Missile Defense in Europe: Progress toward an Uncertain Outcome
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Executive Summary

Even before its announced completion date of 2018, the European Phased Adaptive Approach (EPAA) to regional missile defense in Europe can declare victory. So far it has been implemented close to schedule and below budget despite continuing problems related to cost, debates about financial burden sharing, and Russia's warnings about its threat, real or imagined, to European security and stability. Russian aggression in Crimea and Ukraine and its intervention in Syria have helped to shore up broad political support for the project. The sharp tension trajectory of Russian-NATO relations and the need to reassure Eastern European allies does however mean that Russia and a few domestic critics will continue to see EPAA as a political lever to stoke the fires of uncertainty about U.S. commitment and to play on the fears in Eastern Europe of abandonment in their first hours of need should a Russian attack occur.

Expansion of the EPAA's capabilities beyond the current projected capability of the system by 2018 will be difficult given the costs and the competing demands for missile defense assets elsewhere around the globe. Barring any significant ratcheting up of Russian threats and other security risks in Europe, significant expansion of the EPAA is unlikely, but so is any reduction in commitment to the project as it stands now.

However, there are many assumptions and challenges still to be discussed and confronted if EPAA is to fulfill all of the political and military expectations set first by the George W. Bush administration and the revised version under the Obama administration. This essay will examine each of these challenges in turn, and gauge the seriousness of the dangers and risks, both political and military, involved. There is little present evidence that the EPAA is at risk of drastic changes to its planned deployment, either in favor of increased capability or a decreased U.S. commitment to fulfilling the promises already made. This is as it should be. The EPAA, to quote Brad Roberts, is not a "fool's errand."[i] What remains to be seen is how the United States and NATO will address the challenges, old and new, that face the EPAA and indeed all aspects of reliance on missile defense to deter and defend against growing threats.

Introduction

The European Phased Adaptive Approach (EPAA), the missile defense network deployed through NATO and designed to defend Europe from limited ballistic missile attack, seems to have met almost all of its success metrics that were outlined in its initial plans under George W. Bush in 2007 and the revisions made by the Obama administration in 2009.[ii] With minimal difficulty, it has won most of its bureaucratic and Congressional battles within the United States and within formal and informal NATO sessions.[iii] Four Aegis-class destroyers have been permanently assigned to Rota, Spain, providing the EPAA's sea-based component. The first Aegis Ashore system in Romania was declared operational in May 2016, and a similar deployment in Poland will likely be completed according to schedule in 2018. Integration with NATO's Early Warning and Communications Systems through a new inclusive headquarters at Ramstein, Germany, and a new command at USNAVEUR at Naples are well underway. Major refitting of earlier Aegis vessels with supporting radars and also the active involvement of five major allies at sea, Spain, Norway, Holland, Italy, and the UK, are assured through the Maritime Theater Missile Defense Forum.

Moreover, there have been a wide range of NATO and American training and integration exercises for EPAA, all completed at or above the satisfactory range.[iv] Given the threat of Russian aggression in Eastern and Central Europe and the impact of the Syrian civil conflict, the

reassurance value of the EPAA has increased. These negative trends in the international environment have increased EPAA's value as a tool for developing popular confidence and psychological reassurance, especially since EPAA has come to be recognized not only for its protection against rogue missiles or unauthorized use, but also as a symbol of American commitment to Europe's security.

In contrast to earlier periods, all this has happened with a minimum amount of discussion and popular debate, let alone active political opposition. Russia's behavior has certainly played a role in reducing criticism for the project, particularly in Eastern Europe, where the desire for greater American involvement in security affairs and for new evidence of full American commitment to their security has reached new highs. American public opinion has been more muted. But the consensus that any form of missile defense is a "good thing" and the chosen answer to any emerging crises remains strong, particularly among the relatively small and informal "missile defense caucus" in the House and the more assertive bloc of missile defense senators,[v] who may have greater influence with the new Republican administration than they did under the Obama administration. This is true even when the knowledge on Capitol Hill about specifics is generally lacking.

The relatively smooth implementation of the EPAA so far is welcome news, although problems do remain along several key dimensions. After some initial flurries, these have largely not attracted direct attention given the distraction first of Europe's financial crisis and now the unprecedented refugee waves, continuing fiscal uncertainties, and the new divisions within the EU framework. But these problems remain—problems that will affect the future of the EPAA and the entire integrated air and missile defense mission within Europe as well as signal likely difficulties with missile defense architectures in other regions of the world. Some are familiar from earlier BMD episodes: the inherent difficulty of missile defense still poses challenges, as do questions of cost-benefit and economic feasibility. Some challenges, however, are new, such as the ambiguous cost-benefit trade-offs involved in land-based deployments versus those at sea, competition with the BMD needs of other regions, and the suitability of a new range of capabilities under the new "third offset" strategy such as the long awaited rail-gun or the multi-mission explosive rounds fitting a variety of already deployed Navy tubes.

