Ms. Tina Barnhill
SBIR/STTR Business Operations Manager

SBIR/STTR Innovation Summit
Embracing Innovation, Science, and Technology to Outpace the Threat

2021
MDA Technology Maturation (DVR)

• Pursue a broad range of high-risk technologies

  - Capitalize on the innovation and creativity of the Nation’s small businesses and universities

  - Develop and transform cutting edge technologies into actual applications for insertion into the MDS (Missile Defense System)

• Technology Maturations' Technical Objectives

  - Fund relevant, advanced Research and Development at domestic universities and small businesses

  - Exploit breakthroughs in science to offer robust technical improvements to MDS

  - Build portfolio of revolutionary technology to support and enhance MDS

  - Develop holistic partnerships

  - Educate future scientists and engineers
<table>
<thead>
<tr>
<th>Research Area</th>
<th>Research Interests</th>
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<tbody>
<tr>
<td>C2BMC</td>
<td>Artificial Intelligence applied to Battle Management</td>
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<tr>
<td>Radar</td>
<td>Kinematic Invariant Space Maximum Entropy Tracker</td>
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<td>Director for Technology Protection</td>
<td>Bare Metal Hypervisor and Anti-Tamper Protections</td>
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<td>Industrial Manufacturing</td>
<td>Advanced Supercapacitors Based on Novel Low-cost Biocarbon Materials</td>
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<td>Lethality</td>
<td>Modeling and testing of materials for Lethality Assessments</td>
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<tr>
<td>Survivability</td>
<td>RadHard Parts, Testing of Nuclear Survivability</td>
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<tr>
<td>Modeling &amp; Simulation</td>
<td>Aerodynamic Controls for Hypersonic Vehicles, hypersonic vehicle modeling, upper stage motors</td>
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## SBIR/STTR Research Areas

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<th>Research Area</th>
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<tr>
<td>Ground Based Midcourse Defense</td>
<td>IR signature modeling, Lightweight Multifunctional Components for Next-Gen Kill Vehicles</td>
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<td>Targets &amp; Countermeasures</td>
<td>Sensors and In-flight Communications</td>
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<td>THAAD</td>
<td>LADAR, Antennas, and Hypersonic Control Surfaces, Thermal Batteries</td>
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<td>Test Instrumentation</td>
<td>Optics testing</td>
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<tr>
<td>Technology Maturation</td>
<td>Hypersonics, propulsion, advanced materials,</td>
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<tr>
<td>Sensors &amp; Directed Energy</td>
<td>Fiber laser modeling and performance</td>
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<tr>
<td>Quality, Safety &amp; Mission Assurance</td>
<td>Transparent SiC windows, Igniter Systems for Solid Rocket Motors</td>
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SBIR/STTR Solicitation Process

• SBIR / STTR program is a four step process
  - Phase I: Feasibility and concept development
  - Phase II: Technology and prototype development
    ➢ Technology may receive one sequential Phase II
  - Phase II Enhancement: Prototype testing and technology demonstrations and validation
  - Phase III: Commercialization and Transition

Announcement published in [https://www.dodsbirsttr.mil](https://www.dodsbirsttr.mil)
• Inaugurated a nanosat testbed program to demonstrate notional Kill Vehicle communication architecture
• Executed structural test series to validate SBIR developed lightweight composites
• Near Net Shape Manufacturing Non-Eroding, Thin Walled, Tungsten
• Completed radiation testing on hardened mirrors
• Developed high-speed test instrumentation
TECHNOLOGY INVESTMENT AWARDS

FY19 Awards

- SBIR Phase I: 53 Awards, $5,524,705
- SBIR Phase II: 31 Awards, $30,830,503
- SBIR Phase III: 4 Awards, $17,340,888
- Out of Cycle: 48 Awards, $52,310,500

FY20 Awards

- SBIR Phase I: 56 Awards, $5,805,349
- SBIR Phase II: 20 Awards, $20,251,787
- SBIR Phase III: 18 Awards, $21,353,251
- Out of Cycle: 56 Awards, $65,637,934
CONTACT INFORMATION

www.mda.mil

- Missile Defense News, Images, Videos, Fact Sheets
- BMDS Overview, BMD Basics
- DoD SBIR/STTR website: https://sbir.defensebusiness.org
- SBA SBIR/STTR website: https://www.sbir.gov

To Contact MDA

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