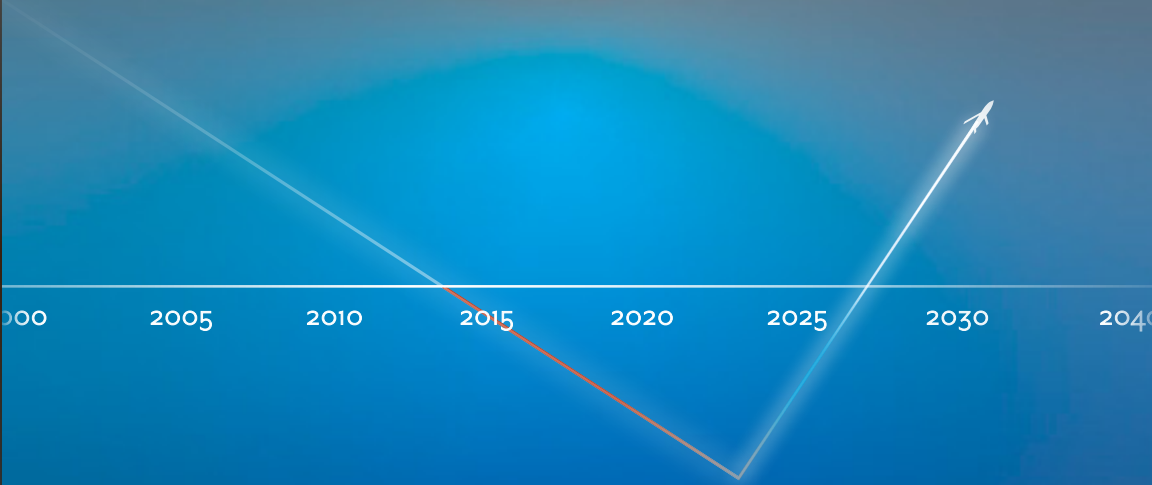




INFLECTION POINT

How to Reverse the Erosion of U.S. and Allied
Military Power and Influence

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About This Report

Following Russia's 2022 invasion of Ukraine, threats to global stability are becoming increasingly acute. The United States, its allies, and its partners will need new and more-energetic approaches to deterring and defeating aggression by Russia, China, and other revisionist powers. Equally important, the leading democratically governed nations have shown unity and determination—spawned by outrage at Russia's brutality—that may present an opportunity to accelerate the development and fielding of the sorts of military capabilities that are needed in this more demanding security environment.

There is now a growing consensus among Western policymakers and strategists that “business as usual” with respect to national security strategy and defense posture is no longer sufficient. But much remains to be done in the United States and elsewhere to determine how best to proceed with building the military capabilities and operational concepts needed. The goal of this effort is to help policymakers in the United States and in allied and partner nations to act in this moment of heightened danger and opportunity in ways that make significant and lasting contributions to the security of their people and global stability. We aim to do this by reviewing salient aspects of the changed global security landscape, highlighting shortcomings in the approaches taken to date by the United States and others, and offering specific suggestions on steps that can be taken in the relatively near term to address those shortcomings and reverse the erosion in key military balances that has characterized the past two decades.

This report focuses on the military challenges posed by the conventional forces of China and Russia—the two most powerful states threatening the interests of the United States, its allies, and its key partners. The research reported here was completed in May 2023. This project has also produced two companion publications, one evaluating past and current U.S. defense strategies more broadly and one that addresses factors bearing on the modernization of the United States' strategic nuclear forces. See Michael J. Mazarr, *Defending Without Dominance: Accelerating the Transition to a New U.S. Defense Strategy*, RAND Corporation, forthcoming;

and Edward Geist, *Qualities Precede Quantities: Toward a Meta-Theory of Requirements for U.S. Nuclear Forces*, RAND Corporation, forthcoming.

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We are especially grateful to Marin Strmecki and the Smith Richardson Foundation for inspiring and sponsoring this work. The foundation has a well-earned reputation for supporting research devoted to improving public policy and strengthening the vitality of U.S. government institutions, and it has been an honor to be given the chance to contribute to its mission.

We also wish to thank certain RAND colleagues with whom one or more of us has worked and who, through that collaboration, contributed important, substantive ideas and analyses that have shaped our thinking on these issues in important ways. They include Tom Hamilton, Dan Norton, Jacob Heim, Jim Chow, and Stephanie Pezard. Likewise, former colleague Roger Cliff, now assigned to Headquarters U.S. Indo-Pacific Command, provided comments on the Taiwan section of the report.

Jim Mitre of RAND and Zachary Cooper of the American Enterprise Institute provided thorough and thoughtful reviews of the full manuscript.

Their reviews were complemented by focused reviews of the sections on Taiwan (by Phillip Saunders of National Defense University), on Japan (by Eric Heginbotham of the Massachusetts Institute of Technology), and on North Atlantic Treaty Organization allies (by RAND colleague Gene Germanovich). The comments and criticisms of all five reviewers were pointed and constructive, and they significantly improved the accuracy and clarity of the report. We are indebted to them for their diligence.

Finally, our colleague Regina Kalasky, at several points in the development of the report, took it in hand and brought it into conformity with RAND's standards for format and documentation. And Chris Anthony expertly edited the final draft for publication.

Summary

War is never far from the minds of military strategists and force planners. We spend our days analyzing scenarios—stories about hypothetical future events—that depict things that most policymakers, legislators, and ordinary citizens regard as highly implausible, if not unthinkable. We are not entirely surprised, therefore, when our findings and recommendations fail to find traction in official circles. The risk, of course, is that, in a dynamic security environment in which the capabilities of the nation’s adversaries are changing and, indeed, the nature of warfare itself is rapidly evolving, failing to understand and prepare for future challenges can leave the nation vulnerable to unpleasant surprises.

The Cold War ended in 1991 with the collapse of the Soviet Union. In the succeeding decades, U.S. military forces have enjoyed an enviable record of success against the armed forces of other nations. But disparate developments abroad and at home, including North Korea’s acquisition of atomic weapons; the September 11, 2001, attacks and the U.S. response to them that diverted resources from force modernization; the proliferation of technologies for sensing and precision guidance; Russia’s use of overt military aggression; and, of greatest consequence, China’s economic takeoff and concomitant military modernization, have led to the deterioration of the military balance in regions of strategic importance.

As these trends have ripened and converged, it has become increasingly clear that the U.S. defense strategy and posture have become insolvent. The tasks that the nation expects its military forces and other elements of national power to do internationally greatly exceed the means that have become available to accomplish those tasks. Reversing this erosion will call for sustained, coordinated efforts by the United States, its allies, and its key partners to rethink their approaches to defeating aggression and to recast important elements of their military forces and postures.

This report, prepared in the hope that Russia’s most-recent and most-brutal aggression against Ukraine might act as a “Pearl Harbor moment” of sorts, galvanizing action to address long-standing shortcomings in defense preparations, offers ideas for how to do this.

