

The background of the cover is a composite image. The upper half shows four fighter jets, likely F-35s, flying in formation against a blue sky with a view of the Earth's surface below. The lower half shows two tanks in a desert environment. One tank is in the foreground, camouflaged with branches and leaves, and another is slightly behind it. The overall tone is serious and military-oriented.

CSBA

Center for Strategic and Budgetary Assessments

STRENGTHENING THE DEFENSE OF NATO'S EASTERN FRONTIER

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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: U.S. Air Force F-15C Eagles and F-16 Fighting Falcons assemble in formation with Polish Air Force F-16s during exercise One Sky over Poland in September 2018. U.S. Air Force photo by Airman 1st Class Brandon Esau. Polish soldiers and U.S. Marines operate tanks as part of the annual Saber Strike exercise in Latvia in June 2017. Marine Corps photo by 1st Lt. Kristine Racicot.

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Executive Summary

In the wake of Ukrainian President Viktor Yanukovich's removal from power amid pro-Western protests in February 2014, elite Russian military forces seized the Crimean Peninsula in a daring and virtually bloodless *coup de main*.¹ This action followed a week of civil unrest in Crimea that was stoked, at least in part, by Russian influence operations. As Russian special operations, airborne, and naval infantry forces seized Crimea, Russian motorized rifle and tank formations backed by heavy artillery massed along the border with eastern Ukraine, signaling to the new government in Kiev that a military attempt to retake Crimea risked triggering a broader Russian response. Shortly after this, Russia fomented and provided support to a separatist insurgency in eastern Ukraine, and they eventually intervened directly in the ensuing conflict using its regular military forces. A Russian military intervention in a second foreign country, this time to buttress the faltering Assad regime in Syria, followed in September 2015. Russia has also conducted a political warfare campaign to interfere in the internal politics of NATO's member states and sow disunity in the Alliance. These aggressive actions are clear evidence of a resurgent Russia's willingness to use all elements of national power, including military force, to revise the international status quo in its favor.²

The reemergence of Russia as a disruptive force in Europe poses significant challenges to the security of the NATO Alliance. Russia seeks to regain its traditional sphere of influence along its periphery, preserve and expand its geographic strategic depth, and reestablish its status

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- 1 For an analysis of Russia's seizure of Crimea and the early phases of the separatist insurgency in Ukraine, see Michael Kofman et al., *Lessons from Russia's Operations in Crimea and Eastern Ukraine* (Santa Monica, CA: RAND Corporation, 2017).
 - 2 For an overview of Russia's coercive actions in Europe and beyond, as well as its consequences see Hal Brands and Eric Edelman, *Why is the World so Unsettled? The End of the Post-Cold War Era and the Crisis of Global Order* (Washington, DC: Center for Strategic and Budgetary Assessments, 2017). For an in-depth analysis of Russia's sub-conventional coercive actions in Europe see Raphael S. Cohen and Andrew Radin, *Russia's Hostile Measures in Europe: Understanding the Threat* (Santa Monica, CA: RAND Corporation, 2019).

as a great power.³ To achieve these objectives, Russia believes it must undermine the unity and cohesion of the NATO Alliance, which it perceives as the principal threat to its security, interests, and ambitions.⁴ Russia does not seek a conventional conflict with NATO, however, and prefers to achieve its objectives through sub-conventional means wherever possible. Nonetheless, NATO's post-1991 enlargement to the Russian border, Russia's concerns over the security of its geographically isolated Kaliningrad exclave, and Russia's revisionist aims could create plausible paths to conflict, especially in the Baltic region, that NATO cannot ignore.⁵

At the same time, the NATO Alliance faces significant strategic and operational challenges that increasingly undermine its ability to deter and, if necessary, defeat Russian aggression against Poland, Lithuania, Latvia, Estonia, and other states along NATO's eastern frontier. Given the Alliance's current force posture, Russia could exploit its time-distance advantages and anti-access/area-denial (A2/AD) capabilities to seize the territory of NATO states in the Baltic region before the Alliance could marshal an effective response. A Russian *fait accompli* in one or more of the Baltic states could force NATO to choose between launching a difficult, uncertain, and potentially escalatory counteroffensive to liberate allied territory or accepting defeat. Either course of action could shatter the Alliance.⁶

NATO recognizes the seriousness of these challenges, and many of its member states are taking measures to strengthen their ability to deter and defend against Russian aggression. The U.S. 2018 National Defense Strategy identifies Russia as one of the two priority threats to the United States and directs the U.S. military to "deter Russian adventurism" and

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- 3 Historically, Russia's geographic strategic depth played a crucial role in defeating invasions from the west: examples include the invasion of Charles XII of Sweden in 1708–1709 during the Great Northern War (1700–1721), the invasion of Napoleon in 1812, and Nazi Germany's invasion of the Soviet Union in 1941. For a discussion of Russian perceptions of geographic vulnerability, see Stephen Kotkin, "Russia's Perpetual Geopolitics: Putin Returns to Historical Patterns," *Foreign Affairs*, May/June 2016. Russia's 2015 National Security Strategy states, "The buildup of the military potential of the North Atlantic Treaty Organization (NATO) and the endowment of it with global functions pursued in violation of the norms of international law, the galvanization of the bloc countries' military activity, the further expansion of the alliance, and the location of its military infrastructure closer to Russian borders are creating a threat to national security," and identifies "consolidating the Russian Federation's status as a leading world power" as a strategic national priority. Russian Federation, *National Security Strategy of Russia* (Moscow: Russian Federation, December 31, 2015), available at <http://www.ieee.es/Galerias/fichero/OtrasPublicaciones/Internacional/2016/Russian-National-Security-Strategy-31Dec2015.pdf>. For a synthesis on an analysis of Russian objectives, see Cohen and Radin, *Russia's Hostile Measures in Europe*, pp. 5–13.
- 4 Russian Federation, *National Security Strategy of Russia* (2015).
- 5 See Ulrich Kühn, *Preventing Escalation in the Baltics: A NATO Playbook* (Washington, DC: Carnegie Endowment for International Peace, 2018), pp. 25–29.
- 6 Several studies have identified the military challenges posed by Russia in the Baltic region and the potential consequences for the NATO Alliance. See David A. Shlapak and Michael W. Johnson, *Reinforcing Deterrence on NATO's Eastern Flank: Wargaming the Defense of the Baltics* (Santa Monica, CA: RAND Corporation, 2016); Eric S. Edelman and Whitney Morgan McNamara, *U.S. Strategy for Maintaining a Europe Whole and Free* (Washington, DC: Center for Strategic and Budgetary Assessments, 2017); Scott Boston, Michael Johnson, Nathan Beauchamp-Mustafaga, and Yvonne K. Crane, *Assessing the Conventional Force Imbalance in Europe: Implications for Countering Russian Local Superiority* (Santa Monica, CA: RAND Corporation, 2018); Ben Hodges, Janusz Bugajski, and Peter B. Doran, *Securing the Suwalki Corridor: Strategy, Statecraft, Deterrence, and Defense* (Washington, DC: Center for European Policy Analysis, 2018); and Kühn, *Preventing Escalation in the Baltics*.

maintain “a strong and free Europe.”⁷ As part of its European Deterrence Initiative (EDI), the U.S. Government has invested an additional \$10 billion in NATO’s security since 2014, with another \$6.5 billion in investments planned in 2019.⁸ These investments increased the U.S. military’s presence in Europe; pre-positioned stocks of equipment, materiel, and munitions in the region; improved bases and infrastructure needed to deploy U.S. forces to Europe; and expanded exercises and training with allied militaries. Other NATO states, including Poland, have taken steps to improve their ability to deter and defend against Russian aggression, such as increasing their defense spending and their commitments to NATO’s Very-High Readiness Joint Task Force (VJTf) and Enhanced Forward Presence (eFP) battlegroups.⁹

Although these efforts have done much to strengthen NATO’s collective deterrence and defense, serious challenges remain, especially where the Alliance is most vulnerable: in the Baltic region. Since 2014, Russia has further reinforced its A2/AD capabilities in Kaliningrad and increased its maneuver forces in its Western Military District.¹⁰ Moreover, not all NATO Allies hold the same perceptions of the severity of these challenges; some Alliance members are more concerned about addressing the persistent threat of terrorism and the uncontrolled migration of refugees and other displaced people into the European Union.¹¹ As a result, the Alliance could be hard-pressed to overcome Russia’s time-distance advantage and A2/AD capabilities in an attempt to prevent a Russian military *fait accompli* in the Baltic region, especially if the Russian government were to act with little or no prior warning. Given the very real potential for conflict and the severe consequences the Alliance could suffer in a war with Russia, NATO should take additional steps to deter, and if necessary, defeat Russian

7 U.S. Department of Defense (DoD), *Summary of the 2018 National Defense Strategy of the United States of America: Sharpening the American Military’s Competitive Edge* (Washington, DC: DoD, January 2018), p. 9, available at <https://dod.defense.gov/portals/1/documents/pubs/2018-national-defense-strategy-summary.pdf>.

8 For an overview of EDI see Office of the Under Secretary of Defense, Comptroller (OUSD[C]), *European Deterrence Initiative: Department of Defense Budget Fiscal Year 2019* (Washington, DC: DoD, February 6, 2018), p. 1, available at https://comptroller.defense.gov/portals/45/documents/defbudget/fy2019/fy2019_edi_book.pdf; and Pat Towell and Aras D. Kazlauskas, “The European Deterrence Initiative: A Budgetary Overview,” *In Focus*, Congressional Research Service (CRS), August 8, 2018, available at <https://fas.org/sgp/crs/natsec/IF10946.pdf>.

9 The VJTf consists of a multinational brigade-sized formation supported by air, maritime, and special operations forces capable of deploying to reinforce NATO’s eastern frontier within 2 to 7 days after being activated. The eFP consists of four multinational, battalion-sized formations that are located on a rotational basis in Estonia, Latvia, Lithuania, and Poland, respectively. Allied Joint Force Command, “NATO Response Force (NRF) Fact Sheet,” August 14, 2018, available at <https://jfcbs.nato.int/page5725819/nato-response-force-nrf-fact-sheet>; and North Atlantic Treaty Organization (NATO), “NATO Enhanced Forward Presence,” NATO factsheet, December 2018, available at https://www.nato.int/nato_static_fl2014/assets/pdf/pdf_2018_12/20181205_1812-factsheet_efp_en.pdf.

10 Michael Peck, “Next Stop Berlin? Moscow’s Nazi-Killing Tank Unit is Back,” *National Interest*, April 1, 2016, available at <https://nationalinterest.org/feature/next-stop-berlin-moscows-nazi-killing-tank-unit-back-15647>; Oren Liebermann, Frederik Pleitgen and Vasco Cotovio, “New Satellite Images Suggest Military Buildup in Russia’s Strategic Baltic Enclave,” *CNN*, October 17, 2018, available at <https://www.cnn.com/2018/10/17/europe/russia-kaliningrad-military-buildup-intl/index.html>; and Pavel Podvig, “Russia’s Current Nuclear Modernization and Arms Control,” *Journal for Peace and Nuclear Disarmament* 1, no. 2, September 2018.

11 For more on national threat perceptions, see Susi Dennison, Ulrike Esther Franke, and Pawel Zerka, “The Nightmare of the Dark: The Security Fears that Keep Europeans Awake at Night,” *Security Scorecard*, European Council on Foreign Relations, July 2018, available at https://www.ecfr.eu/specials/scorecard/the_nightmare_of_the_dark_the_security_fears_that_keep_europeans_aware_at_n.

aggression. These steps should include further strengthening U.S. military posture in Europe and modernizing the militaries of NATO members to harden the Alliance against a Russian attack.

Report Purpose and Scope

This report examines options and offers recommendations for enhancing NATO's ability to deter Russian aggression and defend Alliance states. It focuses primarily on the Baltic region, where the Alliance is most vulnerable to a future act of Russian military aggression. Given its geographic position and increasing military power, Poland will remain central to NATO's ability to deter and, if necessary, defeat Russian aggression in the Baltic region. As such, this report specifically examines options for the U.S. military's posture in Europe and Poland's future force structure and capabilities. It also assesses how these options could affect the ability of Russian forces to threaten the territorial integrity of NATO states and Russia's broader efforts to achieve its revisionist ambitions. Although other instruments of national power play a crucial role in maintaining Europe's security, this report is principally focused on U.S. and Polish actions that could improve their military effectiveness in a conflict, both at the strategic and operational levels. This, however, is not meant to make light of the need for other NATO members to enhance their military capabilities and readiness to deter and defend against Russian aggression. The insights offered in the report, although focused on the United States and Poland, are more broadly applicable to the Alliance's overall security.

Methodology and Structure

CSBA conducted independent research, operations analysis, and workshops to develop the insights and recommendations in this report. Two workshops held in Washington, DC explored how U.S. posture enhancements and improvements to Polish force structure and capabilities could improve NATO's ability to defeat future Russian military aggression against Poland and one or more of the Baltic states. U.S. and Polish defense experts participating in the workshops were tasked with developing options for the U.S. military's future posture in Europe. These experts then had the opportunity to rebalance Poland's defense spending and free up resources for force structure and capability enhancements that would improve the collective defense of Poland and neighboring NATO states.

This report begins with an overview of Russian strategic and operational threats to the security of the Baltic region and NATO's broader eastern frontier, and then it offers a new strategy for deterrence and defense against Russian aggression. Chapter 2 provides a more in-depth assessment of options to enhance U.S. force posture in Europe. Chapter 3 proposes initiatives to improve Poland's force structure and capabilities and harden it against Russian aggression. Chapter 4 provides a summary of insights and recommendations developed during the course of this study and addresses several potential Russian responses to the proposed posture and force enhancements.

Key Insights and Recommendations

Key Insights

A viable “theory of victory” exists for Russia to prevail in a limited conventional conflict with NATO, which threatens the security of the Alliance’s eastern frontier.¹² In a future conflict, Russia could exploit its time-distance advantage and A2/AD capabilities to seize the territory of NATO states in the Baltic region before the Alliance could marshal an effective response. Should a Russian offensive initially succeed, NATO could be forced to choose between launching a difficult, uncertain, and potentially escalatory counteroffensive to liberate allied territory or accepting defeat.

Enhancing the U.S. military’s posture in Europe could undermine Russia’s theory of victory and strengthen deterrence. By stationing additional forces and capabilities in strategic locations closer to the Baltic region, the United States could lessen Russia’s time-distance advantage, mitigate the ability of Russian A2/AD capabilities to isolate areas it has targeted, and further demonstrate U.S. commitment and resolve. Together, these effects could undermine the Russian government’s confidence in its theory of victory and thereby deter an attack on NATO states. If deterrence were to fail, an enhanced U.S. posture would better enable NATO to contest a Russian attack at the start of a conflict, begin to degrade Russian A2/AD capabilities, and prevent Russia from achieving its objectives long enough for U.S. and NATO reinforcements to arrive in the battlespace.

Improving Poland’s military capabilities and force structure could further strengthen deterrence and defense. A modernized, ready Polish military could convince Russian decision-makers that Poland is not an easy target and that its forces would pose a real challenge to a Russian invasion. In addition to defending the homeland, a modernized Polish military could support allied efforts to contest Russian attacks into neighboring NATO states, degrade Russian A2/AD capabilities, and facilitate the rapid transit of U.S. and NATO forces into and across Poland.

U.S. posture enhancements and a modernized Polish military capability could create synergies that would further enhance deterrence and defense. Together, these efforts would enhance the cohesion and interoperability of U.S. and Polish forces, possibly fostering the confidence and political will necessary for Warsaw to use its forces beyond Poland’s borders to defend Alliance territory.

¹² There are no Russian official documents discussing a “theory of victory,” per se. However, this phrase will be used in this monograph as shorthand for a plausible Russian approach designed to convert the rapid attainment of limited military objectives into a favorable political outcome.

Recommendations to Enhance U.S. Forward Posture

The following U.S. posture enhancements would improve the ability to blunt Russian aggression and prevent it from achieving its objectives in the Baltic region.

Improve the resilience and lethality of U.S. forces forward postured in Europe.

