

Ballistic Missile DEFENSE

A New Task For NATO

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German soldiers demonstrate Patriot anti-missile batteries before sending them to Turkey in December 2012. NATO will use Patriot and other technology to shield Europe from possible ballistic missile threats.

GETTY IMAGES

At the Lisbon summit in November 2010, NATO heads of state and government designated Ballistic Missile Defense (BMD) as a new task essential for the Alliance's defense capability. Russia has been concerned about NATO's missile defense in Europe, fearing that such a system might have a negative impact on Russia's strategic deterrence capabilities. Therefore, the decision was made to renew dialogue with Russia and work toward close cooperation. BMD has been of high political significance for two reasons: It renews the trans-Atlantic link and the Alliance's collective defense obligation, and it enables NATO to change the way it cooperates with third parties outside the Alliance. The decisions made in Lisbon were the result of eight years of analysis, study and consultation, and led to a work program running along two parallel axes: an internal one and an external one oriented toward Russia. It remains a work in progress. NATO's command structure and the relevant committees deal with the internal aspects of the program; the Alliance's political institutions deal with the external ones. The declaration on the Interim Capability for Ballistic Missile Defense made at the Chicago summit on May 20-21, 2012, represents the first milestone in this endeavor. Five issues are of key importance in this context.

Missile Defense in NATO

The proliferation of ballistic missiles advances quickly because they are relatively cheap, can be used against a superior opponent, and can be topped with warheads equipped with either conventional explosives or weapons of mass destruction. Some states are already able to reach NATO territory with their missiles. Others could represent a threat to NATO's areas of interest. Missile technology keeps improving: Ranges are increasing, and precision and payload are improving. And the number of states possessing ballistic missiles keeps growing.

NATO cannot ignore this threat. And we cannot afford to have one of our cities become the target of an attack. The threat is real, and NATO needs to take steps to counter it and provide security for its territory and its 900 million inhabitants. That is, after all, its *raison d'être*. The Alliance needs to act and demonstrate its resolve to protect its territory, its population and its armed forces. So NATO will have to prove that it is neither impressed nor intimidated by the proliferation of ballistic missiles. Ballistic missile defense will – just like air policing today – be a core element and visible proof of the Alliance's collective defense capabilities, a challenge that could redefine the strategic importance of the trans-Atlantic link.

Trans-Atlantic Cooperation

Setting up the protective BMD umbrella remains a complex task, even though NATO has already started to develop an

operational capability to protect troops in the field against short-range missile attacks. Systems such as Patriot have proven to be effective, and operators have become familiar with the technology. Now the system's capacities need to be developed further to protect NATO territory and populations in Europe. A phased-adaptive approach was chosen to reduce technical risks and offer a higher degree of protection from any threat. It will enable NATO always to be one step ahead.

The backbone of the system is those capabilities that the United States offers under the European Phased Adaptive Approach (EPAA). The U.S. will make its early warning system available to a new joint command structure, thus reaffirming its commitment to the trans-Atlantic Alliance. The first sea-based defense capabilities were stationed in the Mediterranean in early summer 2011.

But U.S. capabilities alone are not sufficient. To protect European NATO countries, the European partners need to provide additional capabilities such as sensors or effectors. Seven partners (Germany, the Netherlands, France, Italy, Spain, Greece and Poland) already contribute to force protection with defense systems that will be integrated into the new system. The core task is to merge existing capabilities into a new integrated system. This integration of individual partner assets is an efficient way of creating new Allied defense capabilities. This will lead to a higher level of protection than a single country could achieve on its own. The new system represents a strong

and visible contribution by both the U.S. and European NATO countries to the common pillar of trans-Atlantic security. It will link the partners even closer and strengthen the Alliance. BMD will lead to greater cohesion in the trans-Atlantic alliance.