Defense Strategy

The ideas we advance here are grounded in the belief that, for Americans and for the other two billion or so people who live in the world's democratically governed nations, there is no acceptable substitute for deep engagement by the United States in global affairs. At the heart of this engagement are enduring shared values and interests. Chief among these are individual freedom, democratic governance, and the free exchange of information.

Second only to these in importance are the security relationships that the United States maintains with its principal allies and partners. If the credibility of these commitments, which are founded on U.S. military power and the will to use it, is allowed to erode further, important national interests will be at increasing risk, and this nation's ability to secure and advance its objectives across the full range of issues will be diminished.

It is time for the United States to recast the basic defense strategy that has been in place since the end of the Cold War. That strategy, which we characterize as *decisive expeditionary force*, held that, when confronted with a major aggressor somewhere in the world threatening U.S. interests, the United States would marshal overwhelming conventional force; project that power to the region and, perhaps, the homeland of the enemy; and impose its will on that country, producing decisive victory. The strategy was predicated on U.S. military forces that were superior in all domains to those of any adversary.

That superiority is gone, surely with respect to China but in significant ways with respect to the forces of other, less powerful adversaries as well, and it is not coming back. At its root, the problem is that the United States and its allies no longer have a virtual monopoly on the technologies and capabilities that made them so dominant against the forces of nations like Iraq, Serbia, and Afghanistan—near-real-time sensing, high-capacity communications links, precision guidance via miniaturized electronics, and advanced software being primary among these.

The good news is that U.S. and allied forces do not require superiority to defeat aggression by even their most powerful foes. If these forces are properly postured and equipped and if they learn to fight in new ways, they can impose robust obstacles to any adversary's invasion force and, having

thwarted the attack, degrade and destroy other elements of the enemy's national power, providing strong incentives to end the conflict.

A New Approach: Defense Without Dominance

The new approach to large-scale military operations that we advocate has four basic elements:

- **Posture.** The posture of U.S. forces based in Europe and, especially, in the Western Pacific today is inadequate in two ways. First, those forces lack sufficient combat power to seize the initiative from China or a reconstituted Russia. Second, their bases are too vulnerable to attacks by salvos of accurate ballistic and cruise missiles. Planners must find ways to bring combat power to bear in highly contested battlespaces more quickly than was the case in the post-Cold War era—that is, without a lengthy period of mobilization and reinforcement. They must also reduce the exposure of forward-based forces to precision attacks.
- **Sensing and targeting.** The ability to locate the enemy, understand the broader military situation, and orchestrate operations accordingly remains central to success on the battlefield. Understanding this, the United States' most capable adversaries have fielded a welter of capabilities, including multilayered air defenses, counterspace weapons, cyberwarfare, and electronic jamming, intended to deny these abilities to U.S. forces. Too many of the systems that U.S. forces currently rely on to build a picture of the dynamic battlespace will be unable to function effectively in this new environment. New approaches are therefore needed to enable defending forces to reach into and observe highly contested battlespaces from the very outset of hostilities to enable effective attacks on the enemy.
- **Strike.** For Operation Desert Storm, the coalition deployed on the order of 2,000 combat aircraft at land and sea bases within 1,000 km of enemy territory. That worked because Iraq's air force was no match for the United States', and Iraq at that time had only a few hundred short- and medium-range missiles, all of which were highly inaccurate.

Doing so in a conflict against an adversary like China, which fields thousands of highly accurate missiles, would be a recipe for disaster, yet U.S. forces have made little progress in developing and fielding viable alternatives. Ways must be found to generate and deliver combat power against the enemy's invasion force from the outset of hostilities without risking the loss of excessive numbers of forces.

- **Asymmetric attrition.** Being able to prevent enemy forces from achieving their principal territorial objectives is necessary for a successful campaign, but it may not be sufficient to compel a termination of hostilities. U.S. and allied forces must, therefore, also be able to defend their homelands and, over time, to hunt down and destroy enemy forces that were not attrited during the counterinvasion phase of the war—and do so at manageable cost and risk.

This approach is quite different from the operations undertaken by U.S. forces since the end of the Cold War, but something akin to it will be necessary to defeat aggression by powerful states that have the ability in a conflict to seize the initiative and move quickly to secure their principal objectives. U.S. and coalition forces simply cannot count on having the time they would need to deploy to the theater and fight to gain dominance in key domains before attacking the enemy's invasion force at scale. And herein lies the nub of the problem: **Neither today's force nor forces currently programmed by the U.S. Department of Defense (DoD) appear to have the capabilities needed to execute this new approach.** Significant changes to the U.S. defense program and to the forces of key allies and partners will be needed to ensure that those forces can, in combination, respond promptly to threats of an invasion, establish robust means for finding and targeting the enemy invasion force, rapidly damage and contain that force, and conduct sustained follow-on operations.

Especially in the case of China, speed is of the essence. We do not know whether China's military and political leaders yet have confidence in the ability of their forces to prevail in a major conflict with Taiwan and the United States, but the U.S. defense establishment has surely not done enough to deny them that confidence. U.S. forces, posture, and operational concepts over the past two decades have remained an essentially static and predictable target against which China has developed increasingly potent threats.

Decisive action is needed to solidify a new operational concept for joint and combined forces; select key investment priorities; produce game-changing systems at scale; and field these in new, resilient postures in both the Indo-Pacific and European regions.

Priorities for Force Modernization

Fortunately, numerous opportunities exist that can allow U.S. and allied force planners to field forces that can execute all four elements of the new approach.

First, with regard to posture, the United States should deploy new forces and support assets in the Western Pacific and in Europe, ensuring that they can be operated during wartime in ways that make them difficult for the enemy to locate, track, and attack. When possible, priority should be accorded to systems that can be deployed in large numbers and that are less reliant than current systems on elaborate base infrastructures and logistics tails. Promising candidates include unmanned undersea vehicles (UUVs); runway-independent unmanned aerial vehicles (UAVs); and, in Europe, mobile artillery, rocket, and missile systems. For forces, such as manned aircraft, that need runways and other fixed infrastructure, cost-effective passive measures, such as expedient aircraft shelters, fuel bladders, runway repair assets, and force dispersal, can significantly increase survivability.

Second, the United States, its allies, and its partners should jointly develop and deploy systems that can be used to create robust sensing and targeting grids in contested battlespaces. New technologies for sensors, autonomy, and automatic target recognition make it possible for small air, space, land, and maritime platforms to collect and share data and to process those data onboard, generating the information that joint and combined forces need to target moving enemy forces. Key attributes of these sensing grids should be affordability and mass. The sensors and the platforms carrying them should be inexpensive enough that the defending force can feed them into the battlespace in large numbers and do so quickly enough to overwhelm or exhaust enemy defenses. Promising candidates for this include maritime drones; unattended ground sensors; small UAVs; and

small satellites, including civil-sector constellations. Examples of all of these exist today, albeit at varying levels of maturity.