Increasing the resilience and lethality of U.S. forces postured in Europe would improve their ability to contest a Russian invasion of Poland and the Baltic states and begin degrading Russian A2/AD capabilities on day one of a conflict. Specific actions the United States should take include permanently basing a division headquarters in Poland and a corps headquarters in Germany, permanently basing long-range artillery and air and missile defense units in Poland, permanently basing division enablers in Poland, and forward posturing an additional armored brigade combat team (ABCT) in Europe by manning an ABCT equipment set from Army pre-positioned stocks (APS). These enhancements would help ensure that all forces necessary to aggregate a full U.S. Army division would be present in or near Poland and ready to engage against a threat to the Alliance with little prior warning.¹³

Reduce response times for follow-on forces. The United States should undertake measures that would reduce the time needed for air and ground forces from the United States or other theaters to reinforce NATO forces engaged against Russia. These measures include enhancing U.S. military deployment and basing infrastructure and augmenting APS with equipment sets sufficient to outfit a full complement of corps-level enablers. These enhancements, in conjunction with existing or planned infrastructure improvements and prepositioned stocks, would allow the United States to reinforce NATO with multiple combat and support aircraft squadrons in a matter of days and a full U.S. Army division and corps

13 The current U.S. posture in Poland includes a division-level mission command element, an ABCT, a Stryker infantry battalion from the 2nd Cavalry Regiment serving as the Poland eFP battlegroup, limited combat support enablers, and a sustainment task force. The recommended enhancements would increase U.S. posture in Poland to a division headquarters, two ABCTs, a Stryker infantry battalion, a DIVARTY with two subordinate rocket artillery battalions, a SHORAD battalion, a full complement of combat support enablers, and a sustainment brigade. A rotational combat aviation brigade currently postured primarily in Germany could serve as the division aviation element, while the third maneuver brigade could either consist of the rest of the 2nd Cavalry Regiment deployed from Germany or an allied brigade, such as a Polish brigade, the VJTF, or a rapid deploying brigade from another ally like the United Kingdom. "Atlantic Resolve Armored Rotation: 1st Armored Brigade Combat Team, 1st Infantry Division," Fact Sheet, U.S. Army Europe Public Affairs Office, as of January 11, 2019, available at <https://www.eur.army.mil/Portals/19/documents/Fact%20Sheets/1IDArmorRotationFactSheet.pdf?ver=2019-01-22-110644-883>; "Atlantic Resolve Logistical Rotation: Sustainment Task Force," Fact Sheet, U.S. Army Europe Public Affairs Office, as of January 11, 2019, available at <https://www.eur.army.mil/Portals/19/documents/Fact%20Sheets/FactSheet-LogisticalRotation.pdf?ver=2019-01-22-110644-290>; and Joshua L. Wick, "Aviation Brigade Rotation in Europe," *Quick Facts* infographic, U.S. Army Europe, June 20, 2018, available at <https://www.eur.army.mil/Portals/19/documents/Infographics/Infograph-AviationRotation.pdf?ver=2019-01-22-114954-360>.

structure in a matter of weeks.¹⁴ The United States should also increase munitions in its U.S. European Command Munitions Starter Stocks and expendable stocks such as fuel and critical spare parts to support at least 30 days of air and ground combat operations.¹⁵ Table 1 summarizes selected proposed major changes to the U.S. military's future posture in Europe.

TABLE 1: RECOMMENDED U.S. FORCE STRUCTURE AND SELECTED POSTURE ENHANCEMENTS IN EUROPE

	Major Force Element or Capability	Posture Current	Posture Recommendations	Pre-positioned Current	Pre-positioned Recommendations
Land	Corps Headquarters	0	1	-	-
	Division Headquarters	0.25	1	1	1
	Brigade Combat Team	3	4	2	1
	Combat Aviation Brigade	2	2	-	-
	Field Artillery Brigade	1	2	1	1
	Patriot Battalion	1	1	-	-
	SHORAD Battalion to defend maneuver forces, critical basing, infrastructure	1	2-plus	1	1
	Division Enabler Set	0.25	1	1	1
	Corps Enabler Set	-	-	0	1
Air	Infrastructure enhancements to support the rapid deployment and dispersed operations of combat, tanker, and ISR aircraft squadrons				
Munitions	Sufficient munitions for 30 days of air and ground combat operations				
Sustainment Stocks	Sufficient sustainment stocks for 30 days of air and ground combat operations				

14 APS is currently planned to include equipment sets for a division headquarters, two ABCTs, a field artillery brigade with two subordinate artillery battalions (which could serve as the equipment for a division artillery), a SHORAD battalion, and combat support and service support enablers sufficient for a division-level formation. The number of ABCT equipment sets in APS would be reduced from two to one if the U.S. military implements the recommendation made in this report to posture a second ABCT in Europe by manning one of the ABCT equipment sets in APS. See OUSD(C), *European Deterrence Initiative: Department of Defense Budget Fiscal Year 2019*.

15 The U.S. European Command Munitions Starter Stocks included Joint Air-to-Surface Standoff Missiles–Extended Range (JASSM-ER) and Patriot Missile Segment Enhancements. See OUSD(C), *European Deterrence Initiative: Department of Defense Budget Fiscal Year 2019*.

Recommendations to Improve Polish Military Capabilities and Forces Structure

The following initiatives would enhance the combat effectiveness of Poland's military and its ability to engage quickly against a major attack on its homeland and neighboring allied states.

Improve military readiness. Improving readiness would enhance deterrence by demonstrating that Poland is willing and capable of contesting a Russian attack immediately. Readiness initiatives should focus on increasing the intensity and realism of military training, investing in personnel readiness and equipment maintenance, and increasing Poland's organic stock of munitions and other materials needed to sustain a high tempo of military operations.

Increase key enablers. Increasing the types and numbers of enabling capabilities could enhance the lethality and resiliency of Poland's existing maneuver forces, rendering them more effective in directly engaging Russian forces. These enablers should create a Polish area-denial umbrella that would significantly complicate Russian operations and facilitate Polish efforts to degrade Russia's A2/AD coverage over northern Poland and much of the Baltics.¹⁶ Priority capabilities should include higher capacity air and missile defenses; long-range precision fires; intelligence, surveillance, and reconnaissance (ISR) capabilities; cyber and electronic warfare (EW) capabilities; territorial defense forces; and engineers.

Modernize force structure. A significant portion of Poland's forces comprises obsolete Soviet or post-Soviet systems. Although Poland's primary focus in the near term should be to increase the readiness of its forces and improve their enabling capabilities, eventually it will need to upgrade and modernize the equipment of its ground maneuver forces, especially their armored combat vehicles, and its air forces to ensure they are not overmatched by Russia's combat forces.

Improve the capacity and resiliency of C3, basing, sustainment and deployment infrastructure. Efforts to improve Poland's combat forces would be insufficient without an equal effort to improve the resilience of their key bases, C3 nodes, and sustainment and deployment infrastructure. Investments in deployment and sustainment infrastructure, including civilian infrastructure, could facilitate dispersed operations and increase the speed and throughput capacity of Poland's ground lines of communications. Improving engineering units' bridging capabilities, including the types of pontoon bridge and bridge repair assets necessary to facilitate transport across the Vistula River, would be vital to ensuring the resilience of Polish lines of communication in a conflict.

16 The Polish MoD's 2017 *Defence Concept of the Republic of Poland* defined the establishment of such an area-denial umbrella as the key element of its deterrence and defense posture and its top modernization priority. Ministry of National Defense, *The Defence Concept of the Republic of Poland* (Warsaw: Ministry of National Defense, Poland, May 2017).

CHAPTER 1

Challenges to Deterrence and Defense

Paths to Conflict

The Russian government seeks to revise the regional and international order to regain its traditional sphere of influence along its periphery, preserve and expand its geographic strategic depth, and reestablish its great power status.¹⁷ Russia perceives Europe's current security architecture as having been established during a period of uncharacteristic Russian weakness and, therefore, tilted unfairly in favor of Western political objectives. As part of its efforts to secure its revisionist aims, Russia's political leadership seeks to reshape the geopolitical order on the European continent to be more amenable to Russia's national interests. Moreover, Russia's national security strategy since the end of the Cold War has, at least implicitly, identified both the United States and the NATO Alliance as key threats to Russia's national security.¹⁸ To weaken NATO, the Russian government seeks to undermine the political cohesion of the Alliance such that it is more difficult for NATO to muster a potent, unified response to Russian activities in Europe that challenge the status quo.

Although there is little evidence to suggest that Russia actively seeks direct military confrontation with NATO states, plausible paths to conflict exist. The Russian government prefers to achieve its revisionist goals through sub-conventional methods of conflict, including "gray

¹⁷ See footnote 3 for more details. Russian Federation, *National Security Strategy of Russia* (2015); Cohen and Radin, *Russia's Hostile Measures in Europe*, pp. 5–13; Defense Intelligence Agency (DIA), *Russia Military Power: Building a Military to Support Great Power Aspirations* (Washington, DC: DIA, 2017), p. 15; and Kühn, *Preventing Escalation in the Baltics*, pp. 13–15.

¹⁸ For the most recent doctrine, see Russian Federation, *National Security Strategy of Russia* (2015). For insight into previous iterations of Russia's military doctrine see Mary FitzGerald, "Russia's New Military Doctrine," *Military Intelligence* 18, no. 4, October, 1992; and President of the Russian Federation, *The Military Doctrine of the Russian Federation* (Moscow: President of the Russian Federation, February 5, 2010).

zone” activities and political warfare campaigns intended to undermine NATO’s cohesion and political will while remaining below Alliance thresholds for a conventional military response.¹⁹ Russia’s aggressive actions at the sub-conventional level, however, violate long-standing norms and threaten the sovereignty and territorial integrity of NATO member states. As a result, Russian gray zone actions are likely to exacerbate existing tensions on the continent and cause points of friction with NATO that have the potential to devolve into crisis and even conflict.

The potential for conflict between NATO and Russia is most acute in the Baltic region. The proximity of NATO member territory to Russia and Belarus, the geographically isolated position of Kaliningrad, and the presence of sizeable Russian ethnic minorities within the Baltic states create a volatile situation ripe for crisis and miscalculation.²⁰ Although Russia likely does not desire to incorporate the Baltic states or eastern Poland into the Russian Federation, under certain conditions it could view the seizure of territory belonging to NATO states as necessary or advantageous. The Russian government could perceive that NATO is attempting to isolate Kaliningrad and determine that it must launch a military attack into Alliance territory to re-establish its ground lines of communication with its exclave. Or, the Russian leadership could use rising tensions between ethnic Russian minorities and the governments of one or more of the Baltic states to escalate a crisis as a means of undermining NATO unity and the credibility of collective defense. In this example, the Russian leadership might execute a limited military incursion into NATO member territory to seize a border region with a large ethnic Russian population to create the crisis that could divide NATO.

The Baltic region is also where the Alliance is most vulnerable to Russian aggression.²¹ The combination of Russia’s local military superiority, geography that favors Russia, and Russian A2/AD capabilities that form an umbrella over the region increase the potential for Russia to prevail in a conventional conflict against NATO. As a result, the Russian government could determine that its best option during a significant crisis in the Baltic region is to risk a conventional attack on one or more of the Baltic states or even Poland because it believes it could quickly achieve its objectives and keep the conflict short and limited.²²

19 For an overview of Russia’s coercive actions in Europe and beyond, as well as its consequences, see Brands and Edelman, *Why is the World so Unsettled?*; for an in-depth analysis of Russia’s sub-conventional coercive actions in Europe, see Cohen and Radin, *Russia’s Hostile Measures in Europe*. On Russian political warfare, see Thomas G. Mahnken, Ross Babbage, and Toshi Yoshihara, *Countering Comprehensive Coercion: Competitive Strategies Against Authoritarian Political Warfare* (Washington, DC: Center for Strategic and Budgetary Assessments, 2018).

20 See Cohen and Radin, *Russia’s Hostile Measures in Europe*, pp. 20–24; and Kühn, *Preventing Escalation in the Baltics*, pp. 8–9, 25–29.

21 For Russia’s advantage in the correlation of forces see Boston, Johnson, Beauchamp-Mustafaga, and Crane, *Assessing the Conventional Force Imbalance in Europe*; for NATO’s lack of strategic depth, see Shlapak and Johnson, *Reinforcing Deterrence on NATO’s Eastern Flank*, pp. 3–4; and Hodges, Bugajski, and Doran, *Securing the Suwalki Corridor*, p. 21.

22 Although Russia may perceive its actions as defensive in nature, its military retains a preference for the offense at the operational and tactical levels. This could lead to situations where Russia embarks on aggressive offensive action in support of a defensive strategy. Scott Boston and Dara Massicot, *The Russian Way of Warfare: A Primer* (Santa Monica, CA: RAND Corporation, 2017), p. 3; and DIA, *Russia Military Power*, p. 52.

Challenges to Deterrence and Defense in the Baltic Region

NATO faces significant strategic and operational challenges that undermine the credibility of its ability to deter and, if necessary, defeat Russian aggression in the Baltic region.²³ Although NATO's aggregate military power far exceeds that of Russia, a viable theory of victory exists for Russia to prevail in a limited conflict by exploiting its time-distance advantage to seize Alliance territory in the Baltic region before the Alliance could effectively respond.²⁴ A Russian ability to achieve a military *fait accompli* in the Baltic region would present NATO with a choice between embarking on a difficult, uncertain, and potentially escalatory counteroffensive to liberate allied territory or accepting defeat.

Russia's "Theory of Victory"²⁵

If Russia were to attack one or more of the Baltic states or Poland, regional geography would favor Russia. The vast majority of NATO's military power resides in Western Europe and, more critically, in the United States. On the other hand, a significant portion of Russia's military power, including its most capable and best-equipped forces, is based in its Western Military District, which abuts NATO member territory.²⁶ Most of Russia's plausible territorial objectives, like the establishment of a land bridge to its Kaliningrad exclave through Lithuania and possibly Poland, or the annexation of portions of Baltic states that have majority ethnic Russian populations, are both limited in scope and proximate to the bulk of Russian combat power. The Baltic republics are only connected to the rest of NATO by the Baltic Sea and a narrow land corridor through northeastern Poland and southern Lithuania, often called the Suwalki Gap, which is flanked on either side by Belarus and Kaliningrad.²⁷ As a result, the Baltic republics are vulnerable to being geographically isolated by even a limited Russian attack to seize the Suwalki Gap (see Figure 1).

23 See footnote 6 for more details. Shlapak and Johnson, *Reinforcing Deterrence on NATO's Eastern Flank*; Edelman and McNamara, *U.S. Strategy for Maintaining a Europe Whole and Free*; Boston, Johnson, Beauchamp-Mustafaga, and Crane, *Assessing the Conventional Force Imbalance in Europe*; Kühn, *Preventing Escalation in the Baltics*; and Hodges, Bugajski, and Doran, *Securing the Suwalki Corridor*.

24 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*.

25 See footnote 12.

26 Boston, Johnson, Beauchamp-Mustafaga, and Crane, *Assessing the Conventional Force Imbalance in Europe*, pp. 6, 9; David A. Shlapak and Michael W. Johnson, "Outnumbered, Outranged, and Outgunned: How Russia Defeats NATO," *War on the Rocks*, April 21, 2016, available at <https://warontherocks.com/2016/04/outnumbered-outranged-and-outgunned-how-russia-defeats-nato/>.

27 Belarus is a near-client state of Russia, and, therefore, the Russian military will likely have full access to Belarus' territory, and potentially the direct support of Belarussian military forces, in a conflict with NATO. Furthermore, Russia views keeping Belarus in its political orbit as essential to its security and geographic strategic depth. On the geography and military significance of the Suwalki Gap see Hodges, Bugajski, and Doran, *Securing the Suwalki Corridor*, pp. 15–23; and Agnia Grigas, "NATO's Vulnerable Link in Europe: Poland's Suwalki Gap," *NATO Source* blog, The Atlantic Council, February 9, 2016, available at <https://www.atlanticcouncil.org/blogs/natosource/nato-s-vulnerable-link-in-europe-poland-s-suwalki-gap>.

FIGURE 1: BALTIC REGION AND THE SUWALKI GAP

Map: CIA.gov

In a Russia-initiated conflict, the Russian military could leverage its local overmatch to seize territory rapidly and with little prior warning in one or more of the Baltic states or eastern Poland. The activities of Russian special operations forces might precede an attack with the aim of sowing disinformation, creating confusion, obscuring Moscow's intent, and complicating NATO decision-making.²⁸ These special operations forces could also facilitate the advance of Russian conventional forces by gathering intelligence, screening force movements, and seizing key bridges and choke points. Critically, Russia's A2/AD capabilities could degrade and even cripple NATO's efforts to respond quickly enough or with sufficient force to deny Russia from achieving its objectives.

²⁸ For potential roles of Russian special operations and proxy forces in a conflict, see Boston and Massicot, *The Russian Way of Warfare*, p. 9.

After an initial seizure of NATO member territory, Russian forces could establish a formidable defensive posture, backed by their area-denial capabilities, which would pose a difficult military problem for the Alliance to overcome. As NATO would attempt to mobilize and concentrate the massive combat power necessary to roll back Russian gains, Russia could use a variety of political, diplomatic, economic, informational, and military tools to seek an end to the conflict on favorable terms. The Russian government could combine offers to negotiate a cessation of hostilities with threats to further escalate the conflict, including to the nuclear level, in order to prevent NATO from reaching a consensus on the best path forward.²⁹ Should some NATO members balk at the costs and risks associated with a major counteroffensive, the Alliance could risk losing a conflict with Russia politically before it even attempts to win it militarily. Should the Alliance summon the political will necessary to launch a military campaign to reverse Russia's territorial gains, its counteroffensive would be difficult, uncertain, and potentially highly escalatory.³⁰

The Central Importance of Time

Time is central to the Russian theory of victory. Russia's advantage in the local correlation of forces, proximity to its military objectives, and ability to act first could enable it to execute a rapid land grab in the Baltic region before NATO could effectively respond.³¹ Russia's capacity to then consolidate its initial gains and establish a formidable defensive posture would pose a difficult military challenge for NATO. The long delay required for NATO to organize a ground counteroffensive after an initial Russian seizure of territory could provide the time needed for Russia to convert its military gains into a political victory.

