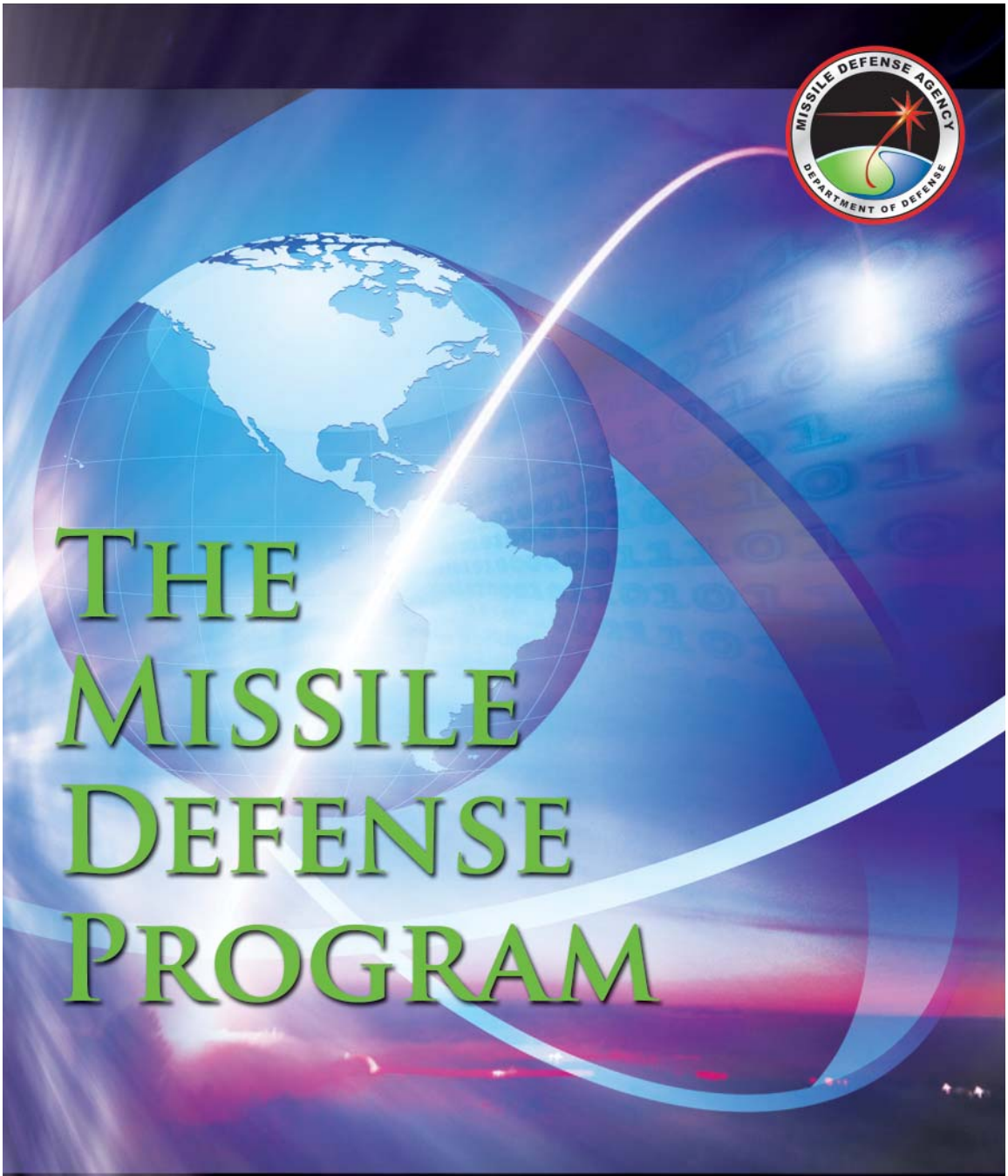

The Missile Defense Program

2009-2010


MISSILE DEFENSE AGENCY
DEPARTMENT OF DEFENSE

Director's Message . . .

This pamphlet discusses the U.S. missile defense program for Fiscal Year 2010. Our intent is to significantly improve all layers of our Ballistic Missile Defense System (BMDS) and continue the fundamental test and simulation activities to prove the performance of the BMDS.

It is my hope that, after reading this, you will have a more thorough understanding of the overall missile defense program, how the system works, and a better appreciation of the role you play in the fulfillment of this important mission.

Our Nation depends on you and the rest of the Missile Defense Agency workforce to protect our country, deployed armed forces, allies, and friends. Our President has asked us to prove our awe-inspiring capability to our citizens, friends, and potential adversaries. Finally, our Secretary of Defense has directed that we enhance our theater missile defenses, continue a viable homeland defense against rogue threats beyond 2030, and develop a hedge against future threat growth.

Patrick J. O'Reilly

PATRICK J. O'REILLY
Lieutenant General, USA
Director, Missile Defense Agency

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The Missile Defense Mission

The mission of the Missile Defense Agency continues to be one of developing and fielding an integrated, layered Ballistic Missile Defense System (BMDS) to defend the United States, our deployed forces, allies, and friends against all ranges of enemy ballistic missiles in all phases of flight.

SAME MISSION

Our Fiscal Year (FY) 2010 budget submitted to Congress reflects a greater emphasis on defense of U.S. forces, allies, and friends from regional threats posed by thousands of short- and medium-range ballistic missiles. The FY 2010 program also emphasizes the development of low- to medium-risk systems as well as continued research and development to address the more sophisticated threats we expect to face in the far term. The bottom line is that we are working to achieve a balance of missile defense capabilities that will provide the best protection today and tomorrow.

TODAY WE DO NOT HAVE THE DEFENSIVE FORCES TO MATCH THE OFFENSIVE FIREPOWER ARRAYED AGAINST IN-THEATER POPULATIONS, FORCES, AND MILITARY ASSETS

The inventories of short- and medium-range ballistic missiles deployed in countries other than the United States, NATO, Russia, or China constitute 99 percent of the threat and far outnumber the defensive interceptors we have in the field. Today we have hundreds of defensive short-range interceptors to counter thousands of short-range missiles. Given the growth in foreign ballistic missile arsenals, we do not have the defensive forces today to match the offensive firepower arrayed against in-theater populations, forces, and military assets.

