

CSBA

Center for Strategic and Budgetary Assessments

DETERRENCE AND DEFENSE IN THE BALTIC REGION

NEW REALITIES



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ABOUT THE CENTER FOR STRATEGIC AND BUDGETARY ASSESSMENTS (CSBA)

The Center for Strategic and Budgetary Assessments is an independent, nonpartisan policy research institute established to promote innovative thinking and debate about national security strategy and investment options. CSBA's analysis focuses on key questions related to existing and emerging threats to U.S. national security, and its goal is to enable policymakers to make informed decisions on matters of strategy, security policy, and resource allocation.

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Cover Graphic: Estonian troops conduct training on the Javelin, an American-made, portable fire-and-forget anti-tank missile. (Photo by Kaitseväe Pildigalerii, Estonian Defense Forces, January 22, 2016)

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Executive Summary

This report examines options and offers recommendations for enhancing NATO’s ability to deter future Russian aggression and defend NATO member states in the Baltic region. Its analysis of military operational requirements needed to deter, and if necessary defend against, Russian aggression is the result of CSBA’s independent research, informed by multiple wargames involving military officers and defense officials from Eastern European states, including the Baltics, as well as U.S. participants. The report will address some ways in which the three Baltic states could enhance deterrence and defense of the Baltic region while supporting NATO. Given the overmatch in military power Russia has vis-à-vis those states, however, the Baltics will remain heavily dependent on the Alliance, so this report also addresses and makes recommendations regarding measures NATO could take as part of the “reset” announced by NATO Secretary General Jens Stoltenberg in light of Putin’s brutal aggression in Ukraine. The insights and recommendations offered in this report, although focused on the Baltics, particularly Estonia, are more broadly applicable to the Alliance’s overall security.

The Baltic region is particularly vulnerable to Russian aggression. Regional geography favors Russia in any attack on the Baltics. A sizable portion of Russia’s military power, including many of its most capable and best-equipped forces, is based in its Western Military District, which borders NATO member territory. Meanwhile, most of NATO’s military forces are based either in Western Europe or in North America. The formidable operational challenges Russian anti-access/area denial (A2/AD) capabilities are assessed to pose could degrade or potentially cripple NATO efforts to respond sufficiently rapidly or with sufficient force to deny Russia from rapidly achieving its objectives in attacking the Baltic region.

Until the current Russia-Ukraine war, analysis and planning for deterrence and defense on NATO’s “eastern frontier” was based on various assumptions, particularly about Russian military capabilities and effectiveness, that remained largely unquestioned and untested. Early observations from Russian combat operations in Ukraine, particularly with regard to the problems of operational timelines and effective sustainment of combat power,

necessitate a reassessment of pre-invasion assumptions held about the Russian military and how it might threaten the Baltic states. While the core decisive factors of time, availability of sufficient combat power, and decision-making speed retain the same salience as before, early observations from the war in Ukraine support many of CSBA's recommendations concerning Baltic defense that suggest the potential to significantly ameliorate the challenges stemming from those factors.

The Estonian Defence Force (EDF) is a highly professional and capable military force. It has well-conceived strategic and operational plans for defending Estonia *à outrance*. It maintains a comprehensive long-term National Defence Development plan. Following Putin's invasion of Ukraine, Estonia has very significantly increased its defense budget, including substantial funds dedicated to procurement of advanced air defense, long-range precision fires (LRPF), and systems to address other capability gaps.

There are many preliminary lessons to be learned from the Ukrainian operations against Russia to date that appear directly applicable to enhancing the defense of Estonia, as well as the other Baltic states, even more. The role of precision-guided weapons (PGW) of various kinds has been particularly important, as it has been in other wars in recent decades. The experience of the war so far confirms previous defense ideas concerning the role of PGWs as well as the strategic choices and procurement decisions undertaken by participants in multiple wargames hosted by CSBA that featured Baltic and Eastern European scenarios. The successful Ukrainian employment of large numbers of small, lethal precision strike weapons in the ground, air, and sea domains suggests important ways and means to increase the lethality of the Estonian military at various echelons, from brigade-level down to companies/platoons, entirely compatibly with contemporary Estonian concepts of operations.

The head of the EDF, Lieutenant General Martin Herem, has made a strong argument for "treating the Baltic region as one operational area" and, in general, for the three Baltic states to "take a more regional approach" rather than primarily national ones. He argued that this would entail conducting defense planning on a regional rather than a primarily national basis and "look[ing] at the sum of military requirements and capabilities of the region." Intuitively appealing as this argument is, there are some significant obstacles to implementing Baltic regional defense. That said, there are opportunities for Baltic regional defense cooperation as well, such as joint acquisition, maintenance, and sustainment of many kinds of end-items for cost savings and, more importantly, for physical and digital interoperability that each state's military forces need or could effectively employ. There is considerable potential for integration of various regional activities or needs common to all three states, as well as to other Baltic Sea littoral states, including Sweden, Finland, and Denmark, such as recurrent joint operational planning and exercising; integrated border surveillance and early warning infrastructure; maritime domain ISR; combined logistics and maintenance infrastructure; and increased shared use of assets such as firing ranges and joint training and education facilities.

In the end, however, the Baltic nations remain vitally dependent on NATO collective defense to maintain their freedom and independence against potential future Russian aggression. The credibility of such defense is fundamental to maintaining deterrence. Given the small population size and limited budgets of the three Baltic states, other NATO member states will have to provide many of the capabilities and capacities required to adequately deter and, if necessary, defeat Russian aggression against any or all of the Baltic states. Since the invasion of Ukraine, many NATO member state leaders and senior officials have expressed a consensus view that there is no going back to the status quo ante bellum. There is general agreement that NATO needs to go from a “forward presence” concept to one of persistent “forward *defense*” in eastern Europe that entails having sufficient combat-ready forces positioned and ready to “fight tonight” to deter and, if necessary, to stop or greatly slow a Russian invasion. NATO Secretary Stoltenberg recently stated that “NATO was in the midst of a very fundamental transformation” as a result of Putin’s aggression and that as part of a major “reset,” the “tripwire” presence on the alliance’s eastern front will be replaced with sufficient forces to repel an attempted invasion of member states such as Estonia and Latvia.

Besides increasing the NATO forces stationed forward in Eastern European frontline states sufficiently to “repel an invasion,” various other considerations will affect what force composition and priorities for the NATO “reset” should look like. These would include the timing and pace of any “reset” to take advantage of Russian military forces likely being tied down in Ukraine for a prolonged period and suffering continuing losses; rectification of the existing confused NATO command and control (C2) arrangements in the Baltic region; the establishment of formal command relationships, including the appropriate fully-enabled NATO operational command headquarters with assigned or apportioned forces that is an inescapable prerequisite for having a high-readiness “fight tonight” combat capability; and the strengthening of NATO forward ISR capabilities and capacity both over the Baltic states and the Baltic Sea. Strengthening air defense of the region is particularly important, including upgrading the present “peacetime” Baltic Air Policing to a Baltic Air *Defense* mission and establishing a strong medium- to long-range integrated air and missile defense (IAMD) capability across the Baltic region.

The NATO posture “reset” announced by Secretary Stoltenberg, if properly and promptly executed, could greatly reduce the potential for a Russian *fait accompli* against the Baltic states as well as deter aggression against other NATO states on the eastern border. Presently it is broadly supported among the NATO member states because of the ongoing Russia-Ukraine war and its accompanying atrocities. However, depending on the evolution of the conflict, the enthusiasm and willingness of some member states may flag over time or individual member state priorities may start to shift. For any reset to be successful, there must be genuine burden-sharing among all member states, whether on the eastern front or not, until NATO’s “reset” is fully implemented.

Methodology and Structure

CSBA conducted independent research and analysis to develop the findings and recommendations in this report. A workshop held in Tallinn, Estonia, and a wargame conducted in Washington, DC, explored how enhanced Estonian capabilities, a multinational approach by the three Baltic states to the defense of the region, and improvements to NATO's overall posture could improve NATO's ability to defeat future Russian military aggression against the Baltic states as well as other Eastern European frontline states. In the wargame, defense experts from Estonia, Latvia, Lithuania, and the United States were tasked with developing options to maximize the military utility of the comparatively small defense forces the Baltic states could field, given their small population size and limited budgetary resources. These experts then had the opportunity to rebalance Estonia's military forces and capabilities under different budget constraints.

The findings and recommendations in this report must take into account preliminary reporting on the events of the past two months following Russia's invasion of Ukraine. The startling underperformance of the Russian military and, by contrast, the seeming overperformance of Ukrainian forces has significant implications for the defense of Estonia and the two other Baltic states, as well as other Eastern European NATO allies.

This report begins with an assessment of how the Russian invasion has changed, at least temporarily, some of the main assumptions about Russian military effectiveness underlying most analyses of how NATO could and should defend its member states against Russian military aggression, and how this could be exploited to strengthen deterrence of, and defense against, Russia in the Baltic states and other Eastern European frontline states. Chapter 2 examines the potential to reinforce Estonia's current strong approach to its defense by adding significant "asymmetric" capabilities of the kind that have appeared to be so effective in combat in Ukraine to its principal combat units in order to increase their lethality yet further. It then reviews the obstacles and opportunities for a regional approach to Baltic defense. Chapter 3 addresses implications for NATO and for the United States resulting from scenario-based wargames and analysis. Much of this analysis has been supported by what has been observed to date in the "battle for Ukraine" with regard to both Russian offensive and Ukrainian defensive combat operations. Chapter 4 provides a summary of key findings and recommendations for Estonia, the Baltic region, and NATO and the United States, respectively, developed during the course of this study.

Findings

Estonia and the Baltics will remain vulnerable to a broad spectrum of Russian threats. The proximity of the Baltic states to Russia and the disparities between NATO and Russian forces in the region leave the Baltic states vulnerable in a variety of potential scenarios. Accordingly, NATO's security posture in the Baltic region must move from a focus

on forward presence to persistent *forward defense*. NATO—and Europe as a whole—do not have the option of returning to the pre-2022 European security status quo.

The geography and conventional force asymmetry in the Baltics make time the central factor in determining and executing an effective response to Russian actions. The constrained geography of Estonia and the other two Baltic states provides little opportunity to conduct a defense that trades space for time. Confined Baltic geography, Estonia's in particular, is complemented by the largest force asymmetry on NATO's eastern front. This temporal imperative and heavy force imbalance entail that reinforcing the Baltics *after* hostilities commence will be a major challenge for NATO. The Alliance must commit the forces required to deter and defend the Baltics *now*.

The size and geography of the Baltic region favor a regional approach to deterring and defending against Russia. A significant kinetic operation by Russia is unlikely to be limited to a single Baltic state. Addressing this vulnerability would require the Baltic states to coordinate closely and integrate their national defense plans. The region should be treated as one area of operations by the Baltic militaries and NATO. Integrated defense plans should focus on maximizing enemy attrition, minimizing friendly force losses, and mitigating the Russian time advantage to the greatest extent possible. A NATO command construct that emphasized each Baltic state as a sector within this singular area of operations may be advantageous.

Estonia and the Baltic states have substantial ability to attrite Russian forces and slow their conventional operations. Throughout the Baltics, marshy and forested terrain is ideal for defensive operations. This terrain leaves Russian forces vulnerable to the employment of large numbers of small, mobile, and lethal shorter-range precision-guided weapons of the kinds that Ukrainian forces have employed so effectively. Combined with canalized terrain, counter-mobility obstacles, and the highly mobile maneuver forces of Estonia's two brigades, such weapons could be employed to devastating effect in the hands of trained and determined operators. These capabilities enable Estonia to attrite Russian forces within Estonian borders. Longer-range fires could enable the Baltic states to disrupt, delay, and attrite Russian forces and movements and logistics within Russian and/or Belarussian territory, while dispersed ground-launched anti-ship cruise missiles could pose serious threats to Russian naval movements in the Gulf of Finland and other areas of the Baltic Sea.

The Baltic states should continue to increase their defense spending as a percentage of GDP. Though all three Baltic states have recently raised their defense spending to over 2.5% of GDP, given their status as the most vulnerable NATO front-line states, coupled with Putin's clear malevolence and ambition, they should continue to increase their defense budgets to at least 3%, both to enhance the lethality of their defense forces and to encourage the willingness of larger NATO member states to contribute additional forces and funding for Baltic region defense.

Poland, Germany, Sweden, and Finland are essential to NATO, and particularly U.S., reinforcement efforts in the Baltic region. Russian forces based in the Kaliningrad exclave threaten direct NATO air and sea reinforcement and resupply to the Baltic region. Poland is at the center of shifting U.S. combat power in the European theater. Germany is crucial to NATO operations because it has airports and seaports that do not require entry into the Baltic Sea or flights within the range of most Russian A2/AD systems. Moreover, Germany’s long history as the center of U.S. military logistics and administration in Europe comes with a variety of established relationships vital to NATO operations. Sweden and Finland affect NATO reinforcement efforts with their decisions regarding NATO use of their airspace. Those states, along with NATO member Denmark, play a major role in controlling the Danish Straits, Baltic Sea, and/or the Gulf of Finland.

Recommendations

The following recommendations could improve Estonia’s and NATO’s ability to deter and defend against future Russian aggression.

Recommendations for Estonia

Reinforce border surveillance and control, early warning infrastructure, and ISR of adjacent Russian territory. The importance of time and lack of strategic depth in responding to any Russian gray zone or “pulsed” conventional operations place a premium on early warning and border awareness. These tasks require investments along two lines of effort. The first is border surveillance and early warning infrastructure in Estonia. The second line of effort should integrate Estonia’s early warning infrastructure with that of the other Baltic states, NATO, Sweden, and Finland.

Implement a tiered and distributed reserve mobilization plan. Estonia should avoid exhausting its resources with repeated mobilizations in response to any Russian provocation. It should implement a heavily tiered reserve mobilization plan, based on variable levels and type of provocation, informed by early warning and intelligence sharing. This plan should enable Estonia to judiciously mobilize various response packages tailored to the level of the detected threat. A crucial aspect of Estonia’s mobilization plan is the close integration of law enforcement and military elements. The Estonian government should ensure detailed cooperation between these entities and practice military support to law enforcement.

Increase the deployments to, and hence presence of, additional NATO forces in Estonia by building/expanding more training facilities. Estonia could encourage a consistent presence of additional rotational NATO forces beyond those based there by providing training opportunities not easily found elsewhere in Europe. Creating high-quality training “areas/facilities of choice” could incentivize other NATO members to use them for their own training purposes, with the side benefit of increasing foreign NATO personnel present in-country beyond those rotationally deployed there. One initiative that

would not require a large, dedicated maneuver area or inconvenient presence, and could provide substantial operational and training benefits, would be hosting a new NATO Special Warfare Centre of Excellence (CoE).

Focus Estonian munitions procurement on precision-guided weapons to blunt or slow a Russian invasion, strike key targets, including in Russian territory, and create operational and strategic dilemmas for Russia. Given the size of its military forces and defense budget, Estonia should focus procurement funds along two lines of effort to attrite Russian forces using relatively inexpensive systems. First, the EDF should invest in substantial quantities of area denial munitions and terrain-shaping obstacles such as anti-armor artillery munitions, scatterable mines, anti-tank guided missiles, remote and networked munitions, loitering munitions, armed UAS, modern anti-tank obstacles and engineering equipment, and short-range air defense systems (SHORADS). It should *also* invest in longer-range surface-to-surface missiles, anti-ship cruise missiles, and limited numbers of medium-range surface-to-air missiles. Many of these munitions and systems could potentially have not only tactical but also operational effects. Second, stocks of munitions and supplies for Estonian defense forces and Allied rapid reinforcement forces for at least 30 days of sustained combat operations, financed both by Estonian and by other NATO states due to overall cost, should be maintained in Estonia. Such stocks of munitions and supplies must be adequately dispersed and storage sites hardened to prevent their easy destruction by Russian opening strikes or SOF attacks.

Recommendations for the Baltic Region

Increase Estonian (and the other Baltic states') defense spending to at least 3% of GDP. While all three Baltic states are now increasing their defense spending to over 2.5% of GDP, the Baltic states remain the most vulnerable of all NATO member states to Russian attack. The new reality is that whereas Russia always had the capability to attack the Baltic states, Putin has now demonstrated the *willingness* to launch major invasions of other states. Thus, it is imperative first and foremost that the most vulnerable NATO member states keep increasing their own military capabilities and capacities. There is a secondary but still important reason for doing so, namely that some non-Baltic states will likely prove far more amenable to financially subsidizing Baltic states' defense spending and/or supporting having more of their own forces or equipment prepositioned in the Baltic states if they see the host nations taking even greater measures to reflect the still-increasing seriousness of the Russian threat.

Move toward the integration of Baltic national defense plans using a regional approach. While full integration of the national defense plans is likely not an attainable goal, the Baltic states should start by focusing on further coordination of regional investments in ISR, air and missile defense, and longer-range fires capabilities. The creation of a Baltic joint ISR center and/or a joint Baltic targeting center could also be both operationally valuable and cost-effective, particularly in the maritime domain, given each Baltic state's naval capabilities are limited in size. The Baltic states or the UK as the Joint Expeditionary

Force (JEF) lead nation could organize a joint operational (not administrative) headquarters under the JEF in order to facilitate Baltic defense planning, regional exercises, and the inclusion of forces from other JEF partners.

Utilize joint procurement for long-range fires, coastal defense, air defense, and precision-guided weapons to reduce costs and ensure interoperability.

The Baltic states should pursue joint procurement programs to leverage economies of scale, for savings for acquisition but especially for subsequent systems operations and maintenance costs, and ensure interoperability within the region where possible, though even with joint Baltic procurement approaches, only relatively small quantities of high-cost systems will be affordable. The imperative for physical and digital interoperability of systems is the key driving factor. The notable exception to the high-cost barrier is the acquisition of many types of smaller PGWs. Joint acquisition programs also present an opportunity to highlight key capabilities, such as air defense systems or coastal anti-ship missiles, for subsidization by other NATO members through efforts such as the Baltic Security Initiative. Subsidizing additional Baltic joint procurements of medium-range air defense systems beyond the significant additional procurements recently announced by Estonia and Lithuania would further improve the Alliance's ability to defend its northeastern front.

Recommendations for the NATO and the United States

Clarify and strengthen NATO command structures in the Baltic region. NATO's current command structure in the Baltics is split between the Multinational Division-Northeast (MND-NE) and the new Multinational Division-North (MND-N), which, taking into account a typical area of responsibility of a division, is insufficient. The Alliance should reorganize its operational headquarters in the Baltics to align with operational realities, which demand the Baltics be treated as a single area of operations with a unified command at a corps or higher level, with appropriate lower echelon commands reporting to it. Such a reorganized "Baltic region operational HQ" should recurrently carry out live, non-CPX exercises with actual forces. NATO should consider permanently assigning NATO forces to these commands to increase their readiness and exercise their familiarity with the C2 structure and defense plans.

Reinforce the presence of European armored forces in the Baltic Enhanced Forward Presence (eFP) battle groups. The main battle tanks of the eFP battle groups represent the only heavy armor presence in Estonia, Latvia, and Lithuania, and are crucial to countering Russian mechanized forces. NATO should ensure a minimum presence of one battalion of tanks in each Baltic state since armor provides a protected, highly-mobile force able to rapidly counterattack a Russian armored penetration. It should further reinforce the region by doubling the size of the battle groups in the Baltic states, thus retaining the posture achieved since the outbreak of the war, and/or moving additional forces into eastern front NATO members. Additional NATO combat forces deployed to the Baltic region should be accompanied and supported by the necessary associated headquarters and staff elements and logistics support.

Reinforce the U.S. V Corps to allow its rapid transition into a fully manned and operational corps that can “fight tonight.” The United States should reinforce its newly reestablished V Corps forward headquarters in Poznan, Poland, with *all* enabling and support elements required for prompt combat operations in Poland and the Baltics. V Corps should be able to rapidly field and command a significant land combat element in Europe in the event of conflict. Command of these units and reception, staging, onward movement, and integration (RSOI) operations involving brigades from the United States should continue to be rehearsed in annual exercises like DEFENDER and Saber Strike.

Increase NATO air and missile defense capabilities in the Baltic region. Baltic state defense spending should prioritize procuring large numbers of SHORADS and limited quantities of medium-range air defenses. NATO should further improve the air defense capabilities and capacity of the region by subsidizing Baltic air defense investments in order to ensure sufficient quantities are available to enable sustained short-range air defense protection of critical military and infrastructure point targets. It should also deploy additional wide-area and long-range air and missile defense systems to protect the region’s vulnerable strategic terrain and critical infrastructure.

Increase the availability of ISR platforms and bolster intelligence sharing in the region. NATO should provide additional intelligence collection via airborne, maritime, and spaceborne platforms. It could expand the Alliance Ground Surveillance initiative with additional aircraft or other ISR platforms located in Northern Europe. NATO could also establish a Border Surveillance Mission parallel to its current Baltic Air Policing mission to rotate the ISR aircraft of participating members and create a continuous ISR presence along its eastern front. The many sensors already active in the Baltic region must be coordinated, and the intelligence shared between the Baltic states, NATO alliance members, and other regional partners like Sweden and Finland. One approach to enhance these capabilities would be to establish a multi-national “deterrence by detection” architecture under NATO command and in support of the Baltic states.

Transform NATO’s Baltic Air Policing into a Baltic Air *Defense* mission. NATO should reinforce fighter aircraft deployed to the Baltics to be more than a symbolic presence. They should also include F-35s provided rotationally by both the U.S. and European air forces possessing them. Aviation should also be integrated with ground-based and maritime air defense assets to challenge Russia’s strike and anti-access capabilities in the region.

Establish stocks of common-use munitions and equipment. NATO and the United States should preposition munitions in the Baltics for use by reinforcing units. These stocks could include anti-tank and anti-air missiles like Javelins and Stinger as well as similar munitions produced by European NATO states, loitering munitions, armed UAS, cannon, and rocket artillery munitions, and small arms ammunition. Inventories could also be used to supply and restock the training expenditures of Baltic forces.

Ramp up U.S. and European production capacity for various kinds of precision-guided weapons. There is currently little surge production capacity, both for replacement of older types such as those sent to Ukraine or for more advanced versions for reasons both of supply chain issues and certain required materials. Current estimates are that large replacement orders will not be filled until 2023 or even 2024. Given that such weapons will play an increasingly important role in future combat operations, expanding production capacity should become a high priority for both U.S. and European producers.

Bolster NATO's ability to reinforce its eastern front and the Baltic region.

NATO and the European Union should further invest in defense infrastructure along the eastern front using programs such as the NATO Security Investment Program, Permanent Structured Cooperation (PESCO), and the Three Seas Initiative. The United States should continue to support improvements to European logistics and training infrastructure through European Deterrence Initiative (EDI) funding. These projects should focus on NATO's ability to rapidly move and sustain forces in eastern and northern Europe and might include improvements to airbases, seaports, rail infrastructure, fuel distribution systems, command and control networks, expeditionary bridging equipment, and hardening of critical nodes. NATO should continue to stress-test reinforcement scenarios in annual exercises and rehearse securing sea lines of communication in the Baltic Sea.