Russia's A2/AD capabilities would increase its time-distance advantages in at least three critical ways. First, Russian A2/AD capabilities in Kaliningrad, Belarus, and the Western Military District and would greatly reduce the ability of U.S. and allied initial response forces to gain access to the region, operate in forward areas, and contest a Russian attack in the opening stage of a conflict. Second, should Russian forces consolidate their territorial gains and assume a defensive posture, Russian A2/AD capabilities would create a much more difficult military problem for NATO to overcome. Third, these A2/AD capabilities could disrupt the deployment of additional NATO forces to Europe and their transit across the continent into the Baltic region, further extending the delay between an initial Russian attack and the start of

29 For example, Putin recently stated his willingness to escalate to another Cuban Missile Crisis-like situation over the U.S. decision to leave the Intermediate Nuclear Forces Treaty. Andrew Osborn, "Putin to U.S.: I'm ready for another Cuban Missile-style crisis if you want one," *Reuters*, February 21, 2019, available at <https://www.reuters.com/article/us-russia-putin/putin-to-u-s-im-ready-for-another-cuban-missile-crisis-if-you-want-one-idUSKCN1QA1A3>.

30 Shlapak and Johnson, *Reinforcing Deterrence on NATO's Eastern Flank*, p. 7.

31 During the Cold War, the Soviet Union employed a concept called the "correlation of forces," which was a metric made up of everything that determined its balance of power with its competitors: military might, economic power, public opinion, internal divisions, political allegiance, and diplomatic relations. For purposes of this paper, the phrase will refer strictly to the relative combat power of Russian and NATO forces.

a major NATO ground counteroffensive. This longer delay would give Russia additional time to consolidate its military gains into a political victory.

NATO initiatives to strengthen the Alliance's ability to deter and defend against Russian aggression in the Baltic region should seek to reduce Russia's time-distance and correlation of forces advantages. These initiatives should include changes to its military posture that would improve its ability to immediately contest a Russian offensive and shorten the time required for the Alliance to bring additional forces to bear.

Operational Challenges Posed by Russia's A2/AD Complex

Russia's A2/AD capabilities located in Kaliningrad, its Western Military District, and Belarus form a protective umbrella that covers much of Poland and the Baltic states. In the opening days and weeks of a conflict with NATO, these threats would create a highly contested environment that would impede the ability of U.S. and allied forces to project power into the region, to gain and maintain air superiority and information dominance in the conflict area, and, consequently, to contest a Russian invasion.³² Although NATO could likely overcome Russia's A2/AD capabilities, the time needed to do so could give Russia ample time to achieve its military objectives.

A2/AD capabilities located in Kaliningrad present the most significant challenge to U.S. and NATO operations. Geographically, Kaliningrad is a Russian exclave within NATO member territory. This enables A2/AD capabilities located there to form a forward salient guarding the air, sea, and land approaches to the Baltic states, Belarus, and Russia. More specifically, this creates three key operational problems for NATO forces. First, it extends the depth of the battlespace that Russia could affect with its A2/AD capabilities, especially with its coastal defense cruise missiles, long-range surface-to-air missile (SAM) systems, and short-range ballistic missiles (SRBM). Second, Kaliningrad alters the geometry of the battlefield by projecting a bulge of A2/AD capabilities into NATO's defensive perimeter that would inhibit the freedom of movement of NATO military forces between northern and central Europe, providing Russia with opportunities to launch multi-axis attacks on any such forces in the Baltic region. Third, Kaliningrad's A2/AD capabilities form an outer defensive layer that NATO forces would have to suppress before the Alliance could use the preponderance of its air forces, which are non-stealth systems, to interdict Russian ground forces and provide support to friendly forces.

32 For the purposes of this report, in permissive environments NATO forces can conduct operations nearly unimpeded by opposing forces. In highly contested environments, NATO forces must contend with near-continuous or continuous threats from multiple axes and operating domains. The highly contested environment is created by dense, overlapping advanced air-to-air, surface-to-air, and surface-to-surface threats that are highly mobile. Communications, sensing, and other operations in the electromagnetic spectrum could be severely degraded and locally denied in highly contested environments.

Four components of Russia's A2/AD complex present the most significant challenges for U.S. and NATO operations: long-range precision fires; integrated air defense systems (IADS); offensive and defensive capabilities in space, cyberspace, and the electromagnetic spectrum; and massed artillery.

Russia's Long-Range Precision Fires

Since the end of the Cold War, U.S. forces have projected power into theaters and operated from bases close to conflict zones without significant interference from adversaries. Russia, however, possesses increasingly sophisticated and robust precision strike capabilities able to attack targets across the European theater, threaten Atlantic sea lines of communications (SLOCs), and even attack the U.S. homeland. In a conflict in Europe, Russian air-, ground-, surface-, and subsurface-launched long-range fires could attack U.S. and allied command, control, and communications (C3) nodes; interdict ground deployment and sustainment networks; threaten SLOCs and deny maritime freedom of maneuver; strike air bases to suppress sortie generation and attrite aircraft on the ground; and attrite NATO ground forces before they could directly engage Russian forces.

Russia possesses a large and diverse inventory of precision strike weapon systems.³³ This inventory includes multiple SRBM variants such as the 9K720 Iskander-M weapon system.³⁴ The Iskander-M's mobility allows it to relocate quickly to a new concealed location after firing, making it particularly difficult to interdict. By 2020, Russian armed forces are expected to field ten Iskander-M brigades with the combined capacity to launch approximately 480 missiles, assuming each launcher has a single missile reload. Russia has announced it will deploy Iskander-M launchers to its "missile brigade of the Western Military District," which is likely Russia's 152nd Missile Brigade in Kaliningrad.³⁵ This would place ballistic and cruise missiles launched by the Iskander-M well within range of potential targets located throughout Poland and most of the Baltic states. Furthermore, its large number of 4th generation, multi-role fighters can carry various loadouts of air-to-surface weapons including land attack cruise missiles (LACM). In a conflict, Russia could use these SRBMs and LACMs to strike critical nodes like bridges and rail junctions, air bases, marshaling areas, and major force

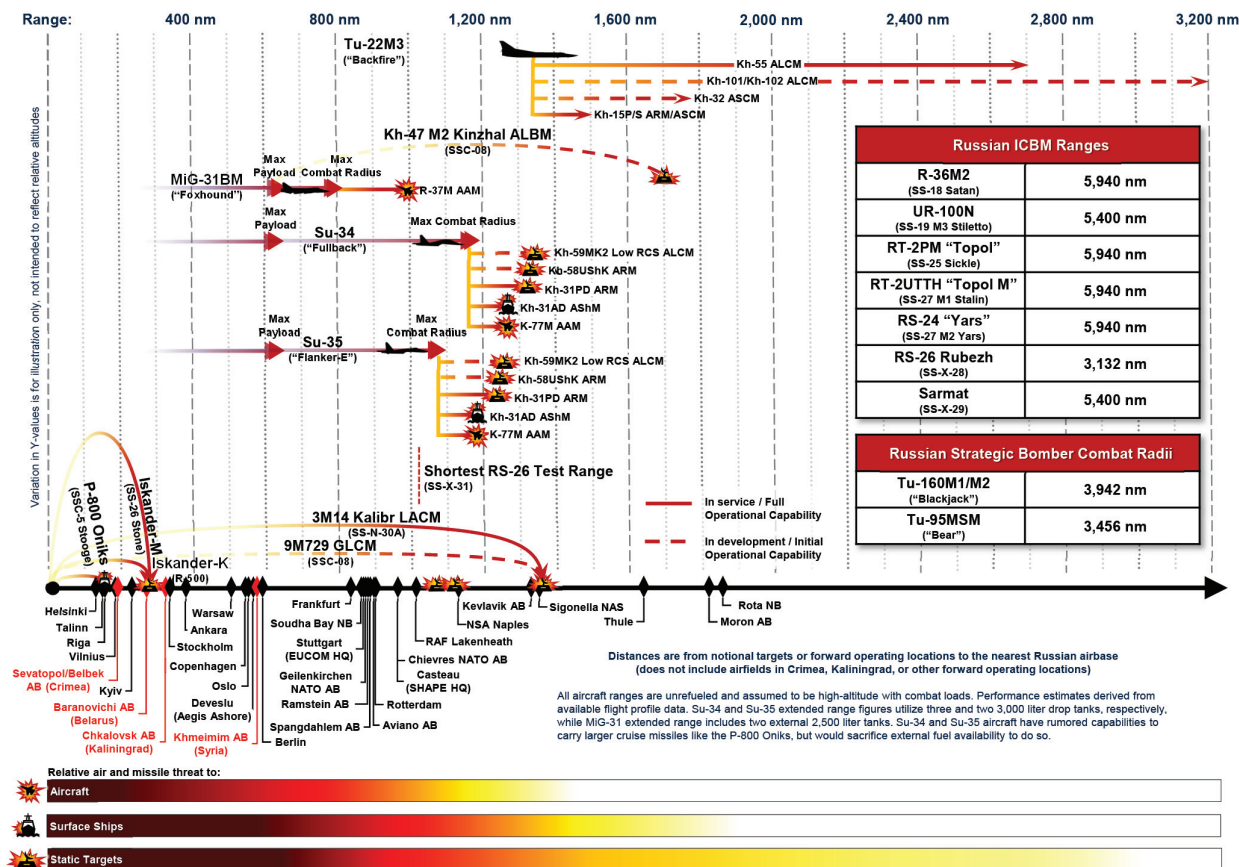
33 See DIA, *Russian Military Power*, pp. 77–79; "Missiles of Russia," *Missile Threat*, Missile Defense Project, Center for Strategic and International Studies, last modified June 15, 2018, available at <https://missilethreat.csis.org/country/russia/>; and Mark Gunzinger and Carl Rehberg, *Air and Missile Defense at a Crossroads: New Concepts and Technologies to Defend America's Overseas Bases* (Washington, DC: Center for Strategic and Budgetary Assessments, 2018), p. 6.

34 See DIA, *Russian Military Power*, p. 77; "SS-26 (Iskander)," *Missile Threat*, Missile Defense Project, Center for Strategic and International Studies, last modified June 19, 2018, available at <https://missilethreat.csis.org/missile/ss-26/>; and Gunzinger and Rehberg, *Air and Missile Defense at a Crossroads*, p. 6.

35 "Missile Units of Russian Land Forces to Be Rearmed with Iskander-M Systems in 2019," *News*, Ministry of Defence of the Russian Federation, January 1, 2019, available at http://eng.mil.ru/en/news_page/country/more.htm?id=12210632@egNews; and David Axe, "Russia's Deadly Iskander-M Ballistic Missile is Headed to Kaliningrad Exclave," *The National Interest*, January 2, 2019, available at <https://nationalinterest.org/blog/buzz/russias-deadly-iskander-m-ballistic-missile-headed-kaliningrad-exclave-40397>.

concentrations in Poland and the Baltic states to disrupt and delay force flow and sustainment, make forward air bases untenable, and inflict attrition on NATO ground forces before they can reach the battle area.

FIGURE 2: RUSSIA CAN STRIKE TARGETS ACROSS EUROPE



Russia's anti-access systems include longer-range ballistic and cruise missiles that it could use to attack NATO seaports of debarkation, air bases, and key C3 nodes. Russia continues to expand and upgrade this inventory by developing and deploying one or more battalions of ground-launched cruise missiles (GLCM) (believed to be 9M729 [SSC-8] missiles integrated with mobile Iskander-K launch vehicles).³⁶ It is also increasing its inventory of Kh-101

36 Michael R. Gordon, "Russia Deploys Missile, Violating Treaty and Challenging Trump," *New York Times*, February 14, 2017, available at <https://www.nytimes.com/2017/02/14/world/europe/russia-cruise-missile-arms-control-treaty.html?mcubz=3>.

air-launched cruise missiles (ALCM) and 3M14 Kalibr LACMs.³⁷ The new Kh-47M2 Kinzhal hypersonic air-launched ballistic missile, which has a purported range of 2,000 km and can be carried by modified MIG-31BM supersonic aircraft, can hold much of continental Europe at risk without the launching aircraft leaving Russian airspace.³⁸ Submarine and bomber aircraft equipped with long-range cruise missiles extend the range of Russian long-range fires into the Atlantic and as far as the continental United States. As a result, there are no truly secure “rear” areas in Europe (see Figure 2)

Russia does have some significant limitations in its ability to strike over long ranges and with great precision. To cite one example, Russia lacks sufficient long-range, persistent ISR capabilities to support large-scale dynamic targeting operations at longer ranges.

Integrated Air Defenses

The ability to gain and maintain air superiority rapidly and then use the resulting freedom of maneuver to bring massed airpower to bear has been a central aspect of U.S. military operations since the end of the Cold War. Russia’s air defense doctrine favors creating overlapping, multilayered coverage zones that enable its forces to simultaneously engage a large number of air and missile threats.³⁹ The U.S. Department of Defense notes that Russia’s IADS encompass more than surface-to-air missile launchers; they include efforts to “jam aircraft navigation, communications, target acquisition systems, and precision weapons guidance systems,” all of which have been a priority of recent Russian military modernization efforts.⁴⁰ Russia remains a leader in developing state-of-the-art radars, surface-to-air missiles, electronic warfare systems, and other air defense capabilities. Russian IADS modernization programs have prioritized improving the range and guidance of its surface-to-air missile systems, as well as enhancing their capacity to operate in contested electromagnetic spectrum (EMS) environments.⁴¹ Russia has created a layered IADS along NATO’s eastern frontier that would pose a significant challenge to U.S. and allied air operations (see Figure 3).

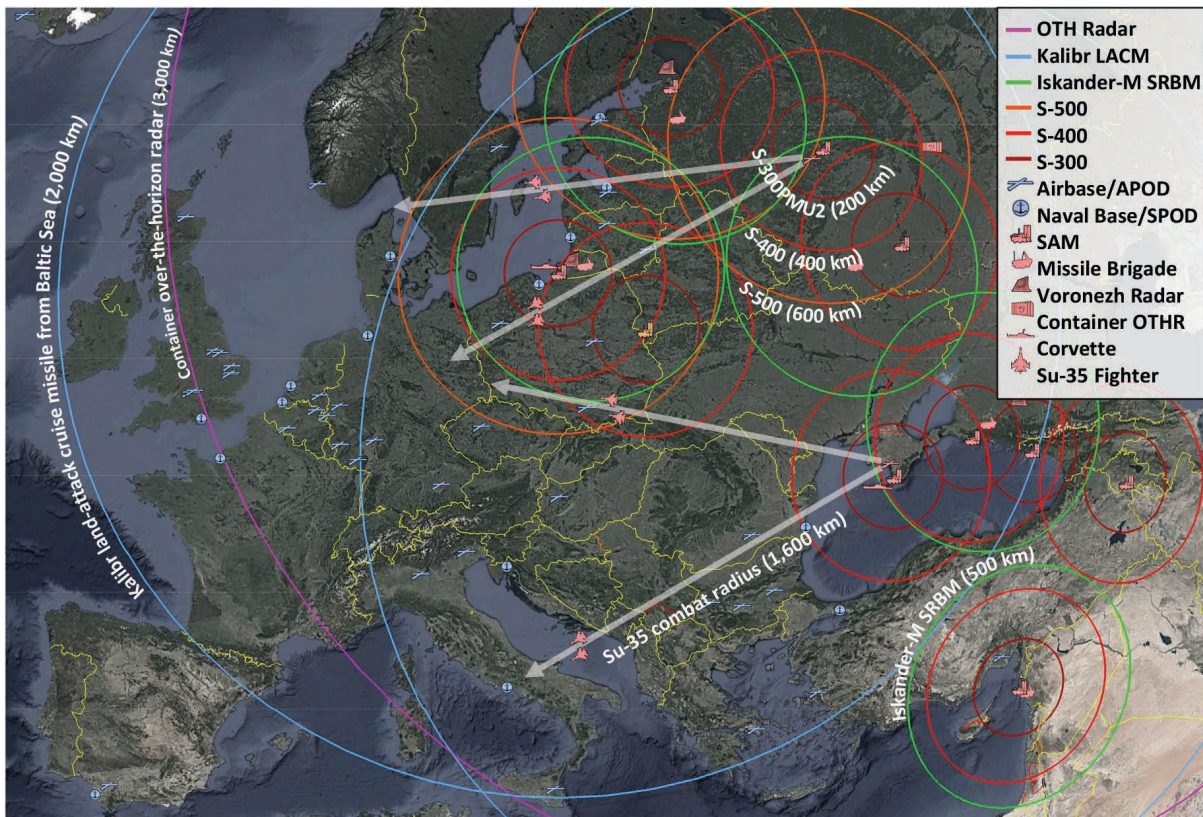
37 DIA, *Russian Military Power*, pp. 78–79; “Kh-101 / Kh-102,” *Missile Threat*, Missile Defense Project, Center for Strategic and International Studies, last modified June 15, 2018, available at <https://missilethreat.csis.org/missile/kh-101-kh-102/>; and “SS-N-30A (3M-14 Kalibr),” *Missile Threat*, Missile Defense Project, Center for Strategic and International Studies, last modified June 15, 2018, available at <https://missilethreat.csis.org/missile/ss-n-30a/>.

38 Neil Gibson and Nikolai Noichkov, “Russian Aerospace Forces Take Delivery of ‘New’ Kinzhal Air-launched Ballistic Missile,” *Jane’s Missiles and Rockets*, March 19, 2018. See also “Kinzhal,” *Missile Threat*, Missile Defense Project, Center for Strategic and International Studies, updated June 15, 2018, available at <https://missilethreat.csis.org/missile/kinzhal/>.