BMD Command and Control

NATO decided to set up an integrated command and control system that will maintain the integrity of air space and simultaneously provide air defense and protection against ballistic missile attacks. After the heads of state and government and the defense ministers decided in June 2011 to maintain only one air command (at Ramstein Air Base in Germany) under the new structure, it makes sense for the BMD operational command to be established in the same place.

The time frame for the engagement sequence in BMD is extremely short: The reaction time from the detection of a launch until re-entry and impact in the target area is only a few minutes. Therefore, a comprehensive system of rules of engagement and preplanned responses needs to be worked out for all decision-making levels, from the political and strategic level down to the tactical implementation level, and serve as a guideline for leaders at the operational command center in case of a direct threat.

The Supreme Allied Commander Europe (SACEUR), as

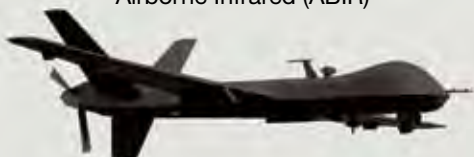
**NATO WILL
REMAIN ADAMANT:
COLLECTIVE DEFENSE
CONTINUES TO BE
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NATO WILL NOT
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ANY STATE OUTSIDE
THE ALLIANCE.**

European Phased Adaptive Approach (EPAA)

PHASE 1 (2011)	PHASE 2 (2015)	PHASE 3 (2018)
<p>Enhanced homeland defense. Deployment of existing radar and anti-missile interceptors aboard Alliance ships in the Mediterranean. SM-3 missiles would provide the coverage against short- and medium-range missiles.</p> <ul style="list-style-type: none"> • Aegis BMD 3.6.1 with SM-3 IA • AN/TPY-2/Forward-Based Mode (FBM) • C2BMC (Ramstein Air Base, Germany) • Active Layered Theater Ballistic Missile Defense (ALTBMD) - interim capability 	<p>Increased capability would allow for the interception of short- and medium-range missiles. NATO would broaden protection by placing interceptor sites on land, while maintaining anti-missile weapons aboard ships for maximum maneuverability.</p> <ul style="list-style-type: none"> • Aegis BMD 4.0.1/5.0 with SM-3 IB • Aegis Ashore 5.0 with SM-3 IB (one site) • AN/TPY-2 (FBM) • C2BMC - data updates • ALTBMD (lower tier) <p>Potential EPAA enhancements:</p> <ul style="list-style-type: none"> • THAAD 	<p>Improved technology would allow the expansion of Europe's anti-ballistic missile network to counter threats from intermediate-range missiles.</p> <ul style="list-style-type: none"> • Aegis BMD 5.1/5.0 with SM-3 IIA • Aegis Ashore 5.1 with SM-3 IB/IIA (two sites) • AN/TPY-2 (FBM) • C2BMC - data updates • ALTBMD (upper tier) <p>Potential EPAA enhancements:</p> <ul style="list-style-type: none"> • THAAD • PTSS • ABIR
<p>PHASE 4 CANCELED BY U.S. IN MARCH 2013</p>		

PER CONCORDIAM ILLUSTRATION

Airborne Infrared (ABIR)



Alliance ships with Aegis Ballistic Missile Defense (BMD)



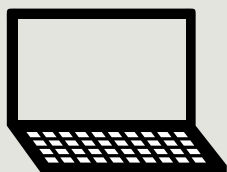
Standard Missile-3 (SM-3)



Army/Navy/Transportable Radar Surveillance (AN/TPY-2)



Command, Control, Battle Management and Communications (C2BMC)



Aegis Ashore



Precision Tracking Space System (PTSS)



Terminal High Altitude Area Defense (THAAD)



the Missile Defense Coordinating Authority, has strategic as well as operational command. Sensors and effectors will be placed under the operational control of the Air Commander, who advises SACEUR on threat assessment and the deployment decisions required for optimum defense of the areas to be protected, and who also coordinates levels of readiness and – after delegation of authority – conducts the fire fight.