This $7.8 billion budget we are proposing for missile defense in FY 2010 will allow us to provide a balance of capabilities and risks to deter aggression, project power and protect U.S. and allied interests, respond to war fighter requirements, and pursue cost-effective and operationally effective capabilities to hedge against future threat uncertainties. Specifically, we will:

- Focus the program on the "rogue state and theater missile threat"
- Continue to develop a Ground-based Midcourse Defense capability to defeat rogue state threats
- Enhance rigorous testing and simulation of the Ballistic Missile Defense System
- Balance midcourse research and development with early intercept research and development

Ballistic Missile Proliferation

In 1972, only nine countries possessed ballistic missiles. Today, the number of countries holding ballistic missiles has grown to over two dozen, and it includes hostile regimes with ties to terrorist organizations. The ballistic missile threat continues to grow in size and complexity. Potential adversaries are increasing Short-Range Ballistic Missile (SRBM), Medium-Range Ballistic Missile (MRBM), Intermediate-Range Ballistic Missile (IRBM), and Intercontinental Ballistic Missile (ICBM) inventories, even as they are developing more advanced and capable systems. Current trends indicate that adversary ballistic missile systems, with the integration of advanced liquid- or solid-propellant propulsion technologies, are becoming more mobile, survivable, reliable, accurate and capable of flying longer distances.

Rest of World Force Levels 2008	
SRBM	5,500
MRBM	350
IR/ICBM	<40
Totals	≈5,900

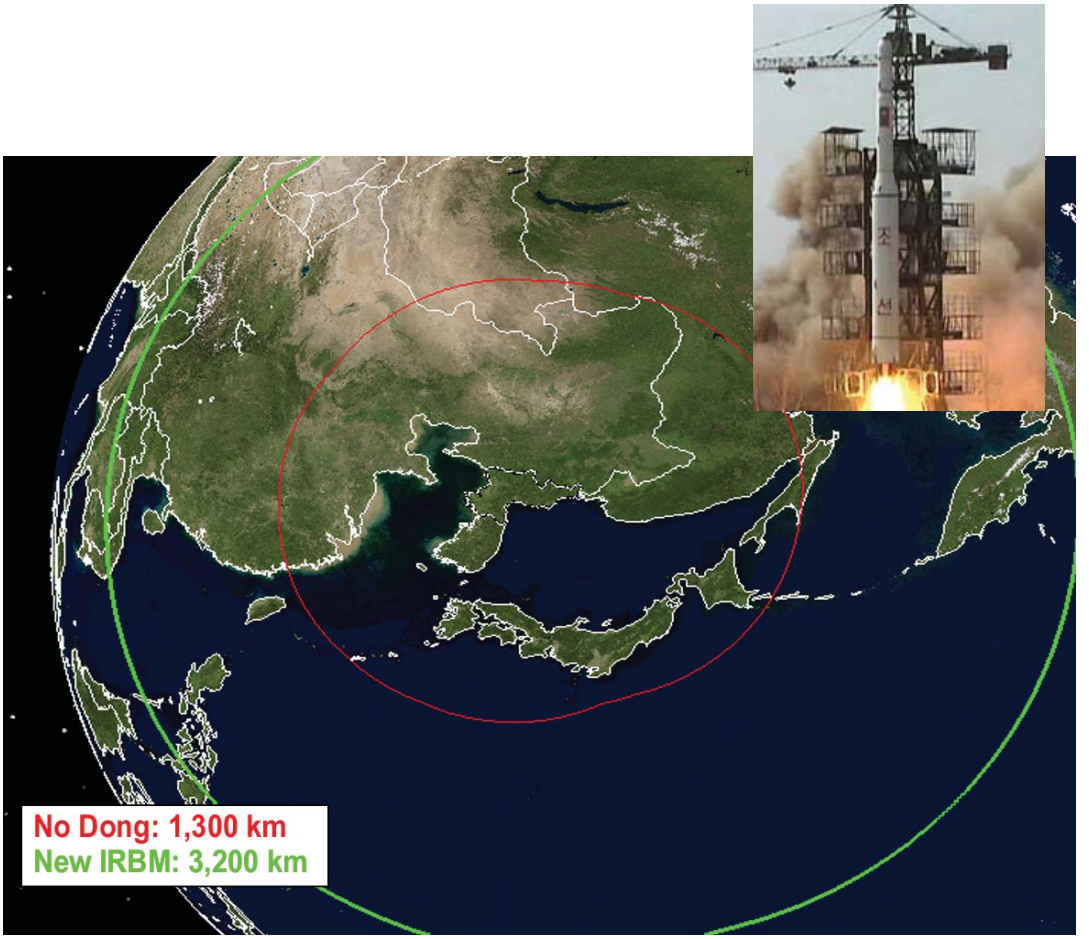
Today there are approximately 5,900 ballistic missiles and hundreds of launchers in countries other than NATO, China, Russia, or the U.S. Ninety-three percent of those missiles have ranges less than 1,000 km, 6 percent have ranges between 1,000 and 3,000 km, and less than 1 percent have ranges over 3,000 km.

The proliferation of ballistic missiles is increasing the number of anti-access weapons available to potential regional adversaries. These weapons could be used to reduce military options for Combatant Commanders and decrease the survivability of regional military assets. The dramatic increase of over 1,200 additional short- and medium-range ballistic missiles in just over the past five years, explains the war fighter's strong interest in fielding more regional and theater missile defenses.

Iran has grown its short- and medium-range missile inventories, while improving the lethality, deployability, and effectiveness of existing systems with new propellants, more accurate guidance systems and payloads. With the successful launch of the Safir Space Launch Vehicle on February 2, 2009, Iran demonstrated technologies that are directly applicable to the development of ICBMs.