39 Sean O’Connor, Konrad Muzyka, and Huw Williams, “Analysing Russia’s SAM Capabilities: Deployments, Capabilities, and Future Prospects,” Jane’s by IHS Markit briefing, August 31, 2017.

40 Joint Chiefs of Staff (JCS), *Countering Air and Missile Threats*, Joint Publication 3-01, (Washington, DC: JCS, April 21, 2017), p. xvii.

41 DIA, *Russian Military Power*, p. 62. The Russian Aerospace Forces (VKS) is the primary command responsible for bringing together Russia’s aviation systems, air and missile defense systems, early warning assets, and space control and monitoring systems under a unified and integrated command and control structure. Russian Ground Forces also operate significant numbers of mobile, ground-based air defense systems to provide maneuver forces with an organic air and missile defense capability, further complicating U.S. and allied efforts to achieve air superiority over contested areas.

FIGURE 3: RUSSIAN A2/AD COVERAGE OVER THE BALTICS AND BLACK SEA REGIONS

In a conflict, Russian IADS would likely force large, non-stealth aircraft such as the E-3 Airborne Warning and Command and Control (AWACS) aircraft and the E-8 Joint Surveillance and Target Attack Radar System (JSTARS) to operate from standoff distances that exceed the effective range of their sensors. Russia's long-range strategic SAMs would create a highly lethal operating environment for 4th generation fighters and could force NATO non-stealth aircraft to use long-range air-to-surface weapons that are larger and more expensive than short-range direct attack munitions. These limitations could reduce NATO's ability to provide air support to its ground forces engaged against Russian forces during the early days of a conflict.

Neutralizing the threat from Russia's IADS by relying on standoff attacks would take an extended period of time and require thousands of expensive long-range munitions such as the Joint Air-to-Surface Standoff Missile (JASSM). This approach could consume a substantial portion, if not all, of NATO's current inventory of advanced, long-range weapons. Even after the threat from Russia's strategic SAMs has been degraded, the threat from its surviving

short- and medium-range defense systems would remain.⁴² As a result, the allocation of a significant share of aircraft sorties would be required for suppression of enemy air defense (SEAD) missions, thereby reducing sorties allocated to interdict Russian ground forces, attack other critical targets, and support U.S. and allied ground forces. More importantly, if NATO attempts to suppress Russia's IADS with air power alone before moving its ground forces forward to counter a Russian ground invasion, the time required to do so would advantage Russia—perhaps decisively so.

Russia's Electronic Warfare, Cyber, and Counter-Space Capabilities

Maintaining information dominance has been an essential element of the U.S. military's post-Cold War operations. Superior command, control, communications, intelligence, surveillance, and reconnaissance (C3ISR) capabilities have enabled U.S. forces to possess greater situational awareness than their adversaries, act on that situational awareness quicker, and synchronize their operations more effectively across time and space. Having observed the effectiveness of the U.S. military's information systems in operations in the Middle East and other theaters, Russia has invested heavily in counter-C3ISR capabilities in order to contest U.S. information dominance and to disrupt U.S. find, fix, track, target, engage, and assess (F2T2EA) kill chains. Russian counter-C3ISR capabilities in the EMS include jammers to interfere with radars and radios, decoys that create false targets for sensors, laser dazzlers to blind electro-optical and infrared (EO/IR) sensors, and camouflage that obscures potential targets to reduce their probability of detection.⁴³ The vulnerability of U.S. and allied C3ISR forces to these countermeasures is compounded by the increasing range at which they may be forced to operate due to Russia's area-denial capabilities. These distances could require NATO forces to use higher-power active sensors and countermeasures that would further increase their detectability and vulnerability to attacks.⁴⁴

42 Unlike the United States, Russia has shaped its ground forces to operate without air superiority. Russia's substantial investments in organic air defense and electronic warfare systems illustrate that point. O'Connor, Muzyka, and Williams, "Analysing Russia's SAM Capabilities."

43 See Jonas Kjellen, *Russian Electronic Warfare: The Role of Electronic Warfare in the Russian Armed Forces* (Stockholm, Sweden: Swedish Defence Research Agency, September 2018); Roger N. McDermott, *Russia's Electronic Warfare Capabilities to 2025* (Tallinn, Estonia: International Centre for Defence and Security, September 2017), available at https://icds.ee/wp-content/uploads/2018/ICDS_Report_Russias_Electronic_Warfare_to_2025.pdf; and Brian Weeden and Victoria Samson, eds., *Global Counterspace Capabilities: An Open Source Assessment* (Broomfield, CO and Washington, DC: Secure World Foundation, April 2018), available at https://swfound.org/media/206118/swf_global_counterspace_april2018.pdf.

44 See Bryan Clark and Mark Gunzinger, *Winning the Airwaves: Regaining America's Dominance in the Electromagnetic Spectrum* (Washington, DC: Center for Strategic and Budgetary Assessments, 2015).

Russia has also fielded capabilities to contest space and exploit perceived vulnerabilities in U.S. and NATO space architectures.⁴⁵ U.S. space capabilities are not concealed, often hosted in unprotected commercial and military satellites, and concentrated in a limited number of platforms, many of which could not be quickly replaced if damaged or compromised.⁴⁶ The Russian military, on the other hand, has viable terrestrial and airborne alternatives to space-based systems that can support operations near the Russian homeland. As a result, it is less dependent on space systems as a whole, and it would face less risk if it were to use kinetic and non-kinetic anti-satellite (ASAT) weapons during a conflict since the consequences would fall disproportionately on U.S. and NATO space systems.⁴⁷

Finally, the Russian military could use cyber tools to disrupt and corrupt the NATO information flows by targeting digital data information networks that store, process, and disseminate data.⁴⁸ Although the adaptation and integration of information technologies enhance the capabilities of U.S. and NATO forces, they also increase the size of their potential cybersecurity target set and create new vulnerabilities that Russia could seek to exploit.⁴⁹ DoD's Defense Science Board has warned that "major powers have a significant and growing ability to hold U.S. critical infrastructure at risk via cyberattack and an increasing potential to use cyber tools to thwart U.S. military responses."⁵⁰ Evidence suggests that the Russian government may be conducting cyber reconnaissance to collect data that would support operational planning for cyberattacks on U.S. or allied critical infrastructure in the event of a conflict with Russia.⁵¹ The U.S. Transportation Command and key civilian communications networks that support U.S. military deployment activities are especially vulnerable to Russian cyberattacks. Russia could

45 This includes vulnerabilities in orbital systems and terrestrial command, control, and space awareness facilities and networks, as well as other elements of the U.S. military and civilian space architectures. DoD and Office of the Director of National Intelligence (ODNI), *National Security Space Strategy: Unclassified Summary* (Washington, DC: DoD and ODNI, January 2011), available at http://archive.defense.gov/home/features/2011/0111_nsss/docs/NationalSecuritySpaceStrategyUnclassifiedSummary_Jan2011.pdf.

46 John Grady, "U.S. Dependence on Space Assets Could be a Liability in a Conflict with China," *USNI News*, January 29, 2014, available at <https://news.usni.org/2014/01/29/u-s-dependence-space-assets-liability-conflict-china>.

47 Todd Harrison, Zack Cooper, Kaitlyn Johnson, and Thomas G. Roberts, *Escalation & Deterrence in the Second Space Age* (Washington, DC: Center for Strategic and International Studies, October 2017).

48 Don Snyder, James D. Powers, Elizabeth Bodine-Baron, Bernard Fox, Lauren Kendrick, and Michael H. Powell, *Cybersecurity of Air Force Weapons Systems: Ensuring Cyber Mission Assurance Throughout a System's Life Cycle* (Santa Monica, CA: RAND Corporation, 2015).

49 Director, Operational Test and Evaluation (DOT&E), *FY2017 Annual Report* (Washington, DC: DOT&E, January 2018), p. I, available at <http://www.dote.osd.mil/pub/reports/fy2017/pdf/other/2017DOTEAnnualReport.pdf>; and Jacquelyn Schneider, *Digitally Enabled Warfare: The Capability Vulnerability Paradox* (Washington, DC: Center for a New American Security, August 2016).

50 Office of the Under Secretary of Defense for Acquisition, Technology, and Logistics (OUSD/AT&L), *Defense Science Board Task Force on Cyber Deterrence* (Washington, DC: OUSD/AT&L, February 2017), available at https://www.acq.osd.mil/dsb/reports/2010s/DSB-CyberDeterrenceReport_02-28-17_Final.pdf.

51 Michael Sulmeyer, "Military Set for Cyber Attacks on Foreign Infrastructure," *Analysis & Opinions*, Harvard Kennedy School, Belfer Center for Science and International Affairs, April 11, 2018, available at <https://www.belfercenter.org/publication/military-set-cyber-attacks-foreign-infrastructure>.

take advantages of these vulnerabilities to non-kinetically disrupt key rail and port operations in the United States, delaying the arrival of vital U.S. reinforcements to Europe.

Russia's Massed Conventional Artillery

Massed conventional artillery, which serves as the decisive arm of the Russian Army, may represent its greatest conventional threat to NATO ground forces.⁵² Unlike the U.S. military, which employs its indirect fires to allow its maneuver forces to close with and destroy enemy forces, Russia employs its maneuver forces to enable its indirect fires. As operations in Ukraine have shown, Russia uses its maneuver forces to drive adversary formations into positions of disadvantage where they can be destroyed by massed conventional artillery fire.⁵³ Russian ground formations at all echelons include robust indirect fires that often out-range their U.S. and NATO equivalents.⁵⁴ Russian motor rifle and tank regiments, brigades, and divisions place a greater emphasis on indirect fires relative to equivalent Western units. For instance, a Russian motor rifle brigade often includes two self-propelled artillery battalions and a rocket artillery battalion, whereas its rough U.S. equivalent, an ABCT, only contains one self-propelled artillery battalion.⁵⁵

In a conflict with NATO, the maneuver units in a Russian main effort would likely be supported by an equal or greater number of artillery units. Russian artillery is capable of firing advanced area effects munitions including cluster munitions and thermobaric rounds, as well as artillery-delivered mines. Artillery units also possess organic ISR capabilities that include ubiquitous unmanned aerial systems and tactical signals intelligence.⁵⁶ As a result, U.S. and NATO ground forces could be “out-ranged and out-gunned” by Russian forces, offsetting the traditional superiority of U.S. and allied maneuver forces.⁵⁷ This could provide Russia a decisive advantage in close combat, particularly since the traditional advantage of Allied airpower could be greatly reduced, at least initially, by Russian IADS.

52 See Boston and Massicot, *The Russian Way of Warfare*.

53 Ibid., p. 11.

54 Ibid., pp. 10–11; and Shlapak and Johnson, “Outnumbered, Outranged, and Outgunned.”

55 DIA, *Russia Military Power*, p. 53; Boston and Massicot, *The Russian Way of Warfare*, pp. 10–11; and Boston, Johnson, Beauchamp-Mustafaga, and Crane, *Assessing the Conventional Force Imbalance in Europe*, p. 9.

56 Boston and Massicot, *The Russian Way of Warfare*, p. 7.

57 Shlapak and Johnson, “Outnumbered, Outranged, and Outgunned”.

Consequences of the Eroding Credibility of NATO Deterrence and Defense

Collectively, these threats erode the credibility of NATO's ability to deter and defend against Russia aggression, including aggression at the sub-conventional level in areas covered by Russian area-denial systems. Should this erosion continue, Russia may become less wary of conducting gray zone operations against Poland and the Baltic states. Even if Russian leadership believes such actions could escalate, they may not be deterred from undertaking them if they are confident Russian forces could quickly prevail in a short and limited conventional engagement against NATO.

The consequences of losing even a limited war with Russia on the European continent could prove fatal for the Alliance's cohesion. A Russian *fait accompli*, especially in the face of an unsuccessful NATO military response, could reorder Europe geopolitically and greatly reduce the credibility of U.S. security commitments to its allies and friends in Europe and other regions, including in the Indo-Pacific. A Russian victory would also demonstrate NATO's inability to defend its frontline states, which might incentivize both NATO member and non-member European states to tilt more toward Russia's political orbit. Moreover, although any conflict between nuclear-armed states carries with it the serious risks of nuclear escalation, this risk would likely be intensified should NATO undertake a massive conventional campaign to undo what Russia has accomplished. Russia's asymmetric advantage in low-yield nuclear weapons and ambiguous doctrine surrounding their use in conventional conflicts could create the potential for miscalculation.⁵⁸ The far better option would be to ensure that NATO has the capability and capacity to prevent Russia from achieving a *fait accompli* by a force of arms in the Baltic region in the first place.

Strengthening Deterrence and Defense in Europe

These challenges and threats are not insurmountable. To strengthen deterrence and defense against Russian aggression, NATO should adopt a strategy that focuses on blunting Russian aggression at the outset of conflict. This strategy could enhance deterrence by presenting a formidable defensive posture that would be difficult to overcome, demonstrating to Russia that any attack on NATO states would not be quick or painless and would likely not succeed. The prospect of a difficult, uncertain, and potentially prolonged conflict could create enough uncertainty in Russia's decision calculus to undermine its confidence that it could realize its

58 For further discussions surrounding Russian escalation control strategy, see Katarzyna Zysk, "Nonstrategic Nuclear Weapons in Russia's Evolving Military Doctrine," *Bulletin of Atomic Scientists* 73, no. 5, 2017; Dmitry (Dima) Adamsky, "Nuclear Incoherence: Deterrence Theory and Non-Strategic Nuclear Weapons in Russia," *Journal of Strategic Studies* 37, no. 1, 2014; Jay Ross, "Time to Terminate Escalate to De-Escalate—It's Escalation Control," *War on the Rocks*, April 24, 2018, available at <https://warontherocks.com/2018/04/time-to-terminate-escalate-to-de-escalateits-escalation-control/>; Olga Oliker, *Russia's Nuclear Doctrine: What We Know, What We Don't, and What That Means* (Washington, DC: Center for Strategic and International Studies, 2016); and Bruno Tertrais, "Russia's Nuclear Policy: Worrying for the Wrong Reasons," *Survival* 60, no. 2, 2018. For examples of plausible scenarios that could lead to nuclear escalation, see Kühn, *Preventing Escalation in the Baltics*, pp. 42–47.

theory of victory. This strategy could convince Moscow that even when it feels compelled to act, de-escalation and negotiation are a better option than gambling on a risky and costly war.

If deterrence did fail, this strategy would strengthen NATO's ability to defend against and ultimately defeat Russian aggression. At a minimum, it would raise the costs of Russian aggression, buy time for reinforcements to arrive, and put the Alliance in a more favorable position for an eventual counteroffensive to undo Russia's temporary gains. Furthermore, it could reinforce Alliance resolve by increasing confidence among member states that NATO's forces would ultimately prevail if Russia initiated a conflict.

The viability of this strategy would depend heavily on the ability of NATO to offset Russia's time-distance advantage in order to negate Russia's theory of victory. NATO's initial defensive posture would need to be sufficiently lethal and robust to blunt Russian invasion forces at the outset of conflict in order to delay a decisive Russian victory and buy time for NATO to respond, as well as degrade Russian A2/AD capabilities to assure access and freedom of maneuver for reinforcements. Moreover, this posture would need to be sufficiently resilient to accomplish these tasks while persisting under intense and sustained multi-domain attacks. NATO would need to be able to reinforce its forward forces quickly to offset Russia's initial advantage in the correlation of forces, counter Russian attempts to send in reinforcements, and demonstrate that each day the conflict continues, Russia would face a growing Alliance military force.

The next chapter addresses changes to the U.S. military's future force posture in Europe that could support these objectives.

CHAPTER 2

Enhancing the U.S. Force Posture in Europe

This chapter addresses enhancements to the U.S. military's forward posture in Europe that could undermine Russia's confidence in its theory of victory. A more robust posture would enable the United States and its allies to blunt an initial Russian attack on one or more of NATO's eastern frontline states and convince Russian leaders contemplating such an action that a victory would be neither quick nor relatively painless. The need to quickly overcome a more formidable U.S. posture would require Russia to attack in greater force than would otherwise be the case. A greatly increased Russian "opening bid" level of effort would not only raise the stakes of a conflict, but the movement and massing of a larger force needed for its initial assault would likely provide earlier indications and warning (I&W) to NATO of a pending attack. Moreover, enhancements to the U.S. military's forward posture would offer concrete evidence that the United States was fully committed to defending its NATO Allies. These effects could give Russia pause and raise the prospect that an attack on NATO would mire Russia in a war that it could not win.

