

STELLAR TEAM

NOBLE MISSION



NDIA Small Business Innovation Summit

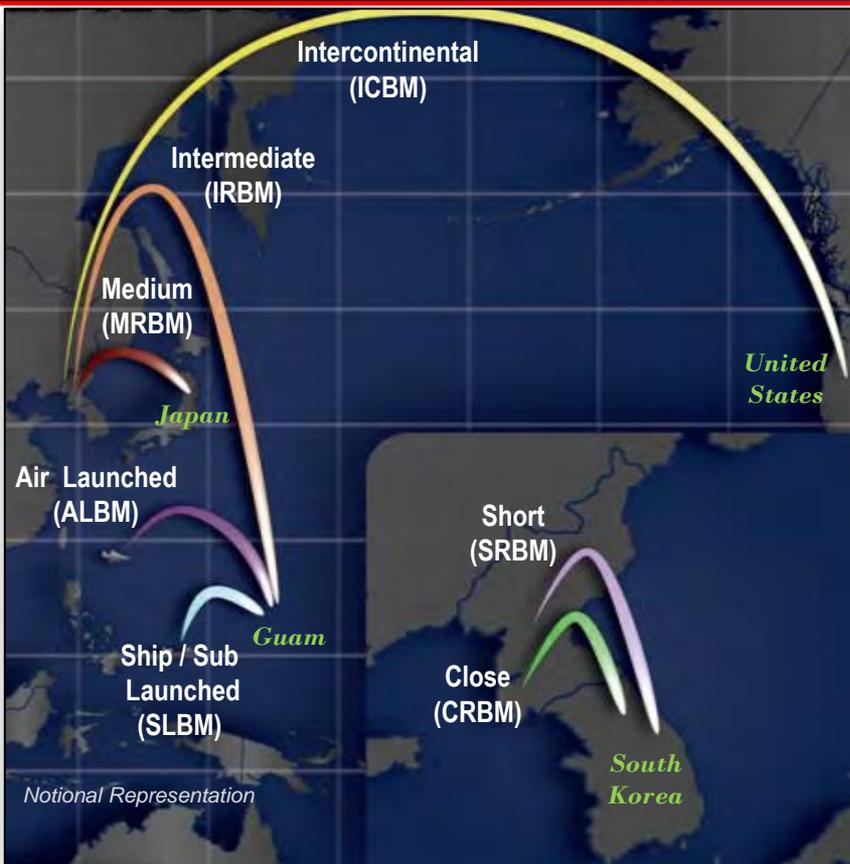
Missile Defense Agency (MDA) SBIR/STTR Program

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Evolving Threat Environment Missile Defense



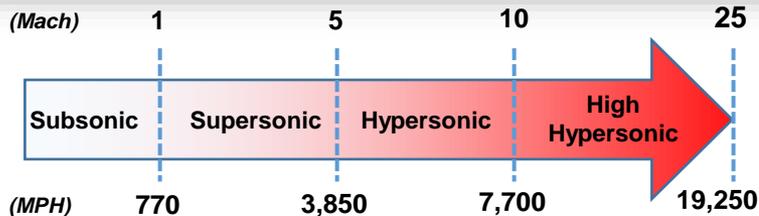
New missiles & existing system improvements

- Precision strike
- Decoys and jammers

Maneuvering in midcourse or terminal phase

- Depressed Ballistic Trajectories
- Multiple Independent Reentry Vehicle (MIRV)
- Maneuvering Reentry Vehicle (MaRV)
- Global Hypersonic Glide Vehicles (HGV)
- Long Range Hypersonic Cruise Missiles (HCM)

Integrated ballistic, hypersonic, air, cruise missile, unmanned and non-kinetic attacks



Ref: 2022 Missile Defense Review



North Korea
IRBM Hwasong-8

Iran
Multiple MRBMs

China
DF-15 SRBM

Russia
Tsirkon HCM



Mission Missile Defense Agency

To develop and deploy a **layered**, Missile Defense System to defend the **United States, its deployed forces, allies, and friends** from missile attacks in **all phases of flight**





The Missile Defense Agency

WARFIGHTER CAPABILITIES

**OPERATIONS
& READINESS**

**PRODUCTION,
FIELDING & DEPLOYMENT**

**TECHNOLOGY,
DEVELOPMENT & TEST**

**Delivering Capabilities by, with and through the Services
to meet Combatant Command Requirements**



In-Service Active Missile Defense System

**BATTLE 1
HOMELAND DEFENSE**

**BATTLE 2
REGIONAL DEFENSE**

**BATTLE 3
SELF DEFENSE**

SENSORS



Surveillance & BMDS Overhead Persistent Infrared (OPIR) Architecture (BOA)



Cobra Dane Radar



UEWR Radars



Sea-Based X-Band Radar



TPY-2 Forward Based Radars



AEGIS BMD SPY-1 Radars



THAAD TPY-2 Radars



Patriot MPQ-65 Radars

COMMAND & CONTROL, BATTLE MANAGEMENT & COMMUNICATIONS (C2BMC)

