Analysis

Ballistic missile defence

NATO’s European Phased Adaptive Approach

James Fergusson

With various countries developing ballistic missiles and/or nuclear weapons, ballistic missile defence (BMD) became a priority for the U.S. and NATO. This article examines the origins of NATO’s BMD programme, its current approach, American and European developments, and Russia’s position.

At last year’s Chicago Summit, the NATO heads of state announced the deployment of an initial ballistic missile defence (BMD) operational capability. Based upon the Obama administration’s European Phased Adaptive Approach (EPAA), it is the first stage of a more robust layered full operational capability for the missile defence of Europe. According to the Declaration, the system is designed “to provide the Alliance with a NATO operational BMD that can provide full coverage and protection for all NATO European populations, territory and forces, ...” In addition, it is based upon “voluntary national contributions”, and linked to the existing NATO Active Layered Theatre Ballistic Missile Defence (ALTBMD) command and control (C2) system.

The process that led to this decision has been a long, and somewhat arduous one. Driven by the United States, the NATO European allies, and Canada, have been historically divided over the value, utility and implications of developing and deploying missile defences. Allied consensus is primarily a product of the proliferation concerns. Specifically, these are directed at the Iranian ballistic missile development programme, and linked to fears that its nuclear enrichment programme is a mask for the development and acquisition of nuclear weapons. Beyond this basic consensus, significant differences exist within the alliance related to costs, Russia, and the real purpose of the EPAA relative to American strategic interests.

NATO and BMD

The immediate origins of the EPAA can be traced back to the Washington Summit (1999), where the alliance first identified the proliferation of weapons of mass destruction and their delivery means as a threat to allied populations. This would be followed by the initiation of the second missile defence feasibility study at the Prague Summit (2002) to examine the feasibility of a European territorial defence, the acceptance of its positive findings at the Riga Summit (2006), and the decision to move forward at the Lisbon Summit (2010).

NATO’s formal involvement with BMD, however, began in the early 1990s and focused upon tactical and theatre defences for NATO military forces. Following the Rome
Summit (1991), where proliferation was first identified as a threat to international peace and security, the alliance tasked the Conference on National Armament Directors (CNAD) to examine the requirements for missile defence. The CNAD created the Ad Hoc Working Group on extended air defence and theatre missile defence, which produced the Layered Tactical Ballistic Missile Defence Sensor Architecture Study in 1998.

NATO’s initial concentration of tactical/theatre defences was a product of several considerations. First, NATO Europe faced no direct ballistic missile threat to its territory from proliferating states. Iran’s ballistic missile program, for example, was in its early stages. It would take a significant period of time for Iran to develop more complicated multi-stage long-range missiles. Second, the tactical/theatre priority was a direct function of alliance’s move towards out-of-area operations, and the Gulf War experience, where the allied coalition faced Iraq’s short and medium range ballistic missile capabilities.

Third, NATO followed the U.S., as a function of its leadership in missile defence research and development. Even though the U.S. had historically concentrated upon strategic missile defence investments as a function of the Cold War, the only operational capability at the time was the Patriot tactical missile defence system, which had been rushed into service for the Gulf War. The development of tactical and theatre defences was simply more advanced, than strategic defences against long-range missiles. Moreover, the Clinton administration, along with the U.S. military, had also prioritized tactical and theatre defences as a function of assessments of the proliferation threat, which were mirrored within NATO.

Fourth, both the Clinton administration and the NATO European allies possessed major strategic and political concerns about proceeding with strategic defences. A large portion of the U.S. strategic community dating back to the 1960s perceived strategic defence as dangerous and de-stabilizing. NATO Europe echoed these views and also perceived that a strategic defence for the U.S. would de-couple the American strategic deterrent from Europe, undermining European security. Such views remained prominent on both sides of the Atlantic, especially in the uncertain years following the end of the Cold War.

Fifth, Russia continued to oppose U.S. strategic missile defences as a threat to its strategic deterrent, even though President Yeltsin had initially indicate support for a joint U.S.-Russian Global Protection System in 1991. For the Europeans in particular, a move towards strategic defences for Europe and/or North America threatened to undermine the development of a new, positive security relationship with Russia. This, in turn, created the possibility of a domestic public backlash against missile defence, akin to the large, vocal disarmament movements of the 1980s, which had become dormant.

Sixth, NATO Europe could not gain access to U.S. strategic defence research and development due to the prohibitions against third party involvement in the 1972 Anti-Ballistic Missile (ABM) Treaty. Partially as a function of this prohibition, the Clinton
administration negotiated and signed a Demarcation Agreement with Russia in 1997 to legitimize NATO’s involvement in tactical and theatre missile defence research, development, and technology transfer.

