

Key Technology Sub Areas for DoD Industry Survey

Advanced and Networked Sensing and Signature Management

- ☐ Adaptive Optics
- ☐ Biological weapons detection and characterization
- ☐ Building-sector sensing
- ☐ Chemical weapons detection and characterization
- ☐ Emerging Pathogens detection and characterization
- ☐ Energy-sector sensing
- ☐ Environmental-sector sensing
- ☐ Health-sector sensing
- ☐ Nuclear Materials detection and characterization
- ☐ Payloads, sensors and instruments
- ☐ Remote sensing of the Earth
- ☐ Security-sector sensing
- ☐ Sensor processing and data fusion
- ☐ Signature management
- ☐ Transportation-sector sensing

Advanced Computing

- ☐ Cloud Computing
- ☐ Computing architectures
- ☐ Data processing and analysis techniques
- ☐ Data storing
- ☐ Edge computing
- ☐ Supercomputing

Advanced Engineering materials

- ☐ Material property characterization and lifecycle assessment
- ☐ Materials by design and material genomics
- ☐ Materials with new properties
- ☐ Materials with substantial improvements to existing properties

Advanced Gas Turbine Engine Technologies

- ☐ Aerospace, maritime, and industrial development and production technologies
- ☐ Full-authority digital engine control, hot-section manufacturing, and associated technologies

Advanced Manufacturing

- ☐ Additive manufacturing
- ☐ Clean, sustainable manufacturing
- ☐ Nanomanufacturing

- ☐ Smart manufacturing

Advanced Nuclear Energy Technologies

- ☐ Fusion energy
- ☐ Nuclear energy systems
- ☐ Space nuclear power and propulsion systems

Artificial Intelligence

- ☐ Deep learning
- ☐ Machine learning
- ☐ Next-generation AI
- ☐ Planning, reasoning, and decision making
- ☐ Reinforcement learning
- ☐ Safe and/or secure AI
- ☐ Sensory Perception and recognition

Autonomous Systems and Robotics

- ☐ Air
- ☐ Maritime
- ☐ Space
- ☐ Surfaces

Biotechnologies

- ☐ Biomanufacturing and bioprocessing technologies
- ☐ Engineering of multicellular systems
- ☐ Engineering of viral and viral delivery systems
- ☐ Genome and protein engineering including design tools
- ☐ Multi-omics and other biometrology bioinformatics, predictive modeling, and analytical tools for functional phenotypes
- ☐ Nucleic acid and protein synthesis

Communication and Networking Technologies

- ☐ Communications and network security
- ☐ Hardware, firmware, and software
- ☐ Mesh networks/infrastructure independent communication technologies
- ☐ Next-generation wireless networks, including 5G and 6G
- ☐ Optical links and fiber technologies
- ☐ Radio-frequency (RF) and mixed-signal circuits, antennas, filters, and components
- ☐ Satellite-based communications
- ☐ Spectrum management technologies
- ☐ Terrestrial/undersea cables

Directed Energy

- ☐ High-power microwaves
- ☐ Lasers
- ☐ Particle beams

Financial Technologies

- ☐ Digital assets
- ☐ Digital identity infrastructure
- ☐ Digital payment technologies
- ☐ Distributed ledger technologies

Human Machine Interfaces

- ☐ Augmented reality
- ☐ Brain- computer interfaces
- ☐ Human machine teaming
- ☐ Virtual reality

Hypersonics

- ☐ Aerodynamics and control
- ☐ Defense
- ☐ Detection, tracking, and characterization
- ☐ Materials
- ☐ Propulsion

Quantum Information Technologies

- ☐ Materials, isotopes, and fabrication techniques for quantum devices
- ☐ Post-quantum cryptography
- ☐ Quantum computing
- ☐ Quantum networking
- ☐ Quantum sensing

Renewable Energy Generation and Storage

- ☐ Batteries
- ☐ Electric and hybrid engines
- ☐ Energy storage
- ☐ Energy-efficiency technologies
- ☐ Renewable and sustainable fuels
- ☐ Renewable generation

Semiconductors and Microelectronics

- ☐ Beyond complementary metal-oxide-semiconductor (CMOS) technology
- ☐ Design and electronic design automation tools
- ☐ Heterogeneous integration and advanced packaging

- ☐ Manufacturing process technologies and manufacturing equipment
- ☐ Novel materials for advanced microelectronics
- ☐ Specialization/tailored hardware components for artificial intelligence, natural and hostile radiation environments, RF and optical components, high powered devices, and other critical applications
- ☐ Wide-bandgap and ultra-wide-bandgap technologies for power management, distribution, and transmission

Space Technologies and Systems

- ☐ Commoditized satellite buses
- ☐ Cryogenic fluid management
- ☐ Entry, descent and landing
- ☐ Low-cost launch vehicles
- ☐ On-orbit servicing, assembly, and manufacturing
- ☐ Resilient positioning, navigation, and timing (PNT)
- ☐ Sensors for local and wide-field imaging
- ☐ Space propulsion