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Looking East

European Air and Missile Defense after Warsaw

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Toward an Integrated Air and Missile Defense for Europe

Last week, leaders from all 28 NATO member nations met in Warsaw, coming together for what President Obama called the alliance’s “most important moment” since the end of the Cold War. The symbolism of the summit’s location was not lost on anyone. In the face of Russian provocations, NATO allies in Eastern Europe are especially concerned. Released at the close of the summit on July 9, the Warsaw Communiqué forthrightly recognizes that NATO has a Russia problem.¹ The summit took many important steps to adapt to this new strategic environment, including the deployment of four battalions in the Baltics and Poland and commitments to improve in several capability areas.

One capability area where the summit seemingly falls short of adapting, however, is missile defense, a core alliance mission since 2010. Additional steps are needed to update and expand European air defenses into an Integrated Air and Missile Defense (IAMD) network tailored to deter and defeat low-tier Russian threats while enhancing strategic

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stability. To be sure, the communiqué announces the initial operational capability for NATO’s ballistic missile defense (BMD), as a result of the recent activation of the Aegis Ashore site at Deveselu, Romania, aimed at prospective missile threats from the south, notably Iran. This architecture tailored to Iran, however, does not deter Russia. Both the southern and the eastern problems require respective, albeit related, solutions. The summit affirmed that NATO will have “the full range of capabilities necessary to deter and defend against potential adversaries and the full spectrum of threats that could confront the Alliance from any direction.” (Indeed, the phrase “from any direction” was used three times.) Applying this to air and missile defense will mean going beyond current

¹ Warsaw Summit Communiqué, NATO, July 9, 2016, http://www.nato.int/cps/en/natohq/official_texts_133169.htm?selectedLocale=en.

European Phased Adaptive Approach (EPAA) plans, while remaining consistent with the EPAA's guiding principle of adaptability.

The European IAMD envisioned here would be designed to protect deployed and rapid response forces, complicate nonstrategic Russian missile attack, protect freedom of movement within NATO territory, and permit the flow of forces to respond to aggression. Such a multinational or alliance-wide network would make deterrence more credible, raise the threshold for conventional attack, diminish prospects for coercion, and thereby support assurance and alliance cohesion. Its character would also remain "purely defensive" in nature.

Despite a changed environment, NATO has not yet embraced such a path. Several allies have concerns about doing so or are otherwise unwilling to challenge Russia in this area. This is a hole from which NATO may need to consider digging itself out. It is nevertheless worth considering the problem and potential solutions, should individual nations or the alliance more broadly wish to embrace them in the future.

Vulnerability to Russian A2/AD

The summit notably calls out Russia's provocative military activities on the NATO periphery, repeated violations of NATO airspace, and irresponsible nuclear rhetoric. This threat set facing NATO includes an emerging suite of capabilities usually captured by the phrase "anti-access and area-denial" (A2/AD). Besides ballistic missile threats from Iran, NATO now faces a more complex threat consisting of cruise missiles, unmanned aerial vehicles (UAVs), aircraft, maneuvering or hybrid ballistic missiles, and robust air defenses. Of particular concern are Russia's S-300 and S-400—Russia's own air and missile defense network. When visiting U.S. and other allied officials flew to the Warsaw airport, their aircraft were within range of Russia's air defenses and largely missile-based A2/AD bubbles extending over Eastern Europe. Offensive missile forces, such as the *Iskander* and the *Kalibr* cruise missile conspicuously displayed in Syria, also pose new threats. The communiqué calls out violations of the Intermediate-Range Nuclear Forces (INF) Treaty, but Russia's overall intent and capabilities are more important than any specific treaty-noncompliant missile. U.S. or allied forces under attack would find little satisfaction in the knowledge that an incoming Russian attack consists of sea- or air-launched rather than ground-launched missiles.

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A recent CSIS report describes these forces as "a thicket of overlapping and redundant A2/AD systems" based in Kaliningrad, Western Russia, Belarus, the Black Sea—and indeed extending from the Russian Arctic to Syria.² NATO allies are particularly vulnerable

to these threats, especially given the neglect of air defenses in recent decades. Russian deployments in Kaliningrad and access to bases in Belarus could potentially isolate NATO's eastern flank, hold at

² Kathleen Hicks et al., *Evaluating Future U.S. Army Force Posture in Europe: Phase II Report* (Washington DC: CSIS, 2016), 36.

risk NATO's ground forces, and support a *fait accompli* that could either shatter the alliance or require massive escalation to save it. NATO members should consider investing in an A2/AD "thicket" of their own to defend forces in the East.