Last, but presently perhaps the most overwhelming, is the question of the special psychological impact of EPAA in the impending collapse of the European security structure that no longer seems to assume any active Russian involvement, or even grudging Russian acceptance. The immediate political mobilization effects hearten many decision makers, and public opinion continues to have little confidence in Russian words or behavior. But there are sober questions about long-term developments, from both military and political critics. Is EPAA "worth it," in European or transatlantic terms, given scarce resources and a host of long postponed military requirements? Does EPAA have enough credibility with external foes? Do domestic populations see missile defense as an operational answer to renewed pressure, harassment, and low level escalation from infiltration, as seen in Crimea or Ukraine?

This essay will examine each of these challenges in turn, and gauge the seriousness of the dangers and risks, both political and military, involved. The EPAA does not seem in imminent danger of major changes, either in favor of increased capability or a decreased U.S. commitment

to fulfilling the promises already made. This is as it should be. What remains to be seen is how the United States and NATO will address the challenges, old and new, that face the EPAA.

The EPAA and Europe's Slide into Turmoil

The political ease with which the EPAA has been implemented so far owes a great deal to Europe's focus on other, more pressing issues and to Russia's belligerency, which shows no sign of abetting. Since the onset of the Great Recession in 2008, Europe as a whole has befallen tough economic times. The Eurozone debt crisis and the lack of economic opportunity across the continent have consumed the lion's share of attention among European governments. The economic hardship across Europe has also sparked questions about the feasibility of the European Union as nationalism and populism continue to grow. In this chaotic environment, the European public has paid far less attention to U.S.-led security initiatives in Europe than it had during the Cold War. This is especially so because the United States is providing most of the funds for the project. If European defense budgets had to noticeably increase to fund the project, the EPAA would have likely been met with more opposition.

Russia's invasion of Ukraine, belligerent rhetoric, and muscle flexing in Syria provided increased rationale for Eastern European countries to support EPAA and particularly to covet a permanent U.S. ground presence on their territory. In fact, enthusiasm for EPAA has much more to do with the intrinsic requirement for a "persistent" presence of U.S. forces in Eastern Europe than it does with protection from medium-range ballistic missiles, in the eyes of most Eastern Europeans. This has decreased the European criticism of the project that plagued the George W. Bush administration's efforts. This is both a blessing and a curse. On the positive side, Russia's actions have made the EPAA's progress much easier to execute politically. European leaders need not worry about domestic opposition to the project stemming from concerns about provoking Russia.

The flip side to this decrease in political opposition is that there may be greater demand for missile defense (and other forms of U.S. commitments that involve the stationing of U.S. assets and forces in Eastern Europe) that the United States may not wish to provide for reasons of optics and competition for BMD resources in other regions of the world. The demand for greater missile defense alone could cause substantial tension with Russia, and provide them with the justification they need, for example, to exit the Intermediate Nuclear Forces (INF) Treaty. They will claim, as they have already done, that the EPAA is simply laying the groundwork for a more robust missile defense capability that will in the near future threaten Russia's strategic deterrent and its ability to strike Europe with its ICBMs. Even if the United States withholds such support for the increased missile defense requested by allies, Russia will surely use the support for further EPAA capabilities for propaganda purposes. It will also play into the paranoia that lurks in the background at the Kremlin.

From this perspective, the lack of opposition to the EPAA—and the potential for increased demands and expectations down the road—could complicate U.S. and NATO relations with Russia even further, and be used by Russia as a justification to advance its agenda on the INF Treaty, for its persistent (and irresponsible) use of military aircraft and vessels to provoke and

irritate, and perhaps to claim ever greater "rights" over its near abroad. The present Russian government is clearly probing at all the edges of the previous security regime in Europe, as well as questioning or outright rejecting the basic agreements that undergirded that regime—no change of borders by force, respect for international law, and no permanent military deployments outside of national soil. While Putin's Russia has not committed massive force or pursued new strategic directions, these circumstances bode ill for any easy or speedy return to a strategic partnership with the United States or Europe towards the goals set by Ronald Reagan and Mikhail Gorbachev in 1985 at Reykjavik, "a Europe whole and free."[vi]

The Persistence of Familiar Problems

Since the change of plans regarding the Third Site and the introduction of the phased adaptive approach policy, the EPAA has proceeded according to plan with far fewer hiccups than other comparable BMD programs.[vii] That being said, many of the same issues that characterized previous missile defense debates are beginning to appear again, though they have not yet been grappled with to the extent necessary due to Europe's preoccupation with more pressing problems.