Develop new operational concepts for counterattack. As part of the posture "reset," recognizing that defense can also have an offensive component, NATO should examine and update its Cold War 1980s Follow-On Forces Attack (FOFA) operational concept. FOFA entailed delaying, disrupting, and destroying forces following the initial enemy assault echelons on NATO's Central Front with long-range weapons to attack enemy forces that had not yet engaged NATO forces in order to enable NATO defenses to hold as far forward as possible. The operational concept envisioned that counterattacks would take place from just behind the engaged troops to hundreds of kilometers inside enemy territory. An updated version could be used to assess the Russian forces that could be deployed during the initial attacks on the Baltic states and/or NATO's eastern front as a whole, then employ the updated FOFA concept with combined-arms maneuver warfare to attack follow-on Russian force echelons, including those attacking from Belarus. Russian general awareness of NATO development of a potent updated FOFA operational concept for the Alliance to conduct counterattack operations not merely in or from the Baltic states but also through Belarus potentially could contribute significantly to deterrence.

Threaten deterrence by punishment vis-à-vis Kaliningrad. If Russia attacks NATO, then the Alliance should seek to resolve the Kaliningrad problem post-war. Perhaps controversially, given the very real pre-2022 concern over the threats that Russian forces in Kaliningrad ostensibly posed to timely reinforcement, resupply, and defense of Poland and especially the Baltic states, NATO should consider a declaratory policy that if Putin were to initiate a large-scale conflict with the NATO Alliance and Russia subsequently be defeated, Kaliningrad would no longer be considered Russian territory post-war.

CHAPTER 1

New Realities

Vladimir Putin's invasion of Ukraine on February 24, 2022, came as a shock to many observers. Few countries in Europe felt affected by the invasion of Ukraine as much as the Baltic states, which each directly border Russia, Belarus, or both. They, as well as Poland, had been warning about the threat of Russian revanchism from the time of their accession to NATO, but largely to deaf ears within the rest of NATO. Although the Russian seizure of Crimea in 2014 and aggression in the Donbas region of eastern Ukraine prompted calls for change within NATO, the practical response was limited. The invasion and savage ongoing fighting since then have brought to light various new realities that the Baltic region, NATO, and the United States will have to contend with going forward.

The Russian invasion of Ukraine is a forceful demonstration of Putin's desire and, critically, willingness to change the European security environment through the use of force. It is important to recognize that he has long considered Ukraine to be an inseparable part of Russia itself. Indeed, Putin has long contended with near-messianic fervor that Ukraine is not a sovereign nation.¹

Beyond Europe, the Kremlin is dissatisfied with the global order more broadly.² Indeed, Russia under Putin seeks to shape both the European regional order and the global international order to reestablish its great power status, reclaim its sphere of interest, and

1 Tatiana Vorozhko, "Why Ukraine Fails Putin's Nationhood Test (and Why He's Wrong)," Center for European Policy Analysis (CEPA), February 18, 2022, <https://cepa.org/why-ukraine-fails-putins-nationhood-test-and-why-hes-wrong/>.

2 See, for example Michael Kofman, "Putin's Wager in Russia's Standoff with the West," *War on the Rocks*, January 24, 2022, <https://warontherocks.com/2022/01/putins-wager-in-russias-standoff-with-the-west/>; Rob Lee, "Moscow's Compellence Strategy," Foreign Policy Research Institute, January 18, 2022, <https://www.fpri.org/article/2022/01/moscows-compellence-strategy/>; Angela Stent, "The Putin Doctrine," *Foreign Affairs*, March 9, 2022, <https://www.foreignaffairs.com/articles/ukraine/2022-01-27/putin-doctrine>; Maxim A. Suchkov, "What Is Russia's Logic for the Current Crisis?," *War on the Rocks*, January 7, 2022, <https://warontherocks.com/2022/01/what-is-russias-logic-for-the-current-crisis/>; and Dmitri Trenin, "What Putin Really Wants in Ukraine," *Foreign Affairs*, December 28, 2021, <https://www.foreignaffairs.com/articles/russia-fsu/2021-12-28/what-putin-really-wants-ukraine>.

expand its strategic depth against NATO.³ It sees the current European security architecture as illegitimate, having been established during a period of Russian weakness. Now, as Putin perceives Russia's power to have been re-established, he seeks to reassert its strength and re-negotiate the regional order. Russia sees NATO and especially the United States as threats to its national security. One of Putin's key goals has been to fracture NATO's political and military cohesion and manifest a clear example of NATO's dysfunction and waning relevance. Thus, in an effort to both limit the threat that NATO is perceived to pose and to improve its own relative strategic position, Russia seeks to weaken the Alliance and the West more broadly.

Demonstrated Willingness to Use Military Force

The ongoing war in Ukraine demonstrates unequivocally that Russia under Putin is willing to undertake highly risky and costly measures to achieve his strategic aims. Although the war has thus far taken place outside of NATO borders, Putin has demonstrated the willingness to use military force on a large scale to invade another state to achieve his aims. The NATO alliance and its member states accordingly must adapt to the enhanced possibility that in the future Russia may choose to employ military force to attack one or more NATO member states if and when it determines such action to be advantageous.

In recent years, the Kremlin has continued its efforts to weaken the Baltic states through various sub-conventional methods of conflict, including political warfare, information operations accusing Baltic governments of discriminating against ethnic Russians, unfavorable energy pricing, regular violation of Baltic state territorial waters and air space, and the abduction of an Estonian security officer in 2014. Although Russia has not directly threatened the Baltic states with military action to date, the risk of military conflict cannot be written off since the risks of deliberate Russian provocations or of miscalculation are high.⁴

Besides miscalculation, other circumstances could motivate Putin to threaten or actually undertake military actions against one or more Baltic states. Such actions could take the form, for example, of cross-border incursions, temporary or prolonged seizure of small bits

3 President of the Russian Federation, "Strategija Nacional'noj Bezopasnosti Rossijskoj Federacii [National Security Strategy of the Russian Federation]," Decree of the President of the Russian Federation, No. 683, December 31, 2015, <http://www.kremlin.ru/acts/bank/40391>. See also: "Russia Military Power: Building a Military to Support Great Power Aspirations" (Arlington, VA: U.S. Defense Intelligence Agency, 2017); Samuel Charap et al., *Russian Grand Strategy: Rhetoric and Reality* (Santa Monica, CA: RAND Corporation, 2021), https://www.rand.org/pubs/research_reports/RR4238.html; Katherine Kjellström Elgin, "Recognition and Respect: Understanding Russia's Defense of Its Great Power Status" (Ph.D., Princeton, N.J., Princeton University, 2020); Jeffrey Mankoff, *Russian Foreign Policy: The Return of Great Power Politics* (Lanham, MD: Rowman & Littlefield Publishers, 2011); Nicole Peterson, ed., *Russian Strategic Intentions*, Strategic Multilayer Assessment (SMA) White Paper, 2019, <https://nsiteam.com/sma-white-paper-russian-strategic-intentions/>; and Angela Stent, *The Limits of Partnership: U.S.-Russian Relations in the Twenty-First Century*, Updated edition (Princeton, NJ: Princeton University Press, 2015).

4 Ulrich Kühn, *Preventing Escalation in the Baltics: A NATO Playbook* (Washington, D.C: Carnegie Endowment for International Peace, 2018).

of Baltic state territory, attacks against selected Baltic state military and/or critical infrastructure targets or, in the worst case, full-scale invasion and occupation.

Such circumstances could arise from Russian threat perceptions or, alternatively, perceived opportunities to improve Russia's self-assessed strategic position. For example, Putin could seek to take advantage of Baltic domestic insecurity—e.g., rising tensions between ethnic Russian minorities and the governments in Estonia, Latvia, or (to a lesser extent) Lithuania—to foment or escalate domestic tensions in order to intimidate the governments or gain influence within those countries.⁵ Alternatively, Russian perceptions that NATO was attempting to harass or isolate Kaliningrad could lead Russia to employ military force to assure its land line of communications with that exclave. Russian perceptions of a growing NATO military threat in the Baltic Sea or the Gulf of Finland could lead Russia to respond with military activities with the consequent risk of miscalculation between opposing forces operating in close proximity. Russia could also conduct limited incursions to test NATO's resolve and potentially undermine the credibility of collective defense.

Pre-2022 Deterrence and Defense in the Baltic Region

Regional geography favors Russia in any Russian attack on the Baltics.⁶ Estonia and Latvia both share borders with Russia, and Latvia and Lithuania both share borders with Belarus.⁷ Belarus and the Russian exclave of Kaliningrad are separated by a roughly 110-kilometer-wide swath of Lithuanian territory along its border with Poland, an area commonly referred to as the “Suwalki Gap.” This narrow strip of Lithuanian territory is the only land connection between the Baltic states and the other continental NATO member states, which underlines the importance—and the difficulty—of reinforcing and resupplying the Baltic states by sea and air during conflict. Thus, the Baltic region as a whole can be effectively considered an “island” within European NATO territory.

A sizable portion of Russia's military power, including many of its most capable and best-equipped forces, is based in its Western Military District, which borders NATO member

5 Ethnic Russians comprise about 25% of the populations of Estonia and Latvia, but only 5% of Lithuanians.

6 David A. Shlapak and Michael W. Johnson, “Outnumbered, Outraged, and Outgunned: How Russia Defeats NATO,” *War on the Rocks*, April 21, 2016, <https://warontherocks.com/2016/04/outnumbered-outraged-and-outgunned-how-russia-defeats-nato/>. See also Boston et al., “Assessing the Conventional Force Imbalance in Europe”; and Shlapak and Johnson, “Reinforcing Deterrence on NATO's Eastern Flank.”

7 In December 1999, Russia and Belarus signed a treaty that created the “Union State of Russia and Belarus” as a supranational organization with the stated aim of deepening the relationship between the two states through integration in economic and defense policy, though each remained an independent state. However, in recent years, Belarus has in effect become a Russian satrapy within which Russian military units can operate essentially at will. In effect, Russia (not counting the Kaliningrad exclave) now *de facto* directly borders all three Baltic states. See “Russia, Belarus ready to boost union state cooperation amid sanctions,” and Reuters, March 14, 2022, <https://www.reuters.com/world/europe/russian-pm-says-moscow-minsk-keen-boost-union-state-cooperation-amid-sanctions-2022-03-14/>.

territory.⁸ For the quadrennial large-scale ZAPAD exercises in the past, Russia would bring additional assets to the region, including into Belarus. In principle, a significant portion of these could stay beyond the end of the exercise, and in the case of ZAPAD 21 did so.⁹ Some estimates also hold that Russia could rapidly deploy another 50-60,000 troops to the region in a matter of a few days; NATO, and particularly the Baltic states, always have had to be concerned about the theoretical possibility of a sudden attack by exercise forces that unexpectedly did not disperse and return to their bases upon completion of their exercises. This possibility has now been seen in reality after ZAPAD 21 ended. In addition, the Russians demonstrated an impressive ability in late 2021 to carry out a mass mobilization and movement of forces from other Military Districts across Russia, principally by rail, to areas bordering Ukraine.¹⁰

Meanwhile, most of NATO's military forces are based either in Western Europe or North America. The majority of U.S. permanently forward-deployed European Command (EUCOM) forces remain based in Western Europe, although following the invasion of Ukraine, the United States has deployed some of those units further towards the east as well as deployed additional forces from the United States, principally to Poland and Romania. The Baltic states furthermore are connected to the rest of NATO only via the Baltic Sea and the narrow Lithuanian land corridor between Belarus and Kaliningrad. Russian assets in its Kaliningrad exclave include capabilities that could be used to deny or at least complicate and delay NATO efforts at reinforcement, and if Russia successfully closed the Suwalki Gap connecting Belarus and Kaliningrad, the Baltic states would be effectively geographically isolated from the rest of NATO, greatly complicating their reinforcement or supply by other NATO forces in the event of open conflict.¹¹

8 Susanne Oxenstierna and Fredrik Westerlund, eds., *Russian Military Capability in a Ten-Year Perspective - 2019*, FOI-R--4758--SE (Stockholm, Sweden: Totalförsvarets Forskningsinstitut (FOI), 2019), <https://www.foi.se/report-summary?reportNo=FOI-R--4758--SE>.

9 Robbie Gramer and Amy Mackinnon, "Western Officials Warn Russia's Troops in Belarus Could Be Permanent," *Foreign Policy*, February 8, 2022, <https://foreignpolicy.com/2022/02/08/belarus-russia-troop-buildup-could-be-permanent-ukraine-crisis/>.

10 Heinrich Brauß and András Rácz, "Russia's Strategic Interests and Actions in the Baltic Region," DGAP Report (Berlin, Germany: German Council on Foreign Relations, 2021), p. 9; and Kateryna Stepanenko, Frederick W. Kagan, and Brian Babcock-Lumish, "Explainer on Russian Conscription, Reserve, and Mobilization," Institute for the Study of War, March 5, 2022, <https://www.understandingwar.org/backgrounder/explainer-russian-conscription-reserve-and-mobilization>.

11 Kaliningrad Oblast poses a particularly difficult challenge to introduction of NATO reinforcements into the Baltic region. Surface-to-surface missiles located there pose threats both to major European ports of entry for U.S. reinforcements arriving from CONUS and to transit routes across Europe to the NATO frontline states, especially the Baltic region. It is heavily defended against air and missile attack and thus would be difficult to neutralize rapidly. It also hosts the headquarters and the main base of the Russian Baltic Fleet.

Prior to the 2022 conflict in Ukraine, NATO was concerned about the credibility of its ability to deter and, if necessary, defeat Russian aggression against the Baltic states. Though its aggregate military power is far greater than that of Russia, many analysts and policy-makers believed there was a very strong possibility for Russia to prevail in a limited, rapid conflict by exploiting its time-distance advantage to seize NATO territory in the Baltic region before the Alliance could effectively respond.¹² A Russian ability to achieve a military *fait accompli* in the region would thus present NATO with a choice between accepting defeat or embarking on a difficult, uncertain, and potentially escalatory counteroffensive to liberate allied territory. The consequences of either accepting a Russian *fait accompli* or losing even a limited engagement with Russia could prove fatal for the Alliance's cohesion, reorder Europe geopolitically, and greatly reduce the credibility of U.S. security commitments to its allies and friends in Europe as well as elsewhere.

Russia was assessed to have several inherent advantages if it initiated a conflict against the Baltic states. The Russian military presumably could use its far superior "correlation of forces," or local overmatch, to seize territory rapidly and with little prior warning. Russian mass was held to be able to quickly overwhelm the small Baltic military forces plus whatever other small NATO elements, e.g., Enhanced Forward Presence (eFP) units, might be present. Russian special operations forces (SOF) could carry out diverse operations and activities to sow disinformation, create confusion, obscure Russian intent, and thereby complicate NATO decision-making, as well as facilitate the advance of Russian conventional forces through standard operations like intelligence-gathering, screening force movements, and seizing key bridges and chokepoints.

12 For a detailed discussion of the balance of conventional forces in Europe, see Boston, Johnson, Beauchamp-Mustafaga, and Crane, "Assessing the Conventional Force Imbalance in Europe." Also see David Schlapak and Michael Johnson, Reinforcing Deterrence on NATO's Eastern Flank: Wargaming the Defense of the Baltics (Santa Monica, CA: RAND Corporation, 2016), https://www.rand.org/pubs/research_reports/RR1253.html.

FIGURE 1: BALTIC REGION AND THE SUWALKI GAP



Source: www.nationsonline.org

In the meantime, Russian anti-access/area denial (A2/AD) capabilities could degrade or potentially cripple NATO efforts to respond sufficiently rapidly or with sufficient force to deny Russia its objectives. At the same time, Russian forces could establish a formidable defensive posture, backed by their area-denial capabilities, to create difficult operational problems for NATO forces to overcome if the Alliance in fact decided to fight to reverse a Russian *fait accompli* in the Baltic region.

The Central Importance of Time

Time is central to Russia's ability to achieve a *fait accompli*, consolidate its gains, and build up its defenses in newly occupied Baltic areas against a potential NATO counterattack. Both Alliance decision-making processes (including the requirement of decision unanimity) and the disposition of military forces belonging to various NATO member states, including the need to bring substantial forces from the United States to Europe, would necessarily create long time delays in organizing a counteroffensive.¹³

Russia's A2/AD capabilities would magnify its time-distance advantages in three critical ways. First, its A2/AD capabilities in Kaliningrad, Belarus, and the Western Military District would greatly impede the ability of U.S. and allied initial response forces to gain access to the Baltic region, operate in forward areas, and contest initial Russian assaults in the opening stages of an attack. Second, those same capabilities would make NATO tactical operations more difficult and costly. Third, longer-range A2/AD capabilities could disrupt the introduction of reinforcing NATO forces into Europe and their onward movement across Europe into the Baltic region, further extending the delay between an initial Russian attack and the start of a major NATO ground counteroffensive to liberate occupied territory. Extending the timelines would increase the chances that Russia could translate its military gains into a political victory.

Operational Challenges Posed by Russian A2/AD Capabilities

In short, Russia's A2/AD capabilities, particularly those located in Kaliningrad, Belarus, and the Western Military District, constitute a protective umbrella that covers much of the Baltic states as well as Poland. Its forces in Kaliningrad pose a particularly difficult challenge in that the exclave forms a forward salient that covers the air, sea, and land approaches to the Baltic region. This salient extends the depth of the battlespace Russian A2/AD assets can affect; it alters the geometry of the battlefield by being able to inhibit the freedom of movement of NATO forces between northern and central Europe. Lastly it forms a defensive layer that Alliance forces must suppress before NATO can employ the bulk of its air forces, most of which are non-stealthy, to interdict and attrite Russian forces while supporting friendly ones.

The four components of the Russian A2/AD complex that ostensibly would present the hardest challenges for U.S. and NATO operations are: long-range precision fires; integrated air defenses; offensive and defensive capabilities in space, cyberspace, and the electromagnetic spectrum; and massed artillery. The specific details of these challenges will not be discussed here, but certain critical assumptions, some of them implicit or

13 This paper will not address the potential timeline issues associated with NATO political decision-making but rather focus on their military aspects only.

unacknowledged, that U.S. and NATO planners and analysts have long made regarding them are discussed below.¹⁴

Key Pre-2022 Assumptions about Russian Military Power

Long before the invasion of Ukraine, the potential for conflict between NATO and Russia was particularly acute in the Baltic region. Ever since the accession of former Warsaw Pact or Soviet states into NATO, particularly the Baltic states in 2004, analysis and planning for deterrence and defense on NATO’s “eastern frontier” was based on various assumptions, particularly about Russian military capabilities and performance, that remained largely unquestioned and untested until the current Russia-Ukraine war. This section will summarize the main ones.

The critical assumptions below appear to have undergirded many analysts’ assessments of Russian military power prior to 2022. Although some were explicit, other implicit assumptions have been most called into question by what has been observed to date in the Russia-Ukraine war. To the extent that they have been falsified or called into question by what has been observed to date about both Russian and Ukrainian operational performance since the war’s start, some interesting working hypotheses or inferences may be drawn that could drive significant changes in operational approaches to deterrence of and, if necessary, defense against Russian aggression against NATO member states in eastern Europe, including the Baltic region.

Key prior assumptions about the Russian military include these ostensible attributes:

- Effective doctrine, means, and methods to conduct precision strike and maneuver warfare following a prolonged period of modernization and learning after poor military performance in Georgia in 2008;
- High competence in conducting combined operations, i.e., integrated air, ground (all elements), and cyber/space/electromagnetic spectrum operations (including electronic warfare);
- Robust ability of the Russian Air Force to perform the full range of missions, i.e., suppression/destruction of enemy air defenses (SEAD/DEAD); offensive and defensive counter-air operations (OCA/DCA); timely effective support of ground units; and accurate strikes against both fixed and mobile targets;
- High effectiveness of elite forces such as airborne/air assault units and SOF;
- High quality and survivability of tanks and other vehicles;

¹⁴ For a detailed discussion of the four primary challenges postulated to be presented by the Russian A2/AD complex, see Billy Fabian et al, *Strengthening the Defense of NATO’s Eastern Frontier* (Washington, DC: Center for Strategic and Budgetary Assessments, 2019), pp.6-13.

- Large inventories of ballistic and cruise missiles of various types, ranges, and purposes;
- High accuracy and reliability of precision weapons and associated targeting support;
- Ability to disrupt/degrade enemy command & control (C2), including comprehensive use of cyberattacks and electronic warfare;
- Sufficient operational logistics for sustained combat operations in occupied territory;
- Ability of warships to defend against missile attacks.

Early Observations and New Realities

Early observations from Russian combat operations in Ukraine, particularly with regard to the problems of meeting operational timelines and effective sustainment of combat power, necessitate a close examination and reassessment of pre-2022 assumptions held about the Russian military and how it might threaten the Baltic states. Although the core decisive factors of time, availability of sufficient combat power, and decision-making speed remain unchanged, early observations from the war in Ukraine suggest the potential to significantly ameliorate the challenges stemming from those factors. The analysis in this paper is necessarily “provisional” since the Russia-Ukraine war continues unabated as of this writing and its future evolution remains unclear. Still, enough highly unexpected tactical and operational outcomes have been observed to date that some fairly robust inferences may already be drawn.

When the Russian military launched its multi-axis invasion of Ukraine on 24 February, Putin and his top advisors, as well as most outside experts, believed that Russian forces would be able to capture Kyiv and replace the Zelenskyy government with a puppet regime that would negotiate a quick surrender within a matter of a few days.¹⁵ There was the widespread expectation of a quick decisive Russian victory stemming from rapid Russian advances and feeble Ukrainian defense given the ostensibly great disparities in capabilities between the two militaries.

However, the actual invasion and subsequent combat operations revealed stunning Russian operational underperformance in a wide range of ways, including an apparent inability to adapt to unexpected reverses or conditions. This was complemented by startling Ukrainian

15 Jacqui Heinrich and Adam Sabes, “Gen. Milley says Kyiv could fall within 72 hours if Russia decides to invade Ukraine,” *Fox News*, February 5, 2022, <https://www.foxnews.com/us/gen-milley-says-kyiv-could-fall-within-72-hours-if-russia-decides-to-invade-ukraine-sources>.

defensive successes.¹⁶ The combination of both has resulted, as of early April 2022, in Russian withdrawals, at least for a time, from northern and northeastern Ukraine for regrouping and reconstitution.¹⁷

Re-examining Key Assumptions about Russian Military Effectiveness

This section reassesses the pre-2022 key assumptions about Russian military forces' fighting effectiveness in light of what has been observed to date in military operations in Ukraine, with a particular eye to important implications they may have for strategy, tactics, and investments in capabilities and capacities required for deterrence and defense in the Baltic region.

Since its woeful performance against Georgia in 2008, the Russian military emphasized force modernization and, as importantly, new warfare doctrine reflecting precision strike, operational maneuver warfare, and heavy emphasis on “information in war” (i.e., cyber strikes; electronic warfare; electromagnetic spectrum operations).¹⁸ Since 2014, it had also demonstrated new tactics and capabilities, albeit on a small scale, in actions in the Donbas and Syria. Significant apparent improvements had been demonstrated in large-scale exercises like the ZAPADs, though these were thought to be scripted to a high degree.¹⁹

However, during operations in Ukraine so far, the Russian military has displayed a startling lack of fundamental proficiency in combined arms operations.²⁰ Defense analyst Michael Kofman noted “In the opening days of the war, you really didn’t see combined arms operations ... tank companies without infantry support, motor rifle [troops] on the road without

16 It is important to note that the way the Russian military planned to fight Ukrainian forces, which they apparently did not expect would or could offer significant resistance, could be very different from the manner it would plan to fight against NATO Alliance forces, including operations focused primarily on the Baltic region. However, given the ostensibly high stakes for Putin as a consequence of the way the war has evolved as of Day 45 and thus the putative imperative to “do what it takes” to prevail, assessments of the continuing Russian demonstrated weaknesses would appear to be extensible and applicable to a potential war involving NATO forces, though analysts should remain conscious that some factors may be Ukraine-specific. The Russians likely will learn their own lessons from their experiences in Ukraine as well.