Relation to NATO Policy

The development of a robust European IAMD would not be inconsistent with past NATO pronouncements. Indeed, past NATO statements and documents have used special care to steward exactly this kind of flexibility. Every summit declaration since 2010 has reaffirmed that U.S. and NATO limited missile defense deployments are not intended to defeat what the West considers to be Russia's *strategic* nuclear forces or to affect the strategic balance with Russia. This does not, however, preclude robust lower-tier defenses for *nonstrategic* air and missile threats.

A path toward more capable defenses begins with NATO's 2010 Strategic Concept declaration that the alliance will maintain "the full range of capabilities necessary to deter and defend against any threat" and with its commitment to continue review and take "into account changes to the evolving international security environment."

While stopping short of endorsing it, the Warsaw Communiqué hints at the need for this Russia-directed IAMD. To be sure, NATO has thus far refrained from trying to actualize this potentiality. The 2012 *Deterrence and Defense Posture Review* (DDPR), for instance, stated that "NATO missile defence is not oriented against Russia." The communiqué likewise observes that NATO missile defense is not "directed" against Russia and that current efforts are only "intended to defend against potential threats emanating from outside the Euro-Atlantic area."

Given NATO's incorporation of missile defense as a core mission and the principle to defend against any threat from any direction, what, after all, does it mean for missile defenses to be or not be "oriented" or "directed" at some particular entity? Purely defensive systems are not aimed at any particular entity, but rather designed to protect against threats aimed at them. It so happens that Russia is an outside entity now aiming lots of threats at NATO, from many directions, and from both within and outside the Euro-Atlantic area.

Relation to U.S. Policy

Nor would a robust IAMD designed to deter nonstrategic Russian threats be inconsistent with U.S. policy. The 2010 *Ballistic Missile Defense Review* (BMDR), for instance, arguably encourages such a posture. Such steps would be consistent with the second highest priority expressed in the BMDR, to "defend U.S. deployed forces from regional missile threats while also protecting our allies and partners." Neither in the BMDR nor elsewhere has the United States said that defenses will stand down if attacked by Russian missiles. To do so would be contrary to the long-running principled opposition to "reject any negotiated restraints" on missile defenses. Indeed, while noting the severely limited capacity to deal with a deliberate Russian attack, the BMDR suggests that even the United States' homeland missile defenses could be used against a stray launch of a long-range Russian missile.

Strengthening Deterrence

As with previous declarations, this year's reaffirms that missile defense and other conventional forces serve a critical role in complementing nuclear deterrence, while not substituting for it. The 2010 BMDR likewise affirmed that regional missile defenses are an "essential element of...regional deterrence architectures." But how, exactly, do missile defenses deter?

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The purpose of IAMD is to support a broader deterrence and defense posture, not to sit and play catch. NATO's emerging strategy on the eastern flank is a combination of modest combat-capable forward forces, complemented by a larger rapid-reaction

force to reinforce them in a crisis, backed up by the risk Russia would undertake if it attacked multinational NATO forces. All elements of that strategy are important to achieving the deterrence effect. If reinforcement becomes difficult because of Russian A2/AD, the deterrent effect of forward forces would be decreased. Defenses that protect retaliatory forces and are integrated into credible plans can make significant contribution to deterrence.

European IAMD would serve several strategic political, economic, and military goals. In the first instance, it would be designed to deter military attack, improve assurance, avoid alliance splintering, and degrade Russia's coercion potential. Specific military objectives include slowing a potential Russian assault, thereby buying response time; protecting forward deployed NATO forces in the East, especially on ground and sea; protecting freedom of movement and maneuver; and raising the threshold for aggression. Additional goals might be to engage multiple national industrial bases, avoid the appearance of hostile or aggressive intentions, and resist Russian information operations and political subversion. Rather than undermine strategic stability or NATO's deterrence posture, a limited IAMD network would reinforce both.

Offense-Defense Mix

The question arises, however, whether IAMD would add relatively more deterrent value than additional offensive strike and ground forces. Countries like Poland, for instance, will have to make hard choices to sustain its two-tier defense concept, Narew and Wisla. Missile defense critics in Poland point out that they could never have enough interceptors to absorb all the *Iskanders* and *Kalibrs* Russia could throw at them, so they could instead acquire strike forces such as additional F-16s, Joint Air-to-Surface Standoff Missiles-Extended Range (JASSM-ERs), Tomahawks, the Multiple Launch Rocket System (MLRS), the Army Tactical Missile System (ATACMS), or large quantities of other inexpensive munitions to give Russia pause.