Iran Missile Threat Rings

North Korea deploys a No Dong ballistic missile capable of reaching Japan, South Korea, and U.S. bases throughout the region, and continues to develop a new IRBM capable of reaching Guam and the Aleutian Islands. In 2006, and again in July 2009, North Korea launched several ballistic missiles into the Sea of Japan, demonstrating the ability to orchestrate campaigns involving multiple, simultaneous, launches using missiles of different ranges. Despite the failure to place an object in orbit on April 5, 2009, North Korea successfully demonstrated the same staging and separation technologies required to launch a two-stage Taepo-Dong 2 ICBM capable of reaching the United States.

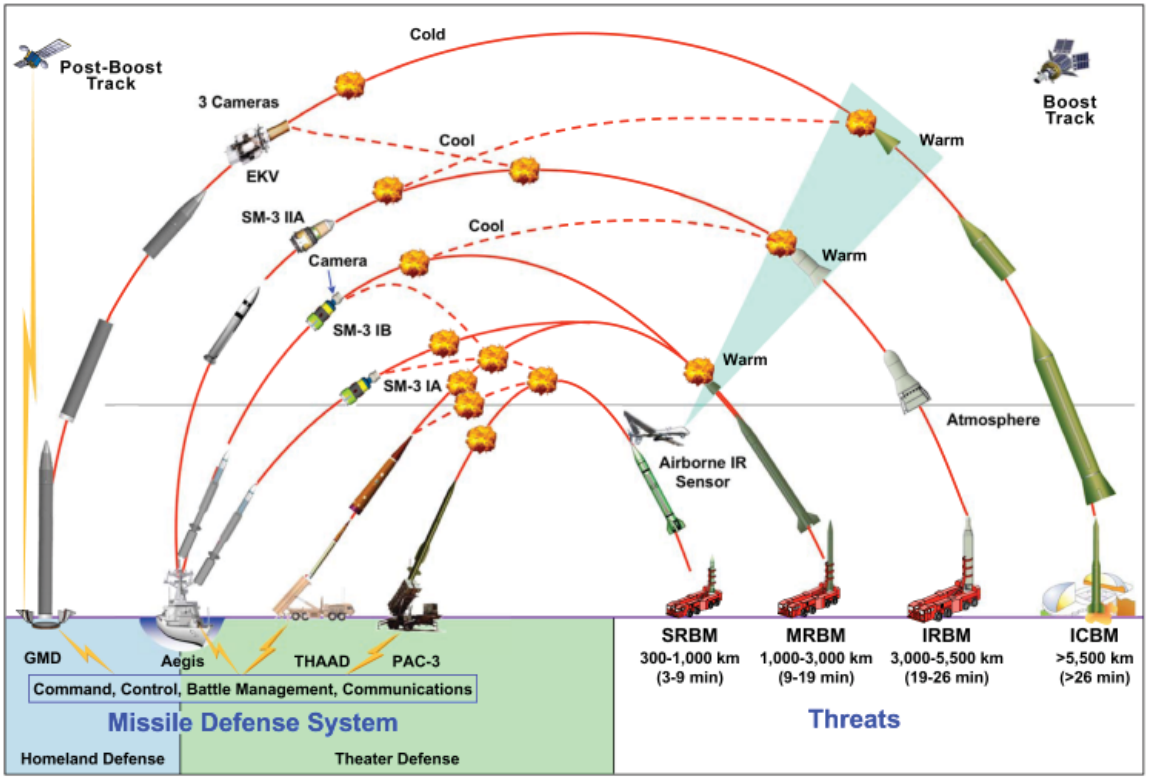


North Korea Missile Threat Rings

The Ballistic Missile Defense System

Given the unique characteristics of SRBMs, MRBMs, IRBMs, and ICBMs, no one missile defense interceptor or sensor system can effectively counter all ballistic missile threats. War fighters are not only faced with the challenge of intercepting relatively small objects at great distances and very high velocities, but they may have to counter large raid sizes involving combinations of SRBMs, MRBMs, IRBMs, and ICBMs and, in the future, countermeasures associated with structured ballistic missile attacks.

Stand-alone missile defense systems must be integrated into a layered BMDS to achieve cost and operational efficiencies, while improving protection performance with increased defended area and minimizing force structure costs.



Interceptor Fundamentals

NO ONE MISSILE DEFENSE INTERCEPTOR OR SENSOR SYSTEM CAN EFFECTIVELY COUNTER ALL BALLISTIC MISSILE THREATS

The most operationally effective missile defense architecture is a layering of endoatmospheric and exoatmospheric missile interceptor systems with ground and space sensors connected and managed by a robust Command and Control, Battle Management and Communication (C2BMC) infrastructure. Moreover, the most cost-effective missile defense architecture is one that emphasizes early intercepts during a threat missile's early phase of flight. Early Intercepts (EI) can be observed by the BMDS sensors to determine if a second or third intercept attempt is necessary to achieve a robust degree of protection. Additionally, EI forces the threat to deploy countermeasures early, making them more difficult to be effective.

We are developing and fielding a range of land- and sea-based terminal and midcourse capabilities to counter SRBMs to protect forces deployed abroad, allies and friends. The SRBM defense capabilities of the BMDS consist of the Patriot Advanced Capability-3 (PAC-3), Terminal High Altitude Area Defense (THAAD), and the Aegis Standard Missile (SM)-2 Block IV and a portion of the SM-3 Block IA interceptor battle space with associated fire control software.

The THAAD and Aegis BMD capabilities are able to counter MRBMs to protect deployed forces, critical assets on allied territory, and population centers. THAAD is a near-term transportable capability that will enhance the ability of Combatant Commanders to wage theater wars by intercepting SRBM and MRBM threats using hit-to-kill technologies. The THAAD missile is uniquely designed to intercept targets both inside and outside the Earth's atmosphere, making the use of countermeasures in their terminal phase difficult against THAAD.

Aegis Ballistic Missile Defense (BMD) cruisers and destroyers integrated with SM-3 hit-to-kill interceptors and SM-2 terminal interceptors provide a mobile capability that may be surged to a region to protect deployed forces and allies against SRBMs and MRBMs. The U.S.

Navy and MDA are collaborating on plans for a far-term sea-based terminal defensive capability to enhance the Combatant Commander's ability to protect seaborne forces and complement other regionally deployed missile defense assets.