If deterrence fails, an enhanced U.S. forward posture that is more lethal and resilient would form the core of initial NATO operations to blunt Russian aggression and suppress its A2/AD capabilities at the outset of a conflict. These initial defensive operations could degrade and delay Russian invasion forces in order to buy time for NATO to respond with enough reinforcements to defeat Russia's campaign. At the same time, an enhanced U.S. forward posture could enable it to attack and degrade Russian A2/AD capabilities in Kaliningrad and other

key areas both to facilitate the arrival of NATO reinforcements and to increase the freedom of action for NATO forces across the battlespace.⁵⁹

Forward Posture Considerations

Given the centrality of Russia's time-distance advantage to its theory of victory, the amount of time available to react to Russian aggression should be a key factor that shapes the U.S. military's future European posture requirements. Reaction times depend on the underlying assumptions regarding I&W, the speed of political decision-making, and the responsiveness of both forward forces and reinforcing forces arriving from outside a theater of operations. If it is assumed that there will be ample I&W of an impending Russian attack on Poland or the Baltic states, that a NATO decision to act will be quick, and that both forward and reinforcing forces will be able to engage against Russian forces before they can achieve their military objectives, then NATO has a longer window of time to react to pending Russian action. A longer reaction timeline might justify maintaining a smaller and less ready U.S. force posture in Western Europe. If it is assumed, however, that I&W timelines will be short, that political decision-making will be slow, and that forces will not be able to mobilize and move to the fight in time to prevent Russia from achieving its objectives, then NATO has a much shorter time in which to act.⁶⁰

Forward Posturing U.S. Forces in Poland

One approach to compensate for reduced response times would be to create a more robust, ready U.S. military posture that is positioned closer to areas that Russia could target in the future, such as the Baltic region. For instance, increasing the U.S. military's posture in Poland would strengthen NATO's ability to deter and defend against Russian aggression against Poland and the Baltic states that could occur with little or no I&W. U.S. forces in Poland would have shorter response times compared to forces that are stationed in the United States or even forces postured further west in Europe, which would allow them to immediately begin degrading Russian A2/AD capabilities and maneuvering to defend threatened points along

59 The recommendations offered in this chapter align well with the statement of General Curtis M. Scaparrotti to the Senate Armed Services Committee, as well as the findings of the National Defense Strategy Commission report. For example, General Scaparrotti's statement identifies an armor division, the ability to rapidly receive reinforcing air forces, air and missile defense, and hardening as key capabilities. The National Defense Strategy Commission report identifies similar needs such as a corps headquarters, as well as additional armor, fires, air and missile defense, and engineering assets. See General Curtis M. Scaparrotti, Commander United States European Command, statement to the Senate Armed Services Committee, March 8, 2018, available at <https://www.eucom.mil/media-library/documents>; and National Defense Strategy Commission, *Providing for the Common Defense: The Assessment and Recommendations of the National Defense Strategy Commission* (Washington, DC: United States Institute of Peace, 2018), p. 34. This role for U.S. forward posture aligns with the Blunt Layer of the new U.S. Global Operating Model described in the U.S. 2018 National Defense Strategy. The Blunt Layer is designed to "degrade, delay, or deny adversary aggression." DoD, *Summary of the 2018 National Defense Strategy of the United States of America*, p. 7.

60 Another way to think about NATO response timelines and their underlying assumptions is in terms of risk. Greater tolerance for risk would allow for a more reactive posture, while less tolerance would necessitate a more forward and proactive posture.

NATO's eastern frontier. Forward posturing forces in Poland would also help negate Russian efforts to isolate the area of conflict, because these forces would already be positioned east of many of the strategic choke points in Western and Central Europe, such as major river crossings, that could be vulnerable to interdiction by Russian anti-access capabilities. Poland's geographic depth would leave U.S. forces there less vulnerable to an initial salvo by Russian area-denial capabilities than if they were positioned in the Baltic states. Moreover, forces in Poland would not be isolated by a Russian thrust that seizes the Suwalki Gap and interdicts sea lines of communication through the Baltic Sea. At the same time, forces in Poland could move rapidly to contest an attempted seizure of the Suwalki Gap to prevent the isolation of the Baltic states or to contest Russian aggression in the Baltic region north of the Suwalki Gap.

There are potential drawbacks to expanding the U.S. forward posture in Poland. Sustaining these forces in Poland would cost more than surge forces based in the United States.⁶¹ More significantly, a large and enduring force presence along NATO's eastern frontier could be viewed as provocative by Russia and perhaps some NATO states.⁶² However, the potential for a Russian response to this "provocation" could be reduced by spreading posture enhancements out over time.⁶³

Permanently Stationed vs. Rotational Presence

The United States could enhance its military posture in Poland by rotating units based in the United States to Poland or permanently stationing forces in Poland.⁶⁴ From an operational perspective, there are advantages and disadvantages to each approach.⁶⁵ The primary advantage of rotational forces is their high degree of readiness upon arrival in the theater and their capacity to sustain a high operational tempo during their deployment.⁶⁶ Moreover, the regular movement of large formations of forces from the United States to Europe would improve the U.S. military's readiness to deploy and demonstrates its ability to surge in a crisis.⁶⁷ However, rotational presence imposes a significant demand on forces and their readiness over time.

61 This does not take into account the potential for host nation support to offset some or all of the added costs associated with permanently basing additional forces in Poland.

62 There is a continuing debate about the implications of the NATO-Russia Founding Act for additional U.S. posture along the Alliance's eastern frontier. See Ben Hodges, "Don't Put U.S. Bases in Poland," *Politico*, June 6, 2018, available at <https://www.politico.eu/article/dont-put-us-bases-in-poland/>; and Michael Hunzeker and Alexander Lanoszka, "The Case for a Permanent U.S. Military Presence in Poland," *War on the Rocks*, October 22, 2018, available at <https://warontherocks.com/2018/10/the-case-for-a-permanent-u-s-military-presence-in-poland/>.

63 Kühn, *Preventing Escalation in the Baltics*, pp. 8, 30–32.

64 Or this could be accomplished by adopting a combination of both measures.

65 For an in-depth discussion of forwarding stationing versus rotational presence, see John R. Deni, *Rotational Deployments vs. Forward Stationing: How Can the Army Achieve Assurance and Deterrence Efficiently and Effectively?* (Carlisle, PA: U.S. United States Army War College Press, 2017), p. xviii, available at <http://publications.armywarcollege.edu/pubs/3359.pdf>.

66 Deni, *Rotational Deployments vs. Forward Stationing*, pp. 26–27.

67 *Ibid.*, p. 28.

For example, it typically requires three Army units to maintain a continuous presence of one rotational unit in Europe; one is forward, one is training for the next deployment, and one is recovering from a recent deployment.

Permanently based forces would have additional time to develop knowledge and gain experience in operating in the potential battlespace compared to rotational units.⁶⁸ They would also have greater opportunity to build deep and enduring relationships with their allied counterparts that are important to the interoperability and cohesion of allied operations.⁶⁹ Permanently basing forces in Europe would impose less strain on forces over time, since it would reduce the need to train and recover units from temporary deployments. It would also strongly signal that the United States is committed to defending NATO's frontline states and the security of NATO member states in the region is not negotiable. One disadvantage to permanently stationing forces in Europe is the potential loss of some flexibility in using these forces to respond to a crisis in another region.⁷⁰

Pre-positioning Stocks Complement Forward Stationed Forces

Additional pre-positioned stocks of equipment (PREPO) could help bridge the gap between U.S. forces postured in Europe and those that need to deploy to Europe in a crisis with their equipment via strategic airlift and sealift.⁷¹ Since 2015, the United States has invested more than \$4 billion to enhance Army Prepositioned Stocks (APS) in Europe through the EDI, with another \$3.2 billion planned in 2019, but additional augmentation is still needed.⁷² Although pre-positioned equipment stocks could help speed the arrival of the first echelon of reinforcing ground units, PREPO does not have the same deterrent value as in-place forces. As such, additional PREPO should be considered as a *complement* to forward postured forces rather than a substitute for them.

68 Ibid., p. 27.

69 The U.S. 2018 National Defense Strategy emphasizes building greater interoperability and cohesion with allies and partners. DoD, *Summary of the 2018 National Defense Strategy of the United States of America*, p. 9.

70 The U.S. 2018 National Defense Strategy argues for more flexible and agile theater postures. Ibid., p. 7.

71 The forward pre-positioning of equipment sets for heavy ground forces, as well as stockpiles of munitions and sustainment material, has long been a central feature of U.S. support for NATO's collective defense. During the Cold War, the United States maintained substantial equipment sets for heavy ground forces called Prepositioning of Materiel Configured in Unit Sets (POMCUS) at sites across Western Europe. However, the United States has long since divested of its Cold War-era pre-positioned stocks. Mark Stout, "(W)Archives: Prepositioning Combat Equipment in Europe? Been There, Done That," *War on the Rocks*, June 19, 2015, available at <https://warontherocks.com/2015/06/warchives-prepositioning-combat-equipment-in-europe-been-there-done-that/>.

72 OUSD(C), *European Deterrence Initiative: Department of Defense Budget Fiscal Year 2019*; and Towell and Kazlauskas, "The European Deterrence Initiative: A Budgetary Overview," p. 2.

Recommendations for Enhancing the U.S. Military's European Posture

To enable a strategy for deterrence and defense that focuses on blunting Russian aggression and preventing a *fait accompli*, the United States should pursue posture enhancements that increase the lethality and resiliency of its forward forces in the opening days of a conflict.⁷³ Recommendations in this section, in conjunction with existing and planned U.S. posture initiatives, would help ensure that all forces necessary to aggregate a U.S. Army division would be present in or near Poland and ready for operations regardless of I&W of Russian action.⁷⁴ As noted above, posturing these forces in Poland would help maintain a balance between NATO's ability to respond quickly and their vulnerability to attack. While elements of these forces should regularly deploy to other allied states to conduct exercises, to augment NATO's presence, or to deter potential Russian actions, centrally basing them in Poland would better allow them to aggregate into a cohesive and combat-credible force in response to a major Russian attack. A fully enabled U.S. division would be sufficiently lethal and resilient to serve as the core ground force combat element to support initial NATO defensive operations to contest invading Russian forces.⁷⁵ The United States should also undertake measures that mitigate Russia's time-distance advantage by increasing the responsiveness of U.S. forward forces and reducing the time needed to reinforce them with additional air and ground forces. These recommendations should be considered additive to those already planned as part of the EDI.

73 The U.S. 2018 National Defense Strategy stresses the importance of the lethality and resiliency of U.S. military forward postures against multi-domain attack. DoD, *Summary of the 2018 National Defense Strategy of the United States of America*, p. 6.

74 The current U.S. posture in Poland includes a division-level mission command element, an ABCT, a Stryker infantry battalion from the 2nd Cavalry Regiment serving as the Poland eFP battlegroup, limited combat support enablers, and a sustainment task force. The recommended enhancements would increase U.S. posture in Poland to a division headquarters, two ABCTs, a Stryker infantry battalion, a DIVARTY with two subordinate rocket artillery battalions, a SHORAD battalion, a full complement of combat support enablers, and a sustainment brigade. A rotational combat aviation brigade currently postured primarily in Germany could serve as the division aviation element, while the third maneuver brigade could either consist of the rest of the 2nd Cavalry Regiment deployed from Germany or an allied brigade, such as a Polish brigade, the VJTF, or a rapid deploying brigade from another ally like the United Kingdom. "Atlantic Resolve Armored Rotation: 1st Armored Brigade Combat Team, 1st Infantry Division," and "Atlantic Resolve Logistical Rotation: Sustainment Task Force," U.S. Army Europe Public Affairs Office; and Wick, "Aviation Brigade Rotation in Europe."

75 According to the Army's MDO concepts, "Forward posture forces immediately contest the enemy attack" and deny enemy objectives in the close area. The division remains the U.S. Army's primary tactical formation for high-intensity land combat in the close area, and it is the lowest echelon that integrates all multi-domain capabilities necessary to conduct independent maneuver and operate within the most highly contested areas of the battlefield early in a conflict. U.S. Army Training and Doctrine Command (TRADOC), "The U.S. Army in Multi-Domain Operations 2028," TRADOC Pamphlet 525-3-1, December 6, 2018, pp. 19, 23, and 33, available at https://www.tradoc.army.mil/Portals/14/Documents/MDO/TP525-3-1_30Nov2018.pdf.

Permanently Base a U.S. Division Headquarters in Poland and a U.S. Corps Headquarters in Germany

Currently, a U.S. division-level mission command element is postured on a rotational basis in Poland, primarily to coordinate exercises for U.S. forces along NATO's eastern frontier.⁷⁶ This element would need to be augmented in order to command and control a division-sized formation during combat operations. Permanently basing a division headquarters in Poland would meet this requirement.

In the U.S. Army's emerging Multi-Domain Operations concept, corps headquarters play a critical role in integrating and employing key multi-domain capabilities such as long-range fires, offensive cyber, and national-level ISR assets to degrade A2/AD threats and attrite an enemy's invading forces.⁷⁷ These capabilities would be crucial early in a conflict, particularly with respect to degrading Russian A2/AD weapons systems in Kaliningrad and other key areas.⁷⁸

Although corps headquarters are highly expeditionary units, an in-place corps headquarters in Germany would help build cohesion and interoperability across U.S. formations and with allied forces.⁷⁹ This would improve its ability to transition seamlessly to combat operations at the start of a conflict. It would also help headquarters personnel to gain awareness of the multi-domain battlespace, including the EMS as well as key physical terrain features of the region, that would be critical in an operation against Russian forces. Finally, since corps headquarters serve to command and control the operations of multiple divisions, having the corps in place would allow it to integrate and employ reinforcing divisions arriving in the theater more quickly.⁸⁰

Permanently Base U.S. Fires and Air Defense Units in Poland

Future mobile U.S. fires units based in Poland would be able to use their organic SRBMs and long-range guided rockets to strike Russian A2/AD capabilities and contest Russian invasion forces at the start of conflict. These attacks could help create gaps in Russia's A2/AD umbrella that other U.S. and combined forces, including their air forces, could exploit. In addition to U.S. long-range strike aircraft, these fires would likely be the first assets used to attack Russian forces. They may be required to fill the gap in close air support and battlefield air interdiction in the early days of a conflict until Russia's IADS are degraded sufficiently to allow NATO's non-stealth combat aircraft to be brought to bear. As such, the United States should base a

⁷⁶ Towell and Kazlauskas, "The European Deterrence Initiative: A Budgetary Overview," p. 2.

⁷⁷ U.S. Army TRADOC, "The U.S. Army in Multi-Domain Operations 2028."

⁷⁸ For example, an in-place corps headquarters could immediately employ the 41st Field Artillery Brigade, which was recently reconstituted in Germany with two rocket artillery battalions, to provide precision long-range fires in support of Joint and allied efforts to degrade the Kaliningrad IADS.

⁷⁹ This corps headquarters could have a forward element in Poland.

⁸⁰ U.S. Army TRADOC, "The U.S. Army in Multi-Domain Operations 2028," p. 22.

division artillery (DIVARTY) headquarters with at least two subordinate rocket artillery battalions in Poland.⁸¹ The headquarters would provide the command and control necessary to mass and integrate kinetic and non-kinetic fires. The two rocket artillery battalions could provide indirect fires in support of Alliance forces and use their SRBMs and guided rockets to strike Russian targets in Kaliningrad, Belarus, and the Western Military District at the start of a conflict.

Defending against cruise missiles, fixed-wing aircraft, attack helicopters, unmanned aerial systems (UAS) and other combat air platforms is critical to the ability of ground forces to operate within the highly contested, forward edge of the battlespace. These air defenses would need to be in place when a conflict with Russia begins in order to protect U.S. and Alliance forces and bases from air and missile attacks. Currently, there are *no* U.S. ground-based air defense assets stationed in Poland. To improve the ability of U.S. and NATO forces to survive Russian long-range fires and persist in forward areas while under multi-domain attack, the United States should permanently base a short-range air defense (SHORAD) battalion in Poland.⁸² Future SHORAD capabilities could include ground-based high-energy lasers, high-power microwave systems that can affect critical electronic components in cruise missiles and drones, and lower-cost surface-to-air missiles. Combined with the Patriot missile defense system and other existing defenses, these kinetic and non-kinetic capabilities would greatly increase the Army's ability to engage a large number of Russian air and missile threats.⁸³ Additional SHORAD capabilities are also needed to defend U.S. bases, C3 nodes, and lines of communication in Poland and elsewhere in Europe.⁸⁴

Permanently Base Division Enablers in Poland

Forward basing key combat support capabilities, such as ISR assets, engineers, and EW systems would enable U.S. ground combat forces in Europe to more rapidly engage Russian forces and A2/AD threats at the start of a conflict. Moreover, these combat support enablers would play a role in countering Russian gray zone activities and could help prepare the

81 The division artillery headquarters is an O-6 level command without assigned firing battalions that serves to coordinate and integrate divisional fires. However, in accordance with U.S. Army doctrine, division artillery headquarters are usually augmented with reinforcing artillery battalions from the corps level. The 41st Field Artillery Brigade in Germany is likely intended to serve as a corps-level fire element, so the division artillery and reinforcing artillery battalions would be additive beyond this formation. These units can either man the field artillery brigade equipment set in APS or deploy forward (or constitute) in Poland with their equipment.

82 This battalion can either consist of 5-4 Air Defense Artillery repositioning from Germany, a unit manning the SHORAD battalion equipment set contained in APS, or a unit deploying forward (or constituting) with equipment in Poland. Either repositioning the 5-4 Air Defense Artillery from Germany or manning the SHORAD battalion equipment set in APS would create a gap, however, that would need to be backfilled.

83 For more information on maturing technologies and their near-term potential to support the development of higher capacity air and missile defenses, see Mark Gunzinger and Bryan Clark, *Winning the Salvo Competition: Rebalancing America's Air and Missile Defenses* (Washington, DC: Center for Strategic and Budgetary Assessments, 2016); and Gunzinger and Rehberg, *Air and Missile Defense at a Crossroads*.