17 For an insightful visual depiction of, and commentary on, Russian and Ukrainian operations during the first four weeks of the war, see Dan Clark et al, “How Russia’s mistakes and Ukrainian resistance altered Putin’s war,” *Financial Times* Visual Storytelling Team, March 18, 2022, <https://ig.ft.com/russias-war-in-ukraine-mapped/>.

18 Michael Kofman et al, *Russian Military Strategy: Core Tenets and Operational Concepts* (Arlington, VA: CNA, 2021); and Mathieu Boulegue and Alina Polyakova, “The Evolution of Russian Hybrid Warfare: Executive Summary,” Center for European Policy Analysis (CEPA), January 29, 2021, <https://cepa.org/the-evolution-of-russian-hybrid-warfare-introduction/>.

19 See, for example, Michael Kofman, “ZAPAD 2021: What We Learned From Russia’s Massive Military Drills,” *Moscow Times*, September 23, 2021.

20 See, for example, Ryan Evans and Michael Kofman, “Interpreting the First Few Days of the Russo-Ukrainian War,” *War on the Rocks* (podcast), February 28, 2022; Gustav Gressel, “Combined farces: Russia’s early military failures in Ukraine,” European Council on Foreign Relations, March 15, 2022, <https://ecfr.eu/article/combined-farces-russias-early-military-failures-in-ukraine/>; and Patrick Tucker and Tara Copp, “Russia’s Rocket Barrages Reveal Bad Planning, Cruelty, and the Absence of Crucial Skills,” *Defense One*, March 8, 2022, <https://www.defenseone.com/threats/2022/03/russias-rocket-barrages-reveal-bad-planning-crueltyand-absence-crucial-skills/362911/>.

tanks, support units on their own without escort.”²¹ Units were unable to adjust to unforeseen situations or obstacles or to take initiative. “This is very much the Russian style: they have a plan ... and in the absence of orders being changed from above, they’re going to execute [that plan] no matter what.”²² In general, the apparent lack of effective command and control at all levels and across all functions has been unexpected and startling in its extent.

Individual units like Battalion Tactical Groups (BTG) did not operate as a combined force, instead operating individually and reporting to army-level commands in the absence of intermediate levels of command.²³ Combat forces left logistics units far behind and thus quickly ran out of fuel, ammunition, repair parts, and other supplies. Logistics units were not protected by infantry or air cover when transiting unsecured areas or areas they assumed had already been secured. There has reportedly been little effective air support to ground forces.

Indeed, the Russian air force was conspicuous by its seeming absence during the first weeks of the conflict.²⁴ It is uncertain why the Russian military did not make far greater use of its ostensibly superior airpower, certainly in the opening days of the war, not least to establish air superiority. As former Supreme Allied Commander Europe (SACEUR) General (ret.) Philip M. Breedlove noted,

“There are only a few air forces in this world truly capable of the suppression of enemy air defenses. The world gave Russia credit for the ability to do this. It does not appear they have demonstrated that ability in this fight because a relatively smaller and less technically able air defence system has stood much longer than Russia expected.”²⁵

Although there could be many causes of Russia’s poor performance in the air, including limited pilot experience, poor planning, command issues, and withholding aircraft for later or other uses, the high attrition rates experienced by the Russian air force have been particularly noteworthy. Russian aircraft, including fairly modern strike-fighter aircraft, have proven vulnerable to Ukrainian air defenses, including short-range air defense systems (SHORADS), which some NATO states supplied to the Ukrainian military in substantial

21 Michael Kofman, *Financial Times* Visual Storytelling Team.

22 General (ret.) Philip Breedlove, *Financial Times* Visual Storytelling Team.

23 Helene Cooper and Eric Schmitt, “Russia’s War Lacks a Battlefield Commander, U.S. Officials Say,” *The New York Times*, March 31, 2022, sec. U.S., <https://www.nytimes.com/2022/03/31/us/politics/russia-military-ukraine.html>.

24 “The Curious Case of Russia’s Missing Air Force,” *The Economist*, March 8, 2022, <https://www.economist.com/interactive/2022/03/08/curious-case-russias-missing-air-force>; Justin Bronk, “Is the Russian Air Force Actually Incapable of Complex Air Operations?” (London: RUSI, March 4, 2022), <https://rusi.org/explore-our-research/publications/rusi-defence-systems/russian-air-force-actually-incapable-complex-air-operations>; and John A. Tirpak, “Kelly: Russian Air Defenses Work Well for Ukraine,” *Air Force Magazine*, March 9, 2022, <https://www.airforcemag.com/kelly-russian-air-defenses-work-well-for-ukraine/>.

25 General (ret.) Philip Breedlove, *Financial Times* Visual Storytelling Team.

quantities starting even before the invasion. Although it remains hard to confirm totals, Russian aircraft losses appear to considerably exceed those of Ukraine's air force.²⁶

The poor performance of the Russian air force in Ukraine to date should raise questions about its ability to conduct other standard air force missions, including SEAD/DEAD; OCA/DCA operations; timely and effective support of ground units; and accurate strikes against both fixed and mobile targets. Regarding the latter mission, the Russians to date appear to have struck only fixed targets and seemingly are unable to reliably hit mobile targets reliably.²⁷

The performance of certain elite units, including airborne/air assault units and special operations forces (SOF), has been similarly poor to date. In particular, failure of Russian paratroopers to capture and hold Hostomel Airport outside Kyiv during the first days of the invasion in order to bring in follow-on forces to attack Kyiv appeared to be particularly damaging to Russian invasion plans.²⁸

Also significant is the vulnerability of many Russian tanks and armored vehicles to small anti-tank/vehicle weapons, even older types such as Javelins and Next generation Light Anti-tank Weapons (NLAW). It is also consistent, however, with much contemporary analysis that suggests precision weapons more than platforms will be—or perhaps already are—the key factor in future combat, certainly in the ground domain, but also in the air and sea domains as well.²⁹

The Russian military also appears to be having significant issues with regard to its precision-guided munitions (PGM). Many analysts are now starting to conclude that overall Russian inventories of conventional ballistic and cruise missiles may have been considerably overestimated, with some senior Western officials noting that Russia's supply of PGMs is low as evidenced both by selective use of very high-end weapons (e.g., the hypersonic *Kinzhal* ballistic missile) and, more evidently, increased reliance on artillery and unguided

26 Eric Westerfelt, "One Ukrainian family grieves the loss of their fighter pilot son," *National Public Radio*, March 25, 2022, <https://www.npr.org/2022/03/24/1088446883/remembering-ukrainian-fighter-pilot-war-russia>. See also Oryx, "List Of Aircraft Losses During The 2022 Russian Invasion of Ukraine," March 20, 2022, <https://www.oryxspioenkop.com/2022/03/list-of-aircraft-losses-during-2022.html>.

27 Lieutenant General (ret.) Thomas Spoehr, "Russia doesn't have the forces to mount an effective defense," March 20, 2022, <https://video.foxnews.com/v/6301297691001#sp=show-clips>, at minute 2:00.

28 James Marson, "Putin Thought Ukraine Would Fall Quickly. An Airport Battle Proved Him Wrong," *Wall Street Journal*, March 3, 2022, <https://www.wsj.com/articles/putin-thought-ukraine-would-fall-quickly-an-airport-battle-proved-him-wrong-11646343121>.

29 See, for example, T.X. Hammes, "The Future of Warfare: Small, Many, Smart vs. Few & Exquisite," *War on the Rocks*, July 16, 2014, <https://warontherocks.com/2014/07/the-future-of-warfare-small-many-smart-vs-few-exquisite/>; and Lee His-min and Eric Lee, "Taiwan's Overall Defense Concept, Explained," November 23, 2020, *The Diplomat*, <https://thediplomat.com/2020/11/taiwans-overall-defense-concept-explained/>.

munitions.³⁰ If this is in fact the case, the Russian military will require significant time and experience substantial difficulty in reconstituting its PGM inventories, particularly for those munitions requiring higher technology components such as sophisticated semi-conductors, the supply of which is now severely constrained by economic sanctions. The observed performance of Russian precision-guided missiles has also raised substantial questions about their reliability. U.S. officials have privately assessed that some Russian PGMs have had failure rates as high as 60 percent.³¹

The reported near-absence of Russian electronic warfare against Ukraine to date has also been surprising, particularly since analysts had previously assessed it as a Russian strength.³² The Russian military has failed thus far to significantly disrupt Ukrainian communications infrastructure. Russian cyber or other efforts to degrade or disrupt Ukrainian internet operations have been obviated by SpaceX's efforts to send large numbers of "Starlink" satellite internet kits to connect directly with SpaceX's network of satellites.³³ Starlink has not only helped keep Ukraine's communications with the world open but has also played a key role in Ukrainian forces' ability to complete precision-strike kill chains by relying on cell phone and internet access to pass targeting data from intelligence, surveillance, and reconnaissance (ISR) assets to shooters. Other Russian cyber operations have apparently been ineffective or else largely countered as well as pre-empted.³⁴ Interestingly, several of the targeted attacks on high-ranking Russian officers operating inside of Ukraine have been attributed to a lack of attention to information security by virtue of use of

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- 30 Idrees Ali and Phil Stewart, "Russia running out of precision munitions in Ukraine war – Pentagon official," *Reuters*, March 24, 2022, <https://www.reuters.com/world/russia-running-out-precision-munitions-ukraine-war-pentagon-official-2022-03-25/>; Kris Osborn, "Is Russia Running Out of Precision-Guided Weapons to Fire?", *The National Interest*, March 24, 2022, <https://nationalinterest.org/blog/buzz/russia-running-out-precision-guided-weapons-fire-201432>; and Paul Kirby, "Russia claims first use of hypersonic Kinzhal missile in Ukraine," *BBC News*, March 19, 2022, <https://www.bbc.com/news/world-europe-60806151>.
- 31 Phil Stewart, "Exclusive: U.S. assesses up to 60% failure rate for some Russian missiles, officials say," *Reuters*, March 25, 2022, <https://www.reuters.com/business/aerospace-defense/exclusive-us-assesses-up-60-failure-rate-some-russian-missiles-officials-say-2022-03-24/>; and Mary Walsh and David Martin, "Russian cruise missiles failing at rate of 20-60% in Ukraine," *CBSNEWS*, March 25, 2022, <https://www.cbsnews.com/news/ukraine-russia-struck-resupply-ship/>.
- 32 Andrew Eversden and Jaspreet Gill, "Why hasn't Russia used its 'full scope' of electronic warfare?," *Breaking Defense*, March 28, 2022, <https://breakingdefense.com/2022/03/why-hasnt-russia-used-its-full-scope-of-electronic-warfare/>; and Jan Kallberg, "Ukraine: the absent Russian Electronic Warfare (EW)", *Cyberdefense.com*, March 1, 2022, <https://cyberdefense.com/ukraine-the-absent-russian-electronic-warfare-ew>.
- 33 Charlie Parker, "Specialist Ukrainian drone unit picks off invading Russian forces as they sleep," *The Times*, March 18, 2022, <https://www.thetimes.co.uk/article/specialist-drone-unit-picks-off-invading-forces-as-they-sleep-zlx3dj7bb>; Rachel Lerman and Cat Zakrewski, "Elon Musk's Starlink is keeping Ukrainians online when traditional Internet fails," *Washington Post*, March 19, 2022, <https://www.washingtonpost.com/technology/2022/03/19/elon-musk-ukraine-starlink/>; and Michael Sheetz, "Elon Musk's SpaceX sent thousands of Starlink satellite internet dishes to Ukraine," *CNBC*, March 22, 2022, <https://www.cnbc.com/2022/03/22/elon-musk-spacex-thousands-of-starlink-satellite-dishes-sent-to-ukraine.html>.
- 34 Kate Conger and David Sanger, "U.S. Says It Secretly Removed Malware Worldwide, Pre-empting Russian Cyberattacks," *New York Times*, April 6, 2022, <https://www.nytimes.com/2022/04/06/us/politics/us-russia-malware-cyberattacks.html>.

insecure communications and emissions, ostensibly driven by the lack of secure communications on the battlefield.³⁵

The most glaring (and publicized) Russian failure has been the inability to sustain combat operations within Ukraine logistically, most conspicuously in its efforts to capture Kyiv, but also in operations against Kharkiv and in southern Ukraine. The Russian military relies heavily on robust railway infrastructure within Russia. However, Russian army logistics forces are not designed for a large-scale ground offensive far from their railroads; require logistical pauses at frequent intervals to reset their sustainment infrastructure, including establishing new railheads; and generally lack the required numbers of trucks to meet logistical requirements more than 90-100 miles from their supply dumps.³⁶ Exacerbating this inherent Russian weakness, Ukrainian forces have been deliberately and effectively attacking logistics vehicles and supply routes.³⁷ Further, anecdotal evidence suggests that many Russian trucks and other vehicles were in poor material condition, resulting in frequent breakdown and abandonment, based on poor maintenance standards as well as corruption.³⁸

The Key Role of Precision-Guided Weapons and Precision Strike

There are many lessons to be learned from the Ukrainian operations against Russia to date that appear directly applicable to the defense of Estonia and the other Baltic states based on preliminary reports from the fighting in Ukraine. Further lessons will be confirmed over time as analysis and reporting on the conflict continues and solidifies. The successful Ukrainian employment of precision strike capabilities in a highly “asymmetric” operational approach based heavily on the employment of large numbers of small, short- and some medium-range, lethal precision strike weapons in the ground, air, and sea domains could suggest particularly important lessons highly relevant to the defense of other nations, including Baltic and other NATO states.

The Ukrainian military has been able to inflict a remarkably high level of attrition on Russian forces by employing large quantities of small, mostly short-range, lethal

35 Alex Horton and Shane Harris, “Russian troops’ tendency to talk on unsecured lines is proving costly,” *Washington Post*, March 27, 2022, <https://www.washingtonpost.com/national-security/2022/03/27/russian-military-unsecured-communications/>.

36 Alex Vershinin, “Feeding the Bear: A Closer Look at Russian Army Logistics and the Fait Accompli,” *War on the Rocks*, November 23, 2021, <https://warontherocks.com/2021/11/feeding-the-bear-a-closer-look-at-russian-army-logistics/>; and Bonnie Berkowitz and Artur Galocha, “Why the Russian military is bogged down by logistics in Ukraine,” *Washington Post*, March 30, 2022, <https://www.washingtonpost.com/world/2022/03/30/russia-military-logistics-supply-chain/>.

37 Kris Osborn, “Ukrainian Ambushes Exacerbate Russia’s Logistics Woes,” *The National Interest*, March 17, 2022, <https://nationalinterest.org/blog/buzz/ukrainian-ambushes-exacerbate-russias-logistics-woes-201263>.

38 Michael Starr, “Corruption hinders Russia’s attempts to replace losses with old vehicles — Ukraine,” *The Jerusalem Post*, March 27, 2022, <https://www.jpost.com/international/article-702428>.

precision-guided weapons (PGW) that it received from NATO allies and other states.³⁹ These have included very large quantities of anti-tank/vehicle weapons such as Javelins and NLAWs. General Milley, Chairman of the U.S. Joint Staff, testified to the Senate Armed Services Committee (SASC) that as of early April 2022, the U.S. and allies had provided 60,000 anti-tank weapons and 25,000 anti-aircraft weapons to Ukraine.⁴⁰ These systems have been particularly useful because of favorable terrain and their ease of use.⁴¹

Armed unmanned aerial systems (UAS), notably the Turkish TB-2, have proven singularly effective in detecting and destroying Russian tanks and other vehicles and equipment.⁴² Those aircraft are also able to perform in other roles such as reconnaissance and targeting for ground troops. Similarly, thousands of SHORADS such as Stingers, Starstreaks (UK), and other “Man-Portable Air Defense Systems” (MANPADS) not only inflicted attrition but as importantly “highly unpredictable ground-mobile SAMs complicate the tactical threat picture even more for Russia,” while being highly survivable compared with larger static air defense systems.⁴³

Other types of weapons and supplies such as machine guns and assault rifles, ammunition, and body armor and other protective gear offered by NATO allies and others clearly have been of great utility as well, but it is the PGWs and the ways they have been employed by the Ukrainians that have underpinned the exceptional battlefield results seen to date.

The battlefield experience in Ukraine provides but the most recent evidence of the key role of PGWs in modern warfare. It has highlighted the deadly effectiveness and high usage rate of modern precision weapons, particularly shorter-range weapons that are able to operate without a near-real-time targeting network.⁴⁴ Indeed, the ability to detect and strike targets in near-real-time without the need for sophisticated real-time targeting networks may be *the* defining characteristic of a shorter-range PGW.⁴⁵ This has important implications for

39 Joseph Gedeon, “The weapons and military aid the world is giving Ukraine,” *Politico*, March 22, 2022, <https://www.politico.com/news/2022/03/22/ukraine-weapons-military-aid-00019104>.

40 Joe Gould, “Putin’s ‘probably given up’ on Kyiv as Ukraine war enter new phase,” *Defense News*, April 7, 2022, https://www.defensenews.com/pentagon/2022/04/07/putins-probably-given-up-on-kyiv-as-ukraine-war-enters-new-phase/?utm_source=sailthru&utm_medium=email&utm_campaign=navy-dnr.

41 Claire Parker et al, “What to know about the role Javelin anti-tank missiles could play in Ukraine’s fight against Russia,” *Washington Post*, March 12, 2022, <https://www.washingtonpost.com/world/2022/03/12/javelins-ukraine-russia/>.

42 Dave Philipps and Eric Schmitt, “Over Ukraine, Lumbering Turkish-Made Drones Are an Ominous Sign for Russia,” *New York Times*, March 11, 2022, <https://www.nytimes.com/2022/03/11/us/politics/ukraine-military-drones-russia.html>.

43 Tyler Rogoway and Thomas Nedwick, “Ukraine Needs Ground-Based Air Defenses Way More than MiGs,” *The Drive*, March 10, 2022, <https://www.thedrive.com/the-war-zone/44673/ukraine-needs-ground-based-air-defenses-way-more-than-migs-here-are-the-best-options>.

44 Barry Watts, *The Evolution of Precision Strike* (Center for Strategic and Budgetary Assessments: Washington, DC, 2013), pp.3-4.

45 Armed unmanned aerial systems (UAS) such as the TB-2 drone or loitering munitions with their self-contained targeting network comprised of their own datalink and ground station could be considered analogous to short-range PGWs in terms of not depending on sophisticated external targeting networks.

addressing serious concerns about the resilience of command, control, communications, computer, and ISR (C4ISR) capabilities under attack in wartime.⁴⁶

Guided rockets, artillery, mortars, and missiles, or “G-RAMM,” is a collective term to describe a set of types of surface-to-surface or surface-to-air precision-guided weapons. Such weapons may be man-portable, or mounted on vehicles, boats, or other mobile launch platforms. Guidance may be provided by Global Positioning System (GPS), laser designators, or infrared or other passive homing mechanisms, depending on the weapon. Rocket systems like Guided Multiple Launch Rocket System (GMLRS) or artillery rounds like Excalibur have ranges in the dozens of kilometers; precision mortar rounds may have ranges over 15 kilometers; missile systems like the Army Tactical Missile System (ATACMS) or Precision Strike Missile (PrSM) have ranges in the low hundreds of kilometers; some MANPADs may reach altitudes of 20,000 feet. Importantly, many of these systems generally do not require sophisticated C4ISR networks for targeting. Some are line-of-sight (LOS) weapons, while other weapons with greater ranges can receive reliable and secure targeting data through simple and inexpensive means, such as cheap unmanned aerial systems (UAS) provided to small G-RAMM-equipped units or even single operators. Loitering munitions, perhaps carried by small UASs, can track enemy mobile forces from above, waiting for opportune moments to strike targets and enabling follow-on attacks from ground units employing other G-RAMMs for “mop up” targeting.

Employment of such weapons, particularly large numbers of smaller ones, in widely dispersed quantities can create persistent and difficult problems for enemy forces, as has been amply demonstrated to date in Ukraine. In effect, friendly forces would be operating the defensive equivalent of, functionally, “mobile minefields”—contested or denied areas—vis-à-vis enemy ground or air units over many and potentially quite large areas of the battlespace. From the enemy perspective the far larger potential threat areas could consume considerable ISR and other resources since such weapons would be hard to detect, classify, and kill. Such “mobile minefields” can be combined with deep strikes against targets in the enemy’s rear areas by LRPF to paralyze operations throughout the battlespace.

There are relatively few effective defenses against most G-RAMM systems. Since G-RAMMs could be present in the battlespace in far greater numbers than large platforms such as main battle tanks or fighter aircraft, the enemy could be subject to sustained saturation attacks over greater areas, and with very little indications and warning. The fixed locations that it held would also be highly vulnerable to precision fires (from both close and farther ranges). For example, given the high dependence of

⁴⁶ The putatively highly-effective Russian use of electronic warfare and other means against Ukrainian C4ISR systems as demonstrated in the Donbass in July 2014 and emphasized in Russian doctrine is arguably one of the key reasons that most analysts expected the Russian invasion of Ukraine to be swift and meet little effective resistance.

Russian logistics on railways, whether in Russian or Belarussian territory or those set up in Russian-occupied territory, attacks on railheads and other railroad nodal points would be particularly attractive targets to slow Russian offensive operations and/or their resupply. Highly motorized or vehicle-heavy formations would be especially vulnerable to salvos of guided rockets, mortars, anti-tank weapons, or loitering UAS, particularly in channelized or urban terrain or at chokepoints like road/rail bridges. Large numbers of dispersed SHORADS would make Russian helicopter and low-altitude close air support (CAS) operations far riskier. Even the threat of MANPADs over large areas would increase enemy pilot threat perceptions, likely degrading the effectiveness of many air operations, again as seen in Ukraine to date.

Implications for Baltic Defense

The success of Ukrainian employment of large numbers of different types of G-RAMMs further validates some important ideas for increasing the lethality of Estonian, other Baltic, and other NATO military forces and units, and for future defense investment priorities. The applicability of some of these to Estonia's defense and that of the Baltic Region, as explored during CSBA wargames involving Eastern European scenarios and participants, as well as other research, will be considered in the next chapter.

CHAPTER 2

Defense of Estonia and the Baltic Region

Defense of Estonia

Estonia, like the other two Baltic states and the other Eastern European NATO “frontline states” bordering Russia or its de facto satrap, Belarus, is militarily overmatched by Russia, and of necessity must rely fundamentally on the collective defense provided by its membership in NATO. That said, based on bitter historical experience, its small population of 1.3 million is profoundly dedicated to their freedom and independence, and is prepared to defend it *à outrance*.