To counter the IRBM threat, the United States deploys Ground-based Midcourse Defense (GMD) interceptors in silos at Fort Greely, Alaska and Vandenberg Air Force Base in California. Aegis BMD also provides a mobile capability for countering IRBM threats using the SM-3 Block IA and, in the future, IB and IIA interceptors. While the ICBM is the least proliferated threat delivery system among rogue states today, it is important to have a system in place to counter it because the blackmail or coercion possibilities stemming from the threat of long-range attack on the United States could have profound foreign policy consequences.

Over the past few years, the United States has fielded an initial BMDS and is enhancing the system with additional capabilities in the form of deployed sensors, interceptors, and enhanced command and control. At the end of FY 2010, the BMDS system architecture will consist of the following:

- 30 Ground-Based Interceptors (GBIs) emplaced in silos in Alaska and California
- 21 Aegis BMD ships capable of engaging short- to medium-range missiles and performing the Long-Range Surveillance and Track (LRS&T) mission
- 61 Standard Missile-3 (SM-3) sea-based midcourse interceptors
- 70 Standard Missile-2 (SM-2) sea-based terminal interceptors
- 831 Patriot Advanced Capability (PAC)-3 missiles
- 58 PAC-3 Fire Units

Continuously available, transportable, and mobile BMDS sensors provide real-time detection and tracking data to the system and the war fighter through C2BMC. The BMDS relies on space-based (Defense Support Program, space-based infrared satellites and, in the future, an operational Space Tracking and Surveillance System (STSS) constellation), sea-based mobile (Aegis BMD ships and Sea-Based X-band radar), and ground-based (Cobra Dane, Upgraded Early Warning Radar (UEWR), AN/TPY-2 and, pending future decisions, European Midcourse Radars) sensors to provide detection, tracking, classification and hit assessment information. We will have seven AN/TPY-2 radars available at the end of FY 2010.

Ballistic Missile Defense System integration is accomplished through the centralized development of seven common missile defense functions called the BMDS "Unifying Missile Defense Functions" – Communications, Sensor Registration, Correlation, System Track, System Discrimination, Battle Management, and Hit-To-Kill Assessment. These unifying functions allow Combatant Commanders to automatically and manually optimize sensor coverage and interceptor inventory to defend against all ranges of ballistic missile threats.

Missile Defense On Alert: Contributions To Real-world Contingencies

Due to the limited integrated missile defense capabilities fielded today, developmental elements of the BMDS have been deployed on contingency bases at the request of Combatant Commanders and direction of the Joint Staff. An example is the unplanned deployment of the AN/TPY-2 X-band radar to Israel in August 2008 to bolster Israel's regional ballistic missile defense capabilities. Additionally, we spent analytical and test resources supporting the Defense Department's plans to provide options for dealing with any contingency associated with the recent launch of a Space Launch Vehicle from North Korea. The successful February 2008 satellite shoot-down is another example of how the Department has leveraged MDA's expertise and products to respond to contingencies.

The Missile Defense Program

Missile defense must be affordable and effective. The FY 2010 program is balanced to develop, rigorously test, and field an integrated BMDS architecture to counter existing regional threats, continue developing our limited ICBM defense, prove our Missile Defense System works, and develop new technologies to address future threats. The current program has four pillars.

1. ENHANCE MISSILE DEFENSE TO DEFEND DEPLOYED FORCES, ALLIES, AND FRIENDS AGAINST THEATER THREATS

We are leveraging our success in developing missile defenses to address the growing rogue nation ballistic missile threats.

WE WILL FIELD MORE OF "OUR MOST CAPABLE THEATER MISSILE DEFENSE SYSTEMS"

Secretary Gates directed the Department to field the "most capable theater missile defense systems."

We will continue research, development, test & evaluation for THAAD and deliver 25 THAAD interceptors in FY 2010 for batteries 1 and 2, increase the production rate from three to four interceptors per month, and complete Army Material fielding review for the first fielded THAAD unit. We will also begin installing missile defense capability on six more Aegis ships, deliver 26 additional SM-3 Block IAs, and flight test version 4.0.1 of the Aegis Weapon System.

2. CONTINUE A VIABLE HOMELAND DEFENSE AGAINST ROGUE THREATS BEYOND 2030

In FY 2010, we will continue the development of long-range Ground-based Midcourse Defense capability with missile fields at Fort Greely, AK (FGA), and Vandenberg Air Force Base (VAFB), CA, where we will maintain 26 and 4 GBIs, respectively. This work will improve protection of the United States against a limited number of rogue state IRBM and ICBM launches.

There are two missile fields (6 and 20 Silos respectively), and one 14 silo missile field under construction, at Ft. Greely, Alaska (FGA). We will limit the construction of the new missile field at 7 silos and decommission the original 6 silo missile field, originally intended as a test bed only, is unhardened, and has reliability concerns. One silo in the new missile field at FGA will be an operational spare. Given the small inventory of long-range ballistic missiles deployed by rogue states, thirty highly ready GBIs in hardened silos will provide the United States substantial firepower.

THIRTY HIGHLY-READY GROUND-BASED INTERCEPTORS IN HARDENED SILOS WILL PROVIDE THE UNITED STATES SUBSTANTIAL FIREPOWER FOR THE NEXT 20 YEARS AND BEYOND

While the number of missile silos will remain at 26 at FGA, we will transition to newer silos to improve operational readiness. The FY 2010 budget reflects our commitment to procure the complete buy of 44 GBIs on contract, of which some will go to the replacement and refurbishment of the 14 oldest interceptors to improve the operational readiness of the fleet and extend the U.S. GBI production capacity.

Additionally, two-stage GBI development will help sustain the GBI production base and continue avionics upgrades. We will also continue planning to establish a viable GBI fleet refurbishment and upgrade program to sustain the life cycle of GBIs to 2030 and beyond.