One of these familiar problems is the question of cost. The complex nature of U.S. missile defense funding makes the true cost of missile defense to the United States difficult to calculate. Costs stemming from research and development, acquisition, and operations and maintenance are all associated with missile defense, even though these costs may be spread across different departments and programs. In addition, some programs have multiple purposes while other elements of the missile defense budget, such as surveillance and tracking, exist within the classified portions of the defense budget. Despite these complexities, when considered within the broader context of U.S. defense spending, missile defense makes up a relatively small and reasonable percentage of the overall defense budget. While the relative size of U.S. missile defense spending is modest, perceptions about the contributions of missile defense to U.S. security and strategic objectives will be what is most critical in determining the role of missile defense in the future.[viii]

Estimating the costs of the EPAA has proven to be difficult as well. While the Defense Department has made lifetime operating and support cost estimates for the forward based radar and terminal high altitude defense (THAAD) systems, it has struggled to put forth a comprehensive cost estimate for Aegis Ashore.[ix]

Funding for the Aegis BMD program comes mainly from the Missile Defense Agency (MDA) budget, with a smaller portion coming from the Naval budget. MDA's budget includes funds for the two Aegis Ashore sites in Poland and Romania that are to be part of the EPAA.[x]
Burden-sharing is another cost related issue that has arisen for the EPAA. Some observers have called for an increased investment in regional BMD from European members of NATO. Since the primary purpose of the EPAA is to protect Europe, they argue that the Europeans should share more of these costs.[xi] However, missile defense is no military industrial bonanza and doesn't provide technology transfer incentives for allies.

The Emergence of New Problems

In addition to the old set of problems that would accompany a greater demand for BMD in Eastern Europe vis-à-vis Russia, the EPAA also faces new challenges that will need to be addressed over the coming years.

Demand for missile defense is increasing, both within the U.S. military and among allies. As the Aegis BMD system has proven itself, combatant commanders have demonstrated an interest in having a BMD capability in their theater. This has placed a great amount of stress on the Missile Defense Agency (MDA) and the Navy. To meet the requests of combatant commanders for missile defense, the Navy would need to allocate 77 Aegis ships to the BMD mission out of a total fleet of 84 Aegis ships.[xii] Most Aegis ships cannot currently perform this missile defense mission and other missions (such as cruise missile defense) simultaneously, meaning that meeting the BMD wishes of combatant commanders would prevent Aegis ships from performing other critical functions. In short, the Navy is currently unable to meet the demand for sea-based missile defense.

This has increased the Navy's enthusiasm for Aegis Ashore.[xiii] If further capability is added to the EPAA, the most cost-effective and militarily advantageous mix of sea-based and land-based Aegis deployments will need to be found. Sea-based and land-based Aegis missile defenses both have their strengths and weaknesses. Sea-based missile defense has the benefit of being able to defend ships from anti-ship missiles—a growing concern particularly in the Asia-Pacific. Sea-based BMD is also mobile, allowing for a surge of BMD assets into conflict zones should the need arise. But these benefits are accompanied by significant drawbacks. As mentioned previously, most Aegis ships cannot perform BMD and cruise missile defense simultaneously, making the ships susceptible to an attack from both ballistic missiles and cruise missiles at the same time. Furthermore, the vertical launch system (VLS) on Aegis ships that launch the interceptors cannot be reloaded at sea, meaning a large salvo of incoming missiles could deplete the interceptors quickly and leave the ship and surrounding ships defenseless.[xiv] Land-based Aegis Ashore batteries can be reloaded with greater ease, but are not mobile and thus cannot be moved where they are needed most. The problem of allocating between land-based and sea-based assets in a matter that meets operational requirements without breaking the Navy's budget is a new challenge that will need to be managed over time.

In addition to managing the allocation between land-based and sea-based assets, it will be imperative to limit the number of missiles that missile defenses will have to intercept in the first place. This is for three main reasons. First, sea-based missile defenses are limited by the number of interceptors they can carry onboard. Second, adversary arsenals are increasing in size, such that the volume of incoming missiles from a determined adversary would be sufficient to overwhelm missile defenses. And third, the current inventory of interceptors is costly, putting further strain on a military budget that has other modernization priorities.