Given its small population, Estonia can only maintain comparatively small forces. As noted on its website,

“the Estonian Defence Forces (EDF) is structured according to the principle of a reserve force which means that the main part of the defence forces of the state are units in the reserve. More than 4000 persons are in permanent readiness which in turn is part of EDF’s rapid response readiness (ca 29 000 persons altogether). Another 4000 are in supplementary reserve. In addition, there are more than 30 000 reservists who have been trained in Estonian Defence Forces. In total, Estonian Defence Forces comprises of about 230 000 persons who are enrolled in the mobilization register.”⁴⁷

Further, the Estonian Defence League (EDL) is a paramilitary defense organization numbering about 16,000 civilian members divided into four Territorial Defence

47 “Estonian Defence Forces,” State of Estonia Defence Forces, last updated November 2, 2021, <https://mil.ee/en/defence-forces/>.

Districts that consist of 15 Defence League regional units that roughly coincide with Estonia's counties.⁴⁸

Estonia's principal defensive problems vis-à-vis Russia include:

- Severe force overmatch;
- Short distance (approximately 200 kilometers) from the Russia border along the North-Estonian Coastal Plain to Tallinn;
- Potential vulnerability to seaborne assault (albeit a lesser concern than ground or air assault);
- High vulnerability to attrition of conventional assets such as armored or infantry fighting vehicles;
- High vulnerability of its air and sea lines of communication, including air- and sea ports of debarkation (A/SPODs);⁴⁹
- High vulnerability to interdiction of ground reinforcement and resupply via the "Suwalki Gap," the only ground line of communication with non-Baltic NATO member states;
- Few significant air and missile defenses except limited numbers of SHORADS, thus high vulnerability to Russian air and missile attacks.

The Estonian Battlespace

There are two principal Russian axes of ground attack against Estonia. The first is via Ida-Viru county, north of Lake Peipus. The second axis is via Polva and Voru counties south of the lake.

The area north of Lake Peipus has high defensive potential given the nature of the terrain, including the city of Narva along the Estonian-Russian border, which lies along the wide Narva river. The Narva Reservoir provides another obstacle. The terrain outside of Narva is complex, featuring large marshy and wooded areas.⁵⁰ In the southeast of Estonia, the uplands terrain offers some defensive potential.

48 This number increases to about 26,000 if its women's and youth organizations are included. See "Estonian Defence League," Kaitseliit, last updated April 29, 2022, <https://www.kaitseliit.ee/en/edl>.

49 Estonia has only two airports with runways over 8,000 feet (Lennart Meri Tallinn Airport; Amari Air Base). The Port of Tallinn, one of the largest port enterprises on the Baltic Sea, controls five constituent ports, but only two, Muuga Harbour and Paldiski South Harbor, are capable of handling comparatively large amounts of cargo, though the Tallinn Passenger Port is one of the busiest Baltic Sea passenger ports and able to accommodate large vessels. These ports are geographically concentrated, all being within 40 kilometers of Tallinn, and thus potentially attractive targets for military attack.

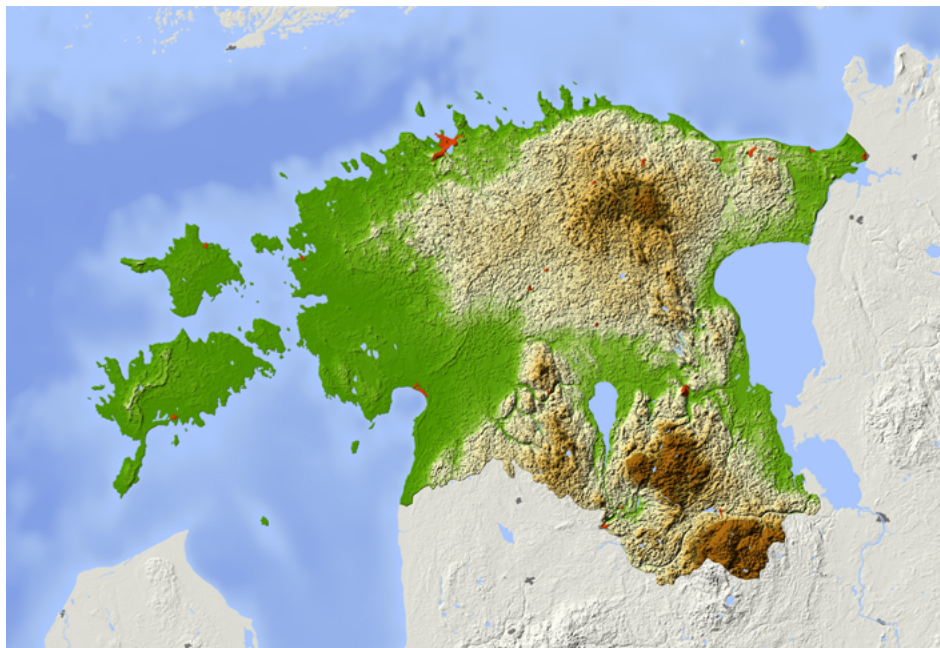
50 In January 1944, the Soviet Army unsuccessfully assaulted this area for six months in an effort to capture Tallinn and suffered 170,000 troops killed. It eventually was able to occupy Estonia in July 1944 only via attacks from south of Lake Peipus.

FIGURE 2: ESTONIAN NATURAL FEATURES



Source: <http://pmcbreenestonia.weebly.com/physical-geography--environment.html>.

FIGURE 3: ESTONIAN RELIEF MAP



Source: Copyright Michael Schmeling. Data source: NASA. Accessed at: https://www.123rf.com/photo_10768879_estonia-shaded-relief-map-with-major-urban-areas-surrounding-territory-greyed-out-colored-according-.html.

Estonian Military Capabilities

In the event of a Russian attack, the EDF arguably has three principal goals: 1) inflict the maximum possible attrition on Russian forces; 2) slow or halt a Russian advance; and 3) protect air, sea, and ground lines of communication, including A/SPODs, to facilitate reinforcement by other NATO forces. These goals underlie an operational approach that seeks to meet the Russian army at the border while striking at key targets within Russian territory. *The most critical objective is to buy maximum time for allied forces to arrive.*

Prior to the Russian invasion of Ukraine, many experts would have considered these to be laudable but likely unachievable objectives given the factors of geography, time-distance, and the overwhelming superiority of Russian military power over that of Estonia and the other Baltics states. At most, the EDF would be expected to give the best possible account of itself, but to be fairly rapidly overwhelmed due to lack of numbers, capabilities, and lethality. (This was, of course, the same fate projected for Ukraine in the run-up to the large-scale Russian invasion in 2022.)

However, such a view fails to consider the substantial increases, both already extant and planned, in EDF combat power reflected principally in its two brigades as well as recent sharp increases in Estonian defense spending. The EDF also maintains a large reserve force and has repeatedly demonstrated its ability to mobilize reserve units and move them up to 100 kilometers within 48 hours in “snap military exercises.”⁵¹ Given sufficient additional funding, it may be possible to establish a third, reserves-based brigade as well.⁵² The EDF is also investing in greater air defense capabilities, including medium-range systems to complement their existing SHORADS assets.⁵³

The defensive lethality of these units, from brigades down to company-level, could be sharply enhanced by equipping them with large numbers of both shorter- and longer-range G-RAMMs, SHORADS, and UAS capable of carrying various kinds of lethal payloads and effectors that are able to attrite Russian vehicles and aircraft, including helicopters, over expanded areas, which could be done against enemy assets in Russian territory as well as against Russian targets that had been able to enter Estonian territory.⁵⁴ Comparatively larger

51 The EDF’s “rapid response structure” will have 22,000 reserve members in 2022, with the primary readiness and supplementary reserve forces growing to 90,000 by the end of 2022. See <https://www.kaitseministeerium.ee/riigikaitse2022/index-en.html>.

52 This was a specific “stretch” objective, of Estonian participants in a recent CSBA wargame if sufficient budgetary resources were made available. A third brigade would necessarily be primarily reserve-manned given overall personnel availability constraints.

53 See Jaroslaw Adamowski, “Estonia increases defense spending to buy air defense systems, more weapons,” March 25, 2022, *Defense News*, <https://www.defensenews.com/global/europe/2022/03/25/estonia-increases-defense-spending-to-buy-air-defense-systems-more-weapons/>.

54 During a recent CSBA wargame, three Estonian teams were given different budget resources, ranging between 2% and 3% of Estonia’s GDP. All three teams put high priority on acquisition of large numbers of precision-guided weapons of different types. The teams with relatively greater budgets gave significant priority to acquiring increased quantities of longer-range precision fires.

quantities of shorter-ranged PGWs would be complemented by offensive, longer-ranged precision fires such as ATACMs or Precision Strike Missiles (PrSM).⁵⁵ The latter, longer-ranged G-RAMMs would enable precision strikes against important logistics nodes and targets as well as other kinds of high-value targets in the Western Military District.⁵⁶ Some of such systems would have the range to strike as far as St. Petersburg.

A key characteristic of a PGW-heavy force, besides enhanced lethality, is its ability to dramatically increase the complexity of the threat facing enemy commanders and units, in effect enhancing virtual as well as actual attrition by raising enemy concerns about assaults, ambushes, and losses from unpredictable and sustained attacks in or over large swaths of territory.⁵⁷

Given Estonia's geography and the nature of the threat it faces, the primary emphasis of precision fires would be against enemy ground and air assets, as well as ground targets in Russian territory. However, G-RAMMs such as *Harpoon* or *Neptune* anti-ship cruise missiles (ASCM) are also relevant to the maritime domain, particularly in Estonian littoral waters along its northern coast abutting the Gulf of Finland. Dispersed ground-launched ASCM shooters would be difficult to detect and destroy, and would present a significant lethal threat to Russian Baltic Fleet units like that recently witnessed against their fleet in the Black Sea. Similarly, smart sea mines, which can be laid from a variety of craft, not necessarily only from military platforms, can create denied or highly risky maritime areas or zones for Russian warships.

A substantial investment in large inventories of G-RAMMs of diverse kinds would sharply increase the lethality of Estonian units at all levels, from brigade to company level, and would entail a reduced emphasis on larger, more costly platforms such as tanks or aircraft, which are affordable in only limited quantities. G-RAMM weapons are generally smaller and require fewer personnel to operate and maintain than large platforms. Besides their lower cost, they have far fewer operator training and technical maintenance requirements than major weapons systems. They are much less vulnerable to attack than larger weapons and sensor systems, and expenditure or loss of individual G-RAMMs represents a far lower decrease of overall combat power than the destruction of a large platform. They are more easily dispersed and also significantly increase the areas where enemy forces may have to

55 Estonian G-RAMMs would all be surface-to-surface or surface-to-air weapons since Estonia (and the other two Baltic states) does not have aircraft capable of firing air-to-surface PGWs.

56 Given the significant logistics weaknesses demonstrated in Russian operations outside of Russian territory, particularly high dependence on railways, the ability to attack railway nodal points, particularly forward operational railheads, would appear to offer useful leverage for purposes of slowing Russian movement and resupply in the event of an invasion.

57 Virtual attrition may be defined as making an enemy unable to employ forces as planned or to force it to divert resources from their planned employment or mission, thereby causing them to be "lost," i.e., not available for employment as intended.

honor the threat of being struck by such weapons, thereby potentially heightening enemy uncertainty and risk perceptions and slowing their operational tempo.

“Mini-A2/AD” Strategy

Estonia should pursue what may be described as a “mini-A2/AD” strategy, deploying a range of A2/AD capabilities. These could include large quantities of shorter-range as well as a smaller number of longer-range PGWs designed to blunt and attrite the initial Russian forces trying to invade while concurrently disrupting the movement and reinforcement of enemy forces from Russian territory into the Baltics. The operational objective would be to maximize the delay between an initial Russian attack and follow-on force mobilization, movement, and maneuver with the objective of complicating Russia’s ability to secure quick military or political gains and thereby achieve a *fait accompli*.

Russia’s geographic proximity presents the principal threat to Estonia and the other Baltic states. That very proximity, however, also creates vulnerabilities for Russian forces. A2/AD capabilities deployed in Estonia and the other Baltic states would impede Russian efforts to project power and persistently maneuver within the Baltic region, including nearer areas in the Western Military District and Belarus. In the ground domain, well-dispersed and relatively dense precision strike capabilities employing large numbers of G-RAMMs could significantly expand the geographic areas where Russian forces could face lethal threats like those they experienced in northern Ukraine. Besides attrition of expensive Russian assets, potentially in sizable numbers, heightened threat perceptions could slow Russian operational timelines significantly. Such timelines could be further lengthened by nodal targeting of critical Russian assets and transportation infrastructure in the Western Military District. Logistical support seems to be the Russian “Achilles’ heel,” both as experienced in operations in Ukraine to date and, more generally, doctrinally, and structurally.⁵⁸

Both SHORADS and new medium-range air defense assets would have several primary missions. One would be defense of critical fixed targets against Russian attack, such as fixed military or civilian infrastructure targets.⁵⁹ A second type of employment would be protection of friendly military forces against air or missile attack, including ground units on the move. A third would be preventing or impeding movement of enemy forces or supplies across the battlespace for purposes of tactical maneuver of ground forces or seizures of key military

58 Alex Vershinin, “Feeding the Bear: A Closer Look at Russian Army Logistics and the *Fait Accompli*,” *War on the Rocks*, November 23, 2021, <https://warontherocks.com/2021/11/feeding-the-bear-a-closer-look-at-russian-army-logistics/>.

59 Russian doctrine specifically includes “strategic operation for the destruction of critical targets” (SODCIT), thus the ability to preferentially protect as many such targets as possible is important. Deploying significant numbers of SHORADS would materially contribute to countering or minimizing the effects of such strategic operations against critical physical targets. See Michael Kofman et al, *Russian Military Strategy: Core Tenets and Operational Concepts*, (Arlington, VA: CNA, 2021), https://www.cna.org/CNA_files/pdf/Russian-Military-Strategy-Core-Tenets-and-Operational-Concepts.pdf, pp. 68-71.

objectives such as airfields or airports in order to bring in troops and/or materiel, such as the attempted Russian seizure of Hostomel Airport in Ukraine.

This approach, particularly its heavy reliance on shorter-range precision strike, while potentially highly effective, would require the acquisition and fielding of large numbers of such G-RAMMs, armed UAS, and SHORADS in order to have sufficient coverage and density of weapons in key areas of the battlefield to impose meaningful attrition and significantly delay enemy forces. Although such weapons are individually comparatively inexpensive, the overall cost of the sorts of numbers required would be quite high and potentially not fully affordable by Estonia by itself, even given recent substantial defense budget increases.

Longer-range weapons such as longer-range precision fires and air defense systems are even more costly. The expense of these more complex systems, coupled with the comparatively small Baltic state budgets, means that Estonia and the other two Baltic states can afford them in only limited numbers absent additional substantial defense budget increases or through forward positioning of other NATO member state assets in the Baltic states. There may be some cost savings to be gained from joint acquisition of selected items among the Baltic states, as will be discussed in the next section, but the overall quantities of higher-end assets would still remain quite limited relative to the Russian threat and realistic operational requirements needed to significantly attrite and slow invading Russian forces.

Finally, should Putin invade Estonia, it is possible that Russian forces will overrun parts of the country for a time. Some Estonian Defence League assets thus need to be able to operate in and amongst Russian forces. It would thus be highly desirable that EDL forces also be equipped and trained to operate small G-RAMMs to increase their lethality against Russian forces, particularly logistics assets, operating behind the Russian front lines. This is *not* to suggest that EDL would be carrying out a larger “guerrilla strategy”; such forces would provide persistent pockets of resistance behind enemy lines with the objectives both of interfering with Russian operations and logistics in order to help slow enemy operational timelines and of forcing the Russians to divert significant resources to suppress them.

Defense of the Baltic Region

In a notable 2019 article, the head of the EDF, then-Major General Martin Herem made a strong argument for “treating the Baltic region as one operational area” and, in general, for the three Baltic states to “take a more regional approach” rather than separate national ones.⁶⁰ He argued that this would entail conducting defense planning on a regional rather than primarily a national basis, and “look[ing] at the sum of military requirements and capabilities of the region.”

A second critical prerequisite would be the establishment of a “coherent and credible command-and-control system in the Baltics,” which does not currently exist outside of national efforts. General Herem argued that this would entail the establishment of a “cross-border, higher-level headquarters with a regional responsibility.” In his view, this would entail one or more divisional headquarters under a commanding corps-level headquarters, with affiliated forces, and complemented by national headquarters having specified territorial or functional responsibilities and territorial defense forces.

The existing Multinational Corps Northeast (MNC-NE) is based in Szczecin, Poland. It reports to the Commander, Joint Force Command Brunssum (JFCBS), one of the two operational-level joint force commanders in the NATO command structure, who reports directly to the Supreme Allied Commander Europe and is primarily responsible for the security of the Alliance in northern Europe.⁶¹

Two divisional headquarters, Multinational Division-North East (MND-NE) in Elblag, Poland, and Multinational Division-North (MND-N) in Adazi, Latvia, are assigned to MNC-NE.⁶² MND-NE is nominally responsible for operations in Poland and Lithuania.⁶³ In late 2018 it “confirmed its 24/7 readiness to operate within the scope in accordance with Article 5 of the Washington Treaty” and to “take responsibility for coordinating the eFP Battle Groups’ activities in peacetime.”⁶⁴ MND-N was established in early 2019 with the task, once fully certified in 2023 under current plans, to command military operations within its area of responsibility, principally Estonia and Latvia.⁶⁵ As described by Major General Herem, “this headquarters was intended to not only carry out training exercises, but must also, when necessary, direct actual defence activities within the region.”⁶⁶

60 Martin Herem, “Regional Cooperation as the Main Enabler,” *Defense News*, December 2, 2019, <https://www.defensenews.com/outlook/2019/12/02/estonian-chief-of-defence-forces-regional-cooperation-as-the-main-enabler/>.

61 “Allied Joint Force Command Brunssum,” North Atlantic Treaty Organization, <https://jfcs.nato.int/>.

62 “Multinational Divisions,” North Atlantic Treaty Organization, <https://mncne.nato.int/forces/divisions>.

63 MNC-NE is also responsible for military operations in the non-Baltic states of Slovakia and Hungary.

64 “Multinational Divisions,” North Atlantic Treaty Organization, <https://mncne.nato.int/forces/divisions>.

65 S.B. Riis, “Baltic NATO headquarters moving towards important coordinating role,” Danish Ministry of Defence, March 29, 2022, <https://www.forsvaret.dk/en/news/2022/baltic-nato-headquarters-moving-towards-important-coordinating-role/>.

66 “Headquarters Multinational Division North inaugurated in Latvia,” State of Estonia Ministry of Defence, March 11, 2019, <https://kaitseministeerium.ee/en/news/headquarters-multinational-division-north-inaugurated-latvia>.

These entities were ostensibly established to address what knowledgeable observers have described as “wildly confused command structures/headquarters” in NATO’s northeastern area of responsibility.⁶⁷ The purpose of establishing specific headquarters at the corps and divisional levels in the region was to clarify operational command responsibilities in the Baltic states and northeastern Poland in the event of an Article 5 situation. As importantly, a clearly delineated and effective operational chain of command and clearly defined responsibilities are a vital prerequisite for reducing the time required to bring credible combat power to bear rapidly in the event of Russian aggression in the region, and thus help address the “central importance of time” factor discussed previously.

The establishment of these new divisional organizations in an effort to clearly define command relationships and geographic areas of responsibility is welcome and overdue, but it will not in itself resolve some of the greatest operational challenges NATO would face in the run-up to or the actual declaration of an Article 5 situation. These divisional organizations are essentially “shell structures” that do not have significant wartime forces assigned. Their principal peacetime tasks deal with facilitating small-scale training and exercises to unspecified “coordination” functions, such as in the case of MND-NE coordinating the eFP Battle Groups’ activities in peacetime.⁶⁸ Ostensibly these headquarters are “organized to be able to scale up its presence and capacity if a crisis develops” and “have the ability to manage and coordinate large scale military operations in the Baltic area.”⁶⁹ The question is how those headquarters could actually do so effectively without recurrent training and exercising with actual forces. The dividing lines of the MND-NE and MND-N responsibilities also split the Baltic region, even though there can be benefit from linkage between Lithuanian and Polish defense via MND-NE.

There is an intuitive appeal to the concept of establishing “regional defense” in the Baltic region. But there are numerous challenges, some of which appear insurmountable because of deep differences in approach to the defense of the three Baltic states. Before addressing those, however, it is necessary to define what is meant by the “Baltic Region.”

The “Baltic Region” is generally thought of as comprising the three Baltic states. However, for multiple reasons, this may be a misleading description, principally because there are other highly relevant geographic areas and features that arguably should be considered part of the region, particularly for defense purposes. First, the Baltic Sea is a critical feature in the defense context; air and sea attacks on the Baltic states could emanate from it. Even more importantly, critical air and sea lines of communication for reinforcement and resupply pass through or over it. Second, Sweden and Finland also are Baltic Sea littoral

67 See, for example, “How the Baltic States Are Supporting Ukraine,” Webinar at CEPA, March 1, 2022, <https://cepa.org/event/how-the-baltic-states-are-supporting-ukraine/>.

68 “Multinational Divisions,” North Atlantic Treaty Organization, <https://mncne.nato.int/forces/divisions>.

69 S.B. Riis, “Baltic NATO headquarters moving towards important coordinating role,” Danish Ministry of Defence, March 29, 2022, <https://www.forsvaret.dk/en/news/2022/baltic-nato-headquarters-moving-towards-important-coordinating-role/>.

states. Whether they would or could become involved in defending against Russian attacks on the three Baltic states is presently a critical unknown. Close Swedish and/or Finnish cooperation, ideally integration, with NATO with regard to the Baltic states would make a great deal of difference in terms of deterring or defeating Russian aggression.⁷⁰ This will become particularly relevant if one or both countries accede to NATO, as appears to be increasingly likely at the time of this writing.

For purposes of this paper, however, if Baltic regional defense is considered to refer solely to cooperation or integration among the three Baltic states, then both opportunities and obstacles to this need to be addressed.

Obstacles to Baltic Regional Defense

In an ideal world, if the military forces of all three Baltic states were fully integrated, in the event of a Russian attack, their combined forces would be deployable anywhere in their aggregate territories in whatever dispositions were optimized to meet the attack, based on what was anticipated on the basis of intelligence and warning.

In practice, however, as is the case inherently with every alliance, national forces will almost always default to their national command authorities for purposes of things like preferential defense of their own populations, rules of engagement, the extent of their participation in highly risky operations, and certainly when or where perceived or actual national existential issues are in play.⁷¹ Thus states will tend to retain operational control of their own forces to the greatest extent possible.

The three Baltic states presently have somewhat different national strategies. The overall approach of each to optimize its own defense strategy is entirely understandable. It is essentially impossible, however, to reconcile these differences without compromises that would appear to be unrealistic politically. Unfortunately, this means that looking at the sum of military requirements and capabilities of the region seems unlikely to result in the “whole being greater than the sum of the parts” operationally.

Similar kinds of objections are likely with regard to other issues such as deployment and employment of scarce, expensive high-end military assets. For example, Lithuania has procured two NASAMS air defense batteries. It is very unlikely that it would deploy these outside of its territory at the cost of weakening its own defenses, particularly under circumstances when the risk of Russian attack appeared to be highest.