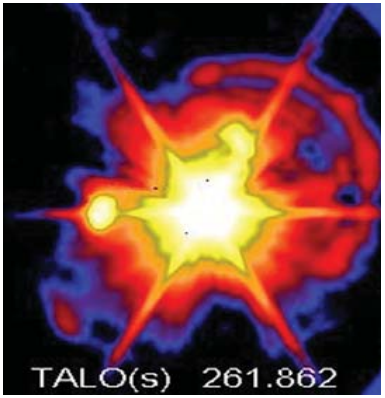
There are other significant midcourse defense development activities to enhance GMD's contribution to the BMDS in our proposed FY 2010 budget, to include test planning and execution and target development, development and operation of the Sea-Based X-Band radar, software development, system engineering and External Sensors Lab work for the AN/TPY-2 X-band radar, operation of the Upgraded Early Warning Radars, modeling and simulations, and work on the Single Stimulation Framework.

3. PROVE MISSILE DEFENSE WORKS

We will execute a rigorous test program that includes expanding our flight and ground test programs to test our capability against medium-, intermediate-, and long-range threats to build the confidence of U.S. and allied stakeholders in the BMDS, bolster deterrence against their use, and send a powerful message to potential adversaries looking to acquire ballistic missiles.

A RIGOROUS TEST PROGRAM BUILDS CONFIDENCE AMONG SYSTEM STAKEHOLDERS AND SENDS A POWERFUL MESSAGE TO OUR ADVERSARIES

Working with the Services' Operational Test Agencies (OTA), and with the support of the Director of Operational Test and Evaluation (DOT&E), we restructured our test program to improve confidence in the missile defense capabilities under development and ensure the capabilities transferred to the war fighter are operationally effective, suitable, and survivable.



The BMDS performance evaluation strategy is to develop models and simulations of the BMDS and compare their predictions to empirical data collected through comprehensive flight and ground testing to validate their accuracy, rather than physically testing all possible combinations of BMDS configurations, engagement conditions, and target phenomena. The BMDS test review determined how to validate our models and simulations so that our war fighting commanders have confidence in the predicted performance of the BMDS, especially when those commanders consider employing the BMDS in ways other than originally planned or against threats unknown at this time.

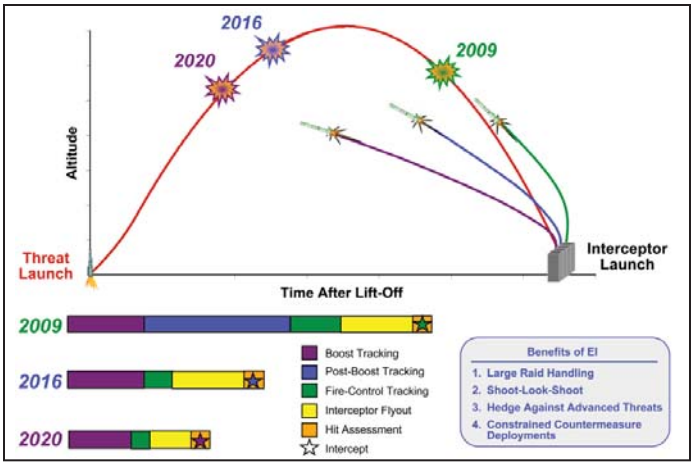
The test plan review resulted in an Integrated Master Test Plan (IMTP) that is event-oriented and extends until the collection of all identified data is completed to ensure adequate test investments. The bottom line is that MDA is focused on conducting meaningful ballistic missile testing that rigorously demonstrates the capabilities of the BMDS.

4. DEVELOP TECHNOLOGIES TO HEDGE AGAINST FUTURE MISSILE THREAT GROWTH

A robust advanced missile defense technology development program is part of our strategy to hedge against future threat uncertainties.

Early Intercept

Early Intercept would allow us to intercept early in the battle space and optimize our ability to execute a shoot-look-shoot tactic, to force less effective deployment of counter-measures, minimize the potential impact of debris, and reduce the number of interceptors required to defeat a raid of threat missiles. By leveraging Unmanned Aerial Vehicles (UAVs) and space assets for pervasive over-the-horizon sensor netting, the engagement



Early Intercept Strategy

zone of current Standard Missile-3 interceptors can be extended to the pre-apogee portion of a missile's trajectory.

Early Intercept can provide an extended engagement layer that avoids wasteful salvos by shooting an interceptor, assessing the attempted intercept, and shooting again if unsuccessful.

The mobility/transportability of early intercept capability, the flexibility of UAV and space-based sensor support, and lower Operation and Sustainment (O&S) costs make early intercepts more appealing than midcourse systems. Forward-basing AN/TPY-2 radars comes with diplomatic challenges and significant O&S costs, making the use of current Overhead Persistent Infrared (OPIR) and less expensive operations of Predator UAVs an appealing near-term option. We will undertake several demonstrations to more sharply define the requirements for sensor netting, fire control, and integration to accomplish Early Intercept.

THE KEY ENABLER FOR EARLY INTERCEPT IS A PERVASIVE SENSOR NET

We need to be able to launch interceptors from a significant distance and still intercept threat missiles without being exposed to adversary attack. In order for SM-3 to engage outside the coverage of its organic radar, sensors must be available to track threats early in their trajectories. We demonstrated the ability to use forward-based sensors to accomplish launch-on-remote when we relied on off-board sensors to fire the modified SM-3 interceptor that destroyed an errant satellite in February 2008.

MDA plans to demonstrate the maturity of Early Intercept by conducting a series of live-fire tests in FY 2012 to enable thorough operational assessment of this capability. These demonstrations will prove the Early Intercept key

functions: OPIR for initial tracking in flight, UAV or Space Tracking and Surveillance System (STSS) demonstration satellites for post-boost tracking, battle management command and control, and SM-3 Block IA/B for engagements.

As threats expand and mature, the need for continuously available sensors and faster interceptors supports investment in Precision Tracking Space Sensor (PTSS) and programs to reduce the SM-3 Block IA and SM-3 Block IIA kill vehicle weights to increase the speed of our interceptors. These enhancements will enable greater Early Intercept capability as a hedge against threat growth.