Finally, the European allies and NATO lacked the resources to invest across the spectrum of missile defences. Defence budgets were under pressure due to the expectation of a significant ‘peace dividend’ following the end of the Cold War. Moreover, other defence investment priorities emerged in response to requirements to re-structure allied military forces to develop rapid response capabilities and the military commitment to the Balkans.

All these factors led the alliance and its European members into tactical and theatre defences. Alongside the NATO effort in the 1990s, the Netherlands and Germany purchased Patriot from the U.S. In 1995, the NATO Medium Extended Air Defence (MEAD) development programme emerged, consisting of the U.S., France, Germany, and Italy. In addition, the British, French and Italians Horizon frigate program included the development and deployment of a tactical naval-based missile defence capability. The Dutch and Germans also began the development of a ship-borne tracking and cueing radar for missile defence purposes.

By the time of the Washington Summit, followed by the election of George W. Bush, all these factors, which limited the role NATO and the European allies could or would play in developing and deploying missile defences, had significantly changed. The threat to European territory and population centres began to appear with the development and testing of Iranian medium range ballistic missiles, and its launch of a satellite into orbit, which foretold the development of a long range missile, along with its suspected nuclear weapons development program. Bush came into office committed to the deployment of strategic defences for North America. Diplomatic opposition to such defences disappeared faced with what appeared to be inevitable, and President Putin publically signaled an acceptance of the possibility of a limited strategic defence during his meeting with President Bush in the fall of 2001 in Texas. Shortly thereafter, President Bush announced the American withdrawal from the ABM Treaty, effective June 2002. In December, 2002, President Bush declared that the U.S. would deploy a limited strategic defence in Alaska and California, which became operational in the fall of 2004. The U.S. also announced its intent to enter into negotiations with the Czech Republic and Poland to deploy a second layer to the American strategic system: one that would simultaneously defend Europe and North America.

The European second layer invoked a negative response from the Putin government, arguing that it threatened the Russian strategic deterrent, threatening to undertake a variety of steps in response, including the re-targeting of Europe, and offering cooperation on missile defence, including the possible linkage of a Russian forward deployed radar in Azerbaijan. The U.S. responded by arguing that the second layer by virtue of location and capability presented no threat to Russia, and rejected the Russia
radar offer as unviable, while holding out the possibility of future discussions and cooperation. Publically, the alliance remained united in supporting the U.S. position, even though privately some governments expressed concerns about the Russian question and welcomed Obama’s decision to cancel the second layer and replace it with the EPAA.

**EPAA Architecture**

As evident above, NATO’s and the European allies’ engagement in missile defence have largely been driven by American technological, strategic and political considerations. In its basic form, the EPAA is the formal linkage of planned U.S. missile defence deployments into a NATO command and control (C2) capability. Divided into four phases, the initial operating capability (Phase One) announced at Chicago is centered upon initial steps begun in 2011 with the assignment of a single Aegis-class missile defence cruiser in the eastern Mediterranean, the USS Monterey, to the defence of Europe, the deployment of an x-band tracking and cueing radar near Kürecik, Turkey, and the creation of a NATO C2/Battle Management system linked to the U.S. system at Ramstein Air Force Base in Germany. In addition, the linkage includes the provision of data from the American early warning system, which had been initially agreed to in the 1990s.

Phase two (2015) consists of the expansion of the U.S. naval commitment approximately to four Aegis-class missile defence vessels, of which two will be on station, and the deployment of a ground-based variant of the Aegis Standard Missile-3 (SM-3) and Aegis Spy-1 radar in Rumania. The third will be undertaking training and the fourth in maintenance at any given time. According to some analysts, full coverage of Europe will require eight ships on station, and a total of twenty four committed. The current SM-3 Block IA interceptor is to be modernized with the Block IB variant. Phase Three (2018) is to add a second ground-based site in Poland, and the inclusion of the SM-3 Block 11A interceptor, which is faster than the Block I variants, and thus more capable of intercepting longer range ballistic missiles. Finally, Phase Four, originally planned for 2018, entails the deployment of the Block IIB interceptor, which is faster than the Block IIA. As part of the re-prioritization of the U.S. missile defence programs, Phase Four was canceled on March 15, or more accurately, pushed further into the future with the re-defining of the Block IIB as a technology development program.

The current European “national voluntary commitments” are limited to hosting agreements for U.S. missile defence capabilities. Alongside Germany, Turkey, Rumania and Poland, Spain has agreed to provide basing for the Aegis ships at Rota on the Atlantic. As a function of past missile defence investments, the Europeans lack the capability to directly contribute to EPAA and territorial defence. This does not mean that no contribution to alliance missile defence requirements has been made. For example, Germany and the Netherlands, along with the U.S., have deployed Patriot batteries into Turkey in response to the possibility of a Syrian missile attack. Even though Patriot lacks
the capability to intercept longer-range missiles that potentially transit overhead, it does provide a territorial or strategic defence for Turkey and thus is consistent with the NATO EPAA declarations.

