

Missile Defense Overview



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Director of Small Business Programs
Missile Defense Agency
June 25, 2019



Missile Defense Agency Video



**Advanced and Game Changing Technology
for the Future**

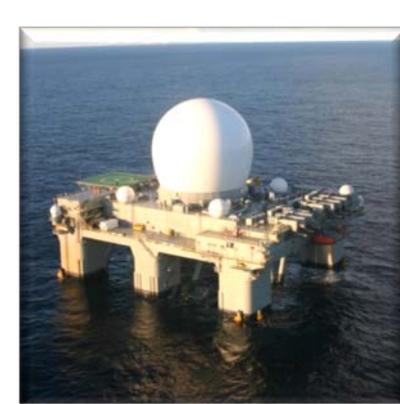
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Missile Defense Agency

Missile Defense Agency Mission

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



**Missile Defense Capability
Globally Deployed**



Today's Ballistic Missile Defense System

C2BMC Command Control, Battle Management and Communications

NMCC

USSTRATCOM

USNORTHCOM

USINDOPACOM

USEUCOM

USCENTCOM

BOOST / ASCENT
Defense Segment

MIDCOURSE
Defense Segment

TERMINAL
Defense Segment



Aegis
Ballistic Missile Defense

SM-3
Standard Missile-3

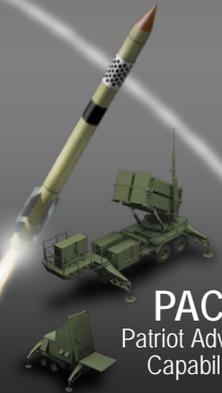


GBI
Ground-Based Interceptor



Aegis
Sea-Based Terminal

THAAD
Terminal High Altitude Area Defense



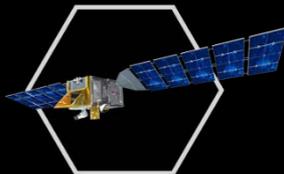
PAC-3
Patriot Advanced Capability-3

The System
Of Elements

Aegis Ashore



Sensors



Satellite Surveillance



Forward-Based Radar



Upgraded Early Warning Radar



AEGIS BMD SPY-I Radar



Sea-Based X-Band Radar



Missile Defense Agency Priorities

- In Support Of The National Defense Strategy -

- Continue focus on increasing system reliability to build warfighter confidence
- Increase engagement capability and capacity
- Rapidly address the Advanced Threat



BMDS Meets Today's Threat but Requires Additional Capacity and Advanced Capability to Stay Ahead of the Evolving Threat



MDA Office of Small Business Programs (OSBP) Mission/Vision

- The **Mission** of the Office of Small Business Programs (OSBP) is to enable the Missile Defense Agency to gain access to the efficiency, innovation, and creativity offered by small businesses
- OSBP has a **Vision** to remain an integral player and value added advisor in the development of MDA acquisition strategies to ensure compliance with laws, directives, goals, and objectives related to small business initiatives; to serve as a facilitator for accessing untapped small business resources; and to serve as an advocate for small business in MDA procurements



Technology Interest Areas “Detect”

Sensors

- Electro-Optical/
InfraRed and radar
 - Transmit and
Receive modules
 - Focal Plane
Arrays
- Signal & data
processing
algorithms
- Rad-Hard technology
- Telescopes &
antennas
- Windows & radomes





Technology Interest Areas “Control”

Command and Control, Battle Management & Communications

- Advanced tracking & discrimination algorithms
- Command & control algorithms
- Low latency and secure communications
- Battlespace management
- Data fusion
- Warfighter training



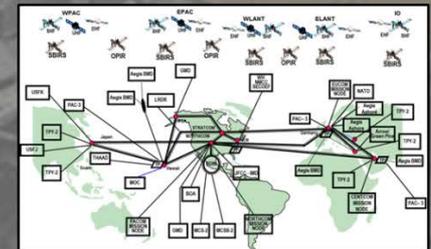
• Planning the Ballistic Missile Defense



• Managing the battle



• Fusing and creating BMD tracks



• Building worldwide network infrastructure



Technology Interest Areas “Engage”

Interceptors

- Guidance, navigation, & control
- Batteries & power systems
- Advanced materials
 - High temperature
 - Light weight
- Seeker technology
- Rad-Hard technology
- Deployment systems
- Lightweight composites
- Propulsion & control technologies
 - Improved specific impulse



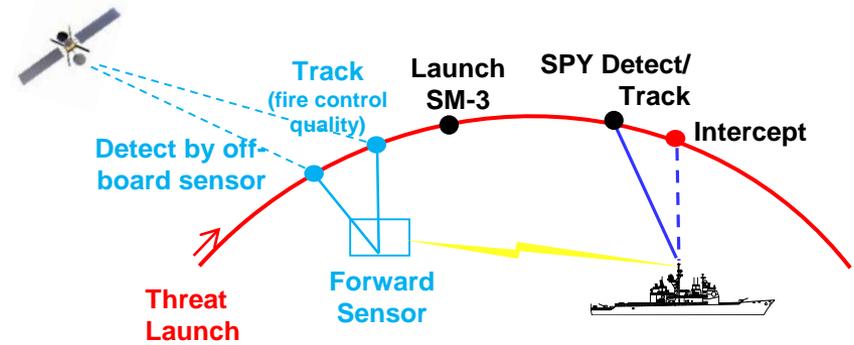


Technology Interest Areas “Assess”