70 Both countries already are already “Enhanced Opportunity Partners” under the Partnership Interoperability Initiative, and have close working relationships with NATO, a high degree of technical and procedural interoperability, and frequently participate in exercises with NATO militaries. See https://www.nato.int/cps/en/natohq/topics_49594.htm.

71 As an historical example, a large proportion of the forces involved in the disastrous British-commanded August 1942 raid on Dieppe, France were Canadian troops, who suffered an exorbitant 68% casualty rate. The Canadian perception that their forces had deliberately been assigned the most dangerous tasks led to enduring tensions between the two militaries.

Thus, the prospects operationally for truly combined, integrated operations among just the three Baltic states (i.e., before significant NATO reinforcements could arrive) appear highly unlikely.

Opportunities for Baltic Regional Defense Cooperation

Even if combined, integrated operations by the three Baltic nations during the initial days of a Russian attack appear unattainable, on the affirmative side, there are various opportunities for effective and meaningful cooperation among the three Baltic states that could contribute significantly to heightened deterrence of Russia.

Perhaps most obviously, joint acquisition and maintenance and sustainment throughout their life cycles of many kinds of end-items that each state's military forces need or could effectively employ represents "low-hanging fruit." This especially applies to G-RAMMs and SHORADS, where the benefits of economic order quantities are obvious, particularly smaller types that should be acquired in substantial quantities, like *Javelin*, *Stinger*, small UAS, or newer types of smaller G-RAMMs.⁷² However, the same kinds of benefits from could apply to a limited degree to larger LRPF and air defense G-RAMMs such as Multiple Launch Rocket Systems (MLRS) or NASAMS as well. For such larger systems, more important than cost savings would be assured physical and digital interoperability from buying common systems.⁷³ Establishment of a "Baltic Joint Procurement Agency," either stand-alone or as an arm within the NATO Support and Procurement Agency (NSPA), could pay dividends as opposed to "cooperative buys of opportunity" that have been used in the past.⁷⁴

There is also considerable potential for integration of various regional activities or needs common to all three states, as well as to other Baltic Sea littoral states, including Sweden, Finland, and Denmark, such as recurrent joint operational planning and exercising, integrated border surveillance and early warning infrastructure; maritime domain ISR; combined logistics and maintenance infrastructure; increased shared use of assets such as firing ranges and joint training and education facilities, just to name a few.

Defense of the "Baltic Island" Requires Robust and Persistent NATO Forward Defense

In the end, the Baltic nations are vitally dependent on NATO collective defense to maintain their freedom and independence against potential future Russian aggression. The credibility of such defense is fundamental to maintaining deterrence.

72 There would still be advantages to two or even all three Baltic states jointly purchasing higher-end items, e.g., NASAMS. However, the quantities of such systems that would be acquired in most cases would be so limited that the true advantage is not so much large cost savings as it is system interoperability. Having sufficient maintainers would also be a challenge, as discussed in the previous chapter.

73 Digital interoperability (e.g., networks, data links, waveforms) becomes increasingly important the "smarter" a system is.

74 For more information, see "NATO Support and Procurement Agency (NSPA)," North Atlantic Treaty Organization, www.nspa.nato.int/default.

As noted earlier, the three Baltic states essentially constitute an “island” within NATO territory, with a narrow land “umbilical cord” through the Suwalki Gap. Given their small populations, limited budgetary resources, geographic proximity to a malevolent Russia, difficult time-distance and threat factors with regard to prompt arrival of reinforcement and resupply, and overmatch vis-à-vis the Russian military, the Baltic states by themselves, individually or collectively, do not have the capabilities and capacities necessary to prolong their defense against major Russian attack for more than a relatively short period, though one that may be longer than conceived before the Russian invasion of Ukraine.

As such, there is only one way of cutting through the Gordian Knot of honoring NATO’s collective defense commitments to its Baltic member states while those states lack the resources necessary to successfully defend their territory against the Russian threat by themselves for a protracted period. As will be addressed in the next chapter, other NATO member states will have to provide many of the capabilities and capacities required to adequately deter and, if necessary, defeat Russian aggression against any or all of the Baltic states.

CHAPTER 3

Implications for NATO

The brazen, unprovoked Russian invasion of Ukraine on February 24, 2022 has revived the fundamental basis for the existence of NATO and its promise of collective self-defense to its member states. NATO was originally established in 1949 to defend western Europe against the possibility of attack by the Soviet Union. Following the latter's dissolution in 1991, however, NATO appeared at times to have lost its sense of a primary *raison d'être*. It did participate in various out-of-area actions, such as peacekeeping operations in Afghanistan after 2001, the NATO Training Mission-Iraq, and the 2011 intervention in Libya. There was also some NATO capability development, including the NATO C-17 initiative and missile defense cooperation. Many member states, however, badly underinvested in the readiness and modernization of their armed forces, and the Alliance had recurring difficulty in achieving unity of vision and agreement over its fundamental "strategic concept." Although NATO member states were sobered by the Russian occupation of Crimea in 2014 and agreed to various measures to increase their defense spending and readiness at the 2014 NATO Summit in Wales as well as at the 2016 Summit in Warsaw, many member states were slow to meet their commitments and, in some cases, failed to meet them.⁷⁵ Many NATO states are still spending less than 1.5% of their GDP on defense.

Unsurprisingly, the states most proximate to Russia geographically, those on NATO's eastern front, were the most prompt and motivated to carry out agreed measures, though even some of those states began to meet the 2014 two percent of GDP defense spending standard only quite recently. Although NATO took measures to increase the forward presence

75 At the 2014 Summit, NATO member states set defense spending targets of at least 2% GDP and pledged to achieve that target by 2024. As of this writing, nearly a decade later, 10 member states have met this pledge, including all three Baltic states. Other member states pledged to increase defense spending more recently prior to the Ukraine invasion but generally continued to be unspecific about their timelines. The Ukraine invasion prompted dramatic new pledges, particularly by Germany and Poland, but it remains to be seen how completely and how rapidly these are implemented. NATO, "Wales Summit Declaration: Issued by the Heads of State and Government participating in the meeting of the North Atlantic Council in Wales," September 5, 2014, https://www.nato.int/cps/en/natohq/official_texts_112964.htm.

of military assets, generally on a rotational basis, such as the four multinational “Enhanced Forward Presence” (eFP) battlegroups based in Poland and each of the Baltic states, there remained considerable differences among NATO member states concerning relations with Putin and Russia.⁷⁶ For example, whereas the Baltic states and Poland had long warned other Alliance members about Putin’s persistent latent threat, Germany under Chancellor Angela Merkel pursued close relations with Russia, particularly in the energy sector. Not surprisingly, Germany long was also one of the greatest laggards in meeting its Wales Summit commitments.⁷⁷

However, since the invasion of Ukraine, many NATO member state leaders or senior officials have expressed a consensus view that there is no going back to the status quo ante bellum. In particular, there is general agreement that NATO needs to go from a “forward presence” concept to one of persistent “forward *defense*” in eastern Europe that entails having sufficient combat-ready forces positioned and ready to “fight tonight” to deter and, if necessary, to stop or greatly slow a Russian invasion. Hitherto, Alliance permanent presence on NATO’s eastern borders had consisted of a relatively small “tripwire” force intended to symbolize the alliance’s commitment to defend itself from any Russian attack, according to NATO Secretary General Jens Stoltenberg in a recent interview.⁷⁸ He further stated that “NATO was in the midst of a very fundamental transformation” as a result of Putin’s aggression and, as part of a major “reset,” that the “tripwire” presence on the alliance’s eastern front will be replaced with sufficient forces to repel an attempted invasion of member states such as Estonia and Latvia.⁷⁹

For additional deterrent effect against invasion or even incursion, Russian perceptions of the credibility and speed of NATO counteroffensive forces must also be considered, as this is a long-standing Russian strategic concern.

Important Considerations for NATO’s Posture “Reset”

NATO military commanders have been directed to develop options for the “reset” of the posture of NATO forces on the eastern front. They will accordingly make plans and recommendations regarding the specific forces to be moved into NATO’s “eastern front” member states. Clearly, the imperative of having “sufficient forces to repel an attempted invasion”

76 Four additional eFP battle groups are now being established in Bulgaria, Hungary, Romania, and Slovakia. NATO, “NATO’s military presence in the east of the Alliance,” March 28, 2022, https://www.nato.int/cps/en/natohq/topics_136388.htm.

77 Following the Ukraine invasion, Germany quickly announced rapid major increases in its defense spending. Christopher Schuetze, “Russia’s invasion prompts Germany to beef up military funding,” *New York Times*, February 27, 2022, <https://www.nytimes.com/2022/02/27/world/europe/germany-military-budget-russia-ukraine.html>.

78 Johanna Treeck, “Stoltenberg: NATO planning large, permanent military presence on eastern border,” *Politico*, April 10, 2022, <https://www.politico.eu/article/nato-jens-stoltenberg-military-presence-eastern-border-army-ukraine-russia-war/>.

79 Edward Malnick, “Exclusive: Full-scale Nato military force to defend borders,” *The Telegraph*, April 9, 2022, <https://www.telegraph.co.uk/news/2022/04/09/exclusive-full-scale-nato-military-force-defend-borders/>.

is intended to directly address the critical factors of time, geography, and the difficulty of reinforcement and resupply in the face of robust Russian A2/AD capabilities, particularly those in Kaliningrad and Belarus. Such forces would also enhance deterrence by virtue of diminishing the possibility, and thus the temptation, of Russia successfully achieving a *fait accompli* of the kind described in Chapter 1.

Besides the necessary forces, however, various other considerations will affect the force composition and priorities for the NATO “reset” and how they should be implemented. How to frame these factors will be important.

“Reset” Timing

If present trends continue, a high proportion of Russia’s military forces, particularly air and ground assets, will be tied down in eastern and southern Ukraine for some time. Moreover, Russian combat losses and higher-end weapons expenditures have reportedly been very high to date. As a result, in the near term, Russia will have limited options to respond to changes in NATO force posture in Eastern Europe.⁸⁰

There is somewhat of a conundrum concerning the “sufficiency of forces” to repel an invasion, particularly of Estonia or Latvia as the most geographically exposed of the NATO member states. The same forces that would be required to counter a major Russian invasion there almost certainly would also have the ability to threaten St. Petersburg as well as other key locations in the Western Military District. Thus, a sort of “security dilemma” could eventually arise once the Ukraine situation was resolved and Russian forces were reconstituted. Based on past Russian military dispositions, it is likely that the Western Military District once again will host the most capable and potent Russian forces. Some senior officials, both U.S. and European, fear that Russia could recover from its losses in Ukraine and reconstitute such forces in under two years, current wide-ranging sanctions notwithstanding.⁸¹

Command and Control Issues

One of the more vexing pre-2022 issues in the Baltic region concerned the confused NATO command and control (C2) arrangements described in Chapter 2. Although there has been some recent movement in addressing this issue, for example, the establishment of the MND-N or the nascent British-led Joint Expeditionary Force (JEF), these were very

80 If Russia perceived this NATO “reset” to be an “existential issue” as it claimed it was vis-à-vis Ukraine, in principle Putin could again threaten the use of nuclear weapons. If so, the same uncertainties regarding his earlier implied nuclear threat would obtain.

81 Other experts, however, argue that sanctions blocking critical components such as key microelectronic components required for production of complex systems such as aircraft, tanks, missiles, and other precision-guided weapons would delay Russian reconstitution for substantially longer since there would be few if any alternative suppliers capable of producing such items meeting the necessary technical standards. See David Sanger and Steven Erlanger, “Fear Are Mounting That Ukraine War Will Spill Across Borders,” April 27, 2022, *New York Times*, <https://www.nytimes.com/2022/04/27/us/politics/ukraine-war-expansion.html>.

preliminary and rudimentary. There remains little clear idea of how these entities would function in practice, what forces would be assigned to them, how they would be integrated into NATO command and control, and under what circumstances and timelines.⁸²

This is further complicated by the fact that hitherto each NATO member has been expected to provide for their own forces and national defense in the first instance. This is simply a political reality. As noted in Chapter 2, in the Baltic region the differing national defense strategies among the three Baltic states militate against the realistic possibility of an integrated, or even coordinated, defense on a regional basis.

However, the introduction of forces of the size needed to repel a potential future invasion by a refitted Russian military would go well beyond both the Baltic states' individual militaries and the current eFP battlegroups. Estonian Prime Minister Kallas recently called for a battle-ready division-sized force for each Baltic state, with an allied brigade to be based in Estonia to complement its two infantry brigades, while U.S. Chairman of the Joint Chiefs of Staff (CJCS) General Mark Milley noted that there should be [additional] permanent bases in eastern Europe, though favoring the basing of rotational rather than permanently stationed forces in such facilities.⁸³

The presence of forces of that size requires the establishment of formal command relationships, including the appropriate fully-enabled NATO operational command headquarters with assigned or apportioned forces. The latter is an inescapable prerequisite for having a high-readiness “fight tonight” combat capability. This raises the question of how, when, and under what circumstances national forces would come under NATO operational command. During periods of lesser tension, what kinds of authorities would those NATO headquarters have for what kinds of operations, while still respecting each member state's national sovereignty? Presumably, national forces would retain their right (and obligation) to take initial defensive steps, certainly in the case of a surprise attack scenario or in the event of “minor incursions.”⁸⁴ In the latter case, Estonia's presumptive policy is to resist any territorial encroachments by force. Given the “reset” presence of significant foreign NATO forces in Estonia, this potentially raises the classic conundrum of any alliance, namely the fear that an ally may drag other allies into a confrontation or conflict the latter might want to avoid.

82 This especially relevant in the case of the latter, given the vision that “the JEF can act while NATO is thinking” and have the “potential to become a first responder [to an invasion].” See “NATO-lite,” *The Economist*, March 19, 2022, p. 50.

83 See “Political Statement of Prime Minister Kaja Kallas to the Riigikogu,” May 2, 2022, “<https://www.valitsus.ee/en/news/political-statement-prime-minister-kaja-kallas-riigikogu-2-may-2022>.” See also Richard Milne, “Estonia's prime minister urges vast rise in Nato forces to defend Baltic states,” *Financial Times*, April 8, 2022, <https://www.ft.com/content/863ab482-4d6b-49a8-8c9a-551e42292e2e>. For a discussion of the relative merits of rotational presence versus permanently stationed forces, see Billy Fabian et al, *Strengthening the Defense of NATO's Eastern Frontier*, pp. 19-20.

84 A Latvian participant in a CSBA workshop conducted in Tallinn in February 2020 stated that he considered that this kind of (pre-2022) scenario more likely than a deliberate invasion or one following immediately after an exercise.

Forces

NATO commanders and their military planners will ultimately assess the force levels, capabilities, and capacities that they will recommend be based in or operate from in individual NATO member states, no doubt using standard force planning methods and analyses. Presumably, the additional forces and equipment the U.S. and other NATO military currently have moved into Eastern Europe will remain in place or be relieved on a rotational basis to maintain the present increased force levels until the “reset” forces are approved by NATO leadership and become available.

Some preliminary requirements are clear. In the near-term, the eFP battle groups in each Baltic state should be doubled in size. NATO should ensure a minimum presence of one armored battalion with at least three tank companies because budget constraints make fielding main battle tanks impractical for the Baltic state land forces. Due to the challenge of resupplying the Baltics, the NATO member states providing these units should maintain stocks of munitions and spare parts for at least 30 days of sustained combat operations within the host nation.

Such increases, however, will be insufficient once Russian forces are reconstituted. Forward forces, on the scale necessary to repel an invasion, will require substantially greater NATO forces and prepositioned equipment, particularly in the Baltic region. As implied by Secretary Stoltenberg, the eFP battle groups currently operating in each Baltic state and Poland are essentially “tripwire” forces, with far too little combat power to seriously resist a Russian invasion. This implies the requirement for one or more *combat-ready* mechanized or armored NATO multinational brigades, along with fully-enabled headquarters at the appropriate command echelon, to be in place in each Baltic state in order to have an actual “fight on Day One” capability, including against surprise or little warning attacks that fully reconstituted Russian military forces based in the Western Military District would be capable of executing. Such multinational brigades could be rotational but should remain in-country for prolonged periods in order to realize the benefits of familiarization with their operating areas; integrating with host nation military units; and exercising persistent and durable command and control arrangements.

Another problem that must be addressed is the too-slow NATO decision process that delays the designation and RSOI of sufficient reinforcing forces in the event of a surprise or short-warning invasion of the Baltic states or of an ambiguous Article 4 situation drifting uncertainly towards an Article 5 one. NATO must have a substantial integrated combat force available that can “fight tonight.” The best option for having such a force rapidly available for major combat operations in the near-term, pending decisions concerning and implementation of the NATO “reset,” would be to have the U.S. V Corps with all corps-level enablers permanently based in Europe, and thus rapidly be able to go into action if necessary.⁸⁵

⁸⁵ Currently only V Corps Headquarters (Forward), rotationally manned by about 200 personnel, is based in Poland at present. See <https://www.eucom.mil/article/40646/v-corps-headquarters-forward-location-announce>.

There clearly will be requirements for sophisticated and expensive assets for missions such as long-range precision fires and wide-area integrated air and missile defense, some of which even the larger NATO members besides the United States possess in only limited quantities. Thus, it would seem advantageous to increasingly use the kind of alliance pooling arrangements for such expensive or scarce capabilities that NATO already uses for certain assets for forces operating rotationally in or near the eastern NATO borders. Existing examples include NATO AWACs, C-17s, and P-8s.

Some missions will have even greater importance than before. There will be increased demand for persistent ISR, both over land and over the Baltic Sea, which argues for increased numbers of ISR platforms, primarily unmanned platforms, for reasons of operational performance (i.e., persistence), lower cost, and reduced risk of personnel loss or capture. The NATO pooling concept could be further extended to UAS such as the MQ-9, which would be critical for persistent ISR and possibly also for employing some air-launched effects. NATO could use these assets in a coordinated fashion to attempt “deterrence by detection” along the eastern front, especially in the Baltics.⁸⁶

Defense in the air domain will be important all along NATO’s eastern front, but particularly so in the Baltic region. Given Russia’s recurrent malign behavior historically (which may persist beyond Putin), Baltic Air Policing, a hitherto peacetime activity, should be upgraded to Baltic Air Defense for NATO air forces. Accordingly, the aircraft should fly armed, even in nominal peacetime under the “new normal.”⁸⁷ NATO member states should significantly increase the number of aircraft they provide that are based in or operated from Baltic bases. Aircraft types should include the most recent blocks (e.g., Block 70/72) of F-16s for DCA purposes. NATO member states possessing them also should provide their F-35s for rotational short-term deployments to the Baltic states.⁸⁸ F-35s flying along the Russian border would be especially valuable for acquiring sensor and signals information, providing electronic warfare capabilities if required, directing long-range precision munitions from the air, and affecting Russian risk perceptions by virtue of their ability to conduct prompt

86 For more details on the “Deterrence by Detection” concept, see Thomas G. Mahnken, Travis Sharp, and Grace B. Kim, *Deterrence by Detection: A Key Role for Unmanned Aircraft Systems in Great Power Competition* (Washington, DC: Center for Strategic and Budgetary Assessments, 2020) and Thomas G. Mahnken, Travis Sharp, Christopher Bassler, Bryan Durkee, *Implementing Deterrence by Detection: Innovative Capabilities, Processes, and Organizations for Situational Awareness in the Indo-Pacific Region* (Washington, DC: Center for Strategic and Budgetary Assessments, 2021). See also Thomas G. Mahnken and Grace B. Kim, “Deterrence by detection: using surveillance to pre-empt opportunistic aggression,” NATO Defense College Policy Brief 01-21, January 14, 2021, <https://www.ndc.nato.int/news/news.php?icode=1518>.

87 Andy Blatchford, “Stoltenberg: ‘New normal’ forces NATO rethink,” *Politico*, April 9, 2022, <https://www.politico.com/news/2022/03/09/new-normal-forces-nato-rethink-security-00015714>.

88 In effect, this would consist of a NATO version of the U.S. Air Force’s recently approved “Agile Combat Employment” concept. See Greg Hadley, “Air Force Releases First Doctrine Note on Agile Combat Employment,” December 14, 2021, *Air Force Magazine*, <https://www.airforcemag.com/air-force-first-doctrine-note-agile-combat-employment/>.

penetrating strike and SEAD/DEAD missions in the event of conflict.⁸⁹ The routine ongoing participation of such advanced capabilities in itself would send a strong deterrent signal to Russia.

Medium-to-long range integrated air and missile defense (IAMD) is another critical mission. While all three Baltic states have bought or will be buying medium-range air defense systems like NASAMs, the numbers of weapons, sensors, and associated networking comprising such systems will not be affordable—even collectively—for sufficient numbers of assets to provide adequate survivable coverage absent further substantial increases in their defense budgets beyond the large supplementary spending already announced in early 2022. Thus, additional air defense systems and capabilities should be provided by the larger NATO states, also potentially on a pooled basis.⁹⁰ The Baltic states, given their population-limited small militaries and limited budgets, could more cost-effectively invest in significant numbers of SHORADS to protect critical point targets as well as mobile ground units.⁹¹ These systems are easier to operate and maintain, as well as cheaper, enabling them to be more numerous and distributed in support of defenses across the Baltic states.

Weapons

Several weeks before the invasion of Ukraine began, the three Baltic states and other NATO members began urgently transferring large numbers of short-range anti-tank and anti-aircraft weapons (i.e., G-RAMMs, including armed UAS) to Ukraine. In the weeks after the actual invasion, vast numbers of such weapons were transferred to Ukraine. Of course, had NATO collectively concurred months beforehand regarding the likelihood of such a Russian invasion, those transfers could have occurred on a better planned and far less urgent basis and possibly even could have deterred the invasion.⁹² Thus, by extension, what NATO now

89 The very capabilities the F-35 has, and that the Russians are aware of, likely entail that the numbers of U.S. F-35s relative to European F-35s operating out of the Baltics be kept quite small because the Russians could well perceive any of the F-35 aircraft operated by NATO member states to be presenting a threat, especially given F-35 dual capability with B-61 nuclear bombs. In addition to some ambiguity, due to internal weapon storage, this would represent an ideal case of NATO “burden sharing” with regard to high-end missions. For example, see Rachel S. Cohen, “The F-35 is one step closer to carrying nuclear bombs. What’s next?,” *Air Force Times*, October 27, 2021, <https://www.airforcetimes.com/news/your-air-force/2021/10/27/the-f-35-is-one-step-closer-to-carrying-nuclear-bombs-whats-next/>.

90 For example, NATO could purchase several Patriot and terminal high altitude air defense (THAAD) batteries, which could be operated by either national or NATO multi-national personnel, under NATO command. Most importantly, maintenance could be provided under this pooled arrangement, while the batteries could be repositioned based on the highest needs of the Alliance.

91 Russian doctrine specifically includes “strategic operation for the destruction of critical targets” (SODCIT), thus the ability to preferentially protect as many such targets as possible is important. See Michael Kofman et al, *Russian Military Strategy: Core Tenets and Operational Concepts* (Arlington, VA: CNA, 2021), pp. 68-71, https://www.cna.org/CNA_files/pdf/Russian-Military-Strategy-Core-Tenets-and-Operational-Concepts.pdf. Deploying significant numbers of SHORADS would materially contribute to countering or minimizing the effects of such strategic operations against critical physical targets.