Third, U.S., allied, and partner forces need much larger quantities of specialized weapons and munitions than they have heretofore fielded to be confident of defeating invasions by China or a reconstituted Russia. Weapons that can engage moving forces—ships, armored columns, and aircraft—from standoff deserve special emphasis because they can enable effective attacks on the invasion force without requiring that the enemy’s air defenses first be suppressed or dismantled. Promising candidates include standoff antiship cruise missiles and antiarmor weapons that can be delivered by long-range bombers, mobile missile launchers, and large-displacement UUVs. Hypersonic weapons, although not a panacea, can make important contributions to denying a fait accompli by destroying the invader’s surface-to-air missile (SAM) systems, thus increasing the penetrativity of subsonic weapons. The war in Ukraine is also highlighting the value of small, “killer” UAVs, also known as *loitering munitions*, for locating and attacking moving vehicles, even in the face of conventional air defenses.

Key Roles of Allies and Partners

The United States cannot and should not on its own attempt to develop the requisite operational concepts, postures, and capabilities required to realize this new approach to defeating aggression. The imperative for allied and partner participation is about more than just generating the resources needed for a credible combined defense. Because deterrence is about more than raw military power, solidarity among the leading democratically governed nations is required in diplomatic and economic dimensions as well. And closer cooperation and interdependence in the defense arena will have beneficial spillover effects in other areas, helping facilitate coordinated action to meet common challenges.

Focusing on defense, U.S. policymakers may wish to consider initiatives along the following lines with key allies and partners.¹

¹ Because this report focuses on bolstering deterrence of aggression by China and Russia, we limited our assessment of allied and partner capabilities to those of the

Taiwan

Taiwan can and should do more to field forces capable of countering an invasion by the forces of the mainland. In 2021, Taiwan spent 1.7 percent of its gross domestic product (GDP) on defense, a figure that is not commensurate with the peril it faces. Equally significant, Taiwan devotes too much of its defense spending to maintaining obsolescent ships, tanks, and aircraft and procuring replacements for those systems that likely would have little operational utility in wartime. Taiwan needs systems that are more survivable and lethal, and it needs them in greater numbers. Examples include land-based air defenses, as well as sensors, command and control assets, and strike systems that gain survivability through mobility, concealment, or hardening.

The U.S. government can help Taiwan's armed forces acquire these sorts of systems through technology transfer, arms sales, and grants. Equally important, U.S. military personnel should step up the pace and scope of their training and engagements with counterparts in Taiwan, focusing on improving skills and interoperability in sensing and targeting, precision fires and movement, battlefield communications, and urban warfare. The goal should be to achieve both a more tactically proficient Taiwan force and a robust ability to share information and targeting data, even under the stressful conditions of high-intensity combat.

Japan

China's heavy-handed provocations around Japan's Senkaku Islands, as well as against Taiwan, Vietnam, and other nations, along with the relentless growth of China's military power, have led Japanese officials to name China's attempts to unilaterally change the regional status quo by force as the primary security challenge in East Asia. This recognition is prompting a significant increase in Japan's defense efforts.

The U.S.-Japan security treaty does not obligate Japan to participate in U.S.-led military operations other than those in defense of Japan. However,

nations that are best positioned to contribute forces to a combined defense against one of these two adversaries: specifically, Taiwan, Japan, and selected North Atlantic Treaty Organization (NATO) allies and partners.

Japanese officials recognize that Japan's security would be adversely affected should China invade Taiwan. In the event of a war over Taiwan, Japan's Self-Defense Forces (SDF) would likely focus on providing a "shield" to protect the "spear" of U.S. forces operating in theater.² Japan fields modern land, sea, and air forces and is building new competencies in the military space and cyber domains, but its ability to sustain high-tempo operations is limited by underinvestment in munitions, base resiliency infrastructure, and other assets.

U.S. planners and their counterparts in Japan's SDF should focus efforts on the following areas:

- **Base resiliency.** Despite substantial investments by Japan in missile defenses, the bases used by both U.S. and Japanese forces are vulnerable to even modest-sized salvos of ballistic and cruise missiles. More can be done to increase the resiliency of these bases by deploying passive protection measures, such as fuel bladders and expeditionary aircraft shelters, at both U.S. and Japanese bases and by ensuring that existing short-range air defenses at those bases are robust. Another promising option could be to develop and field runway-independent unmanned aerial systems, thereby reducing dependence on fixed facilities.
- **Munitions.** Both allies should increase and maintain robust stockpiles of precision guided munitions and other assets, such as fuel and spare parts, that would be needed to sustain high-intensity operations over a prolonged conflict.
- **Intratheater mobility.** Japan's Air SDF should consider increasing the size of their military airlift and sealift fleets to support the rapid movement of personnel, supplies, and munitions in wartime.
- **Operational planning.** Perhaps most importantly, U.S. and Japanese policymakers should seek to clarify what Japan would be willing to do in time of war and, especially, under what conditions Tokyo would permit U.S. forces operating from bases in Japan to conduct combat operations directly from Japanese soil in defense of Taiwan. Using

² With Japan's recent move to acquire counterstrike capabilities, there is a debate occurring about whether this shield and spear relationship should change. As of now, the traditional relationship still stands.

agreed-upon allied roles and missions, the allies should create a joint plan for military operations for a Taiwan contingency and explore options for more training based on this plan to improve wartime interoperability.

NATO Allies

Russia's brutal and unprovoked aggression against Ukraine has awakened people everywhere, but especially in Europe, to the reality that war in NATO territory is a very real possibility. This realization has helped create a strong consensus among NATO allies that increases in defense preparedness are called for and that the focus of NATO nations' force planning must return to ensuring the security and territorial integrity of the NATO treaty area. Whatever the outcome of its war in Ukraine, Russia will emerge from it militarily and economically weakened, but NATO's stocks of precision munitions and other equipment will be depleted as well. Prudence demands assuming that Russia will, at some point, reconstitute its forces and again present a threat to NATO and to peace and stability in the Euro-Atlantic region. Thus, because of the long lead times associated with building new capabilities and because the sense of urgency that Russia's most recent aggression has sparked may be fleeting, the time to build a robust deterrent posture on the Alliance's eastern flank is now.

As the only European allies with the capacity to operate across the full spectrum of conflict, **France, Germany, and the United Kingdom** will, along with the United States, continue to occupy center stage in NATO force planning. All three of these European allies should be encouraged to emphasize in their defense investments capabilities for sustained high-end conventional operations against a peer adversary like Russia. **Germany** has been slow to take concrete steps to respond to the *Zeitenwende*, or historical change, that its leaders declared was ushered in by Russia's latest aggression. Germany could be the ally best positioned to provide armored and mechanized ground force units, but substantial and sustained new investments in unit readiness and equipment will be needed. Berlin should also understand that its allies will expect it to quickly reach the goal of devoting at least 2 percent of its GDP to defense.