Alongside Patriot, European naval capabilities can also provide a limited forward deployed point defence against tactical short-range missile threats, but not for European territory and population centres. In the future, however, a naval and possibly ground-based capability may appear. France is developing the next generation of the Aster interceptor, which is expected to be roughly equivalent to the SM-2, and with Germany may move towards the development of an SM-3 equivalent. Whether a ground-based variant, including associated radars, akin to the U.S. Terminal High Altitude Area Defence (THAAD, defence up to 3,000 kilometres), emerges remains to be seen. Moreover, France is moving forward with the development of a space-based early warning network. In addition, five European nations are looking at developing a common launcher system. The Netherlands are examining the upgrade of their four air-defence frigates, reflecting the priority assigned to missile defence investments in its military plans. Also, its Active Phased Array Radar (APAR), co-developed and also used by Germany, is being modified to be inter-operable with the SM-3, and is able to communicate with Aegis.

For all the Europeans, the costs of a developing and thus making a major contribution to the territorial defence of Europe remains prohibitive, especially in light of the current economic crisis, significant pressures on their individual defence budgets, and competing defence requirements. No single European ally has the means to make a large scale contribution. France has shown indications of seeking to lead a European program, but it will require a significant contribution from the other major European states engaged in some form of missile defence investments.

The most likely approach for Europe is to upgrade existing capabilities from the tactical, lower tier (interception within the atmosphere) into the theatre level upper tier (outside the atmosphere). In so doing, major investments will be required not only in developing an upper tier interceptor, but also in ensuring inter-operability with existing U.S. systems and the capacity to network these systems into an overall C2/BM system for the defence of Europe as whole.

As for NATO as a whole, the alliance is committed to the C2/BM function. The initial operating capability entails a connection or interface with the existing U.S. Air Command system at Ramstein. The alliance has committed approximately 1 billion Euros over the next ten years through the Common Fund to support the development of an integrated command system that will link Ramstein to Mons and Brussels. In addition, the incremental NATO approach is to develop common operating protocols, and undertake exercises in the process towards the development of a full operating capability for the defence of Europe as whole by 2020.
The Politics of EPAA

From the onset of the missile defence process in the early 1990s, both the U.S., NATO, and select European allies have sought to keep at least a step ahead of the pace of proliferation relative to evolving missile defence technology. The objective is to develop and deploy missile defences before a proliferating state, primarily Iran today, obtains the capability to threaten all of Europe and ultimately North America as well. At the same time, they have sought to balance evolving missile defence requirements with other strategic and political considerations, primarily focused upon Russia.

In bearing the brunt of “national voluntary contributions”, the U.S. is naturally following its own strategic interests. The initial Bush proposal, entailing the employment in Poland of a ground-based, mid-course phase interceptor, as deployed in Alaska and California, was primarily to provide an additional strategic defence layer for North America. This capability could also provide a strategic defence for Europe. The Obama cancelation decision, as part of its ‘reset’ of strategic relations with Russia, reflected the belief that the Iranian threat in particular was not likely to materialize until the 2020 time frame. This explains the timing of the fourth phase of EPAA, which entails faster interceptors capable of intercepting faster and smaller intercontinental ballistic missile warheads. In effect, the EPAA contains the same U.S. objective to develop a second layer defence for North America, as stated by Secretary of Defense Hagel in the decision to cancel Phase Four: “The purpose was to add to the protection of the U.S. homeland already provided by our current GBIs against missile threats from the Middle East.” It is for this reason that the Obama plan is not a real departure from the Bush one.

Nor is the decision to move forward at Lisbon and Chicago to establish a role for NATO a significant departure from the past. Although the Bush administration said little publically about linking American forward deployed missile defences to NATO, it was the logical outcome of the deployment of operational U.S. capabilities for the defence of forward deployed forces, and US installations. In so doing, an operational Aegis capability would also serve to provide defence for its European allies located close to the emerging operational threat, even if it could not provide a defence for all of Europe.

A failure to engage the alliance also had significant political implications for the future of NATO. It would create an environment of differential security, in which the U.S. would be defended, but not European NATO: a similar situation as in 1960s when the proposed U.S. strategic ABM system would defend only North America. This, in turn, carried further implications in relation to the future role of NATO relative to the alternative of the European Union’s Common Security and Defence Policy as the vehicle for a future European defence.

Even with NATO’s role in missile defence, the European dimension remains a future issue for the alliance. In considering the development of more advanced European capabilities, the key alliance members engaged face two options. The first is to acquire U.S. systems and technologies in the upgrade of their existing naval capabilities, such as
the SM-3, as a means to promote inter-operability. The second is the development of European technologies under the lead of the French, which is driven by European industrial and political considerations. Regardless, avoiding costly duplication and ensuring inter-operability will be a major issue, as it has always been, within the alliance and the EPAA.