As the EPAA continues to evolve, so too will operational doctrines designed to reduce the number of incoming missiles. This will require the integration of other capabilities into the missile defense system, including non-kinetic capabilities designed to disrupt the launching of

ballistic missiles. There has also been talk of "left of zero" attacks, or striking an adversary's missiles before they are launched. Advancements in precision-guided munitions and intelligence, surveillance, and reconnaissance (ISR) have made such a comprehensive approach feasible.

Advancements in precision and accuracy are also causing the defense establishment to look at creating new capabilities to augment or even eventually replace the current expensive and limited missile defense assets deployed today, such as moving toward the SM-6 or 5-inch guns to utilize existing and developing military technology for new uses. The Defense Advanced Research Projects Agency (DARPA) is also working on developing artillery shells (which could potentially be launched by guns on naval ships) that would "combine the guidance, precision and accuracy generally afforded by missiles with the speed, rapid-fire capability and large ammunition capacity afforded by bullets."[xv]

Nearly seventy years of research has revealed a greater sense of technological limits in meeting the Aegis-based components of the current ballistic missile defense architecture. First, there is need for improved intra-defense communication and coordination to progressively integrate the various elements of the U.S. missile defense programs with allies and partners, not to mention the need for improved interoperability between U.S. BMD systems.[xvi] Second, the Aegis ships that are the backbone of EPAA cannot operate in a short time window without pre-delegation and, as of yet, cannot fulfill both the air defense and the missile defense mission at the same time. And third, there is need for stronger and larger radars mounted on naval vessels netted to the Aegis system to avoid the inconsistencies in cueing, as the current antennae cannot look on two levels simultaneously.

In addition to the technical decisions on the configuration of land-based assets, the defense of Aegis Ashore sites while preventing escalation needs to be considered. In the current political context, what would be permissible under the 1997 Founding Act on Mutual Relations, Cooperation, and Security between the Russian Federation and NATO if Russia threatened to attack an Aegis Ashore site?

Beyond such a speculative scenario, the increasing tensions in Eastern Europe following Russia's invasion of Ukraine have increased the political support for EPAA, particularly among the Visegrad countries. In response, EPAA's impact, if there is any, on Russia's "escalate to deescalate" doctrine in Eastern Europe remains to be seen.

Recommendations

The EPAA has already served a useful purpose within the NATO alliance. Its implementation is now a barometer of U.S. support for NATO, particularly its Eastern European members. Therefore, decreasing support for its stated objectives or failure to continue to implement the EPAA's next steps will result in a perception that the United States is decreasing its support for Europe's security at a time of significant threat and peril. It is thus necessary for the United States to fulfill its promises under the EPAA and work to achieve the capability that it promises, while recognizing that the main benefit of the EPAA to U.S. security guarantees is its ground presence.

However, an expansion of the EPAA's capabilities, whether promoted by the United States or its European allies, could prove further damaging to already failing U.S.-Russian relations. As tempting as it may be, the EPAA should not be used as a leverage point with the Russians, lest it provide them with an excuse to enact their agenda or needlessly provoke the paranoid officials in the Kremlin, some of whom genuinely believe that Russia is "permanently encircled."[xvii] If indeed further demonstrations of American security commitments to its allies are needed, other methods should be found. Some measures that the United States could take to credibly assure allies could include increasing transparency, maintaining open channels of communication, and support for Track 1.5 and Track 2 meetings.

It should also be noted that the EPAA will not by itself address the security threats facing Europe today. Following the Russian annexation of Crimea and the war in Ukraine, the pressing issue in Eastern Europe is Russia's use of hybrid warfare, unmarked Special Forces that became the infamous "little green men," and Russia's "salami tactics" to overcome opposition. It is unclear what level of NATO and American commitment is necessary to assuage Europe's fears over Russia's aggressive posture.

These security threats are exacerbated by the ongoing economic and political crises across Europe that began as sovereign debt crises in the Eurozone and led to the rise of support for Euroskeptic parties and eventually Brexit. The migrant crisis that originated from Syrian refugees, combined with rise of xenophobia, homegrown radicalism, and terrorist attacks in Europe, has left the Schengen system of open borders shaken. Overall, these combined factors of stress threaten the EU framework, in which the divide between the net contributors and net receivers have deepened.

It is thus critical for the United States to focus more of its foreign policy agenda on Europe in ways that address not just the perception of American security guarantees—as the EPAA does—but the actual substance of the threats facing Europe. The new administration should continue with the plans already agreed to with the EPAA, but find other additional methods for making American security guarantees credible. The United States must also realize that missile defense will not serve as a substitute for tactical nuclear weapons in Europe or for a strong U.S. nuclear guarantee for Europe.