Resources in the **UK** are being strained by the government's ambitions to play leading roles in NATO's Allied Rapid Reaction Corps and the Joint Expeditionary Force while also expanding the UK's military presence in the Indo-Pacific. NATO policymakers may wish to emphasize that maintaining forces closer to home is likely to prove more strategically advantageous for the UK.

France brings substantial experience in joint operations, heavy ground forces, artillery, short- and medium-range air defenses, and advanced combat aviation to a high-intensity conflict in Eastern Europe but lacks mass and sustainment capabilities. U.S. and other NATO naval aviation assets can operate from France's aircraft carrier and three Mistral amphibious assault ships. Increased U.S.-French collaboration in electronic warfare, countering massed precision fires, air mobility, air defenses, and combined carrier operations would improve France's ability to sustain high-end combat in Eastern Europe.

Poland has emerged as a lynchpin of eastern flank security and a crucial strategic ally in maintaining a forward posture. Warsaw's strategic resolve, rapid mobilization, ambitious defense modernization program and investments, and increasing readiness levels will make the Polish Armed Forces in the next five years one of the best equipped and trained forces in NATO capable of providing key contributions to allied defense and countering Russia. Poland has also been playing an instrumental role in providing support and military assistance to Ukraine, becoming a de facto logistics hub for the Alliance's forward defense. Furthermore, Poland's recent defense endeavors and modernized infrastructure can significantly support the U.S. force posture and enhanced pre-positioning on the eastern flank.

Together with **Norway**, **Finland** and **Sweden** contribute to a robust defense of the Nordic, Baltic, and Arctic regions. Access to Swedish and Finnish air bases and airspace and the ability to integrate both nations' maritime domain awareness and sea control capabilities into NATO's will enhance NATO's ability to defend the Baltic states and Poland. Finland is well prepared to defend its 800-mile border with Russia, but the allies will need to assure Finland of resupply in the event of a major offensive by Russia.

The Baltic states have made significant strides in bolstering the capabilities and readiness of their comparatively small armed forces. U.S. and allied security assistance should help fill gaps in air and missile defense; artil-

lery; and intelligence, surveillance, and reconnaissance. Specifically, NATO should regard the Baltic states as prime candidates for the deployment of a multidomain sensing and targeting grid composed of distributed, networked ground-based and airborne sensors. Pre-positioning these assets in the Baltic states could allow the allies to quickly erect robust sensing zones along potential enemy axes of advance in times of heightened tensions with Russia. All three Baltic states have given Javelins and other antitank weapons to Ukraine. NATO allies should assist them in rebuilding those stocks.

Romania plays an essential role in defense of NATO's southeastern flank and the projection of power into the Black Sea and provides access to key airfields, bases, and port facilities. The augmented NATO battlegroup, led by France, is supported by rotational deployments of U.S. and Polish mechanized infantry units as well as a rotational U.S. brigade combat team, which together provide scope for leveraging Romania's leadership of the NATO Multinational Division Headquarters Southeast to enhance the integration of regional defenses.

Türkiye's geostrategic importance, coupled with the contributions of the country's large and capable land, air, and naval forces, has sustained NATO military cooperation with Ankara despite its strained political relations with most allies. Following President Recep Tayyip Erdoğan's reelection to a five-year term in May 2023, Türkiye will likely continue to balance relations with Moscow and its allies and be reticent to contribute more of its military capabilities to allied efforts to deter Russia's further aggression in the Black Sea region and beyond. Türkiye is likely to continue military cooperation with U.S. forces in the Persian Gulf and Africa. Türkiye's defense industry is a leader in the development of low-cost, leading-edge technologies, particularly remotely piloted vehicles that have been sold to Ukraine and Poland. Türkiye could become a major supplier of affordable, effective systems to allies in Central and Eastern Europe.

NATO members as a whole have learned from the war in Ukraine that any conflict with Russia will compel them to expend munitions at rates and quantities far beyond what current stocks could support. The allies should develop and commit to implementing a five-year plan to build robust stocks of antiarmor, antipersonnel, antiair, and SAM suppression weapons.

To decisionmakers with already full plates, this may seem like a rather daunting to-do list. Accomplishing it will require sustained focus and the

commitment of substantial resources. But the changes in strategy, posture, and operational concepts advocated here do not require wholesale changes to military force structures and platforms. The innovations that are called for are focused mainly on what DoD calls *enablers*—sensors, software, munitions, base infrastructure, pre-positioning, and sustainment assets. Many of the needed types of munitions are already in production, albeit in insufficient quantities. To the extent that new platforms, such as UUVs and runway-independent UAVs, are part of the answer, they can be built using mature technologies and should be engineered for affordability rather than for high levels of survivability. Aggressively pursuing innovations along these lines does not seem like a high price to pay to meet the challenges posed by states that seek to upend the international order that has served the causes of peace and prosperity for more than 70 years.

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Converging Crises and the Imperative for Change

Inflection point (n): A point on a curve that separates an arc concave downward from an arc concave upward and vice versa.

—*Merriam-Webster's Collegiate Dictionary*¹

The first two decades of the 21st century have brought the world to a precarious place. Decades from now, historians may look back on the 2020s as the point in time when the United States and the world's other leading democracies, confronted by serious threats on multiple fronts, either succeeded or failed at rising to the challenge and leading the world in meeting these threats:

- China and Russia are pursuing revisionist agendas with increasing assertiveness, threatening regional peace and stability and undermining key elements of the liberal international order. Russia's third invasion of Ukraine is only the most recent and brutal manifestation of this trend.
- Related to this, rapid and potentially profound changes in military-related technologies are upending the dominant position that the U.S. armed forces have enjoyed over those of the nation's adversaries. China's unrelenting investments in modern weapons and military infrastructure, combined with the comprehensive reforms it has made to its military forces, have accentuated this trend.

¹ Merriam-Webster, *Merriam-Webster's Collegiate Dictionary*, 10th ed., 1999.

- Ongoing conflicts within and between states in Africa, the Middle East, Latin America, and elsewhere are creating human suffering and refugee flows that strain the capacity of the international community and threaten stability within these regions and beyond.
- Very few nations, including the United States, have yet taken decisive steps to reduce carbon emissions, leading to increasingly extreme weather events and threatening entire ecosystems.
- The coronavirus disease 2019 pandemic has taken millions of lives, strained health care systems worldwide, and highlighted the fragility of global supply chains.