84 Currently U.S. ground-based air defense posture in Europe includes one patriot battalion and one SHORAD battalion. The amount of additional air defenses that may be needed requires further analysis.

battlespace for major operations. To cite two examples, manned and unmanned ISR assets could help detect Russian malign behavior and improve I&W of a pending attack, and Army engineers could improve lines of communication and build field fortifications in likely operational areas.

U.S. rotational forces postured in Poland as part of Operation Atlantic Resolve are supported by a sustainment task force consisting of a combat support sustainment battalion and a movement control battalion.⁸⁵ Augmenting this task force with a brigade headquarters, which it now lacks, would provide it with C2 and planning capabilities necessary to support a division-sized ground combat formation during high-intensity operations.⁸⁶

Posture an Additional ABCT in Europe by Manning an ABCT Equipment Set from APS

Fully manning one of the two ABCT equipment sets in APS would increase the U.S. presence of heavy armored maneuver forces in Europe by 100 percent.⁸⁷ In peacetime, a second ABCT in Europe would create additional opportunities for conducting training and exercises with allied forces to build cohesion and interoperability, especially with the Polish military, which also possesses a robust heavy armor capability in its ground forces. In a crisis, a second ABCT postured Europe would ensure that the U.S. military could engage in combat operations at the start of a conflict regardless of I&W. A division formation built around two ABCTs would likewise present a more formidable force for a Russian attack to overcome.⁸⁸ Concentrating the ABCT in Poland rather than breaking it up into sub-elements that would be spread out across the Alliance's eastern frontier would prevent it from being vulnerable to isolation and defeat in detail. It would also co-locate the ABCT with the key enabling capabilities needed to make it fully combat effective, which should serve to increase its deterrent value. The presence of eFP battlegroups, regular U.S. and NATO exercises in their territory, and the confidence that combat-credible U.S. forces could rapidly respond to Russian aggression should be enough to assure the Baltic states.

From an Army force management perspective, permanently basing rather than rotationally sourcing this ABCT would also help mitigate force readiness and other issues related to

85 "Atlantic Resolve Logistical Rotation: Sustainment Task Force," U.S. Army Europe Public Affairs Office.

86 Currently, the sustainment task force is overseen by the 16th Sustainment Brigade. This brigade, however, is the 21st Theater Sustainment Command's primary theater sustainment assets and will likely be occupied with executing theater-level tasks to provide adequate C2 of divisional sustainment assets in Poland during a conflict. Ibid.

87 While two ABCTs might seem like an overly large forward posture, the U.S. military had two heavy brigade combat teams permanently stationed in Europe as recently as 2012.

88 Heavy motorized rifle and tank formations equipped with MBTs and IFVs comprise the bulk of Russian ground forces, Russian airborne forces possess light armored vehicles. See DIA, *Russia Military Power*, pp. 50–54; Shlapak and Johnson, *Reinforcing Deterrence on NATO's Eastern Flank*, pp. 5, 8–9; and Boston, Johnson, Beauchamp-Mustafaga, and Crane, *Assessing the Conventional Force Imbalance in Europe*, pp. 8–9.

supporting rotational ABCTs in Europe.⁸⁹ However, the United States, in consultation with its allies, should consider all political and resource implications of permanently basing or rotationally sourcing a second U.S. ABCT in Europe, and whether it should be in Poland or another location.

Create a Resilient Web of Intra-Theater Communications

From 2015 to 2018, the EDI and other U.S. efforts invested \$840 million on infrastructure improvements in Europe, with another \$828 million planned for 2019.⁹⁰ Much of this funding was allocated to improving infrastructure for the reception, staging, onward movement, and integration (RSOI) of follow-on forces, as well as for constructing and upgrading airfields, seaports of debarkation, ammunition storage areas, staging and marshalling areas, railhead and rail extensions, and large bulk fuel storage facilities.⁹¹ In conjunction with host nation support, the United States should continue these efforts and pursue the development of a lines of communication “web” that would provide multiple, redundant paths for the movement of forces and material through Europe to NATO’s eastern frontier. Improving road and rail networks, key transportation infrastructure, basing, and RSOI infrastructure to decrease the number of nodes or choke points that are vulnerable to Russian interdiction would be a step toward creating this web. Forward positioning additional bridging assets, both to support the tactical mobility of forces operating at the battle’s forward edge and to provide rapid bridging repair capabilities, would further improve the resiliency of a future intra-theater line of communications web. U.S. efforts should focus on the U.S. military’s infrastructure in Europe and providing its forces with sufficient engineering support. Host nation efforts should focus on improving dual-use civilian infrastructure.

Enhance Pre-positioned Equipment Sets, Munitions Stocks, and Sustainment Material

Today, it would require at least 30 days for the lead elements of the NATO Response Force’s Initial Follow-on Forces Group (IFFG) or forces from the U.S. homeland, whose equipment must be deployed via strategic sealift, to deploy and be ready for combat operations along

89 To provide the continuous presence of two rotationally sourced ABCTs, the Army would have to allocate six ABCTs to the task. This would be 55 percent of the current active ABCT force structure or 40 percent of the total force ABCT force structure.

90 OUSD(C), *European Deterrence Initiative: Department of Defense Budget Fiscal Year 2019*, pp. 1, 14–16; and Towell and Kazlauskas, “The European Deterrence Initiative: A Budgetary Overview,” p. 2.

91 Other efforts include improvement to port opening and movement control units and pre-positioning European Contingency Air Operations Sets (ECAOS) that enable the rapid opening of air bases capable of supporting distributed air operations. Ibid.

NATO's eastern frontier.⁹² This is a significant capability shortfall given Russia's early advantage in force ratios and its ability to quickly commit additional forces to a conflict in the region. Additional U.S. pre-positioned equipment sets could help bridge this gap. Additional pre-positioned materials would allow initial U.S. reinforcing units to arrive in theater via airlift, draw equipment, move to forward areas, and commence combat operations more quickly than forces that must deploy with their equipment via sealift. Ensuring there are sufficient equipment sets in APS for division headquarters and its associated enablers would allow the U.S. to reinforce ground forces fighting in Poland or the Baltic states with a division-level formation in a matter of weeks.⁹³ The ABCT equipment set already contained in APS could support the nucleus of the division's maneuver element, which could then be filled out by integrating other U.S. or allied maneuver brigades already in Europe, such as the VJTF.⁹⁴ The extent of augmentation required to ensure APS contains sufficient equipment for a division headquarters and its associated enablers would depend on whether increases to U.S. forces postured in Poland would be realized by permanently manning equipment sets in APS. If so, those sets would need to be backfilled with new equipment.

The United States should also augment APS with equipment sets for corps-level enablers.⁹⁵ Doing so, in conjunction with the other forward posture recommendations made in this monograph, would enable the United States to aggregate rapidly and employ a fully enabled, two-division corps formation. These initiatives would be complemented by provisioning the European Munitions Starter Set with additional munitions and increasing stocks of sustainment material such as fuel and spare parts to support at least 30 days of combat operations.⁹⁶ Figure 4 summarizes recommended enhancements to U.S. Army forward postured forces and prepositioned equipment sets and organizes them into an illustrative corps and division structure.

92 The Initial Follow-on Forces Group (IFFG) consists of a brigade-sized ground combat element similar to the VJTF available 30 days after being alerted and a second brigade-sized ground combat formation available 45 days after being alerted. However, NATO's 30-30-30 initiative—which plans to have 30 battalion battlegroups, 30 fighter squadrons, and 30 ships available for operations 30 days after being alerted—will likely become the IFFG if it is implemented. Robin Emmott and Idrees Ali, “U.S. Pushes NATO to Ready More Forces to Deter Russian Threat,” *Reuters*, June 5, 2018, available at <https://www.reuters.com/article/us-nato-russia/us-pushes-nato-to-ready-more-forces-to-deter-russian-threat-idUSKCN1J11L4>.

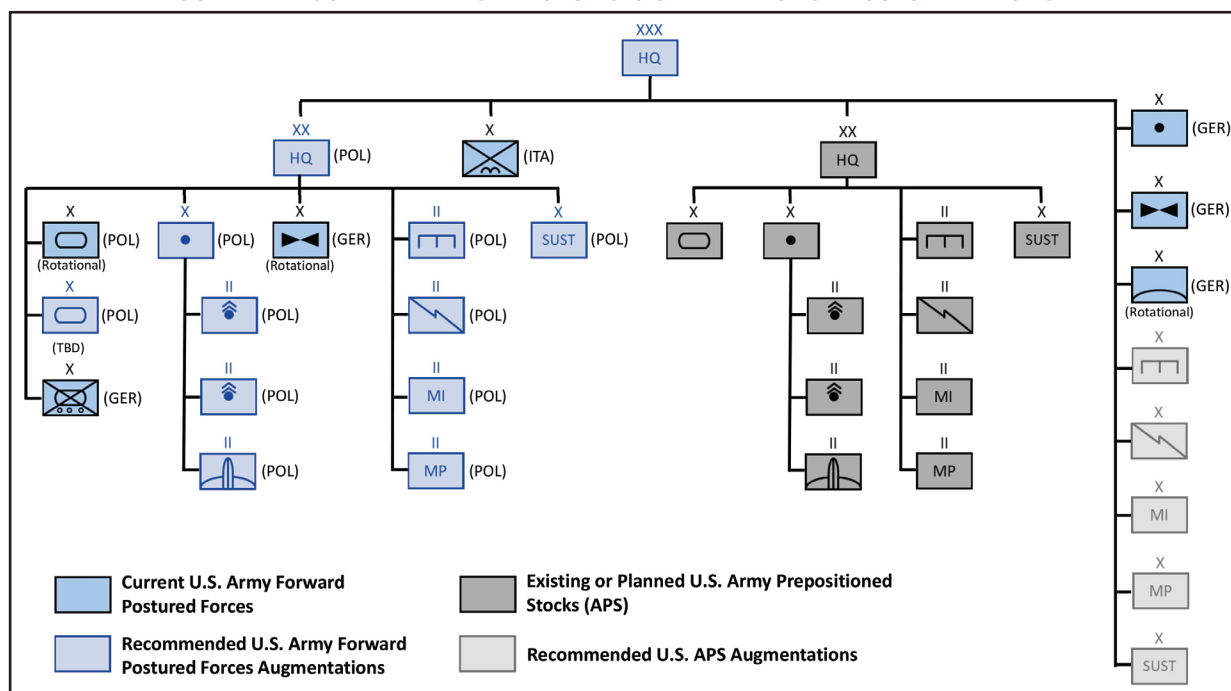
93 APS is currently planned to include equipment sets for a division headquarters, two ABCTs, a field artillery brigade with two subordinate artillery battalions (which could serve as the equipment for a division artillery), a SHORAD battalion, and combat support and service support enablers sufficient for a division-level formation. OUSD(C), *European Deterrence Initiative: Department of Defense Budget Fiscal Year 2019*; and Towell and Kazlauskas, “The European Deterrence Initiative: A Budgetary Overview,” p. 2.

94 This assumes that one of the two ABCT equipment sets planned for APS would be manned to increase the ABCT presence in Europe, per the report's earlier recommendation.

95 The 41st Field Artillery Brigade and 12th Combat Aviation Brigade, both forward stationed in Europe, are likely intended to serve as corps-level assets.

96 OUSD(C), *European Deterrence Initiative: Department of Defense Budget Fiscal Year 2019*, p. 13; and Towell and Kazlauskas, “The European Deterrence Initiative: A Budgetary Overview,” p. 2.

FIGURE 4: RECOMMENDED CHANGES TO U.S. ARMY FORCE POSTURE IN EUROPE



*Note: This organizational chart assumes that the rotational air defense artillery brigade headquarters, permanently stationed SHORAD battalion (5-4 Air Defense Artillery), and permanently stationed Patriot battalion (5-7 Air Defense Artillery) located in Germany would be corps level assets in a conflict

Increase the Resiliency of Forward-Postured Forces and Infrastructure

The threat posed by Russia's A2/AD capabilities places a high premium on improving the resiliency of U.S. forces, U.S. bases, and local infrastructure located in allied states, especially early in a conflict when Russia possesses its full inventory of weapons systems and munitions. It also suggests that if forces can quickly relocate to the theater, such as air forces, then bases should be prepared to rapidly receive aircraft and operate them in a distributed fashion rather than risk a damaging first strike. Today, U.S. forces and bases in Europe have few defenses against high-volume Russian air and missile attacks. Additional active air and missile defenses would increase the resiliency of U.S. and NATO air bases, RSOI areas, ports, and key C3 and sustainment nodes. These active defenses would be complemented by advanced camouflage, concealment, and deception (CCD) capabilities such as false emitters, decoys, and multi-spectral camouflage netting, as well as electronic attack assets that disrupt Russia's C3ISR operations; these would increase the number of weapons that Russia must use to ensure actual targets are attacked. Other passive defense measures include hardening U.S. and NATO bases, distributing critical base functions, and increasing base rapid repair capabilities. Combined, these active and passive measures would increase the resiliency of the U.S. and NATO forces and bases, possibly to the point that would exceed Russia's long-range strike capacity.

Summary

An enhanced U.S. forward posture in Poland and Europe would strengthen deterrence by countering key advantages that Russia perceives as necessary for achieving its objectives in the event of a conflict with NATO. If deterrence were to fail, an enhanced U.S. posture would better enable NATO to contest a Russian attack at the start of a conflict and prevent Russia from achieving its objectives long enough to buy time for U.S. and NATO reinforcements to arrive. By stationing forces nearer to potential Russian objectives, the U.S. military could reduce Russia's time-distance advantage and shorten U.S. and allied operational timelines during the critical first days of combat operations. At the same time, an enhanced U.S. posture could help degrade Russian A2/AD capabilities, particularly in Kaliningrad, both to facilitate the arrival of reinforcements and to enable subsequent NATO operations. Together, these effects could undermine Russia's confidence in its prospects for victory.

CHAPTER 3

Polish Capability and Force Structure Improvements

Given its geographic position, Poland will remain central to NATO's ability to deter and, if necessary, defeat Russian aggression in the Baltic region. Poland, which now has the most capable NATO military force located on the Alliance's eastern frontier, does not require a *larger* force structure to be able to defend against Russian aggression. It does, however, need a more ready and modern force than it currently possesses. Since 2014, Poland has significantly increased defense spending and the Polish military has taken important steps toward these ends by replacing obsolete Soviet and post-Soviet force structure with more capable modern systems. The modernization of Poland's Leopard 2A4 tanks to the 2PL standard, the acquisition of over 100 Leopard 2A5s in 2015, improvements to the Polish Army's artillery (like the Krab self-propelled howitzer) and air and missile defenses (including new Patriot batteries) significantly improved the combat effectiveness of Poland's armed forces.⁹⁷ However, much of Poland's ambitious military modernization plans have faced delays in recent years, including critical improvements to its combat, ISR, and sustainment capabilities.⁹⁸ These delays have affected all three of Poland's military services. If Poland is to remain the central player in the defense of the Baltic region, it must modernize its forces and acquire new capabilities that will be effective against an increasingly lethal Russian military.

97 Remigiusz Wilk and Lucy Bullen, "At a Crossroads: Polish Procurement Priorities," *Jane's Defence Weekly*, August 15, 2018.

98 Maciej Kucharczyk, "Modernizing Poland's Armed Forces," *The Warsaw Institute Review*, March 1, 2017, available at <https://warsawinstitute.org/modernizing-polands-armed-forces/>; and Wilk and Bullen, "At a Crossroads."

Role of the Polish Military in Strengthening Alliance Deterrence and Defense

The Polish military will remain key to a larger strategy for defending NATO's eastern frontier against Russian aggression. Given Poland's proximity to Kaliningrad, Belarus, and the Baltic states, Polish forces could join other allied forces in contesting Russian attacks into neighboring NATO states, particularly Lithuania, and help degrade Russian A2/AD capabilities in Kaliningrad and Belarus. It could accomplish these functions by employing its ISR capabilities to facilitate targeting for allied forces, using its long-range fires and counter-C3ISR capabilities to disrupt Russian offensive and defensive fires, and attacking Russian forces and A2/AD systems located outside of Polish territory. It is unlikely that these actions, especially Polish strikes against Russian A2/AD systems in Kaliningrad, would be perceived as highly escalatory if they were in response to Russian attacks on Poland. Polish forces could also facilitate the rapid movement across its territory of reinforcing U.S. and NATO forces to improve the Alliance's defenses during a crisis or a conflict.

A scenario in which Russia seeks to seize a land bridge to Kaliningrad through Lithuania provides an example of how the Polish military could perform these roles. In such a scenario, the Polish military could defend eastern and northeastern Poland against Russian attacks while protecting and repairing ground lines of communication within Poland to facilitate the movement of NATO reinforcements to the conflict area. At the same time, Polish forces could employ their ISR and long-range fires to attack Russian A2/AD capabilities in Kaliningrad and Belarus, as well as integrate an armored brigade into a U.S.-led division to defend the Suwalki Gap.

The following recommended force readiness, capability, and modernization initiatives would improve the Polish military's ability to perform these critical roles as part of a larger Alliance strategy to deter and defend against Russian aggression.