An offense-only posture would not, however, be as effective a deterrent as an offense-defense mix. Limited missile defenses can have strategic effect, even in the face of overwhelming numbers and possible saturation. Taiwan, for instance, deploys only 10 Patriot batteries in the face of 1,500 cruise and ballistic missiles aimed at the island, but it does so to protect certain "centers of gravity" such as

Command, Control, Communications, Computers, Intelligence, Surveillance and Reconnaissance (C4ISR), even at the expense of territorial defense, so as to guarantee that a large-scale Chinese attack would face some kind of reprisal. A similar deterrence concept informed the Safeguard missile defense system in the 1970s, designed to protect U.S. intercontinental ballistic missile (ICBM) fields. Defenses can be overwhelmed, but doing so would raise the threshold for attack. The Warsaw summit prudently reaffirms that NATO's deterrence and defense posture will continue to be based on "an appropriate mix of nuclear, conventional, and missile defence capabilities."

Moving Beyond EPAA

A European IAMD would be distinct from past and current EPAA efforts but not disconnected from them. The declaration of initial operational capability for NATO BMD represents an important milestone for missile defense more broadly. Besides Romania, other BMD assets include various point defenses, Aegis ships based at Rota, Spain, and an Army/Navy Transportable Radar Surveillance (AN/TPY-2) radar in Turkey facing south. Future steps include command and control (C2) advances and the third phase, an Aegis Ashore site at Redzikowo, Poland.

All the EPAA's efforts are thus far directed, however, at current and prospective missile threats from the Middle East. Standard Missile-3 (SM-3) interceptors in Romania and Poland will have no capability to chase Russian ICBMs over the pole or otherwise undermine Russia's strategic ICBM and submarine-launched ballistic missile (SLBM) forces. Designed for exo-atmospheric midcourse intercept, the SM-3 is probably also unable to defeat short-range Russian ballistic missiles based, say, at Fortress Kaliningrad, nor can they be used against low-flying cruise missiles at all. Defending against such threats requires lower-tier, endo-atmospheric capabilities distinct from those currently contemplated for EPAA.

Although SM-3s are ill-suited to defeat *Iskanders* or *Kalibrs*, a lower-tier supplement to EPAA might well be integrated with Aegis Ashore facilities. Besides themselves requiring and providing air defense, Aegis Ashore could help stitch together sensors and shooters

distributed across NATO. Each Aegis Ashore site may be able to manage considerably more Mark 41 Vertical Launching System (Mk 41 VLS) launchers than the current 24—destroyers have 96 cells, cruisers have 122. Instead of simply more SM-3s, additional tubes might hold SM-6s or a spectrum of other effectors, just as Aegis ships afloat carry mixed loads. NATO's Active Layered Theatre Ballistic Missile Defence (ALTBMD) command and control network would almost certainly play a part. The U.S. Army's development of the integrated air and missile defense battle command system (IBCS) could also support multinational and multisystem integration.

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National or Multinational Paths

One important distinction in moving toward a European IAMD is whether the capabilities are established merely as national assets, or whether the mission of deterring and defending against Russian missiles is embraced by the alliance broadly. The distinction is especially important given political differences, particularly the disinclination of some allies to be especially bold in a capability area Russia would prefer its neighbors to neglect.

While reaffirming that alliance-wide missile defense is not oriented at Russia, the Warsaw Communiqué certainly does not prohibit the national defenses of individual allies from being so oriented and seems to welcome steps in that direction. The 2014 Wales summit noted “potential synergies” from multinational missile defense cooperation. Warsaw’s summit adds to it slightly: “we encourage further voluntary contributions, all of which will add robustness to the capability.” Of especial importance in recent German, Polish, and other national tenders is the oft-repeated need for “360 degree” protection. This concern reflects the increased complexity of the air defense problem generally, of which Russia’s capabilities represent the leading edge. Besides Russia’s diverse basing posture for ground-launched ballistic missiles, long-range and maneuvering cruise missiles also have an inherent ability to attack “from any direction.”

The Architecture

What, then, might an architecture for European IAMD look like? The sketch below attempts to identify its likely characteristics, locations, objects of defense, and particular near- and medium-term solution sets.

Prioritizing Defended Objects

The Lisbon summit established an ambitious goal to protect all NATO populations, territory, and forces from missile attack—but focused on Iran. Continuing such an approach would be attractive with respect to the particular goal of deterring Russian aggression, but it would also be far more daunting. More limited goals may be in order, with a critical asset list tailored to military necessity. Fixed and mobile objects to prioritize might include critical command and control, forward deployed and maneuvering forces, military bases, prepositioned stocks, Aegis Ashore sites, forward deployed ground forces, and logistical and transportation hubs including air and sea debarkation points (APODs and SPODs). The various sensors and shooters would presumably be located where the threat and the benefits are greatest—such as the Baltics and Poland, but also Central European assets such as Ramstein. Resources permitting, territorial or population defense is also important to avoid coercion.