Testing and Modeling & Simulation

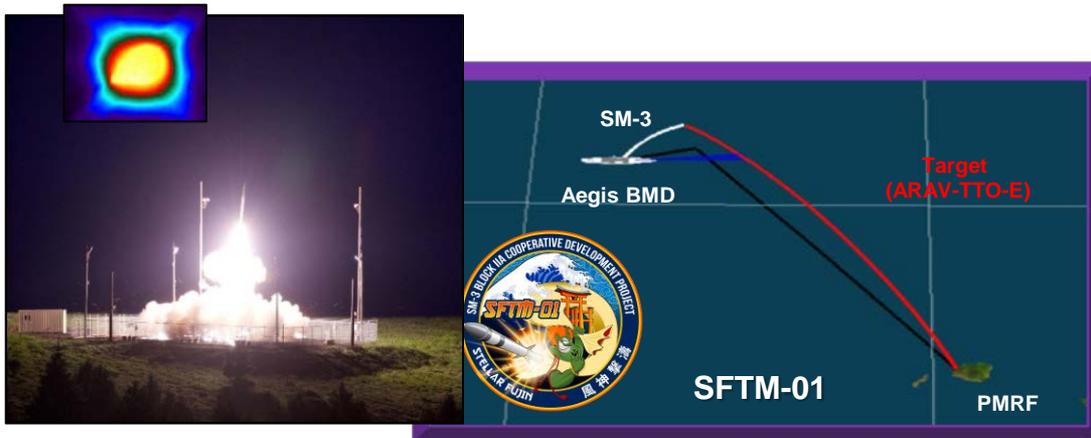
Testing

- Affordable targets
- Scene generation
- Hardware-in-the-Loop
- Rapid analysis software toolkits
- Predictive analysis & modeling
- Range safety



Modeling & Simulation

- Lethality
- Battlespace environments
- Engagement
- Aerothermal environments
- Technology investment evaluation
- Test verification



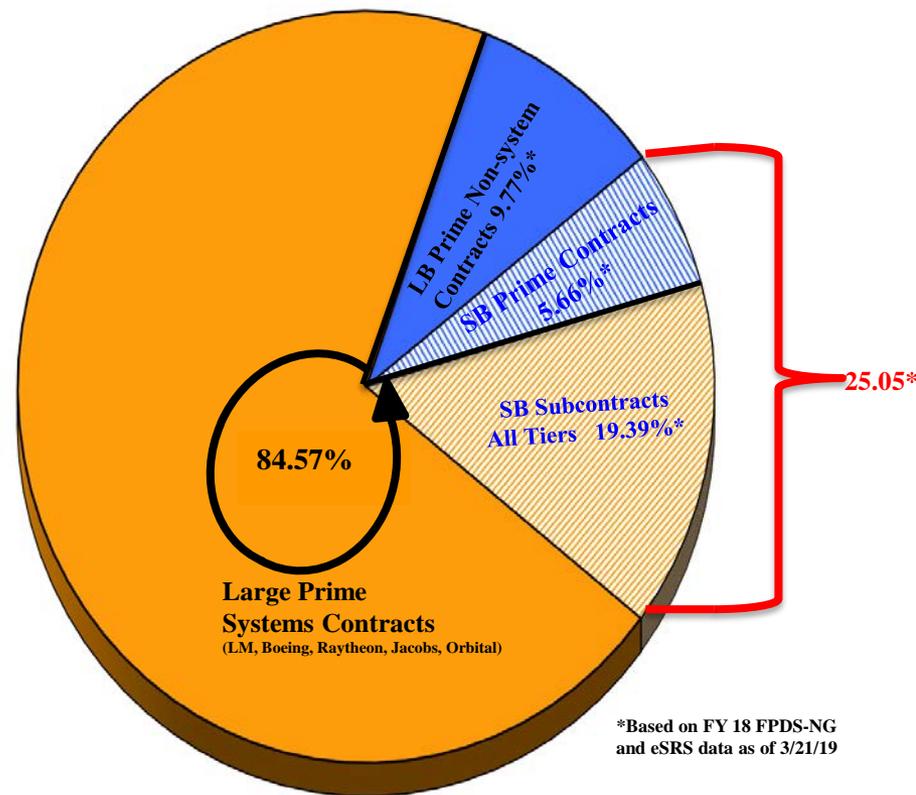


FY 18 Small Business Utilization in MDA (U)

MDA Total Acquisition Dollars*

Small Business Program Objectives

- Support and grow the small business industrial base
- Increase the number of qualified small business vendors at all tiers of subcontracting
- Improve the quality of MDA products and services by maximizing small business use across MDA contracts and subcontracts
- Increase technology transfers from the SBIR/STTR programs into BMDS programs



\$2.015B Awarded to Small Businesses in FY 2018

- \$455M in Prime Contracts to Small Businesses
- 1.560B in Subcontracts to Small Businesses