Engaging NATO is also of political value for the U.S. Even though the Europeans could contribute little to an actual operational capability or major capital investments, their support provided a modicum of political legitimacy for U.S. missile defence efforts. This was important relative to issues surrounding the relationship with Russia. The allies have largely agreed with the American position that the EPAA does not pose a threat to Russian strategic forces. The Putin government, however, does not see the EPAA in isolation, but as part of a much larger, global U.S. strategic defence capability, evident in the assignment of overall command of missile defence to U.S. Strategic Command. The Russians have expressed interest in negotiating a new treaty on missile defence, but there is little indication that the current administration is interested, not least of all for domestic political reasons. The allies have been publicly silent on the possibility of a new treaty, and of course, NATO is in no position to engage in such negotiations.

Regardless, there is agreement that the alliance needs to pursue avenues of cooperation with Russia, including support for negotiations on further strategic reductions between the U.S. and Russia. Moreover, Russia also faces a growing ballistic missile threat, and has developed its own theatre and strategic systems. The possibility of direct Russian engagement in the future missile defence of Europe cannot be ignored, although such engagement carries significant issues of inter-operability, Russian access to sensitive technology and C2/BM coordination with NATO. Regardless, the relationship with Russia, as in the past, will remain a key, potentially divisive issue within the alliance as EPAA unfolds.

The relationship between missile defences and strategic nuclear forces is also present. For some, missile defences are seen as a means to support further strategic reductions on the path to nuclear disarmament. This raises the issue of the future of NATO’s nuclear deterrent. For the time being, as evident in the most recent Strategic Concept, nuclear deterrence (deterrence by the threat of punishment) and missile defence (deterrence by the threat of denial) is mutually supportive. This does not mean, however, that this issue has been resolved for all time.

**Conclusion**

Although the EPAA provides a relatively clear roadmap for the future, the final end state of a strategic defence for Europe under NATO command is difficult to predict. It will be driven by the threat timeline, broader U.S. strategic interests, adjustments as a function of technological developments and future American administrations, the willingness and capacity of European allies to contribute functional capabilities, and the Russian factor. More importantly, as the system develops, major C2/BM questions will need to be
resolved in integrating NATO’s ALTBMD and EPAA into a single network, linking European capabilities with the U.S., and dealing with operational requirements as a function of EPAA as a European defence and EPAA as an additional layer for North American or U.S. Homeland Defence.

NATO missile defence declarations have consistently limited NATO’s role to the defence of European territory and population centres, which apparently includes Iceland and Greenland. This limit has partially been due to the Russian question, but also Canadian interests as a function of the decision not to participate in the U.S. ground-based strategic defence system in 2005. The reality, of course, is that EPAA is designed to provide defence for all of NATO, not just Europe. This, in itself, represents a significant departure from the past when North American defence was largely separated from European defence. This opens the question of integrating North American defence arrangements, specifically the bi-national North American Aerospace Defence Command (NORAD), and U.S. Northern Command (responsible for the ground-based system in Alaska), as well as U.S. Strategic Command in a seamless set of C2/BM arrangements.

Much will depend on European contributions. The ability of the European allies and NATO to influence the manner in which these vital C2/BM arrangements evolve will be significantly determined by their ability to contribute functional capabilities. If the final system remains largely American, then the U.S. is likely to determine the outcome, and NATO’s role will be limited. This is not to suggest that the U.S. via EPAA will not defend Europe. Rather, the U.S. will determine how Europe is defended. Problematic, of course, are differences amongst the Europeans on the importance of missile defence relative to other defence and national priorities and interests.

James Fergusson is the Director of the Centre for Defence and Security Studies at the University of Manitoba and the author of Canada and Ballistic Missile Defence 1954-2009: Déjà vu all over again published by the University of British Columbia Press.

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2. The first feasibility study, which actually consisted of two independent studies, focused upon tactical/theatre defences, and was launched in 1999.
3. MEAD was to be a mobile, point defence system capable of defending against air breathing, including cruise missiles and short range ballistic missiles. The French were the first to withdraw, and subsequently the program ended due to a lack of US interest.
4. Britain withdrew from the program in 1999, but its replacement, the Type-45 area air defence destroyer, includes the French-Italian Aster interceptor.
5. Despite domestic opposition, the Czech Republic agreed to host a U.S. x-band radar, and Poland ground-based mid-course interceptors as deployed in Alaska and California.


8. For a fact sheet about the various missile types, see [http://www.armscontrol.org/factsheets/Phasedadaptiveapproach].


10. The Russian ABM system, deployed in the early 1970s to defend Moscow, remains operative, and Russia possesses a theatre system based upon the S-300 family of surface-to-air missiles.