Resilience

To raise the threshold for an attack, an IAMD architecture would itself need to be resilient to attack. Here redundancy and distribution are key, so that the loss of one radar, for example, would not cripple the entire system. Resiliency might also be improved with sophisticated camouflage, dummies

and decoy launchers, and other means of deception. Mobile systems on trucks or trailers would be important to defend mobile ground forces. Defending fixed sites like Aegis Ashore, C2, and airports would of course require greater magazine inventory, for which larger numbers of low-cost interceptors might be at a premium.

Potential Systems

In the near term, several off-the-shelf systems could help address Europe's air defense gap. Systems of U.S. origin include the Patriot family (PAC-2, GEM-T, PAC-3, MSE), land- and sea-basing the Aegis Combat System (SM-2, SM-6, Evolved Sea Sparrow), as well as land-based advanced medium-range air-to-air missiles (AMRAAMs), Stinger, and other short-range air defenses (SHORAD). Despite the scarce number of batteries, Terminal High-Altitude Area Defense (THAAD) is also frequently included as a potential U.S. Army surge in Europe. Non-U.S. solutions include France's Aster 30 SAMP/T (sol-air moyenne portée/terrestre), Germany's surface-launched version of the Infra-Red Imaging System—Thrust Vector Controlled (IRIS-T), and Israel's Arrow and Iron Dome.³ Aegis C2 and its potential for scaling up and more broadly distributing launcher tubes may make sense as well. In the post-2020 timeframe, other air defense options will become available that could also be brought into the fold, such the Medium Extended Air Defense System (MEADS), Stunner, and even short-range directed energy systems like the truck-mounted High Energy Laser-Mobile Demonstrator (HEL-MD).

Last week, Poland's defense minister announced that Poland will likely pursue Patriot for national needs.⁴ No contract, however, is yet signed, and it will probably be around two years from contract to fielding, and a 360-degree Patriot radar will take a few years longer. Lest the best be the enemy of the good, the full Patriot family should be considered for European IAMD, including PAC-2, GEM-T, and PAC-3—not just the shiniest new Missile Segment Enhancements (MSEs).

Germany, too, is reviewing its options for updated defenses, and currently appears to be leaning toward the MEADS/Taktisches Luftverteidigungssystem (TLVS) development, in which its domestic defense industry is deeply vested. Whether with codevelopment or workshare, the coordination of alliance-wide economic interests should be a strategic goal unto itself to field and sustain support for European IAMD.

European IAMD would also require robust sensor capabilities, which could come from Patriot or Sentinel radars, larger systems like AN/TPY-2 and SPY-1, or upcoming assets such as the MEADS tracking and surveillance radars, Air and Missile Defense Radar (AMDR), and elevated sensors to detect cruise missiles. New radar technologies such as active electronically scanned array (AESA) or Gallium-nitride (GaN) might also be incorporated to improve existing systems. The communiqué identifies the next NATO BMD goal to be command and control work. Such work should advance not merely with ballistic missile defense but also air and cruise missile defense in mind.

³ Boyd Collins, "U.S. Army successfully demonstrates Iron Dome missile from new interceptor launch platform," press release, U.S. Army, April 20, 2016, <https://www.army.mil/article/166397>.

⁴ Associated Press, "Polish arms firm in deal with US Patriot missile maker," *Seattle Times*, July 5, 2016, <http://www.seattletimes.com/business/polish-arms-firm-in-deal-with-us-patriot-missile-maker/>.

Burden Sharing

The United States cannot and should not solely underwrite the cost of a broad European IAMD, as it largely has with EPAA. Neither will it likely be composed only of U.S. foreign military sales. The solutions for a European IAMD are instead likely to be both diverse and multinational in origin. Near-term steps will also probably not fall under NATO-wide missile defense, but the integration of numerous national assets and contributions. Warsaw's principles of indivisible allied security and solidarity, however, point toward more unified or at least coordinated approaches to burden sharing. Relative to other regions, European air defense has greater potential to be more than the sum of its parts.

Rather than wait for new builds and training, NATO states could rotate some of these existing defenses to areas such as the Baltics, Poland, Romania, or elsewhere in Southeast Europe. A model for such deployments could be the shared rotational Patriot deployments to Turkey provided by the United States, the Netherlands, Germany, and Spain. Germany alone has over 20 PAC-2 and PAC-3 batteries.

