System for Spatio-Temporal Intelligence Documents
NGA191-007	Improving Automation through Gamification
NGA191-008	Improved detection sensitivity, geolocation accuracy, and create novel GEOINT products for OTHR radar systems
NGA191-009	Automated object quantity estimation for Radar Imagery
SOCOM191-001	Austere Environment Virtual Planning Tool
SOCOM191-002	Automated Synthetic Shortwave Infrared Image Creation From Near Wave Infrared and Electro Optical Imagery
SOCOM191-003	Low Profile Night Vision Goggle Mounting Solution
SOCOM191-004	Next Generation Graph
SOCOM19A-001	Low Visibility Radio Frequency Resonator