92 The Biden Administration used an approach of widely shared and publicized intelligence for several months leading up to the February 2022 Russian invasion of Ukraine, but sometimes without enough specificity to convince NATO member states and their publics, to assess that an invasion was coming.

wishes had been done earlier for Ukraine should inform the types, quantities, and storage locations (widely dispersed, based on where use is anticipated and by what active units, reserves, and potentially territorial defense forces such as the Estonian EDL) that the NATO posture “reset” should incorporate.

The war in Ukraine is just the most recent reminder of the enormous expenditure rates of munitions. In terms of G-RAMMs, as argued in Chapter 1, having a high density of such weapons in the battlefield creates enormous operational difficulties for the enemy, affects their risk perceptions, and is highly cost-effective in killing expensive assets such as tanks, helicopters, and fighters.⁹³ However, this will require large inventories of such munitions and the ability to receive resupply.

The sinking of the Russian cruise *Moskva* has highlighted the employment of G-RAMMs (principally anti-ship missiles) against targets at sea. Beyond that dramatic episode, the effect of Ukraine potentially being able to fire ground-launched anti-ship missiles appears to have been a factor in Russian warships remaining well offshore afterward. In effect, Ukraine was able to achieve “virtual attrition” of the Russian Black Sea fleet in the sense of preventing the employment of those fleet units. Given the geography of the Baltic Sea, particularly the Gulf of Finland along Estonia’s northern shore, deployment of dispersed vehicle-launched anti-ship missiles in even small quantities, supplemented by additional ASCMs supplied by other NATO member states, would significantly increase the threat and risk perceptions of Russian naval commanders.⁹⁴

Counterattack Concepts

The forces described above were focused solely on defending or “repelling” a Russian invasion launched at a time of Putin’s choosing, thus were primarily defensive in nature, that is, stopping a Russian invasion. If, however, NATO were to become engaged in a prolonged war with Russia, it would be insufficient to merely conduct a successful “holding action” indefinitely. NATO should also create options for potential counterattacks to relieve pressure on the Baltics and create dilemmas and challenges for Russian forces.

Accordingly, as part of the posture “reset,” NATO should examine and update its Cold War 1980s Follow-On Forces Attack (FOFA) operational concept. FOFA entailed delaying, disrupting, and destroying forces following the initial enemy assault echelons on NATO’s



93 As an interesting historical case study, the invading German Army’s infantry units at the start of World War One had approximately four times as many machine guns per company as did the French Army. This was one of the primary reasons for the horrific casualties the French suffered during August 1914. The French were aware of the lethality of the machine gun but were concerned about the potential of their soldiers expending far too much ammunition under the stresses of combat.

94 The Danish navy operated such truck-mounted HARPOON anti-ship missiles in 1988-2003. Such vehicles would not have to be identifiable military trucks. Older HARPOON missiles could be fired using a very simple and easy-to-operate firing panel, while targeting could be provided by an air platform such as a helicopter or, today, a simple UAV. The U.S. Navy is currently refurbishing and reintroducing HARPOONS into the U.S. fleet.

Central Front with long-range weapons to attack enemy forces that had not yet engaged NATO forces in order to enable NATO defenses to hold as far forward as possible. The operational concept envisioned attacks from just behind engaged troops to hundreds of kilometers inside enemy territory. An updated version could be used to assess the Russian forces that could be deployed during the initial attacks on the Baltic states and/or NATO's eastern front as a whole, then employ the updated FOFA concept with combined-arms maneuver warfare, with machine-to-machine speed and consistency for the intelligence, surveillance, reconnaissance, and tracking (ISRT) cycle and enhanced by supporting information operations, to attack follow-on Russian force echelons, including those attacking from Belarus. Russian general awareness of NATO development of a potent updated FOFA operational concept for the Alliance to conduct counterattack operations not merely in or from the Baltic states but also through Belarus potentially could contribute significantly to deterrence generally as well as deterrence in the Baltic region specifically.

Implications for the United States

The NATO posture “reset” has various possible implications for the United States. Given there will be significantly more forces either permanently based in the Baltics or operating rotationally from sites in other NATO eastern front countries (such as Poland), there will likely be some increase in U.S. military force levels in EUCOM. These would primarily be expected to be U.S. Army units and capabilities, with some possible augmentation of selected U.S. Air Force assets. Senior U.S. and NATO commanders and planners will ultimately make those determinations and recommendations. However, this report provides an initial set of recommendations based on CSBA wargames with U.S. and Eastern European, including Baltic state, military planners and defense officials.

Given the emphasis on the operational- and cost-effectiveness of G-RAMMs as seen in Ukraine and their suitability for employment in the Baltic region, it would be important for Baltic militaries to be well-supplied with such weapons. However, even though G-RAMM unit costs tend to be relatively low, having them available in sufficient quantities to achieve the kinds of results the Ukrainian forces have to date, would far exceed the budgetary resources of the Baltic states individually and collectively. Thus, it would again require the larger NATO states, particularly countries like the United States, the United Kingdom, France, and perhaps others to help increase the Baltic states' G-RAMM inventories by helping to finance their acquisition and possibly create production and storage hubs to flow them forward to the Baltic states. In a sense, this could be seen as a form of “lend-lease” in that from an Alliance perspective, such weapons would be stored and deployed in exactly the areas where they arguably would be most likely to be used in a future conflict with Russia. Not only would that make G-RAMMs promptly available for their primary purpose of actual combat if necessary, but it also would make such inventories available for recurrent and robust operator training and unit exercising purposes without creating undue burdens on the limited Baltic defense budgets. Forces from other NATO states operating in one of the Baltic states could similarly use such stocks for training and exercising. Lastly, and

importantly, having such G-RAMM inventories in-country would reduce the timelines and logistic burdens entailed if they had to be brought into and across the theater to the combat area(s) from outside.

The Ukraine war has already seen considerable G-RAMM expenditure rates, and various NATO countries have significantly drawn down their own stockpiles. Many of these weapons, such as Javelins and Stingers, are older weapons, and are only being produced at low production rates. Thus, it will be important that the United States and other producers of effective G-RAMMs significantly increase their production and storage rates, including establishing expanded and surge capacity.⁹⁵ Such production should be done both in the United States and in Europe (perhaps under license agreements).

Other Considerations

The NATO posture “reset” announced by Secretary Stoltenberg, if properly and promptly executed, should greatly reduce the potential for a Russian *fait accompli* against the Baltic states as well as aggression against other NATO states on the eastern border. Presently it is broadly supported among the NATO member states because of the ongoing Russia-Ukraine war and its accompanying atrocities. However, depending on the evolution of the conflict, the enthusiasm and willingness of some member states may flag over time or individual member state priorities start to shift. For the reset to be successful, there must be reliable and robust European contributions, which has not always been the case in the past, such as following the 2014 Wales Summit. It is imperative that this effort across the Alliance does not become a combination of “let the Americans do it” and “the Baltics need to do more in their own defense.” NATO member states should realize that in the current political environment, the U.S. public would not accept such an attitude. Thus, there must be genuine burden-sharing among all member states, whether on the eastern front or not, until NATO leadership has deemed the “reset” to be fully implemented.

The planned increases in force levels in Europe, whether in response to the NATO “reset” or based on national programs such as Poland’s to greatly increase the size of their forces, will require significant increases in Maintenance, Repair, Overhaul, and Upgrade (MRO&U) facilities and capacity for commonly operated systems and equipment. As part of burden sharing, European host nations should bid to host, establish, and operate such facilities (thus little or no direct cost to the United States), but that capacity should be available to U.S. forces when deployed to Europe. The example of the existing F-35 MRO&U network across Europe provides one such model, linking suppliers, factories, warehousing, maintainers, and repairers together to support European air forces, and U.S. forces when deployed to Europe.

95 Of note, some U.S. allies and partners in other theaters face similar threats to those faced in the Baltic region and the rest of NATO’s eastern border members. Thus total U.S. demand for such weapons should not be confined solely to meeting EUCOM/NATO requirements.

With regard to the current war, even were Russia to be meaningfully defeated, i.e., Ukraine regained its territory, and/or Putin were deposed, it would be important for NATO member states that the reconstitution of Russian military forces be impeded and delayed as much as possible so that for an extended period of time Putin will be unable to recreate the same level of threat and destruction that he did against Ukraine. Though the supposed post-Georgia invasion modernization of Russia's forces turned out to be substantially overstated based on their performance in Ukraine, it must be assumed that the Russians will learn from their experience, and potentially get modernization "right the next time." Thus, it would be important to continue to maintain strict sanctions post-conflict on key technologies such as microprocessors, electronics, semi-conductors and other military capabilities-relevant critical components and materials to slow reconstitution of Russian forces and capabilities.

CHAPTER 4

Key Findings & Recommendations

Whereas NATO may have considered its eastern member states as the “frontier” with Russia during the post-Cold War era, Russian aggression has renewed the strategic understanding of these member states as the Alliance’s eastern *front*. In particular, due to geography, the three Baltic states constitute an island-like section of this eastern front, and Estonia is probably the most difficult case.

In the years before Putin’s invasion of Ukraine in February 2022, defense of the three Baltic states constituted NATO’s most problematic security challenge due to several factors, including geography and time-distance challenges. However, apart from the eastern frontier member states, much of NATO and Europe generally did not expect outright Russian cross-border aggression. This expectation has now been thoroughly shattered by the events in Ukraine.

The Russian aggression against Ukraine resulted in a stunningly unified reaction from the NATO member states (as well as states in other parts of the world). This unity, coupled with the brutal conduct of the Russian military, has created conditions that the Baltic States and NATO as a whole should leverage in order to strengthen the Alliance’s future position in the Baltic region. Regardless of how the Russia-Ukraine war evolves, Russia is likely to remain a future threat. In particular, Russia will reconstitute its military forces and capabilities once the conflict with Ukraine subsides. Thus, NATO should maximize this period of unity to implement measures to strengthen the Alliance’s position in the Baltic region.

The findings and recommendations that follow are based on the results of CSBA research and a wargame conducted in December 2021 with participants from the three Baltic states and the United States, and on several previous wargames employing Eastern European scenarios. These have been further influenced and refined by extensive reporting on Russian and Ukrainian military operations since the start of the invasion. Although it is too early to

reach definitive conclusions or draw firm lessons from the Russia-Ukraine conflict, initial reports appear to support many of our findings and recommendations.

Findings

Estonia and the Baltics will remain vulnerable to a broad spectrum of Russian threats. Chapter 1 noted the range of Russian threats from the sub-conventional level to a full invasion and occupation. The proximity of the Baltic states to Russia and the disparities between NATO and Russian forces in the region leave the Baltic states vulnerable in a variety of potential scenarios. Accordingly, NATO’s security posture in the Baltic region must move from a focus on forward presence to persistent *forward defense*, which entails having sufficient combat-ready forces positioned and ready to “fight tonight” to deter and, if necessary, to stop or greatly slow a Russian invasion. NATO and Europe as a whole do not have the option of returning to the pre-2022 European security status quo.

The most likely persistent threats are those on the low-intensity end of the conflict spectrum, where Russia could employ various “gray zone,” or sub-conventional, measures to attempt to intimidate or coerce Baltic states. Potential operations may try to use the Orthodox religion, Soviet nostalgia, or education and citizenship issues to manipulate Russian-ethnic populations living in strategically relevant areas of the Baltics such as Tallinn, Paldiski, Narva, Riga, or Daugavpils.⁹⁶ Other scenarios below the threshold of open conflict include the weaponization of migrants, exploitation of natural or man-made disasters, or promotion of social unrest in the Baltics.

Russia, however, could also try to provoke repeated reserve mobilizations in the Baltics through limited incursions or provocations in order to impose economic costs, mobilization exhaustion, or create tensions within NATO while also desensitizing indications and warning about possible future Russian operations. Mobilizing in response to any Russian provocation, however small, might risk Estonia, Latvia, and Lithuania wearing out the current sense of urgency within the Alliance and could jeopardize the perceived legitimacy of their claims on other Alliance members. Even after recent events in Ukraine, it remains to be seen if and for how long the supposedly greatly heightened threat perceptions in western European NATO members persist.⁹⁷ The Baltic states themselves, with limited assistance

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96 This meme is often repeated in various writings about the Baltic region but wargame participants expressed high confidence that this was not a significant concern given the great differences in living standards and quality of life between Russia and Estonia or the other Baltic states. Moreover, such concerns would tend to diminish as the previous Soviet era further recedes in time.

97 Although many NATO allies (both national leadership and populations) have indicated intentions to take a harder stance against Russia and increase their defense capabilities, these attitudes will have to persist for some time to actually result in increased military capabilities. There remains a possibility that some European nations observe the Russian military’s performance in Ukraine and eventually take an opposite stance—that the Russian threat has been previously overstated and that major additional defensive measures are unnecessary.

from NATO, are best positioned to counter these sub-conventional threats because they typically require civil and government rather than military responses.

Further along the conflict spectrum to conventional military operations, limited air and missile strikes or “pulsed” ground incursions would put the onus on NATO to react or escalate.⁹⁸ Limited attacks or incursions could create tensions within the alliance between members who want to rapidly escalate and hit back, and members who would prefer other, less risky response measures. These types of attacks would place a premium on air and missile defense capabilities, which the Baltic states do not possess in substantial numbers. Given the potentially high costs of these scenarios to NATO and their relatively low cost to Russia, the Alliance should work to significantly improve the Baltic states’ ability to defend against such Russian provocations. A key question for NATO to consider is the threshold at which point Estonia, the other Baltic states, and/or the Alliance would strike Russian territory in retaliation.

A conventional ground invasion to seize and occupy one or more Baltic states is possible. Although it has been the least likely scenario, it is the most dangerous one, and one that NATO must be adequately prepared for. This scenario is especially salient now, given that Russia has actually undertaken exactly such an action against Ukraine. In the event of a similar future invasion, the Baltic states must be able to withstand preliminary Russian attacks and heavily attrite Russian forces as they enter NATO territory and sustain the fight as other NATO forces assemble and move to reinforce the region. Fundamentally, the credibility of the Alliance, both as a military organization and with regard to the Baltic region, rests on its ability to counter Russian threats by reinforcing units and assets, moving its forces rapidly to decisive combat areas, and executing successful conventional military operations to defeat such a Russian invasion. The NATO Alliance must also be prepared to counter these Russian threats in the face of increased nuclear saber-rattling from Russia.

The geography and conventional force asymmetry in the Baltics make time the central factor in determining and executing an effective response to Russian actions. The constrained geography of Estonia and the other two Baltic states provides little opportunity to conduct a defense that trades space for time. Unlike Poland today or Cold War West Germany, the narrow Baltic corridor offers insufficient area for drawn-out mobile defenses that utilize maneuver and attrite enemy forces with fires and counter-mobility obstacles. NATO forces in a conventional conflict would be in constant danger of being pressed against the Baltic Sea or encircled in a “cauldron,” e.g., north of Kaliningrad

98 In this scenario, a “pulsed” incursion would involve Russian forces (from unmanned aircraft to small ground units) making incursions into Baltic territory but then withdrawing before a large response can be mustered. Rather than accomplishing traditional military objectives, the purpose of these forces would be the violation, however small, of Baltic national sovereignty. With their withdrawal complete, Russia could threaten massive escalation to any NATO response, with the ultimate intent to show NATO’s unwillingness to punish a seemingly minor violation of national sovereignty in the Baltics. Such operations would degrade the credibility of NATO’s security guarantees and sow mistrust within the alliance.

should the Suwalki Gap be closed or by a military thrust to the Gulf of Riga.⁹⁹ These possibilities incentivize Russia to make any major operation a rapid campaign to encircle and decisively defeat Baltic forces, while NATO forces would be in a race against time to flow forces and supplies into the Baltics.

The confined geography of the Baltics, and Estonia in particular, is complemented by the largest force asymmetry on NATO's eastern front. Opposite Russia's Western Military District, the militaries of the Baltic states lack sufficient forces to counterattack or defeat Russian exploitation forces. In Estonia's case, the use of its two active brigades to defend the border north and south of Lake Peipus leaves mainly Estonian Defence League forces to serve as a "strategic reserve" to prolong resistance within Estonian territory against occupying forces. The lack of substantial reserve forces, coupled with the small sizes of the eFP battlegroups, increases the criticality of time in a NATO response because any Russian penetration likely will attempt to rapidly isolate and eliminate all NATO forces in the Baltic region, and then turn their attention to defending against other deploying NATO forces.

This temporal imperative and heavy force imbalance entail that reinforcing the Baltics *after* hostilities commence will be a major challenge for NATO. The Alliance must commit the forces required to deter and defend the Baltics *now*. The forces and materiel present at the beginning of a conflict likely will determine its outcome, at least until major NATO force packages can be assembled and moved into the region. As discussed in Chapter 1, reinforcements likely would be delayed until NATO forces could sufficiently neutralize Russian A2/AD capabilities in Kaliningrad, Belarus, and western Russia. Kaliningrad, in particular, poses a difficult challenge since strike systems located there can range major ports of entry such as Antwerp, Rotterdam, and Bremen, as well as key transportation nodes across Germany and Poland.

Forward deployment of personnel and materiel, however, must be balanced with the inherent vulnerability of forces prepositioned in such close proximity to Russia. The range of Russian strike platforms requires prepositioned forces to be mobile and materiel to be distributed and hardened. Russian capabilities will also contest logistics and force flow efforts into the Baltics.

A second consequence of limited time is the importance of early warning infrastructure to enable rapid decision-making at the national, regional, and Alliance levels. Effective ISR and intelligence sharing increase the amount of time available for decision-makers to respond to Russian actions. One advantage of the confined geography of the Baltic region is the relative ease with which border areas and the Baltic Sea can be surveilled by ISR assets. Early warning is essential to dominating the information domain, reducing hesitation to act within the Alliance, supporting decisive action by Baltic and NATO leaders, and preventing

99 The Soviet military successfully isolated the German Army Group North in the Courland (modern Latvia) during WWII. For a thorough account of the Red Army's seizure of the Baltics in 1944-45, see David M. Glantz and Jonathan M. House, *When Titans Clashed: How the Red Army Stopped Hitler* (Lawrence, KS: University Press of Kansas, 2015).

Russia from being tempted or trying to exploit stalled Alliance decision-making in a rapid campaign to achieve a hard-to-undo *fait accompli*.

The size and geography of the Baltic region favor a regional approach to deterring and defending against Russia. A significant kinetic operation by Russia is unlikely to be limited to a single Baltic state. The borders between Estonia, Latvia, and Lithuania are mostly political rather than run along natural features. They mainly run through large sections of generally passable terrain. Given these seams and corridors, the national borders of the Baltic states could be exploited by Russian armored and mechanized forces moving north or south. Without strategic reserves or forces in-depth to counter this possibility, uncoordinated and/or disparate national defense plans could leave major avenues of approach poorly defended.

Ideally, addressing this vulnerability would require the Baltic states to closely coordinate and integrate their national defense plans. The region should be treated as one area of operations by the Baltic militaries and NATO. Integrated defense plans should focus on maximizing enemy attrition, minimizing friendly force losses, and mitigating the Russian time advantage to the greatest extent possible. Within these plans, Estonia, Latvia, and Lithuania would each have critical roles in preparing to receive other NATO forces by coordinating allied movement in-country, clearing lines of communication, and managing their own civilian populations since they are best situated and equipped to manage movements within their territory and communicate with their local population. A NATO command construct that emphasized each Baltic state as a sector within this single area of operations may be advantageous.

In terms of defense of the wider Baltic region, including the Baltic Sea and its littorals, non-Baltic regional actors like Poland, Germany, Denmark, Sweden, and Finland could play a crucial role in military operations and ideally and importantly would also be integrated into a regionally focused defense plan.¹⁰⁰ These nations and their importance, real or potential, will be further explored in a separate recommendation below.

Estonia and the Baltic states have substantial ability to attrite Russian forces and slow their conventional operations. Throughout the Baltics, marshy and forested terrain is ideal for defensive operations.¹⁰¹ In the north, Estonia's Narva salient has a long history as naturally defensible terrain and the Narva River requires securing and holding bridgeheads around the city. Beyond Narva, Russian forces would enter the Sinimae Hills

100 At present, some of this discussion necessarily remains theoretical since neither Finland nor Sweden are NATO members. However, the events in Ukraine have greatly increased the chances that one or both of those nations will join the Alliance. See Maria Ponnezhath, "Finland, Sweden set to join NATO as soon as summer, The Times reports," *Reuters*, April 10, 2022, <https://www.reuters.com/world/europe/finland-sweden-set-join-nato-soon-summer-times-2022-04-10/>.

101 This terrain contrasts the Baltics with other nations on Russia's periphery such as Ukraine. Soviet forces were surprised by the difficult terrain in Belarus and the Baltics after rapidly advancing across the Ukrainian steppes in 1944. David M. Glantz and Jonathan M. House, *When Titans Clashed: How the Red Army Stopped Hitler* (Lawrence, KS: University Press of Kansas, 2015), p. 296.

and heavily forested terrain that is ideal for ambushes and the employment of short-range and man-portable weapons. This terrain leaves Russian forces vulnerable to large numbers of small, mobile, and lethal G-RAMMs of the kinds that Ukrainian forces have employed so effectively. Combined with canalized terrain, counter-mobility obstacles, and highly-mobile maneuver forces, these weapons could be employed to devastating effect in the hands of trained and determined operators.¹⁰²

Longer-range fires would also play an important role in the defense of Estonia because these systems can simultaneously range both approaches north and south of Lake Peipus and strike into Russian territory. NATO's eFP battle groups, with their main battle tanks, could be used as a counterattack force or strategic reserve in combination with long-range fires. Similarly, coastal defense and SHORADS are crucial for denying freedom of maneuver in the Baltic Sea and countering both fixed-wing and rotary-wing Russian aircraft. Effective denial of the maritime and air domains is necessary to force the Russian military through defensible terrain and defeat attempts to use amphibious or air assaults to envelop Baltic land forces or seize strategic objectives like Tallinn by *coup de main* attacks.

The Baltic States should continue to increase their defense spending as a percentage of GDP. All three Baltic states met or exceeded their Wales Summit pledge of spending 2% of their GDP on defense by 2020. Since the invasion of Ukraine, all three have approved defense spending increases that will raise their defense expenditures to over 2.5% of GDP.¹⁰³ While very welcome, given their status as the most vulnerable NATO front-line states, coupled with Putin's clear malevolence and ambition, the Baltic states should continue to increase their defense budgets to at least 3%, certainly to enhance their own defense forces (particularly in long- and short-range PGWs) but also to help increase the willingness of larger NATO member states to help enhance capabilities and capacities in the Baltic region through greater subsidies for costlier systems, "borrowing" of some of their systems, and/or increased presence of their forces or equipment in the Baltic region.