MDA Small Business Marketplace

Advanced Research

Small Business Innovation Research
Small Business Technology Transfer



Broad Agency Announcements

www.mda.mil/business/SBIR.STTR.programs.html

System Development, Production Fielding and Sustainment



Advisory and Assistance Services



TEAMS-Next Follow-On FY2019

- Systems Engineering
- Logistics
- Strategic Planning
- Financial and Contract Management
- HR, Public Affairs, Cyber Security

Infrastructure Support

Information Technology
Office and Lab Equipment
Facilities Support



www.fbo.gov

https://www.mda.mil/business/smallbus_programs.html



MDA Advanced Research

- **Continual technology insertion into the BMDS is critical**
- **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 BMDS**
- **Advanced Research utilizes the following research vehicles:**
 - **Small Business Innovation Research / Small Business Technology Transfer (SBIR/STTR) program**
 - **4th largest SBIR/STTR program in the Department of Defense**
 - **Broad Agency Announcements (BAA)**
 - **Missile Defense Science & Technology Advanced Research (MSTAR) [universities]**
 - **Advanced Technology Innovation (ATI)**



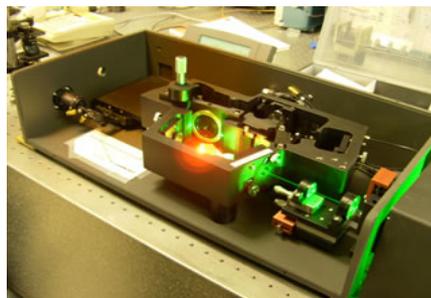


MDA's Small Business Innovation Research / Small Business Technology Transfer (SBIR/STTR) Programs Focus

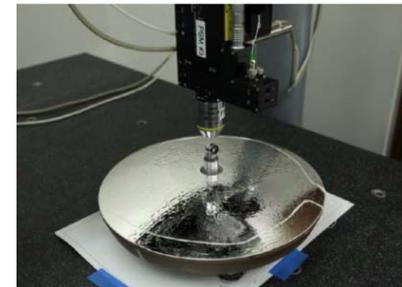
- **Active SBIR / STTR program integrated across all MDA Elements**
- **Pursue a broad range of high-risk technologies with a focus on insertion into the BMDS**
- **4th largest program in the Department of Defense**
 - **\$125M in awards in FY18**
 - **\$91M projected in FY19**
- **MDA typically awards over 300 SBIR / STTR contracts per year**



Seeker Technology



High Energy Laser Technology



Rad-hardened Mirror Technology



Advanced Technology Innovation (ATI) Broad Area Announcement Program

- **Technical Objectives**
 - Fund relevant cutting edge technology from industry, small business and universities
 - Build portfolio of revolutionary technology to support and enhance Ballistic Missile Defense System
- **Advanced Technology Innovation Broad Agency Announcement**
 - Open continuously to university and commercial vendors
 - Contract value not limited



https://www.mda.mil/business/ati_baa.html



The Future - Achieving and Sustaining Success

- **MDA's Focus for the future is:**
 - Continue to invest in technology to address advanced threats
 - Maximize effectiveness of Science & Technology investments
 - Capitalize on the innovation of small businesses, universities and national labs
 - Bridge the gap between technology initiatives and program implementation
 - Increase collaboration across the DoD Science & Technology community
- **How can industry and universities be ready for the changing needs of high technology?**
 - Invest in highly innovative, disruptive technologies as part of IRAD, take opportunities to share IRAD with MDA for situational awareness
 - Collaborate with other organizations, services, labs, agencies, and institutions, on innovative technologies
- **Future of STEM in defense industry?**
 - Science Technology Engineering & Math is fundamental to the missile defense mission
 - MDA sponsors STEM programs across the nation



MDA OSBP Websites

U.S. DEPARTMENT OF DEFENSE
MISSILE DEFENSE AGENCY

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MDA MISSION

The Missile Defense Agency's (MDA) mission is to develop, test, and field an integrated, layered, ballistic missile defense system (BMDS) to defend the United States, its deployed forces, allies, and friends against all ranges of enemy ballistic missiles in all phases of flight.

NEWS

- October 3, 2016 [Missile Defense Agency Conducts Distributed BMD Ground Test](#)
- July 21, 2016 [MDA Opens Missile Defense System Data Terminal at Fort Drum \[Photos\]](#)
- July 19, 2016 [James N. Miller Receives Ronald Reagan Missile Defense Award](#)

May 25, 2016 - The Missile Defense Agency and U.S. Navy sailors aboard USS Hopper (DDG 70) successfully conducted two developmental flight tests of the Standard Missile-3 (SM-3) Block 1B Threat Upgrade guided missile on May 25 and 26 off the west coast of Hawaii.

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2020 DOD Acquisition Public-Private Talent Exchange Program



Office of the Under Secretary of Defense
for Acquisition and Sustainment (A&S)

CONTACT :

For more information and to become a partner
company, contact Ms. Aissa Tovar at
aissa.tovar@hci.mil or call 703-805-5237.

www.hci.mil/ppte.html