For the United States, addressing these and other challenges will not be a simple matter of adjusting policies and shifting resource priorities in a broadly shared worldview. The distinctive and most troubling feature of the current crisis is that U.S. society today, like those in some other democracies, is rent by deep-seated divisions that go well beyond differences in political philosophy and policy preferences but rather extend to the embrace of alternative and incompatible realities. These cleavages in U.S. society have prompted some political leaders to exploit and intensify voters' disaffection by espousing demagogic policies and zero-sum approaches to political life. The result is a sclerotic and polarized governance that repeatedly fails to enact initiatives that are needed to address endemic societal problems and improve people's lives. These failures feed a self-reinforcing downward spiral that deepens citizens' cynicism and drives some to seek extreme measures, including extraconstitutional "remedies" and even violence.

The causes of this alarming state of affairs are many and are subjects of debate across the cultural divide. This report, which focuses on international security and defense policies, does not address these pressing issues of domestic turmoil. But we authors do take account of these realities as we consider what changes to U.S. national security strategy and defense posture might be feasible.

This research proceeds from the belief that the underlying structures of the international system—the "tectonic plates" of geopolitics—have shifted so substantially since the post-Cold War era that an equally substantial recasting of U.S. national security strategy and defense posture is called for. To understand why this is the case, it is helpful to recall the defining fea-

tures of that post-Cold War world. With the waning of Soviet power in the late 1980s and then the collapse of the Soviet Union in 1991, the overriding ideological and military threat to U.S. and allied security that had animated the Cold War disappeared. The year 1991 also witnessed the first Gulf War, which served as both a proving ground and a demonstration of the military prowess of the U.S. armed forces.

These developments ushered in a world in which the United States and its allies could focus more energy and resources on addressing domestic priorities while at the same time helping states that had emerged from the shadow of Soviet domination to transition their economies to free market principles and their governance to democratic processes. It was not an entirely quiescent time internationally. In addition to a variety of international humanitarian operations, U.S. forces remained present in the Gulf region to deter further aggression by Iraq and Iran. And, along with North Atlantic Treaty Organization (NATO) allies, the United States twice found it necessary to intervene forcefully in the Balkans to put a stop to atrocities there. U.S. forces also maintained a continuous presence on the Korean Peninsula in the face of regular provocations from the north.

But the missions assigned to U.S. and allied military forces in this period represented a downshift from the demands of offsetting Soviet military might in the Cold War. Beginning in the 1990s, U.S. forces were sized and postured, in aggregate, by the need to deter and defeat aggression by two major regional powers (defined by the likes of Iraq, Iran, and North Korea) in overlapping time frames. The strategy by which U.S. forces would accomplish these missions might be termed *decisive expeditionary force*. It held that, when confronted with a major aggressor somewhere in the world threatening U.S. interests or directly attacking the United States, the United States would gather overwhelming conventional force; project that power to the region and, perhaps, the homeland of the enemy; and impose its will on that country, producing decisive victory. The strategy relied on relatively small forward-deployed forces backed by very large-scale, long-distance force projection in service of classic ideas of victory through major force-on-force engagements and through submission of the enemy. And there was little question that if deterrence failed, U.S. forces, supported by those of key allies, would dominate any battlefield. This two-regional-wars force planning construct governed U.S. force planning for more than 20 years.

Over time, the tasks borne by U.S. forces grew more numerous and more demanding as their capacity to accomplish these tasks stagnated. Ernest Hemingway observed that a person goes bankrupt in two ways: “Gradually, then suddenly.”² The same could be said for U.S. military dominance and, more broadly, for the solvency of U.S. defense strategy. Four milestones collectively mark the end of the post–Cold War era in defense planning:

- The shocking attacks of September 11, 2001, shook Americans’ sense of security, and the military operations in Afghanistan and Iraq that followed 9/11 imposed a 20-year drain on the nation’s human and material resources.
- North Korea’s test of a nuclear weapon in 2006 and its subsequent development of an arsenal of operational weapons and a family of ballistic missiles have greatly increased the threat posed by that regional adversary, possibly paving the way for Iran to follow suit.
- But the most profound shift in international power occurred more quietly and over decades, and that is China’s fielding of a large, modern conventional military force. Impressed by the dominance shown by U.S. military forces in Operation Desert Storm (ODS) and enabled by a rapidly growing economy, China’s leaders in the 1990s embarked on a long-term, well-resourced effort to reform and modernize their nation’s armed forces. The immediate goal was to support a strategy that China termed *counterintervention*. Its purpose was to deter U.S. military intervention or, failing that, to so degrade U.S. military forces deploying to and operating in China’s vicinity that China’s forces would be able to conduct a large-scale operation without serious interference from any outside power. Beijing likely has now come close to achieving this goal.
- The final major blow to the post–Cold War world was Russia’s embrace of overt military aggression, as revealed by its forcible seizure of Crimea in early 2014 and its invasion of the Donbass region of Ukraine later that year. These two acts of aggression showed that the West’s hopes for a Russia that would, perhaps in fits and starts, evolve toward a more pluralistic form of governance and play a largely constructive role on the international stage were ill founded. Suddenly, military planners

² Ernest Hemingway, *The Sun Also Rises*, Charles Scribner’s Sons, 1926.

in Washington, D.C., and in many other NATO capitals had to confront the reality that the Alliance was not postured to defend its eastern flank against possible military aggression by Russia.

As all of this was unfolding, the United States chose to pull back the throttle on its own defense preparations by enacting the Budget Control Act of 2011.³ This law imposed ten-year caps on both defense and domestic spending. And although the caps were amended in the years following the act's passage, the effects were lasting, reducing overall defense spending over that period by hundreds of billions of dollars.

As a result of these developments, many of the assumptions that underlay the post-Cold War strategy of decisive expeditionary force no longer hold.⁴ Chief among those assumptions are the following:

- The United States will have time to marshal and forward deploy large conventional forces before initiating decisive operations.
- U.S. forces will transit to the theater of operations and be able to build up logistical stocks relatively unmolested.
- U.S. airpower and associated advantages will allow U.S. forces to inflict a crippling initial blow on the enemy and provide persistent air supremacy.
- Space will remain a sanctuary.
- The United States can choose the time and place for initiating conflict.
- Wars will be fought in weeks and months rather than years.
- U.S. forces will have decisive technological superiority over their adversaries, at least in critical areas.
- U.S. forces can fight and win outside the shadow of nuclear weapons.
- The U.S. homeland will be largely immune from attack.

Given Russia's and China's advances in military technology and concepts of operations governing the conduct of war, all these assumptions have been

³ Public Law 112-25, Budget Control Act of 2011, August 2, 2011.

⁴ The argument in these paragraphs is spelled out in more detail in a short companion publication from this project, Michael J. Mazarr, *Defending Without Dominance: Accelerating the Transition to a New U.S. Defense Strategy*, RAND Corporation, forthcoming.

increasingly brought into question. Adversaries will seek to achieve very rapid gains in any aggression before the United States can deploy significant forces—and are developing capabilities, such as cyber and hypersonic weapons, to do so. U.S. forces marshaling and moving toward a combat zone will be under severe threat of attack by nonkinetic disruption and kinetic means from the time they begin to form up at their bases. The United States will not have air superiority—and indeed may be hard-pressed to deny it to an adversary in distant wars—and it will not choose the timing of a war. Both U.S. space assets and the U.S. homeland will be held at risk from the first moments of any conflict.