102 The emphasis on "small, lethal, mobile, and many" weapons attributes has also been stressed by other frontline states that have similar concerns about great power aggression and occupation. For example, Admiral His-Min Lee, Chief of the Taiwanese General Staff until mid-2019, developed what he termed Taiwan's "Overall Defense Concept." Its core idea entailed the widespread use of "asymmetric weapon systems," that "provide non-conventional warfighting capabilities that are aimed at exploiting natural advantages and the enemy's vulnerabilities while delivering maximum tactical impact with minimal effort. [These] asymmetric systems must be small, lethal, mobile, and many for strategic dispersion. They must be cost-effective and easy to develop and maintain, yet also resilient and sustainable. They must complicate enemy operations by being difficult to target and counter. The essence of [these] asymmetric capabilities is a large number of small things." Admiral (ret.) His-Min Lee and Eric Lee, "Taiwan's Overall Defense Concept, Explained," *The Diplomat*, November 3, 2020, <https://thediplomat.com/2020/11/taiwans-overall-defense-concept-explained/>.

103 See Jaroslaw Adamowski, "Estonia increases defense spending to buy air defense systems, more weapons," March 25, 2022, *Defense News*, <https://www.defensenews.com/global/europe/2022/03/25/estonia-increases-defense-spending-to-buy-air-defense-systems-more-weapons/>; "Latvian government confirms increased defense spend," March 30, 2022, Public Broadcasting of Latvia, <https://eng.lsm.lv/article/society/defense/latvian-government-confirms-increased-defense-spend.a450233/>; and "Lithuania raises defence spending to 2.52 percent of GDP," March 17, 2022, <https://www.lrt.lt/en/news-in-english/19/1647017/lithuania-raises-defence-spending-to-2-52-percent-of-gdp>.

To the extent the Baltic states can procure common systems and equipment on a joint procurement basis, they could realize collective cost efficiencies. But regarding the early 2022 large increases in percentage terms in their defense spending, while Estonia plans to spend a large proportion of its increased spending on short- to medium-range air defense systems, both Lithuania and Latvia have their own independent investment priorities and do most of their procurement on a national basis, which may result in unnecessary opportunity costs. For example, Estonia intends to order the same NASAMS medium range air defense system that Lithuania previously ordered. Had both countries jointly purchased NASAMS, the unit cost conceivably could have been lower.

Poland, Germany, Sweden, and Finland are essential to NATO, and particularly U.S., reinforcement efforts in the Baltic region. Russian forces based in the Kaliningrad exclave threaten direct NATO air and sea reinforcement and resupply to the Baltic region. Accordingly, Poland and the Suwalki Corridor are critical as the only ground line of communication (GLOC) between other European NATO members and the Baltic states.¹⁰⁴ Poland is also at the center of shifting U.S. combat power in the European theater. The rotational deployment of a U.S. Armored Brigade Combat Team (ABCT) and the growing U.S. command and logistics presence around Poznan make forces deployed from Poland a key consideration in any Baltic scenario.

Germany is equally critical to NATO operations because it has airports and seaports that do not require entry into the Baltic Sea or flights within the range of most Russian A2/AD systems. Moreover, Germany's long history as the center of U.S. military logistics and administration in Europe comes with a variety of established relationships vital to NATO operations. For example, the Miesau Army Ammunition Dump contains a significant portion of U.S. munitions stored overseas and has direct access to rail transportation for moving materiel to the East.¹⁰⁵ A further example is the Landstuhl Regional Medical Center, which is the U.S. military's only overseas Level II trauma center, critical for combat casualty medical treatment.¹⁰⁶ Germany also hosts the 21st Theater Sustainment Command and the 16th Sustainment Brigade, which are responsible for conducting theater opening, distribution, and redeployment operations throughout Europe.¹⁰⁷ Even if NATO and the United States utilize other ports of entry in Europe, the Alliance will likely still have to move forces and materiel through Germany to reach the Baltics, making German participation (or, at minimum, consent) essential.

104 For a detailed look at the defense of Poland and the Suwalki Corridor, see Billy Fabian et al, *Strengthening the Defense of NATO's Eastern Frontier* (Washington, DC: Center for Strategic and Budgetary Assessments, 2019), <https://csbaonline.org/research/publications/strengthening-the-defense-of-natos-eastern-frontier>.

105 During the Cold War, the Miesau Army Ammunition Dump contained 200,000 tons of ammunition. Greg Jones, "Ammo Center Europe demonstrates flexibility in supporting USAREUR, NATO," 21st TSC Public Affairs, July 13, 2016, https://www.army.mil/article/171363/ammo_center_europe_demonstrates_flexibility_in_supporting_usareur_nato.

106 Marcy Sanchez, "LRMC verified as only Level II Trauma Center overseas," United States Army, August 20, 2021, https://www.army.mil/article/249567/lrmc_verified_as_only_level_ii_trauma_center_overseas.

107 21st Theater Sustainment Command, "Team 21 Units," <https://www.21tsc.army.mil/Units/>.

Likewise, Sweden and Finland affect NATO reinforcement efforts with their decisions regarding NATO use of their airspace. Finland and the Gulf of Finland represent one of the most direct resupply routes to Estonia if Finnish airspace were available. Having to avoid Swedish airspace, on the other hand, could force NATO aircraft to fly in close proximity to Kaliningrad. All three nations play a major role in controlling the Danish Straits, Baltic Sea, and/or the Gulf of Finland. Sweden and Finland are already Enhanced Opportunity Partners with NATO, and consistently participate in exercises, planning, and information sharing. If Sweden and Finland do join NATO, any such minor remaining uncertainties would be obviated.

Recommendations

The following recommendations could improve Estonia and NATO's ability to deter and defend against future Russian aggression. Recommendations for Estonia and the Baltic states primarily pertain to preparing for the most likely Russian actions—continued aggression on the low or “gray” end of the conflict spectrum, short of the threshold of conventional war. However, they also address lethal ways and means Estonia, Latvia, and Lithuania could employ to attrite and delay attacking Russian conventional forces in the manner seen in Ukraine to date. Recommendations for NATO and the United States focus more on defending Estonia and the Baltic region from the most dangerous Russian course of action—a high-intensity conventional campaign to coerce or seize the Baltic states. Linking both together will be important to provide comprehensive deterrence from Russian aggression against the NATO alliance, beginning with the Baltics.

Recommendations for Estonia

Estonia must prepare to counter gray zone threats and attrite Russian forces in a conventional conflict until NATO reinforcements reach the Baltics. The following recommendations could support these tasks.

Reinforce border surveillance and control, early warning infrastructure, and ISR of adjacent Russian territory. The importance of time and lack of strategic depth in responding to any Russian gray zone or “pulsed” conventional operation place a premium on early warning and border awareness. To detect and monitor Russian actions below the threshold of open conflict, enhanced border surveillance measures would be important to the Estonian national security apparatus in tracking and interdicting the movement of potentially hostile personnel and materiel between Russia and Estonia. Estonia, in conjunction with other NATO states, by virtue of its geographic location, has an important role in detecting and tracking Russian forces and their movements in the Western Military District in order to heighten I&W of possible Russian attacks.

These tasks require investments along two lines of effort. The first is border surveillance and early warning infrastructure in Estonia. These systems include ground sensors, air and

maritime radars, signals intelligence (SIGINT) collectors, observation balloons, and routine border patrols. The surveillance network should monitor activity on Lake Peipus and extend into the Baltic Sea. These collectors should feed into a common operating picture to inform the Estonian government, law enforcement and security organizations, and the EDF. One such existing framework is the Sea Surveillance Co-operation Baltic Sea (SUCBAS), which began in 2009 for maritime domain awareness across the Baltic Sea.¹⁰⁸

The second line of effort should integrate Estonia's early warning infrastructure with that of the other Baltic states, NATO, Sweden, and Finland. Estonian early warning systems must distribute information to the region, and Baltic systems should receive strategic intelligence from U.S. and NATO assets to create ongoing regional intelligence assessments. Estonia should build on its successful cyber defense initiatives to continue extending its border awareness and early warning infrastructure into the cyber domain as well.

Implement a tiered and distributed reserve mobilization plan. Estonia should avoid exhausting its resources with repeated mobilizations in response to any Russian provocation. Repeated reserve mobilization is costly, disrupts the Estonian economy, and would risk creating an attitude of complacency among other NATO members if too recurrent. Instead, Estonia should implement a heavily tiered reserve mobilization plan, based on variable levels and type of provocation, informed by early warning and intelligence sharing. This plan should enable Estonia to judiciously mobilize various response packages tailored to level of the detected threat. Mobilization points should be distributed to avoid large, vulnerable assembly areas and allow for limited musters of local reserve forces. Civil defense plans should include updated lists of operationally relevant critical military and civilian infrastructure, including in commercial industry, such as machine shops, medical facilities, and communications nodes, and use a conditions-based framework.¹⁰⁹

A crucial aspect of Estonia's mobilization plan is the close integration of law enforcement and military elements. The Estonian government should ensure detailed cooperation between these entities and practice military support of law enforcement. Exercises should rehearse the operational and legal transition between law enforcement and military personnel as Russian actions escalate along the conflict spectrum in order to minimize any difficulties stemming from legal or administrative seams between various Estonian authorities.

108 This includes civil and military cooperation for monitoring all maritime traffic, and began with coordination across Finland, Sweden, Denmark, Germany, Estonia, and Lithuania, but has expanded to all like-minded states surrounding the Baltic Sea, as well as the United Kingdom. For more information on SUCBAS, see <http://www.sucbas.org>.

109 For example, machine shops could be used to produce improvised counter-mobility obstacles such as tank traps, hedgehogs, tire spikes, or pickets. Certain machining and auto repair facilities could be used to repair military vehicles or produce custom parts. Ukrainian industry has played a similar role in the conflict with Russia. Askold Krushelnycky, "Lviv is turning its factories into improvised weapon centers," *Military Times*, March 3, 2022, https://www.militarytimes.com/flashpoints/ukraine/2022/03/03/lviv-is-turning-its-factories-into-improvised-weapon-centers/?utm_source=Sailthru&utm_medium=email&utm_campaign=EBB%2003.04.2022&utm_term=Editorial%20-%20Early%20Bird%20Brief.

Increase the deployments to, and hence presence of, additional NATO forces in Estonia by building/expanding more training facilities. Estonia could encourage a consistent presence of additional rotational NATO forces beyond those based there by providing training opportunities not easily found elsewhere in Europe. Facilities at Ämari Air Base and the Central Training Area near Tapa, for example, are already substantial but should continue to be improved as feasible. Creating high-quality training “areas/facilities of choice” could incentivize other NATO members to use them for their own training purposes, with the side benefit of increasing foreign NATO personnel present in-country beyond those rotationally deployed there. Where possible, Estonia should request European Union (EU) infrastructure and/or defense monies to build such facilities.

Per current plans, the Central Training Area should be expanded to support live-fire exercises of larger formations of mechanized forces.¹¹⁰ Estonia’s procurement of the Multiple Launch Rocket System (MLRS) may also necessitate larger firing ranges (or limited overhead fires) to accommodate shooting munitions to their full range. Estonia could also increase the size and realism of supportable exercises by allowing for maneuver outside of established training areas.¹¹¹ Other options for attracting NATO force deployments include the construction of specialty ranges to accommodate coastal defense, air defense, or close air support operations and increased flexibility around live-fire times, noise limitations, airspace control measures, and electromagnetic interference. A combination of both live-fire and synthetic capabilities via simulation and augmented reality can leverage the benefits of both approaches for realism, mission rehearsal with sensitive capabilities, and integration of a wide range of costly effects.

One facility that would not require a large, dedicated maneuver area or inconvenient presence and that could provide substantial operational and training benefits would be a new

110 State of Estonia Ministry of Defence, “Government adopts designated spatial plan for the Central Training Area to ensure better training,” December 3, 2021, <https://kaitseministeerium.ee/en/news/government-adopts-designated-spatial-plan-central-training-area-ensure-better-training>.

111 Exercises outside of confined maneuver ranges would greatly improve the realism and challenge of training by avoiding scripted movements but would also inconvenience the local populace and potentially damage private property and civilian infrastructure. For additional measures to reduce the damages and costs of this training based on Cold War REFORGER exercises, see Patrick D. Allen, *Simulation Support of Large-Scale Exercises: A REFORGER Case Study* (Santa Monica, CA: RAND, 1992), pp. 5-7, <https://www.rand.org/content/dam/rand/pubs/reports/2009/R4156.pdf>.

NATO Special Warfare Centre of Excellence (CoE).¹¹² The Center could leverage Estonia's littoral and forested terrain to provide unique training opportunities for NATO special operations forces. Such allied forces could also assist in training the Estonian Defence League as well as territorial forces from the other Baltic states and member states across NATO's eastern front in unconventional warfare and resistance tactics and techniques.

Focus Estonian munitions procurement on precision-guided weapons to blunt or slow a Russian invasion, strike key targets, including in Russian territory, and create operational and strategic dilemmas for Russia. Given the size of its military forces and defense budget, Estonia should focus additional procurement funds along two lines of effort to attrite Russian forces using inexpensive systems. First, the EDF should invest in substantial quantities of area denial munitions and terrain-shaping obstacles such as anti-armor artillery munitions, scatterable mines, anti-tank guided missiles, remote and networked munitions, loitering munitions, armed UAS, modern anti-tank obstacles and engineering equipment, and SHORADS.¹¹³ An inventory of easy-to-employ such weapons would limit the demands on Estonian manpower, particularly highly skilled personnel, and help to reduce Russian quantitative advantages. Many of these munitions and obstacles could potentially have not only tactical but also operational effects.¹¹⁴

Second, stocks of munitions and supplies for at least 30 days of sustained combat operations should be maintained within Estonia for both its defense forces and Allied reinforcement forces.¹¹⁵ Given the challenge of resupplying the Baltics, this material is key to denying Russian forces freedom of action within the Baltic region. Such stocks of munitions and

112 The NATO Centres of Excellence (COEs) are "international military organisations that train and educate leaders and specialists from NATO member and partner countries. They assist in doctrine development, identify lessons learned, improve interoperability and capabilities, and test and validate concepts through experimentation." See "Centres of Excellence," NATO, last updated November 3, 2020, [https://www.nato.int/cps/en/natohq/topics_68372.htm#:~:text=Centres%20of%20Excellence%20\(COEs\)%20are,and%20validate%20concepts%20through%20experimentation.A%20dedicated%20CoE%20for%20special%20warfare,%20unconventional%20warfare,%20or%20irregular%20warfare%20does%20not%20currently%20exist.%20But%20Estonian%20SOF's%20long%20history%20of%20operational%20experience%20and%20training%20would%20make%20this%20a%20logical%20host%20location%20for%20the%20NATO%20Alliance%20to%20re-learn%20approaches%20more%20quickly%20for%20resistance%20operations.%20This%20was%20a%20topic%20of%20some%20concern%20throughout%20the%20Cold%20War,%20but%20largely%20became%20dormant%20in%20the%20post-Soviet%20Union%20era%20and%20with%20the%20re-prioritization%20of%20SOF%20for%20other%20missions.%20Moreover,%20while%20special%20warfare%20in%20conjunction%20with%20territorial%20defense%20is%20a%20particular%20Estonian%20strength,%20the%20special%20forces%20of%20the%20majority%20of%20Alliance%20members%20have%20been%20mostly%20focused%20on%20counter-terrorism%20missions%20in%20recent%20years.](https://www.nato.int/cps/en/natohq/topics_68372.htm#:~:text=Centres%20of%20Excellence%20(COEs)%20are,and%20validate%20concepts%20through%20experimentation.A%20dedicated%20CoE%20for%20special%20warfare,%20unconventional%20warfare,%20or%20irregular%20warfare%20does%20not%20currently%20exist.%20But%20Estonian%20SOF's%20long%20history%20of%20operational%20experience%20and%20training%20would%20make%20this%20a%20logical%20host%20location%20for%20the%20NATO%20Alliance%20to%20re-learn%20approaches%20more%20quickly%20for%20resistance%20operations.%20This%20was%20a%20topic%20of%20some%20concern%20throughout%20the%20Cold%20War,%20but%20largely%20became%20dormant%20in%20the%20post-Soviet%20Union%20era%20and%20with%20the%20re-prioritization%20of%20SOF%20for%20other%20missions.%20Moreover,%20while%20special%20warfare%20in%20conjunction%20with%20territorial%20defense%20is%20a%20particular%20Estonian%20strength,%20the%20special%20forces%20of%20the%20majority%20of%20Alliance%20members%20have%20been%20mostly%20focused%20on%20counter-terrorism%20missions%20in%20recent%20years.)

113 *The Convention on the Prohibition of the Use, Stockpiling, Production and Transfer of Anti-Personnel Mines on their Destruction*, also known as the Ottawa Treaty, may limit the types of area denial munitions available to Estonia. However, many Ottawa Treaty-compatible systems are available, particularly for the anti-tank mission.

114 Loitering munitions for example, could provide Estonian forces with an effective anti-tank weapon in a tactical engagement, or could be employed against operational targets such as air defense assets, logistics nodes, or vehicular convoys.

115 As argued in Chapter 3, such stocks should be significantly increased by additional stockpiles, especially G-RAMMs, funded by other, less budget-constrained NATO member states, made available for use for live training and, if necessary, combat use by both Estonian and other NATO forces, particularly those from the other two Baltic states. Such stockpiles should be continually refreshed as they are expended for training purposes. Under this schema, such stockpiles would serve the dual purposes on constituting prepositioned equipment (PREPO) and enhancing the robustness and realism of training by making it more affordable for smaller NATO members.

supplies must be adequately dispersed and storage sites hardened to prevent their easy destruction by Russian opening strikes or SOF attacks.

Recommendations for the Baltic Region

Because Russian operations are unlikely to target a single Baltic state, the three nations should move toward a regional approach to defense planning and procurement. The following recommendations could further the implementation of such an approach.

Increase Estonian (and the other Baltic states) defense spending to at least 3% of GDP. While all three Baltic states are now increasing their defense spending to over 2.5% of GDP, the Baltic states remain the most vulnerable of all NATO member states to Russian attack. The new reality is that whereas Russia always had the capability to attack the Baltic states, Putin has now demonstrated the *willingness* to launch major invasions of other states. Thus, it is imperative first and foremost that the most vulnerable NATO member states keep increasing their own military capabilities and capacities. There is a secondary but still important reason for doing so, namely that some non-Baltic states will likely prove far more amenable to financially subsidizing Baltic states' defense spending and/or supporting having more of their own forces or equipment prepositioned in the Baltic states if they see the host nations taking even greater measures to reflect the still-increasing seriousness of the Russian threat.

Move toward the integration of Baltic national defense plans using a regional approach. A regional approach to defense planning is best accomplished through the synchronization and eventual integration of national defense plans to eliminate operational seams where possible between national forces and enable the regular exercising of multinational defense operations by the three Baltic militaries. While full integration of the national defense plans is likely not an attainable goal, the Baltic states should start by focusing on further coordination of regional investments in ISR, air and missile defense, and longer-range fires capabilities. Each of these military functions has the potential to have effects beyond the national borders of each individual state. The creation of a Baltic joint ISR center and/or a joint Baltic targeting center could also be both operationally valuable and cost-effective, particularly in the maritime domain, given the limited naval capabilities of each Baltic state. Integrated defense planning in these functions would enable the effective employment of such low-density assets across the Baltic region. Over time, these initiatives could be expanded to further include the air and maritime domains. Integrated defense planning in these functions is also a prerequisite to establishing requirements for joint procurement initiatives.

A possible framework for the synchronization of regional defense planning potentially could be the Joint Expeditionary Force (JEF). The Baltic states or the UK as the JEF lead nation could organize a joint operational (not administrative) headquarters under the JEF in order to facilitate Baltic defense planning, regional exercises, and the inclusion of forces from

other JEF partners.¹¹⁶ A headquarters organized under a construct such as the JEF could help ensure that forces in the region could provide a unified and coordinated response to any contingency without waiting for slower consensus-based action from NATO. To date, however, the JEF remains a loose framework without permanently assigned forces or commands, so this approach remains purely theoretical at present.

Utilize joint procurement for long-range fires, coastal defense, air defense and G-RAMM weapons to reduce costs and ensure interoperability. Longer-range fires, coastal defense, and longer-range air defense are likely to dominate Baltic defense budgets given their high cost, and procuring assets to ensure interoperability with other NATO systems likely will further increase costs. For these reasons, the Baltic states should pursue joint procurement programs to leverage economies of scale for acquisition purposes—though even with joint Baltic procurement approaches, only low quantities of higher-end systems will be affordable—but especially for savings in subsequent system operations and maintenance costs, which constitute a large proportion of system life cycle costs. Even more important than possible cost savings, the imperative for physical and digital interoperability of systems is the key driving factor. Procuring the same systems together would greatly improve interoperability with regard to communications, C2, logistics and sustainment, and support infrastructure by default. Joint acquisition programs also present an opportunity to highlight key capabilities for subsidization by other NATO members through efforts such as the Baltic Security Initiative.¹¹⁷

The notable exception to the high-cost barrier is the acquisition of G-RAMMs. In this case, however, while the unit costs of such weapons are comparatively low, the large quantities that would be necessary to employ them with the effectiveness seen to date in Ukraine argues strongly for joint Baltic state procurement in order to get the benefit of economic order quantities. Similarly, the Baltics should jointly procure SHORADS in quantity and medium-range air defense systems in small numbers (due to cost) to supplement their existing MANPADS. Lithuania is already fielding the NASAMS 3 medium-range air defense system, and the United States previously provided the Baltics with the Forward Area Air Defense Command and Control (FAAD C2) system to integrate the Baltics into the NATO air defense architecture.¹¹⁸ Jointly fielding systems such as NASAMS could defend critical assets

116 The current NATO HQs (MNC-NE; MND-N, MND-NE) are administrative headquarters. The proposed joint HQ under the JEF would be an *operational* HQ. The underlying issue is political expediency within NATO versus prompt operational effectiveness on the ground in the Baltic region.

117 The fiscal year (FY) 2022 National Defense Authorization Act authorized \$150 million for the defense of the Baltic states under the Baltic Security Initiative. Becca Wasser, et al., “The FY2022 National Defense Authorization Act,” *Center for New American Security*, December 16, 2021, <https://www.cnas.org/press/press-note/the-fy2022-national-defense-authorization-act>.

118 Masao Dahlgren, “Lithuania Receives NASAMS Air Defense System,” *Missile Defense Project, Center for Strategic and International Studies*, June 23, 2020, <https://missilethreat.csis.org/lithuania-receives-nasams-air-defense-system/>; Bridget Slayen, “Northrop Grumman FAAD C2 to Provide the Baltics Full Interoperability with NATO Air Defense Architecture,” Northrop Grumman, December 14, 2021, <https://news.northropgrumman.com/news/releases/northrop-grumman-faad-c2-to-provide-the-baltics-full-interoperability-with-nato-air-defense-architecture>.

and help the Baltics withstand initial missile salvos like Russia employed in Ukraine.¹¹⁹ Should NATO decide not to deploy additional air defenses to the region, subsidizing Baltic joint procurements of medium-range air defense systems would significantly improve the Alliance's ability to defend its northeastern front.

The Baltics already plan to jointly procure Multiple Launch Rocket Systems (MLRS) to provide a long-range fires capability to conduct deep strikes that disrupt Russian operations in Russian territory.¹²⁰ This is a crucial first step that can be expanded upon by jointly procuring MLRS munitions. Regional defense plans could assist this effort by defining how these systems would be employed, establishing joint target lists, and determining joint munitions requirements. Additionally, the Baltic states should explore combined purchases of UAS or other sensors to enable MLRS to attack deeper targets.¹²¹

Coastal defense is another area ideal for cooperative acquisitions. Estonia is already purchasing the Blue Spear coastal defense system and was supplied with AN/TSQ-288 radars by the United States.¹²² Latvia and Lithuania could follow suit and procure a small number of Blue Spear anti-ship missiles in order to deny Russia uncontested maneuver in the Gulfs of Finland and Riga, as well as the greater Baltic Sea. Combined with sea mines and minelayers, the Baltic states have the potential to punch well above their weight in the maritime domain, particularly in their littoral waters. Related joint procurements could include small maritime ISR platforms to provide targeting data for coastal missiles.