COMBATANT COMMANDS, JOINT STAFF, SERVICES & MDA



GMD



AEGIS



THAAD



Patriot



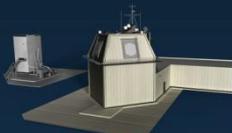
WARFIGHTING ASSETS



Ground-based Midcourse Defense (GMD)



AEGIS Ashore



AEGIS



THAAD



Patriot

WEAPONS

GBI
Ground Based Interceptor

SM-3
BLK IIA

SM-3
BLK IA/IB

THAAD
Terminal High Altitude Area Defense

SM-6
Sea Based Terminal

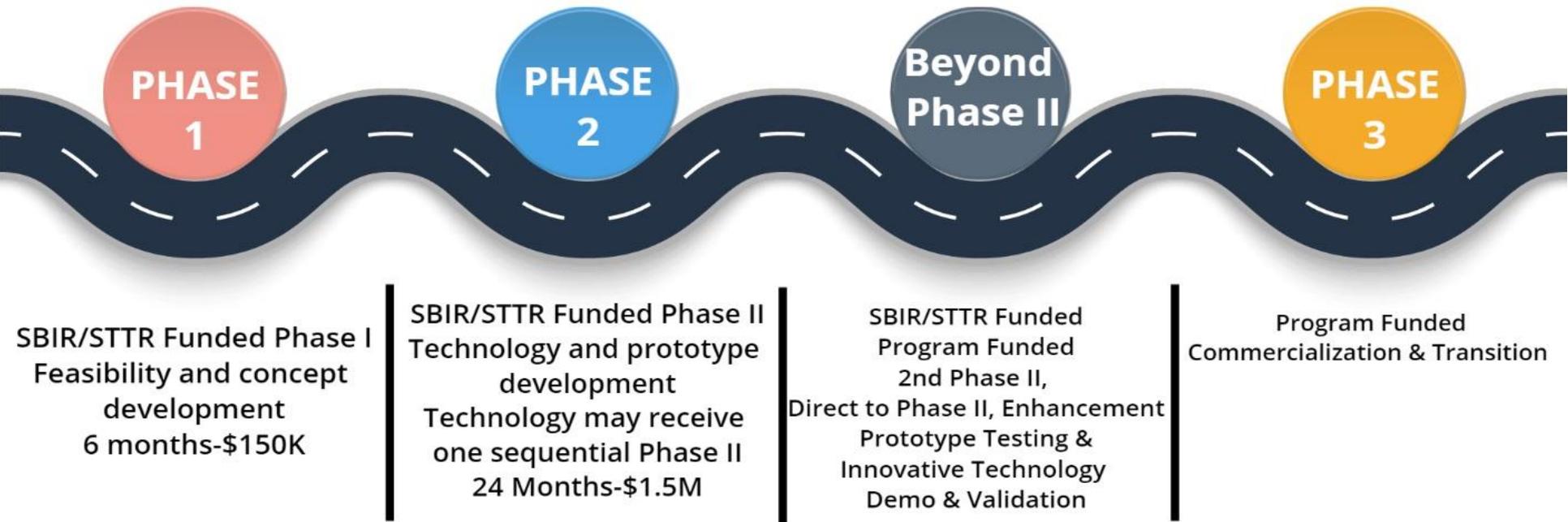
MSE
PAC-3
Missile Segment Enhancement

PAC-3
Patriot Advanced Capability-3



SBIR/STTR Process

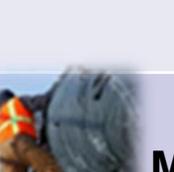
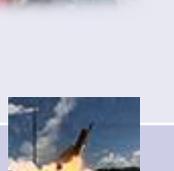
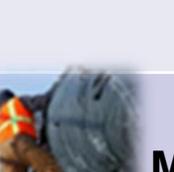
MDA SBIR/STTR ACQUISITION ROAD MAP





SBIR/STTR Research Areas



Research Area	Research Interests
 Sea-Based Weapon Systems	Innovative Ejector Launch System, Standard Missile 3 (SM-3) Materials Design Improvements
 C2BMC	Artificial Intelligence applied to Battle Management
 Radar	Radar Systems Technology
 Technology Protection	Bare Metal Hypervisor and Anti-Tamper Protections
 Industrial Manufacturing	Advanced Supercapacitors Based on Novel Low-cost Biocarbon Materials
 Lethality	Modeling and testing of materials for Lethality Assessments
 Survivability	RadHard Parts, Testing of Nuclear Survivability
 Modeling & Simulation	Aerodynamic Controls for Hypersonic Vehicles, hypersonic vehicle modeling, upper stage motors



SBIR/STTR Research Areas



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



MDA SBIR/STTR Technology Alignment

MDA SBIR/STTR Program aligns technology innovation to:



“We must continue to invest in advanced capabilities, and we must continue to instill a culture throughout DoD that embraces rapid experimentation and implementation. To accomplish this goal we must draw upon America’s incredibly vibrant innovation ecosystem-as we have for generations.”

**- Deputy Secretary of Defense
Kathleen H. Hicks**



Contact Information

www.mda.mil

Missile Defense News, Images, Videos, Fact Sheets

MDS Overview, MDS Basics

MDA Business Opportunities

https://www.mda.mil/advanced_research.html

SBA SBIR/STTR website: <https://www.sbir.gov>

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