Precision Tracking From Space

Sensors on Space Tracking and Surveillance System (STSS) demonstration satellites could provide fire control quality tracking data for engagements of threat reentry vehicles and, when combined with radar data, will provide improved threat object discrimination. For FY 2010, we will demonstrate the STSS technology to track cold threat objects from space by using two STSS demonstration satellites to be launched in Summer 2009.

THE GREATEST HEDGE AGAINST MISSILE DEFENSE THREATS OF ALL RANGES REMAINS A HIGHLY AVAILABLE EARLY MISSILE TRACKING CAPABILITY FROM SPACE

Following launch of the STSS, we will enter into a six-month on-orbit check-out period, after which we plan to use both targets of opportunity and dedicated targets to demonstrate STSS capabilities. Knowledge point-based lessons learned from these demonstrations will guide our decisions on the development of an affordable, continuously available operational precision track space sensor constellation.

The Near Field Infrared Experiment (NFIRE) satellite launched in April 2007 continues to operate in good health. We conducted NFIRE test mission 2B in September 2008 to collect first-of-a-kind high-resolution plume and hard body data of a boosting missile approximately 8 km away. In this test, we collected multiple frames of data

in multiple wavebands, which will help anchor plume to hard body handover algorithms for boost phase intercept applications. We continue to collect data on other targets of opportunity. In cooperation with our German partners, we also demonstrated very high capacity laser communications onboard the NFIRE satellites.

Airborne Laser

The Airborne Laser (ABL) prototype is currently preparing to demonstrate the technology to destroy a boosting missile in flight. The high-powered laser has been fired 72 times on the ground in FY 2005 and was installed on the ABL aircraft in FY 2008. The ABL has demonstrated precision tracking and atmospheric beam compensation during flight 12 times in FY 2009 and five times this year (including successfully tracking a boosting missile). First high-powered lasing from the aircraft in flight will occur in early September. The first shoot-down against a short-range liquid fueled foreign acquired target and a solid-fueled U.S. target is scheduled for later in Fall 2009.

ABL'S REVOLUTIONARY SPEED-OF-LIGHT TECHNOLOGY MAKES IT A PATHFINDER FOR FUTURE DIRECTED ENERGY WEAPON SYSTEMS

Engagement range for the ABL is dependent upon track illumination, atmospheric compensation, and laser power. After the initial shoot-down demonstration, we will test against missiles in flight at greater ranges and on the ground against countermeasures to fully characterize the ABL.

Missile Defense Collaboration And Human Capital Development

WAR FIGHTER INVOLVEMENT

As our missile defense development processes have matured, we have taken several significant steps to enhance accountability for MDA decision making and oversight by senior Department of Defense officials in collaboration with Combatant Commands and the Services. The FY 2010 budget reflects a process that has been developed over the last several years that involves the senior decision makers in the Pentagon through the Missile Defense Executive Board (MDEB), the Combatant Commanders, the Joint Chiefs of Staff, and the Services. This is the first missile defense budget to reflect this full and comprehensive collaboration.

USSTRATCOM systematically assesses and establishes the priorities for developing and fielding BMDS capabilities. This biannual Warfighter Involvement Process (WIP) involves all Combatant Commands and the Services and produces a Prioritized Capability List (PCL) of desired missile defense capabilities. The MDEB and the Joint Staff (J-8) frequently review BMDS development priorities and progress. Working with the Office of the Secretary of Defense (OSD), government laboratories, and industry, MDA responds to the PCL with an assessment called the Achievable Capabilities List, or ACL, of the technical and schedule risks and programmatic feasibility of delivering the requested capabilities in the time frame specified. USSTRATCOM then rates the degree to which the ACL satisfies the PCL in the Capability Assessment Report (CAR). The CAR forms the rationale and justification for MDA's annual budget submission.

MDA CAPABILITY TRANSFER TO THE SERVICES

In September 2008 the Deputy Secretary of Defense established "business rules" that outline the transition and transfer of missile defense capabilities between MDA and the Services. MDA is responsible for the development, manufacturing and testing for the life cycle of BMDS elements, and the Services are responsible for developing the doctrine, organization, training, leadership, personnel and facilities to effectively field and operate the element subsystems of the BMDS.

Once the MDEB concurs that transfer criteria, approved by the Deputy Secretary of Defense, have been met, the physical accountability and control of missile defense units, operations and support, and infrastructure responsibilities transfer to the lead Service. Research, development, manufacturing, and testing activities remain the responsibility of MDA after a BMDS element capability has been transferred to a lead Service.

INTERNATIONAL COOPERATION

As missile defense capabilities expand worldwide, international cooperation with allies and friends is dramatically increasing. Missile defense is part of the broader response to ballistic missile proliferation. The global proliferation of MRBMs and IRBMs warrants an international coalition approach to deter further acquisition of these offensive missiles.

Under the guidance of OSD, MDA works closely with Combatant Commanders, the U.S. Department of State, and other government agencies to support their missions and goals. MDA has significant cooperative missile defense technology development efforts, including six "framework" agreements to facilitate BMD cooperative research with Japan, the United Kingdom, Australia, Denmark, Italy, and the Czech Republic. Cooperative activities are under consideration with several other nations.

MDA HAS SIGNIFICANT COOPERATIVE MISSILE DEFENSE TECHNOLOGY DEVELOPMENT EFFORTS, INCLUDING SIX "FRAMEWORK" AGREEMENTS

We are continuing our work with Japan to substantially increase Standard Missile-3 range and lethality by developing a 21-inch diameter SM–3 Block IIA interceptor. We are working to add this capability to the BMDS in the next decade, after we complete the necessary testing with Japan, as a hedge against the possibility we may see proliferation in longer-range and more advanced threats. This effort is one of the largest and most complex cooperative projects ever undertaken between Japan and the United States.

The United States and Israel have cooperated on missile defense for over twenty years. Collaboration has grown from early feasibility studies to the development and employment of the Arrow Weapon System, a fully operational missile defense architecture that is interoperable with U.S. BMDS elements. New joint programs have advanced this cooperation: U.S. and Israeli industrial coproduction of Arrow interceptors; the joint Short Range Ballistic Missile Defense Program's David's Sling Weapon System; and an initiative to provide Israel an upper-tier defense system.