Recommendations for NATO and the United States

NATO and the United States must focus on preparing the Baltic region to defend against a conventional Russian strike campaign or invasion. This scenario remains the most dangerous Russian course of action that could be taken against the Baltics and NATO. Additionally, NATO must prepare to rapidly reinforce the Baltic region in the event of a conflict. The following recommendations would further the Alliance's ability to accomplish these objectives.

119 Initial reports state that Russia employed a complex mix of cruise and ballistic missiles in the early stages of its 2022 campaign in Ukraine. Eleanor Watson, "Russian assault on Ukraine included 100 missiles and 75 bombers, U.S. official says," *CBS News*, February 24, 2022, <https://www.cbsnews.com/news/russia-ukraine-100-missiles-75-bombers-us-official/>.

120 ERR News, "Estonia plans to procure MLRS rocket systems jointly with Latvia, Lithuania," *ERR*, December 22, 2021, <https://news.err.ee/1608443534/estonia-plans-to-procure-mlrs-rocket-systems-jointly-with-latvia-lithuania>.

121 In this case, deeper strikes are likely with ranges of 100s of kilometers, instead of the traditional U.S. conceptions of 1,000s of kilometers.

122 Xavier Vavasseur, "Estonia Selects Blue Spear Anti-Ship Missile for Coastal Batteries," *Naval News*, October 6, 2021, <https://www.navalnews.com/naval-news/2021/10/estonia-selects-blue-spear-anti-ship-missile-for-coastal-batteries/>; U.S. Embassy in Estonia, "Press Release: U.S. Delivers Artillery Ammunition and Navy Radars to Estonia," June 8, 2021, <https://ee.usembassy.gov/2021-06-08/>.

Clarify and strengthen NATO command structures in the Baltic region. NATO's current command structure in the Baltics is split between Multinational Division-Northeast (MND-NE) and the new Multinational Division-North (MND-N), which, taking into account a typical area of responsibility of a division, is insufficient.¹²³ The Alliance should reorganize its operational headquarters in the Baltics to align with operational realities, which demand the Baltics be treated as a single area of operations with a unified command at a corps or higher level, with appropriate lower echelon commands reporting to it. Such a reorganized "Baltic region operational HQ" should recurrently carry out live, non-CPX exercises with actual forces. NATO should consider permanently assigning NATO forces to these commands to increase their readiness and exercise their familiarity with the C2 structure and defense plans.

The Alliance must also clarify the relationship between its command structure and various other regional headquarters and force structures. If the JEF role and structure becomes actually fully defined and implemented, including forces that would or could be notionally assigned to it, its plans and operations must be integrated with NATO's Baltic defense plans. NATO should also clarify its relationship with the U.S. V Corps headquarters in Poland and the new 56th Artillery Command in Germany. For instance, U.S. V Corps could have a dual-hatted command structure vis-à-vis EUCOM and NATO similar to the existing dual command structure in which the Commander of the U.S. Navy 6th Fleet/NAVEUR is concurrently Commander, Naval Striking and Support Forces NATO (STRIKFORNATO).

Reinforce the presence of European armored forces in the Baltic Enhanced Forward Presence battle groups. As an interim measure, the eFP battlegroups in the Baltic states should be doubled, thus retaining the posture achieved since the outbreak of the war, pending implementation of NATO's "reset" force posture. Then, the main battle tanks of the eFP battle groups represent the only heavy armor presence in Estonia, Latvia, and Lithuania, and are crucial to countering Russian mechanized forces. NATO should ensure a minimum presence of one armored battalion with at least three tank companies in each Baltic state, because budget constraints make fielding main battle tanks impractical for the Baltic land forces.¹²⁴ Due to the challenge of resupplying the Baltics, the NATO member states providing these units should maintain stocks of munitions and spare parts for at least 30 days, and preferably 45 or 60 days, of sustained combat operations within the host nation.¹²⁵

123 See, for example, NATO 1 German-Netherlands Corps "Corps Operating Concept," January 2022, p.17.

124 Armored units could counterattack a Russian armored penetration more effectively than any other ground unit. A battalion is the minimum size unit to be relevant against a sizeable Russian force, and also be able to be split into smaller company elements and distributed without becoming totally outmatched.

125 The 30 days requirement stems from U.S. plans and requirements. For example, see Ben Werner, "SECDEF Mattis' New 'Four Thirties' Initiative Designed to Reinforce NATO Against Russia" August 30, 2018, <https://news.usni.org/2018/08/30/mattis-says-natos-four-thirties-force-structure-shows-political-strength>.

As of April 2022, NATO intends to further reinforce the region by doubling the number of eFP battle groups and/or moving additional forces into eastern front NATO members. In doing so, however, the Alliance must avoid overburdening the battle groups and their command structures. NATO risks creating units similar to Russian battalion tactical groups (BTGs), which have performed poorly in Ukraine because they lack the structure and support to effectively employ all of their attached assets.¹²⁶ Additional NATO combat forces deployed to the Baltic region should be accompanied and supported by the necessary associated headquarters and staff elements, higher echelon command structure, and logistics support.

Reinforce the U.S. V Corps to allow its rapid transition into a fully manned and operational corps that can “fight tonight.” The United States should reinforce its newly reestablished V Corps forward headquarters in Poznan, Poland, with all enabling and support elements required for prompt combat operations in Poland and the Baltics. Many of these enabling units are already present in Europe and could be reorganized under V Corps, such as the 41st Field Artillery Brigade, 12th Combat Aviation Brigade, and 2nd Cavalry Regiment. In addition to these units, existing rotational armored battalions in Poland, and additional forces from the United States, V Corps should be able to *rapidly* field and command a significant land combat element in Europe in the event of conflict. Command of these units and reception, staging, onward movement, and integration (RSOI) operations involving brigades from the United States should continue to be rehearsed in annual exercises like DEFENDER and Saber Strike. The United States should also clarify and rehearse relationships between V Corps and other theater assets such as the 56th Artillery Command, 2nd Multi-Domain Task Force, and U.S. Air Forces in Europe & Africa (USAFE-AFAFRICA).

Increase air and missile defense capabilities in the Baltic region. Baltic defense spending should focus on large numbers of SHORADS as well as a small number of medium-range air defense systems. Medium-range systems such as NASAMs should be jointly procured by the Baltic states. NATO should improve the air defense capabilities of the region by subsidizing Baltic SHORAD investments in order to ensure sufficient quantities are available to enable sustained short-range air defense protection of critical military and infrastructure point targets. It should also deploy wide-area and long-range air and missile defense systems to protect the region’s vulnerable strategic terrain and critical infrastructure. As other analysts have suggested, NATO allies directly involved in the region, such as the United Kingdom, France, Germany, and the Netherlands, are best poised to commit air defense assets to the Baltics.¹²⁷ The United States could also redeploy Patriot batteries

126 Gustav Gressel, “Combined farces: Russia’s early military failures in Ukraine,” *European Council on Foreign Relations*, March 15, 2022, <https://ecfr.eu/article/combined-farces-russias-early-military-failures-in-ukraine/>.

127 Edward Lucas, Ben Hodges, and Carsten Schmiedl, “Close to the Wind: Recommendations for Baltic Sea Regional Security,” Center for European Policy Analysis, February 16, 2022, <https://cepa.org/close-to-the-wind-recommendations-for-baltic-sea-regional-security/>.

recently removed from the Middle East to the European theater.¹²⁸ It also should consider deploying advanced counter-UAS (C-UAS) and directed energy air and missile defenses to the region as these systems are fielded in the near future.¹²⁹

Increase the availability of ISR platforms and bolster intelligence sharing in the region. NATO should provide additional intelligence collection via airborne, maritime, and spaceborne platforms. It could expand the Alliance Ground Surveillance initiative with additional aircraft or other ISR platforms located in Northern Europe.¹³⁰ NATO could also establish a Border Surveillance Mission parallel to its current Baltic Air Policing mission to rotate the ISR aircraft of participating members and create a continuous ISR presence along its eastern front. In the near term, U.S. MQ-9 Reapers currently located in Miroslawiec, Poland, could be rotated through the Baltics and assist with maritime targeting in the Baltic Sea. Most importantly, the many sensors already active in the Baltic region must be coordinated (preferably integrated), and the intelligence shared between the Baltic states, NATO alliance members, and other regional partners like Sweden and Finland. One approach to enhance these capabilities would be to establish a multi-national deterrence by detection architecture under NATO command, and in support of the Baltic states.¹³¹

Transform NATO's Baltic Air Policing into a Baltic Air Defense mission. NATO should reinforce fighter aircraft deployed to the Baltics to be more than a symbolic presence. To transition from a peacetime policing mission to an air defense mission, these aircraft must have a clear chain of command and established rules of engagement. Pre-conflict, they should also include F-35s provided rotationally by both the U.S. and European air forces possessing them.¹³² Aviation should also be integrated with ground-based and maritime air defense assets to challenge Russia's strike and anti-access capabilities in the region. The Russia-Ukraine conflict has plainly displayed the challenges of controlling airspace directly adjacent to adversary territory. Maintaining control over Baltic airspace during a conflict

128 DW, "US slashes troops, missile batteries from Middle East," June 19, 2021, <https://www.dw.com/en/us-slashes-troops-missile-batteries-from-middle-east/a-57963195>.

129 For an exploration of how these air and missile defense systems might be deployed in an integrated and layered defense, see Carl Rehberg, Christopher Bassler, Herb Kemp, and Jan van Tol, *Strengthening the Phalanx: Layered Evolving Comprehensive and Distributed Integrated Air and Missile Defense Across the Indo-Pacific* (Washington, DC: Center for Strategic and Budgetary Assessments, 2022).

130 The Alliance Ground Surveillance program currently operates five RQ-4D high-altitude long-endurance ISR aircraft. The aircraft are operated from Sigonella, Italy. North Atlantic Treaty Organization, "Alliance Ground Surveillance (AGS)," last updated February 23, 2021, https://www.nato.int/cps/en/natohq/topics_48892.htm.

131 For more details on this concept, see Thomas G. Mahnken, Travis Sharp, Christopher Bassler, and Bryan W. Durkee, *Implementing Deterrence by Detection: Innovative Capabilities, Processes, and Organizations for Situational Awareness in the Indo-Pacific Region* (Washington, DC: Center for Strategic and Budgetary Assessments, 2021).

132 If conflict broke out, Baltic Air Defense from Baltic airfields would not be tenable during the initial stages of war. Baltic air CAP would have to be launched from airfields in Poland or Germany (or Sweden and/or Finland if these states joined NATO) until Russian strike capabilities, particularly from Kaliningrad had been substantially neutralized.

would require the neutralization of Russian ground-based air defense systems and standoff strike platforms.¹³³

Establish stocks of common-use munitions and equipment. NATO and the United States should preposition munitions in the Baltics for use by reinforcing units. These stocks could include anti-tank and anti-air missiles like Javelins and Stinger as well as similar munitions produced by European NATO states, loitering munitions, armed UAS, cannon and rocket artillery munitions, and small arms ammunition. Inventories could also be used to supply and restock the training expenditures of Baltic forces. The cost of a munitions sharing program would be a relatively minor expense for NATO but could save the Baltics valuable training funds to be allocated toward high-priority capabilities or to training facilities for Alliance use or NATO Center of Excellence operations. This would have the dual advantage of enhancing peacetime training while constituting important prepositioned stocks.

Ramp up U.S. and European production capacity for G-RAMMs. NATO and other states donated tens of thousands of G-RAMMs such as Stingers, NLAWs, and Javelins to the Ukrainian military, with resultant heavy depletion of their own inventories. Consistent with historical experience, the expenditure rates of those weapons in Ukraine have reportedly been very high. There is currently little surge production capacity, both for replacement of older G-RAMM types such as those sent to Ukraine or for more advanced versions for reasons both of supply chain issues and certain required materials.¹³⁴ Current estimates are that large replacement orders will not be filled until 2023 or even 2024. Given that such weapons will play an increasingly important role on future combat operations, expanding production capacity should become a high priority for both U.S. and European producers.¹³⁵

Bolster NATO's ability to reinforce its eastern front and the Baltic region.

NATO and the European Union should further invest in defense infrastructure along the eastern front using programs such as the NATO Security Investment Program, Permanent Structured Cooperation (PESCO), and the Three Seas Initiative. The United States should continue to support improvements to European logistics and training infrastructure through European Deterrence Initiative (EDI) funding. These projects should focus on NATO's ability to rapidly move and sustain forces in eastern and northern Europe and might include

133 For example, Russia has launched strikes on Ukrainian facilities from Russian airspace using standoff PGMs. Preventing these attacks would require operations well beyond air *policing*. Nancy A. Youssef, "Russian Missile Strike on Training Center Came From Russia's Airspace, U.S. Says," *The Wall Street Journal*, March 14, 2022, <https://www.wsj.com/livecoverage/russia-ukraine-latest-news-2022-03-14/card/russian-missile-strike-on-training-center-came-from-russia-s-airspace-u-s-says-xyD63s7u9EIBzh7KbPoL>.

134 Aaron Gregg, "Cold War-era missiles are going to Ukraine. Replacements to take time, Raytheon says," April 26, 2022, *Washington Post*, <https://www.washingtonpost.com/world/2022/04/26/russia-ukraine-war-news-putin-live-updates/#link-5SHGR6S3DVD6RL4NUFNJRJZ4CM>.

135 See Thomas G. Mahnken, "The U.S. needs a new approach to producing weapons. Just look at Ukraine," April 26, 2022, *Defense News*, <https://www.defensenews.com/opinion/2022/04/26/the-us-needs-a-new-approach-to-producing-weapons-just-look-at-ukraine/>.

improvements to airbases, seaports, rail infrastructure, fuel distribution systems, command and control networks, expedient bridging equipment, and hardening of critical nodes. NATO should continue to stress-test reinforcement scenarios in annual exercises and rehearse securing sea lines of communication in the Baltic Sea. Several nations bordering the Baltics have ongoing technology and commercialization initiatives to develop and operate uncrewed cargo ships, which may prove vital in contested logistics scenarios. Finally, sealift capacity is a crucial aspect of any U.S. effort to reinforce and defend Europe. Recapitalizing the U.S. sealift force is long overdue and necessary for contingencies in both Europe and other theaters.¹³⁶

Develop new operational concepts for counterattack. As part of the posture “reset,” recognizing that defense can also have an offensive component, NATO should examine and update its Cold War 1980s Follow-On Forces Attack (FOFA) operational concept.¹³⁷ FOFA entailed delaying, disrupting, and destroying forces following the initial enemy assault echelons on NATO’s Central Front with long-range weapons to attack enemy forces that had not yet engaged NATO forces in order to enable NATO defenses to hold as far forward as possible. The operational concept envisioned counterattacks from just behind the engaged troops to hundreds of kilometers inside enemy territory. An updated version could be used to assess the Russian forces that could be deployed during the initial attacks on the Baltic states and/or NATO’s eastern front as a whole, then employ the updated FOFA concept with combined-arms maneuver warfare, with machine-to-machine speed and consistency for the ISRT cycle and enhanced by supporting information operations, to attack follow-on Russian force echelons, including those attacking from Belarus. Russian general awareness of NATO development of a potent updated FOFA operational concept for the Alliance to conduct counterattack operations not merely in or from the Baltic states but also through Belarus potentially could contribute significantly to deterrence.

Threaten deterrence by punishment vis-à-vis Kaliningrad. If Russia attacks NATO, then the Alliance should seek to resolve the Kaliningrad problem post-war. Perhaps controversially, given the very real pre-2022 concern over the threats that Russian forces in Kaliningrad ostensibly posed to timely reinforcement, resupply, and defense of Poland and especially the Baltic states, NATO should consider a declaratory policy that if Putin were to initiate a large-scale conflict with the NATO Alliance and Russia subsequently be defeated, Kaliningrad would no longer be considered Russian territory post-war.¹³⁸

136 For a full set of recommendations on improving U.S. sealift capacity, see Timothy A. Walton, Ryan Boone, and Harrison Schramm, *Sustaining the Fight: Resilient Maritime Logistics for a New Era* (Washington, DC: Center for Strategic and Budgetary Assessments, 2019), <https://csbaonline.org/research/publications/sustaining-the-fight-resilient-maritime-logistics-for-a-new-era>.

137 For a summary of the concept, see Driver, Michael J. (1990) “NATO’s Follow-On Forces Attack (FOFA) Concept: Past, Present, and Future” US Army War College Report.

138 The subsequent disposition of a detached Kaliningrad would have to be considered by the United Nations or some other organization or means, but the details of these efforts will not be addressed in this monograph.

Final Thoughts

Improvements to NATO's posture and capabilities in the Baltic region likely will invoke harsh condemnation and open threats from Russia. Though it is still heavily tied down in Ukraine and may be for a prolonged period, Russia potentially could move additional forces permanently into Kaliningrad, Belarus, and the Western Military District. It is possible that in response, Russia might deploy tactical nuclear weapons to these areas as well. Moreover, Putin is likely to attempt to intimidate, extort, coerce, or escalate after NATO crosses certain thresholds, such as those in the 1997 NATO-Russia Founding Act.¹³⁹ Nonetheless, the egregious aggression Putin has undertaken—and the potential for further aggression once the Ukraine war subsides and Russian military forces are reconstituted at some as yet undetermined future time—require strong and persistent presence of credible, high-readiness combat power for deterrence and forward defense of NATO's eastern front member states despite the risk of escalation.¹⁴⁰ There is a clear imperative to advance the NATO posture “reset” as rapidly as possible while Russia still remains deeply entangled in Ukraine and its military forces set back “on their heels” for a time, especially since that time period may be relatively short, heavy sanctions notwithstanding.

These findings and recommendations for the Baltic region stand regardless of the outcome of the Russia-Ukraine conflict. Nevertheless, subsequent events in Ukraine could alter the details of these suggestions to some degree. For example, final assessments of the accuracy and effectiveness of Russian missiles and PGWs may affect the exact mix of air defense systems the Baltics and NATO should field in the region. Many of these questions are specific in nature and best left to military planners. Analysts at all levels, however, must avoid taking the wrong lessons from Ukraine. There are a host of significant differences between the current conflict in Ukraine and a potential engagement with NATO in the Baltics. Political and strategic objectives, national characteristics, terrain, and many other factors would make a Baltic scenario substantially different. Most importantly, any Baltic scenario would directly involve the NATO alliance. For these reasons, Russia is unlikely to fight a Baltic engagement in the same manner as it has in Ukraine, but there will still be similarities.

Importantly, once Russian operations in Ukraine cease or stabilize, further assessment of the state of the Russian military should be conducted. Key questions might include: How have operations in Ukraine changed the threat the Russian military poses to the Baltics? How has the conflict reduced Russian stocks of equipment, munitions, and experienced personnel? How long will it take Russia to reconstitute lost or degraded military capabilities and assets? What are key difficulties impeding their ability to do so? How would different

139 The conditions described in the Founding Act have long been abrogated by Russia's actions, particularly those in Ukraine. Russia, however, is still likely to use the language of the Act to justify any response.

140 As suggested by recent their reactions to the pending Finnish and Swedish applications to join NATO, the Russians would almost surely view NATO force increases on their border as escalatory. See, for example, Emily Rauhala and Adela Suliman, “Russia threatens to move nukes to Baltic region if Finland, Sweden join NATO,” *Washington Post*, April 14, 2022.

kinds of outcomes of the Russian-Ukraine war, including their non-military aspects, affect the nature of future Russian threats to the Baltic states and the timelines within which they could be operative and have to be deterred or actively defended against?

The 2022 Russian invasion of Ukraine and subsequent demonstrations of military effectiveness should give the Baltic states and all NATO members some cause for optimism. Previous and hypothetical conceptions of the Russian military can now be informed by additional observation, data, and information. With prudent investment and some urgency, NATO members should become more confident in their own national abilities and the overall Alliance abilities against the Russian military. Russia should not be underestimated, but mounting a formidable defense is a feasible effort.

LIST OF ACRONYMS

A2/AD	anti-access and area-denial
AAM	air-to-air missile
ABCT	Armored Brigade Combat Team
APOD	aerial port of debarkation
ASCM	anti-ship cruise missile
ATACMS	Army Tactical Missile System
AWACS	Airborne Warning and Control System
BSI	Baltic Security Initiative
BTG	Battalion Tactical Group
C2	command and control
C4ISR	command, control, communications, computer, and ISR
CAS	close air support
CEPA	Center for European Policy Analysis
CJCS	Chairman of the Joint Chiefs of Staff
CoE	Centre of Excellence
CSBA	Center for Strategic and Budgetary Assessments
C-UAS	counter-unmanned aerial systems
DCA	defensive counter-air
DEAD	destruction of enemy air defenses
EDF	Estonian Defence Force
EDI	European Deterrence Initiative
EDL	Estonian Defence League
eFP	Enhanced Forward Presence
EUCOM	U.S. European Command
FAAD C2	Forward Area Air Defense Command and Control
FOFA	Follow-On Forces Attack
GDP	gross domestic product
GLOC	ground line of communication
GMLRS	Guided Multiple Launch Rocket System
GPS	Global Positioning System
G-RAMM	guided rockets, artillery, mortars, and missiles
IAMD	integrated air and missile defense
ISR	intelligence, surveillance, and reconnaissance
ISRT	intelligence, surveillance, reconnaissance, and tracking
I&W	indication & warning

JEF	Joint Expeditionary Force
JFCBS	Joint Force Command Brunssum
LOS	line-of-sight
LRPF	long-range precision fires
LRPS	long-range precision strike
MANPADS	man-portable air defense system
MLRS	Multiple Launch Rocket System
MNC-NE	Multinational Corps-Northeast
MND-N	Multinational Division-North
MND-NE	Multinational Division-North East
MRO&U	maintenance, repair, overhaul, and upgrade
NASAMS	Norwegian Advanced Surface to Air Missile System
NATO	North Atlantic Treaty Organization
NAVEUR	U.S. Naval Forces Europe
NLAW	Next generation Light Anti-tank Weapon
NSPA	NATO Support and Procurement Agency
OCA	offensive counter-air
PESCO	Permanent Structured Cooperation
PGM	precision-guided munition
PGW	precision-guided weapon
PrSM	Precision Strike Missile
RSOI	reception, staging, onward movement, and integration
SACEUR	Supreme Allied Command Europe
SAM	surface-to-air missile
SASC	Senate Armed Services Committee
SEAD	suppression of enemy air defenses
SHORADS	short-range air defense system
SIGINT	signals intelligence
SODCIT	strategic operation for the destruction of critical targets
SOF	special operations forces
SPOD	sea port of debarkation
SRPS	short-range precision strike
SUCBAS	Sea Surveillance Co-operation Baltic Sea
THAAD	terminal high altitude air defense
UAS	unmanned aerial system
USAFE-AFAFRICA	U.S. Air Forces in Europe and Africa



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