U.S. allies are not immune to these developments. In Europe, the NATO alliance needs to demonstrate that it stands ready to quickly respond to security threats to deter a hostile, nuclear-armed Russia, which, in 2023, has unleashed attacks on civilian infrastructure and threatened nuclear use. In Asia, Japan increasingly faces open hostility from China's leaders and frequent demonstrations of China's ability to project military force. At the same time, North Korea, which has demonstrated a long-standing enmity toward Japan, has developed missiles that can reach Japanese territory and is now nuclear capable. It is also important to consider how Taiwan can more credibly deter attacks from Beijing, which openly aspires to be able to impose its will militarily in Taiwan. Furthermore, the mainland has recently backed up these threats with near constant military incursions into Taiwan's airspace and waters. Taiwan once enjoyed a qualitative edge over forces from the mainland, but that advantage was ceded long ago.

Collectively, these trends have created a growing gap between the goals of U.S. national security strategy and the ways and means available to support those goals. Left unchecked, these trends will almost certainly lead to increased regional instability, reduced U.S. influence and security, and metastasizing challenges to U.S. and allied interests.

These developments have prompted some shifts in U.S. and allied military strategy and posture. Since 2014, NATO has turned its focus away from out-of-area operations and back to its traditional role of territorial defense. Reflecting this, the allies now maintain eight multinational battlegroups in Central and Eastern Europe, and the United States deploys two brigade combat teams (BCTs) in the region on a rotational basis. Importantly, the U.S. National Defense Strategy (NDS) of 2018 named China as the principal

threat to U.S. security and called for investments in innovative capabilities and operational concepts aimed at deterring and defeating aggression by China or Russia—a policy thrust that the NDS of 2022 has sustained.⁵ And U.S. defense budgets have begun to devote greater resources to the development and fielding of systems needed for conducting operations in the sorts of highly contested environments that forces from China and Russia can impose on modern battlefields. But none of these measures has yet reversed the deterioration in the military balance that has characterized the past 20 years.

The U.S. defense establishment remains overly wedded to legacy military systems that are extremely expensive, heavy, and difficult to deploy and that take years or even decades to develop and field. The U.S. Department of Defense (DoD) continues to move relatively slowly in transitioning from an era of large, few, expensive, and exquisite systems to one of smaller, cheaper, numerous, often unmanned systems. Personnel and operations and maintenance costs are slowly consuming the defense budget. As Russia's 2022 invasion of Ukraine revealed, gaps exist in the ability of the U.S. defense industrial base to surge production to levels that will be required in any major conflict. Emerging operational concepts show promise but remain ill defined.

The scale, audacity, and sheer brutality of Russia's most recent invasion of Ukraine have shocked policymakers and engaged publics into the realization that war is not something confined to far corners of the planet but, rather, something that can happen close to home. As American scholar Robert Kagan observed in 2014, the world remains a "dangerous and brutal place. . . . There has been no transformation in human behavior or in international relations. . . . In the twenty-first century, no less than in the nineteenth or twentieth centuries, force remains the *ultima ratio*."⁶

These realities place into stark relief the need for a coordinated, multinational effort to close the gaps between the demands of U.S. and allied defense

⁵ U.S. Department of Defense, *Summary of the 2018 National Defense Strategy of the United States of America: Sharpening the American Military's Competitive Edge*, 2018; and U.S. Department of Defense, *2022 National Defense Strategy of the United States of America*, October 27, 2022a.

⁶ Robert Kagan, "Superpowers Don't Get to Retire: What Our Tired Country Still Owes the World," *New Republic*, May 26, 2014.

strategies and the means available to implement them. The political will and incentives to make tough choices may now be greater than at any time in recent decades. The question then becomes: What should be the substantive design of such a program, and which reforms, systems, capabilities, and investments will provide the greatest value in closing the strategy gap?

This report offers answers to that question in the hope that they can help ensure that policymakers in the United States and elsewhere make best use of whatever new resources—money, attention, or political will—are generated in this moment.

Overview

This report addresses three questions:

1. What are the principal demands for which U.S. and allied military forces should prepare? We express those demands in the form of scenarios that depict potential future conflicts that are representative of wars that could affect important U.S. and allied interests. Assessments of those scenarios yield insights about the extent to which current and planned forces are or are not adequate to meet projected demands.
2. If those forces are deemed inadequate, what gaps exist in the capabilities, posture, and operational concepts of those forces?
3. What options exist to fill those gaps, and what steps should policymakers consider in reformulating plans for future forces?

Chapter 2 addresses these questions through the lens of U.S. conventional (that is, nonnuclear) military forces. Chapter 3 conveys our findings regarding steps that key allies can take to enhance the ability of their forces to contribute to a combined defense. The report concludes with a summation of the preceding material and a list of steps that policymakers may wish to consider as they grapple with the challenges presented by this dangerous world.

Defense Without Dominance: Restoring Balances in Conventional Military Power

Americans are accustomed to regarding their military forces as the world's most capable.¹ They are, but that fact in itself does not mean that those forces are sufficient to accomplish all the missions assigned to them. This is because the United States calls upon its armed forces to undertake missions of far greater difficulty than those assigned to the forces of any other nation—friend or foe. Since World War II, U.S. forces have had to be prepared to conduct large-scale military operations against the forces of adversary nations on battlefields far from the United States and close to or within the borders of the adversaries. This imperative for conducting operations over transcontinental distances imposes a tremendous burden on U.S. forces. To meet the demands of this strategy, the United States maintains a global network of military bases and access agreements, substantial forces and stocks of materiel permanently based or rotationally deployed abroad, and by far the world's largest fleet of military airlift aircraft.

The extent to which U.S. military forces and posture have or have not measured up to the demands of U.S. strategy has varied over the decades. That history need not be recounted here except to note that, with the collapse of the Soviet Union in 1991, U.S. forces emerged from the Cold War

¹ They are certainly the world's most costly. In 2021, the United States spent \$801 billion on its armed forces. China came in second with a military budget of \$293 billion. Russia spent an estimated \$66 billion on its armed forces. Stockholm International Peace Research Institute, SIPRI Military Expenditure Database, undated.

with the capabilities and capacity needed to meet even the most stressing plausible demand at that time: specifically, having to fight and defeat the forces of two regional adversaries in Eurasia in overlapping time frames. In fact, U.S. forces in this era enjoyed unquestioned superiority over those of any other nation.