We remain committed to working with our North Atlantic Treaty Organization (NATO) partners to address the growing threat from ballistic missiles. In the summit declaration issued on April 4, 2009, all NATO Heads of State and Government reaffirmed the conclusions of the Bucharest Summit, that "ballistic missile proliferation poses an increasing threat to Allies' forces, territory, and populations. Missile defence forms part of a broader response to counter this threat." As part of this response, NATO agreed that "a future United States' contribution of important architectural elements could enhance NATO elaboration of this Alliance effort."

MDA is working with NATO on the Active Layered Theatre Ballistic Missile Defence program to design and ensure interoperability of U.S. and NATO missile defense systems. We will continue to work closely with our NATO allies, and we will continue to assess potential missile defense architectures for optimum effectiveness.

HUMAN CAPITAL DEVELOPMENT

MDA Workforce: MDA can accomplish great things only if its workforce is committed and capable of doing those things. Accordingly, our first strategic goal is focused on finding and retaining the right people with the right knowledge, skills, and abilities and continually increasing their individual competencies. MDA's Human Capital Strategic Plan provides a clear vision for the planning, investment, and management of our human capital. With this plan, MDA will:

1. Integrate human capital management initiatives to sustain and improve the continuity of workforce operations

2. Develop and implement initiatives to support competency-based development efforts fostering a diverse, mission-ready workforce capable of sustaining the MDA acquisition mission

3. Promote a results-oriented performance culture to integrate personal responsibility and leadership accountability throughout MDA's human capital management system

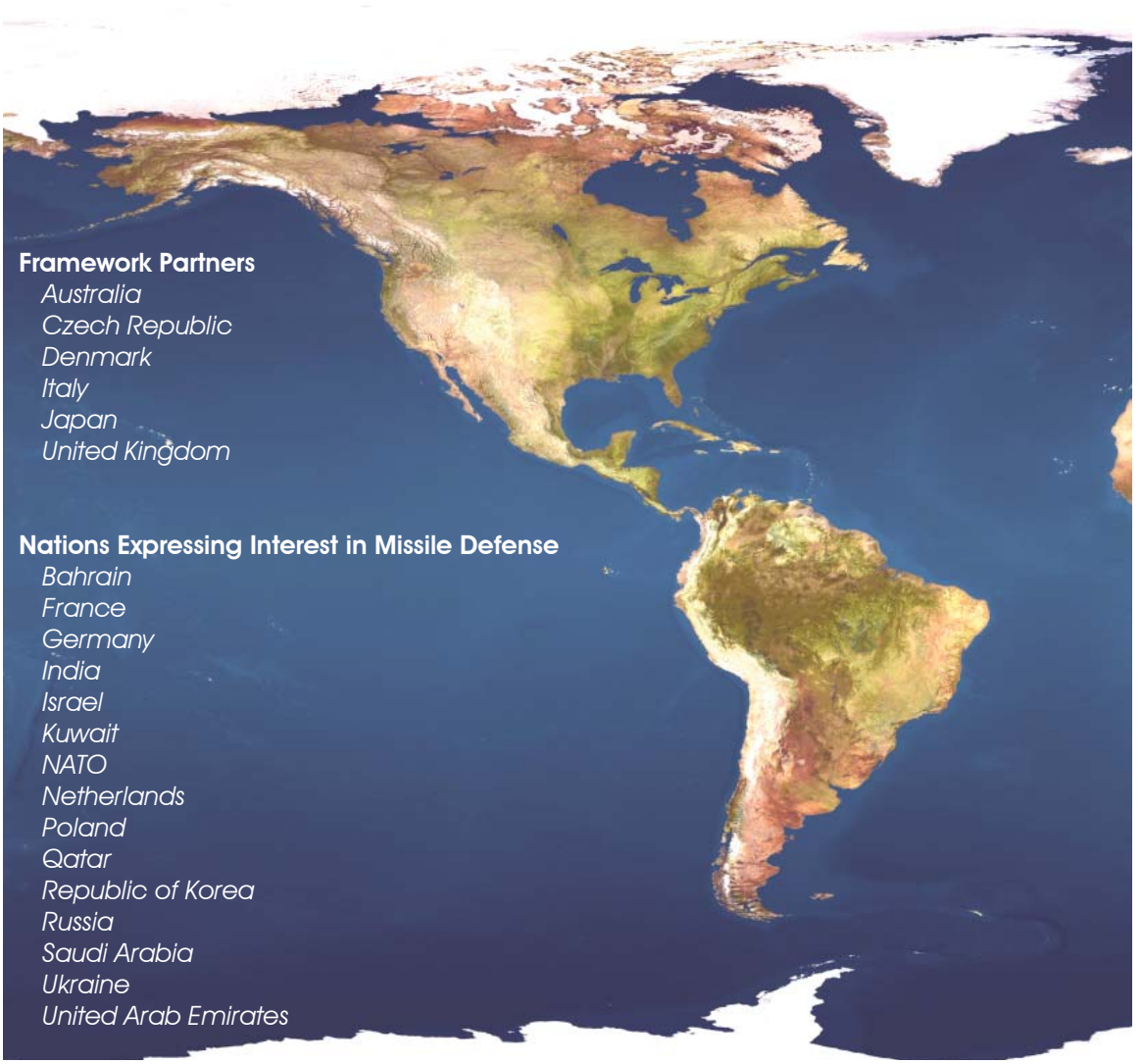
4. Establish a comprehensive, data-driven workforce analysis and decision-making capability sufficient to meet strategic program objectives

5. Recruit the best qualified staff to fill critical vacancies

Industrial Base: The Agency is heavily engaged in maintaining a strong missile defense industrial base. We have numerous "industry days" dedicated to small business to bring companies in and explain where the opportunities are for value-added work on the BMDS. We have industry days for our large development prime contractors and their major subcontractors. At these industry days we also describe where the Agency is heading so our industrial partners can keep investment resources focused on providing products and services that the Agency needs to develop the BMDS. In addition, we are beginning several new technology initiatives that will demand new ideas and new solutions from industry.