Conclusion

While the future resilience of missile defense programs will depend on critical technological development, budgets, and political alliances, the EPAA has secured enough capital and political support to survive. However, neither a significant increase in capability nor a drastic decrease in U.S. commitment to European allies in fulfilling the promises already made are likely. The political support for EPAA's legitimacy, particularly among the Central and Eastern European allies, remains high in response to Russian aggression in Ukraine.

There are several decisions awaiting the new U.S. administration on missile defense and its role in transatlantic relations. Taking the strategic implications, costs, and technological needs behind

these decisions into consideration, the administration will have to balance between national missile defense programs and layered regional systems. The prospects for long-term success in regional missile defense goals with the EPAA depend on overcoming the old and new challenges on the adequacy of the technology, schedules, funding priorities, and burden sharing. How the United States and Europe tackle these challenges will have important implications for European security, and, in these politically unstable times, implications for the future of the NATO alliance.

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[i] Brad Roberts, "U.S. Nuclear Weapons in the Twenty-First Century," Carnegie Endowment for International Peace, June 28, 2016, http://carnegieendowment.org/files/Transcript17.pdf

[ii] For more on the evolution of European missile defense during the George W. Bush and Barack Obama administrations, see Gustav Lindstrom, "Europe and Missile Defense," in *Regional Missile Defense from a Global Perspective,* ed. Catherine McArdle Kelleher and Peter Dombrowski, (Stanford: Stanford University Press, 2015), 107-120.

[iii] FN: even within some earlier NATO-Russian Council sessions.

[iv] FN-far more and a better success rate than for national missile defense vehicles

[v] Further information about missile defense advocates in the U.S. Congress can be found in Nancy W. Gallagher, "Congress and Missile Defense," in *Regional Missile Defense from a Global Perspective,* ed. Catherine McArdle Kelleher and Peter Dombrowski, (Stanford: Stanford University Press, 2015), 85-104.

[vi] James E. Goodby, "The Nuclear Dilemma: Constants and Variables in American Strategic Policies," in *The War That Must Never Be Fought*: Dilemmas of Nuclear Deterrence, ed. George P. Shultz and James E. Goodby, (Stanford: Stanford University Press, 2015), 57-80.

[vii] Catherine McArdle Kelleher and Peter Dombrowski, *Regional Missile Defense from a Global Perspective,* (Stanford: Stanford University Press, 2015), 285.

[viii] Catherine McArdle Kelleher and Peter Dombrowski, *Regional Missile Defense from a Global Perspective,* (Stanford: Stanford University Press, 2015), 287.

[ix] GAO, "Ballistic Missile Defense: Actions Needed to Address Implementation Issues and Estimate Long-Term Costs for European Capabilities," GAO-14-314, April 2014, http://www.gao.gov/assets/670/662492.pdf

[x] Ronald O'Rourke, "Navy Aegis Ballistic Missile Defense (BMD) Program: Background and Issues for Congress," Congressional Research Service, May 26, 2016, 6.

[xi] Ronald O'Rourke, "Navy Aegis Ballistic Missile Defense (BMD) Program: Background and Issues for Congress," Congressional Research Service, May 26, 2016, 16

[xii] Sydney J. Freedberg, Jr., "Aegis Ambivalence: Navy, Hill Grapple Over Missile Defense Mission," *Breaking Defense,* June 30, 2015, http://breakingdefense.com/2015/06/aegis-ambivalence-navy-hill-grapple-over-missile-defense-mission/.

[xiii] Sydney J. Freedberg Jr., "Aegis Ashore: Navy Needs Relief from Land," *Breaking Defense,* July 2, 2015, http://breakingdefense.com/2015/07/aegis-ashore-navy-needs-relief-from-land/.

[xiv] Mark Gunzinger and Bryan Clark, *Winning the Salvo Competition: Rebalancing America's Air and Missile Defenses*, (Washington: Center for Strategic and Budgetary Assessments, May 2016), 6, http://csbaonline.org/publications/2016/05/winning-the-salvo-competition-rebalancing-americas-air-and-missile-defenses/.

[xv] Jerome Dunn, "Multi-Azimuth Defense Fast Intercept Round Engagement System (MAD-FIRES)," *Defense Advanced Research Projects Agency*, http://www.darpa.mil/program/multi-azimuth-defense-fast-intercept-round-engagement-system.

[xvi] Catherine McArdle Kelleher and Peter Dombrowski, *Regional Missile Defense from a Global Perspective,* (Stanford: Stanford University Press, 2015), 287.

[xvii] "US Missile Shield in Romania Switched on: Kremlin Calls it 'Threat to Russia's Security,'" *International Business Times,* May 12, 2016.