Had the world remained fairly static thereafter, U.S. defense strategy today would be in a fairly good place. Regrettably, the security environment has deteriorated since the 1990s, such that the United States now faces not only regional adversaries, such as Iran and North Korea, but also two major powers—China and Russia—that are pursuing objectives antithetical to those of the United States and its allies and are backing those agendas with powerful military forces. And at least one of the United States' regional adversaries—North Korea—now wields a nuclear arsenal capable of inflicting immense destruction on its neighbors and possibly on the U.S. homeland.

As a consequence of this shift and, arguably, America's inattention to these increasingly alarming trends, U.S. policymakers can no longer be confident of prevailing in the most-stressing plausible conflicts. Changes are urgently needed in the ways in which U.S. forces plan to fight, in the capabilities that the nation is developing for its forces, and in the posture of those forces around the world. The best way to determine the direction of changes that are called for and to identify options for effecting those changes is through a detailed examination of scenarios that embody the dynamics of future conflicts.² To be useful guides to force development, scenarios need not be accurate predictions of the operations that forces are actually called upon to undertake. They do, however, have to embody the principal operational tasks and challenges that those forces will face.³

The following two scenarios encompass the most-important operational challenges for which U.S. forces must prepare:

² William W. Kaufmann, *Planning Conventional Forces, 1950–80*, Brookings Institution, 1982.

³ As one example, the U.S. force that defeated Iraq's armed forces in 1991 was designed and tested around a very different scenario that envisaged fighting the Soviet Union in Central Europe. Nevertheless, when called upon to evict Iraq's army from Kuwait, U.S. forces had all of the requisite capabilities.

- China's invasion of Taiwan
- an invasion of one or more Baltic states by Russia's reconstituted forces.

The remainder of this chapter addresses the demands of large-scale conventional warfare in these two scenarios, which have the greatest bearing on the shape of future U.S. forces.

China Invades Taiwan

If anyone had doubted Beijing's determination to formally incorporate Taiwan under the mainland's political control, those doubts must surely have been laid to rest by the Chinese Communist Party's (CCP's) extreme reaction to the visit to Taiwan by a U.S. congressional delegation led by the Speaker of the House in August 2022. Bellicose rhetoric raising the specter of "grave consequences" was accompanied by large-scale military maneuvers around Taiwan by China's air, maritime, missile, and amphibious forces.⁴ For longtime observers of the cross-Taiwan Strait situation, this was not terribly surprising.⁵ A succession of China's leaders have made it clear that they regard Taiwan as part of China, and they have pointedly refused to rule out the use of force to compel the people and government of Taiwan to accept Beijing's rule over them.

The Taiwan Relations Act, passed by Congress in 1979, states that the United States will "consider any effort to determine the future of Taiwan by other than peaceful means . . . a threat to the peace and security of the Western Pacific area and of grave concern to the United States."⁶ The act also obligates the United States to "maintain the capacity of the United States to resist any resort to force or other forms of coercion that would jeopardize the security, or social or economic system, of the people of Taiwan."

⁴ Phelim Kine, "Pelosi Trip Overrides Chinese Military Threats," *Politico*, August 1, 2022.

⁵ David A. Shlapak, David T. Orletsky, Toy I. Reid, Murray Scot Tanner, and Barry Wilson, *A Question of Balance: Political Context and Military Aspects of the China-Taiwan Dispute*, RAND Corporation, MG-888-SRF, 2009.

⁶ Public Law 96-8, Taiwan Relations Act, April 10, 1979.

Equally important, Washington's ability and will to defend Taiwan against China's aggression is widely viewed as a test of the credibility of U.S. security guarantees to longtime allies in the region. Put simply, if the United States were to be seen as either unwilling or unable to act effectively against an unprovoked attack on Taiwan by China, the military balance in East Asia could shift dramatically as allies and partner states reconsidered their security strategies and alignments in the face of China's growing power.

For more than 20 years, China has been methodically building a modern armed force with the twin goals of being able to dominate operations against its neighbors and keeping the forces of any external power (read: the United States) at arm's length for a period of time sufficient to allow the People's Liberation Army (PLA) forces to achieve their principal operational objectives. We cannot know precisely how China might employ its forces in any particular contingency, but PLA writings, combined with observation of their training activities and an understanding of what produces success in wargames, provide a fairly clear picture of the general scenario.⁷

In the months leading up an attack, Beijing orchestrates and amplifies a series of provocations to heighten tensions with Taiwan and exert coercive pressure on its people and government. These provocations include stepped-up military deployments around the island, cyberattacks on gov-

⁷ The scenario described here represents a synthesis of information from the following sources, leavened by the authors' experience in numerous wargames: Roger Cliff, *China's Military Power: Assessing Current and Future Capabilities*, Cambridge University Press, 2015; Shlapak et al., 2009; and Eric Heginbotham, Michael Nixon, Forrest E. Morgan, Jacob L. Heim, Jeff Hagen, Sheng Tao Li, Jeffrey Engstrom, Martin C. Libicki, Paul DeLuca, David A. Shlapak, David R. Frelinger, Burgess Laird, Kyle Brady, and Lyle J. Morris, *The U.S.-China Military Scorecard: Forces, Geography, and the Evolving Balance of Power, 1996–2017*, RAND Corporation, RR-392-AF, 2015. Leaders of the People's Republic of China (PRC) might choose strategies other than an invasion to compel the people of Taiwan to accept rule by the mainland. The most obvious of these would be a campaign of coercion in which Beijing imposes an economic blockade, perhaps combining it with attacks on Taiwan's military forces and infrastructure. Such strategies, however, leave the initiative with the targeted state and have a mixed record of success. They may also require months or years to achieve the desired effects, during which time the United States and the rest of the international community would be able to marshal support for Taiwan and impose heavy sanctions and, perhaps, a counterblockade on the PRC. These and other factors make this a less useful scenario for force planning and assessment.

ernment and private-sector networks, economic coercion, and a campaign of disinformation and propaganda. Simultaneously, Beijing mobilizes and positions its military forces for an invasion, drawing selected assets from the civilian economy to support the operation. At some point, Beijing issues an ultimatum to Taipei, demanding that the government engage in earnest in talks aimed at renouncing Taiwan's independence and accepting the presence of security forces from the PRC on the island.

Throughout this period, China keeps a careful eye on U.S. policies and actions, seeking to deter the United States from intervening in the dispute. If and as U.S. forces begin to reinforce their positions in the Western Pacific or otherwise brace for conflict, Beijing can be expected to work to disrupt those preparations through information operations; cyberattacks; and, possibly, sabotage strikes against military facilities and transportation hubs in the United States.