International Competencies: MDA is seeking to expand missile defense competencies across several nations, our international missile defense framework partners, and the Combatant Commanders. To develop an MDA workforce capable of executing the International Strategy, we have several tools for furthering and creating opportunities for international cooperation, including personnel exchanges, training plans and opportunities, and internships and exchange programs. MDA also wants to leverage the foreign industrial base and expertise to:

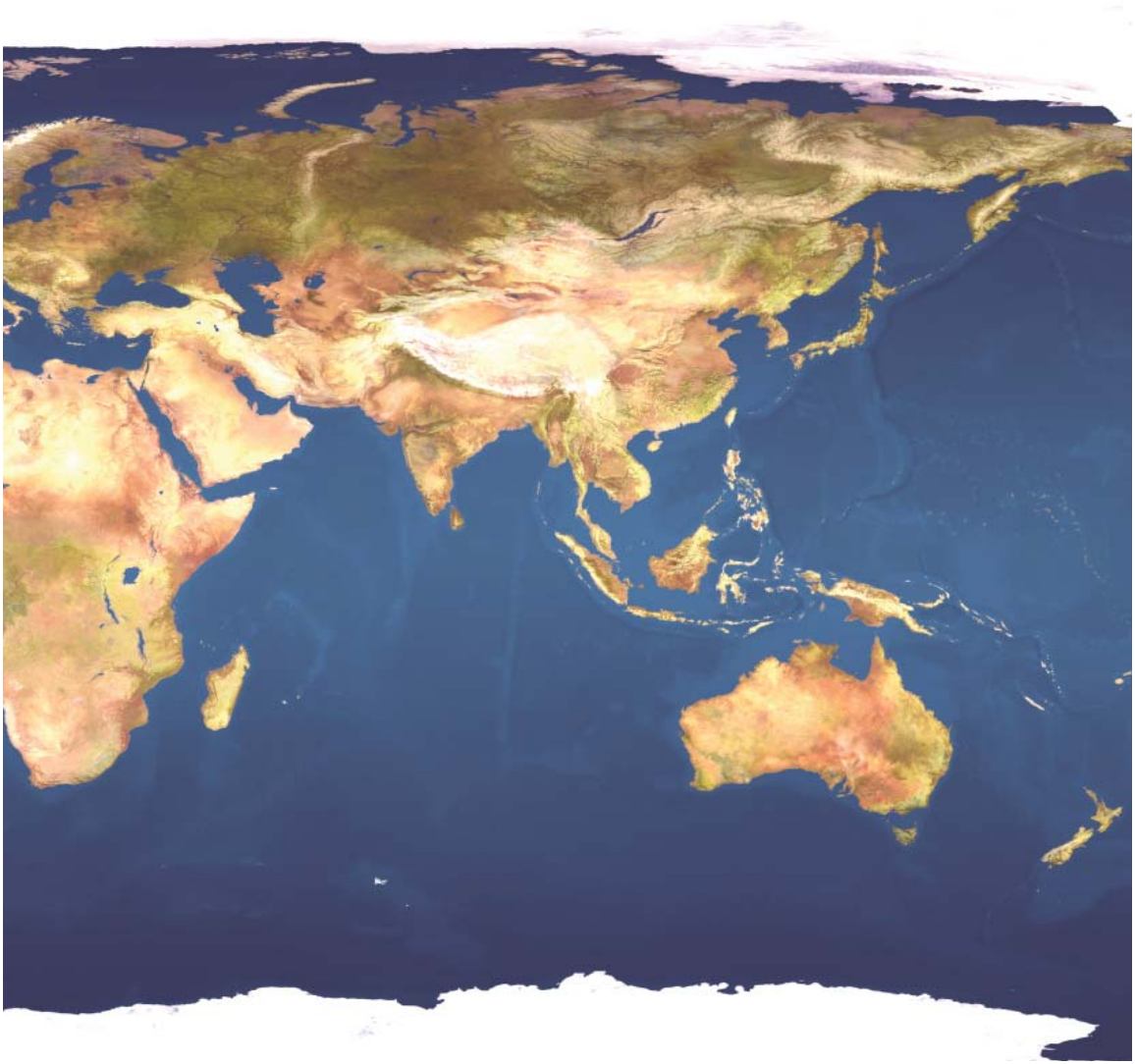
1. Build relationships to achieve missile defense goals, communicate the importance of missile defense, and promote a worldwide missile defense system through the sharing of information with allies and partners



2. Promote missile defense capability and interoperability through appropriate means such as the international fielding of missile defense assets, identification and integration of U.S. and partner assets and systems to create a worldwide ballistic missile defense system, and the promotion of interoperability between the United States and partner systems on both bilateral and multilateral bases

3. Identify and evaluate international technology in support of improved BMDS capabilities

4. Identify and execute investment opportunities with allies and partners



Missile Defense and National Security

Our efforts over the past quarter century are proving that missile defense works, as we have demonstrated in our tests, and the system we have in place is already contributing to real-world national security situations. Our plans for the development and fielding of a more effective and affordable missile defense system will have implications for our entire national security strategic posture.

Missile defenses can play a useful role in supporting the basic objectives of deterrence and providing a valuable component of the U.S. strategic posture. Proven missile defenses can enhance protection by dissuading potential adversaries from acquiring them, deterring against their use, and defending against a ballistic missile attack. Proven missile defense assets can contribute to strategic nonproliferation and counterproliferation objectives by undercutting the value of offensive ballistic missiles and dissuading foreign investment in them. If hostilities break out, missile defenses could limit damage to U.S. and allied critical infrastructure, population centers, and military capabilities for responsive operations.

With missile defense, we gain another option on the spectrum of possible diplomatic and military responses to a threat or an attack, an option other than deterrence or retaliation. The ability to protect against threats of coercion and actively defend our forces, friends and allies, and homeland against ballistic missiles is essential to our national safety, today and in the future.

IMPROVING MISSILE DEFENSE FOR
TODAY AND OUR FUTURE