Key Recommendations

The Polish military should take four steps to enhance the combat effectiveness of its forces and improve its infrastructure. First, Poland should improve the readiness of its forces to rapidly respond to aggression, blunt Russian attacks at the outset of conflict, and better sustain combat operations over an extended period. Second, Poland should invest in key enabling capabilities such as precision fires, higher capacity air and missile defenses, ISR, electronic warfare, cyber, and engineering and sustainment capabilities to increase the lethality and survivability of its forces in all operating domains. Third, Poland should replace its aging Soviet-era equipment as rapidly as possible with new capabilities that are better suited to modern high-intensity warfare and would better integrate with other NATO capabilities. Fourth, it should invest in improving the resiliency and capacity of its C3, basing, deployment, and sustainment infrastructure to support future combat operations and to facilitate the rapid transit of U.S. and other NATO forces to the conflict area.

Improve Military Readiness Including Stocks of Munitions and Sustainment Materiel

Increasing the readiness of the Polish military's existing forces, particularly its Army maneuver divisions, should be the Polish military's highest priority.⁹⁹ Improving readiness could enhance deterrence by demonstrating to Russia that Poland is ready to respond immediately to an attack. If deterrence were to fail, a ready force would be essential to defending against Russian attacks and helping NATO to prevent a Russian *fait accompli*. Efforts to improve readiness should focus on three areas. First, Poland should increase the intensity and realism of its training, to improve combat effectiveness, as well as the number and scale of combined exercises with U.S. forces, to enhance interoperability and cohesion. Second, Poland should invest in personnel readiness and maintenance of its equipment to ensure that its military formations are fully manned and ready to mobilize for combat operations with little or no warning. Third, Poland should increase its munitions stocks, particularly inventories of key munitions such as guided rockets, anti-tank missiles, and air defense munitions. Increasing stocks of other consumables, such as fuel and spare parts, would also help prepare Polish forces for high-intensity combat operations.

Increase Key Enabling Capabilities

The Polish military should prioritize enlarging and modernizing key enabling capabilities over further expanding the size of its ground maneuver forces. These enablers should include capabilities that would enhance the lethality and resilience of Poland's existing maneuver forces, rendering them more effective in direct engagements with Russian invasion forces. Other priority capabilities could help Poland create its own A2/AD umbrella to counter Russian provocations and attacks. Finally, Poland should invest in capabilities to help degrade Russian A2/AD systems by attacking them directly and disrupting the C3ISR architecture that supports them. The following recommendations are aligned with these priorities.

Air and Missile Defenses. The planned acquisition of eight Patriot Configuration 3+ batteries over the coming decade could help defend Poland's airbases, C2 facilities, critical lines of communication nodes (such as bridges and rail junctions), and seaports from Russian SRBMs.¹⁰⁰ These systems, however, lack sufficient capacity to defeat a large salvo of weapons

99 Poland is currently in the process of expanding its division structure from three to four Army divisions and increasing its maneuver brigades from thirteen to fourteen. Jaroslaw Adamowski, "Amid Russian Buildup, Poland Reacts," *Defense News*, August 27, 2018, available at <https://www.defensenews.com/global/europe/2018/08/27/amid-russian-military-buildup-poland-reacts/>.

100 Ellen Mitchell, "Poland Signs Deal to Buy Patriot Missile Defense System," *The Hill*, March 28, 2018, available at <https://thehill.com/policy/defense/380726-poland-signs-deal-to-buy-patriot-missile-defense-system>.

that could include air-delivered weapons, GLCMs, and other surface-to-surface fires.¹⁰¹ Improving the effectiveness and threat engagement capacity of Poland's medium- and short-range air defenses would help counter these threats.¹⁰² Additional defenses against Russian UAS could disrupt Russia's ability to mass its indirect fires and rocket, artillery, and mortar attacks.

Long-Range Fires. Long-range, ground-based fires could be critical to Poland's ability to contest Russian aggression. Polish land-based mobile indirect fires could attack Russian invasion forces inside and outside Polish territory at the outset of conflict; this would be the primary Polish capability to help degrade Russian A2/AD threats. Poland's recent decision to acquire HIMARS rocket launcher systems would support these missions and strengthen the interoperability of its long-range fires with U.S. and allied forces.¹⁰³ Poland should also continue to upgrade and expand its rocket and cannon artillery capabilities and capacity, including its long-range precision and area effects munitions, for these priority missions.

ISR. The Polish military should expand its ISR capabilities to improve I&W of a pending Russian attack and to enable its combat operations. More robust ISR assets with multispectral sensors could provide targeting information to long-range fires units. These assets should include a capable and diverse set of UAS that could support the targeting of Russian forces operating along Poland's northeast borders, in adjacent countries, and in the Baltic Sea.

Cyber and Electronic Warfare. Cyber and electronic warfare capabilities would enable Polish operations in the battlespace and help protect Poland against Russia's own advanced EW and cyber capabilities. At the very least, protecting Poland's most critical military and civil infrastructure and assets against cyberattacks would help counter Russian warfighting concepts that employ them to disrupt an enemy's military operations. Poland should continue to pursue offensive cyber and electronic attack capabilities that would help degrade Russian A2/AD systems and operations.

101 Polish air and missile defense regiments are split between medium-, short-, and very short-range units. Very short-range air defense (VSHORAD) units are equipped with both mounted and self-propelled missile systems and antiair guns, and Poland is in the process of upgrading its MANPADS to the domestically produced Grom and Piorun systems. Poland's Narew short-range air defense replacement program is intended to replace current systems, and Poland's purchase of two Patriot batteries (with several more intended over the next five to ten years) will provide medium-range defenses for strategic assets. Charlie Gao, "How Poland Would Defend Its Skies from Russia's Missiles and MiGs," *National Interest*, April 22, 2018, available at <https://nationalinterest.org/blog/the-buzz/how-poland-would-defend-its-skies-russia-missiles-migs-25497>; and Jen Judson, "Poland Will Piece Together Its Own Solution for Short-Range Air Defense," *Defense News*, December 12, 2017, available at <https://www.defensenews.com/land/2017/12/12/poland-will-piece-together-its-own-solution-for-short-range-air-defense/>.

102 Hodges, Bugajski, and Doran, *Securing the Suwalki Corridor*, p. 50.

103 Ibid., p. 10; and, Jaroslaw Adamowski, "Poland to Sign \$414 Million Deal for Rocket Launchers," *Defense News*, February 11, 2019, available at <https://www.defensenews.com/global/europe/2019/02/11/poland-to-sign-414-million-deal-for-rocket-launchers/>.

Territorial Defense Forces. Well-trained Territorial Defense Forces (TDF) located in border districts could play a significant role in countering Russian gray zone activities, disrupting and delaying Russian conventional operations, and freeing up active military forces for other tasks.¹⁰⁴ To perform these roles, the future TDF should be equipped with man-portable precision anti-tank weapons, air defense weapons, UAS, mortars, EW systems, and resilient communications. In rear area districts, the TDF could help protect ground lines of communication by defending critical nodes against sabotage, countering attacks and reconnaissance by Russian *Spetsnaz* forces.

Engineers. Additional engineer units would help increase Polish maneuver forces' freedom of action and enable Polish forces to exploit geographic features in Poland's complex north-eastern terrain to inhibit the freedom of movement of attacking Russian forces. These units could also repair and develop workarounds for Polish ground lines of communication infrastructure that are damaged by enemy fires. Advanced pontoon bridging assets that enable crossing of the Vistula and other major rivers in the event key bridges are severely damaged or destroyed would be one particularly important enhancement.

Modernize Force Structure

A significant portion of Poland's ground forces comprises obsolete Soviet or post-Soviet systems. Divesting obsolete systems that operate in the land, air, and sea domains would improve the Polish military's ability to defend Poland at home and counter threats to Poland before they reach its borders. It would also help reduce resources that Poland must expend to maintain, repair, and upgrade aging force structure. These savings could be re-invested in a way that seeks to create a balance between new capabilities and force capacity.

It is important to note that robust modernization efforts must be balanced against the imperative to retain sufficient near-term capacity. If too many older forces are divested at too fast a pace, or if forces are prematurely retired in anticipation of future procurement, then Poland could increase its vulnerability—even if only temporarily—to Russian aggression.

Land forces. Although Poland's near-term focus should be improving the readiness of its ground forces and their enabling capabilities, Poland should also upgrade the major mounted platforms of its ground maneuver forces to ensure they are sufficiently lethal and survivable

104 Poland established its new Territorial Defense Force (TDF) in 2015. Poland's TDF is the fifth branch and the reserve component of the Polish Armed Forces. Each of Poland's 16 provinces will organize one TDF light infantry brigade intended to defend its home areas, with the exception of one Masovian, which includes Warsaw and will have two brigades. By the end of 2019, the MoD expects to have 26,000 TDF forces total, with an ultimate goal of 53,000 by 2021. See Waldemar Skrzypczak, *Poland's Territorial Defence Force—Its Role, Significance and Tasks* (Warsaw, Poland: Casimir Pulaski Foundation, April 10, 2017), available at <https://pulaski.pl/en/polands-territorial-defence-force-its-role-significance-and-tasks/>.

for future high-intensity combat operations against Russian forces.¹⁰⁵ The Polish government has committed to significant investments in upgraded force structure, including the purchase of Leopard 2A5s Main Battle Tanks (MBT) and the development of the Borsuk Infantry Fighting Vehicles (IFV). Divesting the Polish Army's remaining obsolete force structure and replacing them with modern systems that are not overmatched by Russian capabilities should be a priority over the coming decade.¹⁰⁶

Air forces. There are significant tradeoffs to consider as Poland develops a future balanced air force. For example, Poland could replace a large number of its increasingly obsolete fighters with a smaller number of highly sophisticated 5th generation fighters that are able to survive in contested operational environments. Or, Poland could instead choose to upgrade its existing F-16 fighters and procure more advanced air-to-air and air-to-surface weapons for them. It could also invest in UAS capabilities that could improve ISR to increase I&W, support ground combat operations, and facilitate targeting of long-range fires. These investments would provide Poland with additional capacity for mission areas that are critical to combat operations. Poland should, however, consider the opportunity costs of different options during combat operations, not just their initial procurement costs. 4th generation fighters, regardless of their upgrades, will not be able to survive in the kind of contested environment created by Russian IADS postured in Kaliningrad, Belarus, and its Western Military District. The risk associated with losing a large number of these aircraft during combat operations could far outweigh the additional expense to procure more survivable aircraft.

Naval forces. In the maritime domain, rather than procure expensive high-end warships, Poland should emphasize capabilities to enable coastal defense and sea denial, such as maritime surveillance, mine countermeasures, defensive minelaying, and coastal defense anti-ship cruise missiles (ASCM). These capabilities could have a much greater effect on denying Russia access to the Baltic Sea compared to a small number of warships that would require sophisticated and expensive systems to defend themselves against Russian ASCMs and other sea denial threats.

105 Poland still has 232 PT-91 Twardy and 350 T-72M1 main battle tanks as of 2018, versus roughly 248 combined Leopard 2A5 and 2A4 variants. Poland's 128 2A4 tanks are undergoing modernization to the 2PL variant. See "Poland: Army," *Jane's Sentinel Security Assessment: Central Europe and the Baltic States*, updated October 18, 2018; and Juliusz Sabak, "Leopard 2PL Programme Showcased. Modernization Package for the Polish Main Battle Tanks," *Defence24*, February 21, 2016, available at <https://www.defence24.com/leopard-2pl-programme-showcased-modernization-package-for-the-polish-main-battle-tanks>.

106 Per the Strategic Defense Review, Poland plans to upgrade the T-72M1 tanks to ensure they provide adequate battlefield value (comparable to Russian T-72 B3 tanks) as a cost-effective interim measure until they can be replaced by next-generation systems. The details surrounding those modernization plans have not been established. For a discussion of potential upgrades, see Marek Dabrowski, "Polish Upgrade Programme for the T-72 Main Battle Tank," *Defence24*, January 25, 2018, available at <https://www.defence24.com/polish-upgrade-programme-for-the-t-72-main-battle-tank>.

Improve Poland's C3, Basing, and Deployment and Sustainment Infrastructure

Efforts to improve Polish combat forces will fall short without an equal effort to improve the resilience of Poland's critical bases, C3 nodes, and sustainment and deployment infrastructure. Camouflage, concealment, and deception; dispersal of critical facilities within Polish bases; and hardening/deeply burying high-value targets would decrease the effectiveness of Russian salvo attacks, waste its expensive precision munitions against unproductive targets, and drive the cost-per-target killed substantially upwards. Hardened targets might require specialized munitions that are terminally guided, rendering strikes against critical targets a more expensive undertaking.¹⁰⁷ Poland should also increase the resiliency of its deployment and sustainment infrastructure. Improving engineering units' bridging capabilities, including the types of pontoon bridging necessary to facilitate transport across the Vistula and other major rivers, would be vital to ensuring the resilience of Polish lines of communication in a conflict. Similarly, greater rapid runway repair capacity would enhance the resilience of Polish air operations.

Potential Challenges

Polish military modernization efforts face two key challenges. First, although divesting aging Warsaw Pact-era equipment and associated force structure would help free resources to accelerate modernization, it could also heighten near-term risk if it is done before replacement systems become available. This could be particularly true in cases where Poland seeks to design, develop, and produce new, sophisticated weapons systems, which could take a great deal more time compared to buying new capabilities from foreign companies with active production lines.

Second, even with additional resources, Poland still would likely not be able to address all of its modernization needs. As such, Poland needs to determine how to prioritize between competing choices. As Poland divests major air and sea platforms, it would face a choice between replacing those with more modern equivalents or investing in alternative asymmetric capabilities. Replacing old systems with more advanced and more expensive capabilities could crowd out other equally important capabilities. The retirement of major systems without replacements would leave some capability gaps in Poland's force structure. Given likely budget constraints Poland will need to make some difficult choices between having sufficient capacity of traditional capabilities in the near term and making investments in future force structure that may be far better suited for the future operating environment.

Summary

Poland's military is indispensable to NATO's defense. A modernized, ready, and resilient Polish military could convince Russian decision-makers that Poland is not an easy target and

107 See Gunzinger and Clark, *Winning the Salvo Competition*, pp. 17, 66.

that its military could pose real challenges to an attempted invasion of Poland or its neighboring states. If Poland is to remain a linchpin in the defense of NATO's eastern frontier, it must improve both the readiness and capabilities of its military. Poland's current armed forces are hamstrung by their reliance on obsolete systems and force structure that are insufficient to challenge Russia's forces and A2/AD capabilities. The scope and scale of Poland's necessary modernization effort are large; however, an expanded U.S. force posture in Poland can help make Polish modernization efforts more achievable by absorbing some of the risks that Poland will undertake as it sheds obsolete equipment and force structure in the near term as part of a long-term modernization plan.

CHAPTER 4

Key Findings & Recommendations

A resurgent Russia poses a formidable challenge to the security of the NATO Alliance's eastern frontier. This challenge, while difficult, is not insurmountable. Modest enhancements to U.S. and NATO posture, coupled with improvements to Poland's military capabilities, could strengthen deterrence and enable the Alliance to prevail in a conflict with Russia in the region should deterrence fail. Research and workshops undertaken by CSBA identified the following findings that could help inform U.S. and Polish strategic choices for initiatives that would improve the defense of NATO's eastern frontier.

Key Findings

A viable “theory of victory” exists for Russia to prevail in a limited conventional conflict with NATO, which threatens the security of the Alliance’s eastern frontier. A resurgent Russia seeks to revise the regional and international order to regain its traditional sphere of influence along its periphery, preserve and expand its geographic strategic depth, and reestablish its great power status. While there is little evidence to suggest that Russia actively seeks direct military confrontation with NATO states, plausible paths to conflict exist that NATO cannot ignore. The potential for conflict between NATO and Russia is most acute in the Baltic region. At the same time, the Baltic region is where the Alliance is most vulnerable to Russian aggression. In a crisis, Russia could decide to exploit its time-distance advantage and A2/AD capabilities to seize territory in one or more of the Baltic states or in eastern Poland before the Alliance could marshal an effective response. A Russian *fait accompli* of this nature could force NATO to choose between a difficult, uncertain, and potentially escalatory counteroffensive to liberate allied territory or accepting defeat. Either of these options could greatly weaken, if not break, the Alliance’s cohesion.

Enhancing the U.S. military's posture in Europe could undermine Russia's theory of victory and strengthen deterrence. NATO should adopt a strategy that focuses on blunting Russian aggression at the outset of conflict in the Baltic region and prevent it from achieving a decisive victory. Part of this strategy should include creating a more formidable U.S. force posture in Europe that could cause Russia to conclude that an attack on Poland or the Baltic states would not be quick, relatively painless, or successful.

The viability of this strategy would depend heavily on the ability of NATO to offset Russia's time-distance advantage in the Baltic region. Stationing U.S. forces closer to potential Russian objectives would reduce this time-distance advantage, mitigate the ability of Russian A2/AD capabilities to isolate a targeted area, and demonstrate U.S. commitment and resolve. The U.S. military could further reduce Russia's advantages by cutting the time needed to reinforce forward forces with joint forces from Western Europe and the United States. Together, these initiatives could undermine Russia's confidence in its theory of victory and give Moscow significant pause when contemplating a conventional attack on any NATO member state. If deterrence were to fail, an enhanced U.S. posture could better enable NATO to contest a Russian attack at the start of a conflict and delay Russia from achieving its objectives long enough to buy time for major U.S. and NATO reinforcements to arrive in theater. An enhanced U.S. posture could also immediately begin to degrade Russian A2/AD capabilities, particularly weapon systems located in Kaliningrad, to defend NATO lines of communication and enable subsequent Alliance operations.