NATO members could also explore other creative ways of using existing assets. This might include "lend-lease" arrangements whereby Polish or Baltic militaries could host sensors or train and operate older systems. These might come from within Europe or from the global market. Spain, for instance, purchased all of its older Patriot batteries second-hand from Germany and the United States—some of which had previously been offered to (but rejected by) Poland.

Financing and purchasing may be an area ripe for innovative arrangements. The Wales summit encouraged the exploration of "potential synergies in planning, development, procurement, and deployment." The Warsaw summit maintains the past restriction that only command and control systems for the ALTBMD network are eligible for common funding. While precluding formal alliance-wide purchases, there is nothing to preclude coordinated multinational efforts among several or many individual allies. Such arrangements might include bulk buys to lower unit cost (including with out-of-area customers, in the Asia Pacific or Middle East). Novel arrangements might include copurchasing and cooperation of something like a "Multinational Missile Defense Force."

If a European IAMD begins to evolve, allied forces will need to train and exercise on it. To this end, a new NATO IAMD Center of Excellence (COE) could be created, perhaps in Poland, modeled on the IAMD COE in Abu Dhabi, the Pacific IAMD Center in Hawaii, and the NATO Cooperative Cyber Defense COE in Estonia. Such a center would allow NATO members to share information, solve problems, develop new concepts of operation, and conduct games.

Updated Declaratory Policy

The Warsaw communiqué directs the North Atlantic Council to regularly review missile defense implementation and related issues that may arise. The council is one forum in which a Russia-directed

IAMD could be explored. Consistent with the 2010 Concept's pledge to continually take into account "changes to the evolving security environment," this might include updating the 2012 DDPR.

Specific declaratory language that might be helpful to support the scope of European IAMD could be derived directly from NATO's 2010 Strategic Concept. While reaffirming no intent to undercut Russia's strategic nuclear deterrent, a future summit could expressly note that the missile defense mission can include any missile threat, from any direction, both in and outside the Euro-Atlantic area. Additional language that might need an update is the concept's emphasis on *ballistic* missile threats, rather than missiles more broadly. Should Russia's intent and posture not soon improve, such an update could be considered at the 2017 Brussels summit. In the meantime, numerous bilateral and multinational efforts provide other opportunities for nearer-term actions.

Russian Objections

To be sure, steps toward a more capable European IAMD would invite a vigorous but healthy discussion in light of overall NATO-Russia relations. Care must be taken to ensure unanimity for alliance-wide actions, since marginal increases of military capability provided by missile defenses have to be weighed against potential divisions within the alliance. The ultimate criteria for any such actions will be strengthening deterrence and sustaining alliance cohesion. Russia must not, however, be given a veto—either through political or legally binding agreements—on what kind of defenses are acceptable for its neighbors to secure their independence and territorial integrity.

Concrete steps toward European IAMD would certainly be accompanied by the usual denunciations. Russia will issue threats and allege that such defenses are destabilizing, notwithstanding Russia's own robust air and missile defenses expressly oriented toward NATO. The 2012 Chicago summit took notice of Russian threats for missile defense cooperation, "regretting the recurrent Russian statements on possible measures directed against NATO's missile defence system." The Warsaw summit calls such Russian threats "unacceptable and counterproductive." Russia's complaints about defenses being "destabilizing" are not, of course, to be taken at face value. After all, what Russia probably prefers is what NATO would see as a situation of relative strategic instability—neighbors vulnerable to coercion and subversion from Moscow.

The Path Forward

The 2016 summit accomplished its most important goals: recognizing that it has a Russia problem, increasing forward deployments into Eastern Europe, and highlighting the centrality of deterrence. In Warsaw, President Obama declared that "We need to bolster the defense of our allies in Central and Eastern Europe, strengthen deterrence and boost our resilience against new threats." Much work remains to be done, however, to implement these goals. A broad range of sophisticated air and missile threats represents one new category of threats requiring such action. In this particular area, the summit did more to hint at the path forward than to move down it toward a European IAMD. Concrete steps can be taken within the coming year, and should conditions require it, NATO's declaratory posture could be revised at the next summit.

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A low-tier European IAMD that moves beyond the current EPAA would be challenging and costly, but it may also be necessary for a strategic environment that includes Russia’s emergence as a regional

threat. It bears repeating that the first “A” in EPAA stands for “adaptive.” The time has come to adapt and to improve European IAMD to growing regional missile threats, to deter conflict, and to protect U.S. and allied forces.

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