Interim and Future Capability

Between June 2011, when defense ministers decided where to base NATO's Command Structure, and the Chicago summit in May 2012, NATO and Ramstein Air Command had only 10 months to develop the technical and organizational elements of the new command and control capability. In a major effort, they managed to set up the command and control system in time. The first test run for data links took place at the beginning of August 2011. It went so well that they were confident enough to start the next test: live observation of the engagement sequence against a tactical missile under tactical fire by a German Patriot battery stationed in Crete.

In this case, too, the outcome was very positive. For both tests, Combined Air Operations Centre Uedem's vehicle-mounted interim technology developed for Active Layered Theatre Ballistic Missile Defense was used. When the Interim Capability was extended, Ramstein Air Command was equipped with an upgraded version of that technology in March 2012. The performance of the new version was tested during an exercise (Air and Missile Defence Exercise [AMDEX]) at the beginning of April 2012. Only three months lapsed between the release of funds in the second half of January 2012 to the operational testing of AMDEX. With its early warning information and real time monitoring of interception operations, this technology offers Ramstein Air Command the situational awareness required for command and control of defense operations.

At the same time, the NATO Council made decisions on the interim implementation concept, the defense architecture and the rules of engagement that provide the basis for the operational Interim Capability announced in Chicago. At the core of this interim concept are the capabilities provided by the U.S. under phase 1 of the EPAA: interception capabilities on AEGIS-equipped vessels, the early warning radar stationed in Turkey, and the satellite-based early warning information as part of the operational NATO command and control system protecting the southeastern part of NATO's territory.

By 2015 the range and effectiveness of this Interim Capability will have improved so much that Initial Operating Capability is reached, and by 2020 the Final Operating Capability will protect all of European NATO territory.

Cooperation with Third Parties

Cooperation with non-NATO countries is one of the Alliance's stated goals, since those countries might also be affected by the consequences of BMD – intercepted missiles or fragments of interceptors might rain down on their territory.

Large parts of Russia are exposed to the same threat as

European NATO countries, and NATO is convinced that political, military and practical cooperation with Russia makes sense. NATO is ready to set up joint centers for the exchange of early warning information and the coordination of activities, ensuring full transparency in these efforts. This is a confidence building measure intended to convince Russia that there is no hidden NATO agenda. However, statements from the Russian side claiming that NATO's BMD would force Russia to upgrade its offensive systems are not helpful. We are positive that close cooperation with NATO will be in Russia's best interest.

In one respect, however, NATO will remain adamant: Collective defense continues to be the Alliance's core task, something NATO will not "outsource" to any state outside the Alliance. The same is true for Russia – it will not want to give up such a core function of its sovereignty.



A view of the Air Operations Centre at Headquarters Allied Air Command Ramstein, from which the Alliance is coordinating its anti-ballistic missile defense.

Ballistic missile technology is proliferating. So BMD has become a new task for the Alliance, and it is vital for trans-Atlantic cohesion. By pooling NATO and U.S. resources, the Alliance managed to cope with the enormously complex task of achieving a first interim operational capability in May 2012.

BMD is not a replacement for nuclear deterrence, but a complementary initiative required if traditional deterrence is not effective. It will increase NATO's political options. Cooperation with third-party states is NATO's professed goal, and Russia's inclusion into early warning and coordination mechanisms is in the interest of both sides.

The decision of the U.S. Government on March 16, 2013, to cancel phase 4 of the European Phased Adaptive Approach does not affect the goal of creating a protective cover for the whole of European territory, population and forces. It has, however, an impact on the system's capability to intercept ICBMs aimed at the eastern shore of the continental United States. This phase was also at the core of Russian criticism. □

This English translation is an updated version of the German article "Ballistic Missile Defense: Eine neue Aufgabe der Allianz," which originally appeared in the German professional security and defense journal Europäische Sicherheit & Technik in August 2012.