Improving Polish military capabilities and force structure could strengthen deterrence and defense of Poland and the Baltic region. A modernized, ready Polish military could convince Russian decision-makers that Poland is not an easy target and that its forces would pose a real challenge to Russian invasion forces. In addition to improving its ability to defend Poland, a modernized Polish military could support three Alliance operational priorities. First, given Poland's proximity to Kaliningrad, Belarus, and the Baltic states, Polish forces could help contest Russian attacks into neighboring NATO states, particularly against Lithuania, and help degrade Russian A2/AD capabilities in Kaliningrad and Belarus. Second, Polish forces could facilitate the rapid transit of reinforcing U.S. and NATO forces across its territory during a crisis or conflict to improve the responsiveness of the Alliance's defensive posture. Third, Polish maneuver forces not immediately or directly required for the defense of Polish territory could be available to help defend its neighbors in the event of a conflict.

Enhancing the U.S. military's forward posture and modernizing Poland's military could create synergies that further enhance deterrence and defense. The combination of U.S. force posture enhancements and Polish capability and force structure improvements could produce synergistic effects that have major implications for deterrence and the defense of Poland and the Alliance. A more robust U.S. posture and modernized Polish military could, foremost, improve the cohesion and interoperability of U.S. and Polish forces. Stationing additional U.S. forces in Poland might also accelerate Polish military

modernization, mitigate near-term risk as Poland divests obsolete equipment and force structure, and enable Poland to acquire capabilities that would complement and not excessively duplicate what its allies can bring to the fight. Finally, a more capable Polish military, backed by a more robust U.S. forward presence in Poland, could foster the confidence necessary for Warsaw to decide to use its forces beyond its borders to support the broader defense of NATO.

Major Recommendations

The following recommended initiatives would improve the U.S. and Polish ability to deter and defend against Russian aggression.

Recommendations to Enhance the U.S. European Posture

To enable a strategy for deterrence and defense that focuses on blunting Russian aggression in the Baltic region, the United States should pursue posture enhancements that increase the lethality and resiliency of its forward forces and their “day 1” ability to interdict Russian forces and A2/AD capabilities. In conjunction with existing and planned posture initiatives, these enhancements should ensure that forces necessary to aggregate a full U.S. Army division would be in place at the start of a conflict with Russia regardless of the I&W. The United States should undertake measures that would reduce the time needed for its air and ground forces stationed outside EUCOM to reinforce NATO forces engaged against Russia. Specific actions include the following:

Permanently base a division headquarters in Poland and a corps headquarters in Germany. These headquarters could provide the situational awareness and C2 necessary for the immediate and synchronized employment of U.S. ground forces against attacking Russian forces and A2/AD systems. They would also allow arriving reinforcements to integrate into Allied operations more quickly and seamlessly.

Permanently base fires and air defense units in Poland. Forward basing additional fires units in Poland could greatly enhance NATO’s ability to degrade Russian A2/AD threats and attrite Russian forces at the start of a conflict. Additional air defense units in Poland would improve the resilience of U.S. forces and bases against Russian salvos, help increase the freedom of action of NATO forces operating in contested and highly contested environments, and defend critical lines of communication.

Permanently base division enablers in Poland. Basing key combat support and service support enablers such as ISR, engineering, EW, and sustainment units in Poland would help ensure that co-located U.S. combat forces are fully combat effective at the start of a conflict. These capabilities could also support activities to deter or counter Russian gray zone actions, prepare the battlespace, and facilitate NATO training and exercises.

Posture an additional ABCT in Europe by manning an ABCT equipment set from APS. Posturing a second ABCT in Europe would increase the U.S. presence of heavy armored maneuver forces by 100 percent and enable U.S. forces to immediately contest a Russian attack with a maneuver force of two ABCTs. This heavier structure would present a formidable force for Russia's initial attack to overcome. Positioning a second ABCT east of key choke-points that are vulnerable to interdiction by Russian anti-access capabilities, such as the Oder River, could significantly reduce the time needed for it to engage against Russian maneuver forces. It would also create additional opportunities to build cohesion and interoperability with Polish and other allied maneuver forces.

Invest in increased resilience of forward-postured forces and infrastructure. Key initiatives should include posturing additional air and missile defenses and counter-C3ISR capabilities in Europe to complicate and disrupt Russian targeting. These capabilities should be complemented by CCD measures and the hardening and dispersal of critical base functions, including command, control, and communications.

Invest in additional enhancements to U.S. military deployment infrastructure. In conjunction with host nations, the United States should pursue infrastructure improvements that would increase the resiliency and throughput of European intra-theater lines of communication. Key investments include improving road and rail networks, increasing the resiliency of key transportation nodes, positioning sufficient bridging equipment to repair or replace damaged or destroyed river crossings, and enhancing RSOI infrastructure. These efforts could help transition lines of communication into more resilient webs of communication that frustrate Russian efforts to interdict the flow of NATO reinforcements and sustainment materials. The United States should prioritize investments on the U.S. military's infrastructure, while allied nations should focus on improving dual-use civilian infrastructure.

Enhance pre-positioned equipment sets, munitions stocks, and sustainment material. The United States should ensure there are enough equipment sets in APS for a division headquarters, its associated enablers, and an ABCT, as well as equipment sets for corps-level enablers.¹⁰⁸ In conjunction with forward-postured forces, this would allow the U.S. military to rapidly aggregate and employ a fully enabled, two-division corps formation. The United States should also expand the European Munitions Starter Set with additional munitions and increase stocks of other expendable sustainment material to support at least 30 days of combat operations.

Recommendations to Improve Polish Military Capabilities and Force Structure

If Poland is to remain the central player in the defense of the Baltic region, it must modernize its forces and acquire new capabilities that will be effective against an increasingly lethal Russian military. The following recommendations support this objective.

¹⁰⁸ Including the division forward posture in and near Poland.

Improve Poland's military readiness. Improving the readiness of Poland's military would enhance regional deterrence by demonstrating that Poland would not be an easy target for Russia to attack. If deterrence were to fail, Polish forces would be better able to immediately defend their homeland and engage against Russian forces located beyond Poland's borders. Efforts to improve readiness should focus on four initiatives: increasing the intensity and realism of training; increasing the number and scale of combined exercises with U.S. forces to enhance interoperability and cohesion; investing in personnel readiness and equipment maintenance to ensure Polish forces are ready to mobilize with little warning; and increasing inventories of munitions and stocks of sustainment materials to sustain a high tempo of combat operations.

Increase Key Enabling Capabilities. Increasing the Polish military's enabling capabilities would enhance the lethality and resiliency of its maneuver forces. Investments should also help create Poland's own area-denial umbrella that would degrade Russian offensive operations and facilitate Polish and allied efforts to suppress Russian A2/AD weapons systems. Priority capabilities should include additional air and missile defenses, long-range precision fires, unmanned ISR systems, cyber and EW capabilities, territorial defense forces, and engineers.

Modernize Force Structure. A significant portion of Poland's ground forces comprises obsolete Soviet or post-Soviet systems. While Poland's primary focus should be to improve the readiness and enabling capabilities of these forces, eventually it will need to upgrade their major mounted platforms to ensure they are capable of engaging in high-intensity combat against a modernized Russian military.

Improve the capacity and resiliency of C3, basing, and sustainment and deployment infrastructure. Improving Poland's combat forces would be ineffective without a matching effort to improve the resilience of their bases, C3 nodes, and sustainment and deployment infrastructure. Investments should improve the Polish military's ability to conduct dispersed operations. Improving engineering units' bridging capabilities, including the types of pontoon bridging necessary to facilitate transport across the Vistula and other major rivers, would be vital to ensuring the resilience of Polish lines of communication in a conflict.

Recommendations for NATO

Although this report is primarily focused on potential enhancements to the U.S. military's forward posture in Europe and improvements to Poland's military capabilities and force structure, several recommendations are also applicable to the rest of NATO. Other NATO states should improve their capabilities and capacity to blunt a Russian attack at the outset of a conflict along NATO's eastern frontier. NATO frontline states, especially Estonia, Latvia, and Lithuania, should improve their readiness to respond to Russian aggression and invest in cost-effective capabilities that could complicate and raise the costs of a Russian attack. These include mobile or man-portable anti-tank weapons and short-range air defenses, UAS, EW

capabilities, resilient communications, and engineering assets. NATO states located outside of the Alliance's eastern frontier should invest in capabilities that would provide them with sufficient lethality and resilience to fight alongside U.S. forces within Russian A2/AD capabilities early in a conflict. NATO military forces should also pursue greater cohesion and interoperability, as well as interdependence in select capability areas.

The ability to quickly commit a sizeable formation of NATO ground forces, such as the VJTF, would provide a stronger signal of Alliance cohesion and resolve. NATO should consider measures to increase the readiness and responsiveness of the VJTF, which might include greater delegation of authority for the deployment and employment of the VJTF to the Supreme Allied Commander Europe (SACEUR).¹⁰⁹ This delegation of authority would help reduce the risk that political paralysis within the North Atlantic Council during a security crisis would create an opportunity that Russia could exploit. NATO should also enhance the capabilities of its IFFG. NATO's recently announced objective to provide 30 battalions, 30 fighter squadrons, and 30 ships within 30 days of being alerted represents a positive step toward expanding and enhancing the IFFG.¹¹⁰ To engage Russian forces effectively early in a fight, the IFFG's 30 battalions must have the cohesion, structure, and enablers to quickly aggregate into combat-effective brigades and divisions. Both the IFFG and VJTF should improve their capability to operate within future highly contested environments.

Final Thoughts

The combination of a more robust U.S. forward posture and a more capable future Polish military could enhance the cohesion and interoperability of their operations in peace and in war. To cite one case, new equipment for Poland's maneuver brigades could be built to NATO standards, rather than Warsaw Pact standards. This would allow more realistic and effective combined training exercises that would allow Polish, U.S., and other NATO forces to more seamlessly integrate into cohesive combined combat formations in a crisis. With more compatible equipment and better interoperability, a future Polish armored brigade could serve as a maneuver element of a U.S. division formation.

Increased cohesion and interoperability could also enable the U.S. and Polish militaries to better leverage each other's complementary and unique capabilities. U.S. forces postured in Poland would be better able to support Polish forces at the outset of a crisis, compared to units that have not had the opportunity to train with the Polish military and develop in-depth knowledge of the battlespace. In a conflict with Russia, U.S. forces could take advantage of a modernized Polish military to perform critical missions. For instance, U.S. ISR forces could pass information on time-sensitive targets, such as mobile missile launchers and A2/AD threats, to Polish fires units armed with advanced, long-range precision munitions. U.S. forces

109 Hodges, Bugajski, and Doran, *Securing the Suwalki Corridor*, p. 7.

110 Emmott and Ali, "U.S. Pushes NATO to Ready More Forces."

postured in Poland would have the opportunity to engage in combined training and exercises to develop combined operational concepts, tactics, techniques, and procedures needed for these kinds of synergistic operations.

A future, more capable Polish military backed by a more robust U.S. forward presence in Poland could also foster the confidence needed for Warsaw to support the defense of NATO member territory located beyond its borders. Given that the primary purpose of the Polish military is to defend the people, sovereignty, and territory of Poland, the kinds of forces and capabilities it projects to defend its neighboring allies would likely depend on the strength of its defenses in Poland. A more capable Polish force, combined with a robust presence of U.S. forces in Poland, could assure Warsaw that it could both deter and defend against a Russian attack with fewer forces, thereby freeing up units for allied operations outside of Poland.

An enhanced U.S. military posture in Poland could also help accelerate the modernization of Poland's military. The rapid divestment of obsolete Warsaw Pact-era equipment would create near-term gaps in Poland's force structure. An enhanced U.S. posture in Poland could mitigate some risks associated with these gaps. This could increase Poland's willingness to accelerate its military divestments, which could free additional resources to invest in modernization programs. Furthermore, the presence of U.S. forces and capabilities on Polish territory as recommended by this report could assure Poland that it could focus its modernization investment on capabilities that would complement the U.S. military's capabilities, rather than invest in some capabilities that would be redundant.

Potential Russian Responses

The Russian military would almost certainly take actions to mitigate and maintain its localized overmatch over the posture and capability enhancements recommended in this report. As it has in the past, it could decide to further augment its A2/AD capabilities in the Western Military District. In response to the EDI and other efforts to bolster NATO's defensive posture, the Russian military increased its force structure in the Western Military District, took measures to improve the professionalism and readiness of its Western Military District forces, conducted additional exercises to improve its force deployment operations, and augmented its A2/AD capabilities in Kaliningrad.¹¹¹ It could decide to further augment its force structure in the Western Military District and its military footprint in Belarus, as well as improve its ability to rapidly reinforce these forces, to offset U.S. posture changes and Polish modernization programs.¹¹²

111 Liebermann, Pleitgen, and Cotovio, "New Satellite Images Suggest Military Buildup in Russia's Strategic Baltic Enclave"; and Pavel Podvig, "Russia's Current Nuclear Modernization and Arms Control," *Journal for Peace and Nuclear Disarmament* 1, no. 2, September 2018.

112 It is worth noting that while Russia has a time-distance advantage over forces based in the United States or Western Europe, U.S. and allied forces positioned in Poland are closer to many potential points of conflict than the bulk of Russian combat power in the Western Military District, including their 1st Guards Tank Army, which is garrisoned in the district's eastern half.

Although such actions could restore some of Russia's time-distance advantage in the Baltic region, they would likely not fully offset the more robust NATO defensive posture that would be created by this report's recommendations. Russia's theory of victory in a conventional conflict is predicated on achieving a low-cost military *fait accompli* that would keep a conflict local, limited, and short. Overcoming a more formidable Alliance posture as proposed in this report would require Russia to mass a very large force for its initial attack, which would raise the scale, stakes, and costs of the operation. Improvements to Russian anti-access capabilities would not likely change this dynamic since enhanced U.S. and Polish forces would already be present inside this threat umbrella at the start of the conflict.

Moreover, Russian actions to counter U.S. and NATO enhancements would not be without costs. Expanding Russian force structure, enhancing the capabilities and readiness of its ground forces, and forward deploying more forces to Belarus and Kaliningrad would require major expenditures that could crowd out other military and domestic spending. A long-term competition between Russia and NATO to gain local overmatch in the Baltic region could result in a favorable cost curve for the Alliance. In general, one of the advantages of NATO being on the defense is that Russia may have to offset each NATO gain in defensive power with an even greater increase in offensive power. Given these potentially high costs and the increased risk of attacking a reinforced NATO, Russia could instead choose to direct its energies elsewhere.

Areas for Further Exploration and Assessment

This report makes numerous recommendations for enhancing the U.S. force posture in Europe and modernizing Poland's military forces. It also discussed the potential synergies of undertaking these efforts concurrently, increasing the deterrent effect against Russian aggression along NATO's eastern frontier. Additional assessments are needed to develop insights on how these recommendations should be implemented. First and foremost, a working timeline of priorities should be developed along with a rationale for changes that is compelling. Second, as always, "the devil is in the details" regarding specific locations and the composition of posture and infrastructure improvements and enhancements. Lastly, attention needs to be paid to the emerging operating environment in its various dimensions such that modernization and force posture changes will prove durable. Each of these areas bears further study.

LIST OF ACRONYMS

A2/AD	anti-access/area denial
ABCT	armored brigade combat team
ALCM	air-launched cruise missile
APS	Army pre-positioned stocks
ASAT	anti-satellite
ASCM	anti-ship cruise missile
AWACS	Airborne Early Warning and Control
C2	command and control
C3	command, control, and communications
C3ISR	command, control, communications, intelligence, surveillance, and reconnaissance
CCD	camouflage, concealment, and deception
DIVARTY	division artillery
DoD	U.S. Department of Defense
EDI	European Deterrence Initiative
eFP	Enhanced Forward Presence
EMS	electromagnetic spectrum
EO/IR	electro-optical/infrared
EW	electronic warfare
F2T2EA	find, fix, track, target, engage, and assess
GLCM	ground-launched cruise missile
I&W	indications and warning
IADS	integrated air defense system
IFFG	Initial Follow-on Forces Group
IFV	infantry fighting vehicle
ISR	intelligence, surveillance, and reconnaissance
JASSM	Joint Air-to-Surface Standoff Missile
JSTARS	Joint Surveillance and Target Attack Radar System
LACM	land attack cruise missile
MBT	main battle tank
NATO	North Atlantic Treaty Organization
PREPO	pre-positioned stocks and equipment
RSOI	reception, staging, onward movement, and integration
SACEUR	Supreme Allied Commander Europe
SAM	surface-to-air missile
SEAD	suppression of air defenses
SHORAD	short-range air defense
SLOC	sea lines of communication
SRBM	short-range ballistic missile

TDF	Territorial Defense Forces
UAS	unmanned aerial system
VJTF	Very-High Readiness Joint Task Force



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