When Beijing calculates that the military situation is most in its favor, it unleashes a massive air, missile, and cyberattack on Taiwan—an operation called, in PLA doctrine, the *joint firepower strike campaign*.⁸ Targets of this attack include Taiwan's air force and air defenses, naval bases and ships at sea, army forces at their bases and in the field, choke points along major highways, military command centers, and communication hubs. The goal is to cripple the ability of Taiwan's forces to act in a coordinated manner to defend the island. As soon as it is clear that U.S. forces are coming to Taiwan's defense, China unleashes a similar firepower strike against U.S. military forces and bases on land and at sea within range of its missile forces—that is, out to Guam and beyond—what is sometimes known as the *second island chain*. The firepower strikes may be preceded or accompanied by a naval and air blockade of Taiwan.

When China's leaders judge that the firepower strikes have achieved their principal objectives—a matter of a few days—they launch the invasion force. The first waves of the invasion cross the Taiwan Strait by sea; as many as 100,000 troops and their equipment and supplies are ferried across

⁸ Mark Cozad, Jeffrey Engstrom, Scott W. Harold, Timothy R. Heath, Sale Lilly, Edmund J. Burke, Julia Brackup, and Derek Grossman, *Gaining Victory in Systems Warfare: China's Perspective on the U.S.-China Military Balance*, RAND Corporation, RR-A1535-1, 2023, p. 84.

90 miles of water by a combination of amphibious vessels and civilian transports. These ships move under the protection of naval surface combatants that provide air defense and antisubmarine warfare capabilities. Land-based surface-to-air missiles (SAMs) and fighter aircraft also provide air defense for the fleet. The several hundred ships that constitute the heart of this force are surrounded by 1,000 or more vessels conscripted from civilian service. The primary purpose of these additional watercraft is to clutter the environment to confuse U.S. and Taiwan targeting and to act as “missile sponges,” absorbing weapons intended to disable the invasion fleet. Figure 2.1 illustrates the main elements of the PLA offensive.

Assuming that a substantial portion of that fleet successfully deposits its troops and cargo on the beach, the PLA follows the amphibious assault by landing additional ground forces on or near the beachheads via airdrop

FIGURE 2.1

China’s Potential Invasion and Blockade of Taiwan



from military transport aircraft and air assault from helicopters. As these landings are taking place, the PLA subjects Taiwan's remaining defensive forces—principally ground forces in the field—to withering attacks by missiles, fixed- and rotary-wing aircraft, and long-range rockets fired from the mainland. The goal is to reduce the combat power and morale of Taiwan's defenders and to immobilize remaining units so that they cannot maneuver to attack PLA forces as they break out of their lodgments. If successful, China's military planners envisage capturing Taipei and supplanting Taiwan's government within a matter of weeks.

Russia Invades the Baltic States

Sixteen months into their calamitous misadventure in Ukraine, Russia's conventional forces have suffered massive losses of personnel, equipment, and prestige.⁹ So, although President Vladimir Putin's animus toward NATO and the West is undiminished, years of rearming, recruiting, and retraining will be needed following a termination of hostilities with Ukraine before Russia's leaders could contemplate undertaking a major military operation against NATO. Prudence demands, however, that the United States and its NATO allies take steps now to field robust defenses against a reconstituted threat from Russia.

Russia's future invasion of the Baltic states might be expected to unfold along the lines that Russia's planners apparently expected their February 2022 invasion of Ukraine to proceed.¹⁰ Given the rather light posture of NATO forces defending the Alliance's eastern flank, military planners in

⁹ As of February 2023, approximately 200,000 Russian soldiers were estimated to have been killed or wounded in Ukraine, with no end to the fighting in sight. Russia's stocks of cruise missiles and other precision guided weapons are also thought to have been depleted. Helene Cooper, Eric Schmitt, and Thomas Gibbons-Neff, "Soaring Death Toll Gives Grim Insight into Russian Tactics," *New York Times*, February 2, 2023.

¹⁰ The scenario outlined here reflects an amalgam of Red team play from dozens of wargames run prior to 2022. For a more detailed description of the dynamics of a conflict in the Baltics, see David A. Shlapak and Michael W. Johnson, *Reinforcing Deterrence on NATO's Eastern Flank: Wargaming the Defense of the Baltics*, RAND Corporation, RR-1253-A, 2016.

Moscow might calculate that a comparatively short period of mobilization and deployment—a matter of weeks, not months—would be optimal to enable them to launch their attack before the United States or other allies could move more heavy forces toward the Baltics. A force of around 50,000 troops comprising 30 to 40 armored and mechanized battalions and associated support elements might invade along major roads into Latvia, with smaller supporting attacks or fixing actions in Estonia and Lithuania. As shown in Figure 2.2, additional artillery and maneuver forces in Kalinin-

FIGURE 2.2
Russia's Potential Invasion of the Baltic States



grad and Belarus would be deployed to positions from which they could threaten NATO forces and supplies moving north through the Suwałki corridor.

The ground assault is preceded and accompanied by missile attacks on NATO air bases, operations centers, and logistics hubs within Europe, as well as artillery and rocket attacks on military forces within the Baltic states. As is the case with China's invasion force, Russia's ground forces and their logistics bases are protected by dense arrays of long- and shorter-range SAM systems. These systems are mobile and accompany the ground maneuver forces as they advance into NATO territory. Russia's military planners might expect a refitted ground force to cover the 120 miles between Russia's border and Latvia's capital city of Riga within a few days. Should Russia's forces succeed in occupying Latvia, NATO would find it extremely difficult to sustain or reinforce its forces in Estonia, potentially putting Moscow in a position to dictate the terms of the postconflict status of the Baltic states.

Scenario Assessments

The goal of invasions by both China and Russia would be to overwhelm the defense and seize territory quickly with minimal losses, confronting the world with a *fait accompli* that the United States and its allies would find difficult, costly, and risky to reverse. Leaders of China and Russia would hope to deter the United States and its allies from intervening in the conflict at all. Failing that, they would seek to delay and disrupt the deployment of U.S. and allied forces to the theater, suppress the operations of those forces that did arrive, and inflict heavy losses on those forces.

Large-scale combat is an extremely complex undertaking, and the wargames and computer simulations used to assess the outcomes of engagements, battles, and campaigns between forces equipped with modern weapons are imperfect. However, these tools, when applied by knowledgeable analysts, can yield valuable insights into the dynamics of future conflicts. And when independent analyses arrive at similar results in repeated iterations, they raise confidence in these findings.

Assessments of the military balance between China's forces and Taiwan's defenders raise profound questions about the overall state of U.S. and allied

conventional military power. One analysis concluded that, by 2015, China's force of short-range ballistic missiles alone would have the potential to quickly and profoundly reduce Taiwan's ability to defend itself, leaving the island "open to a range of follow-on actions intended to coerce or conquer it and its people."¹¹ Taiwan's air force is likely to be grounded within hours of the outbreak of hostilities. Its longer-range surface-to-air defenses (Patriot and Sky Bow) likely would be quickly overwhelmed and destroyed. And the seven armored and mechanized brigades that constitute the core of Taiwan's relatively small active ground force could be badly attrited by PLA air attacks and long-range fires before they could engage with enemy ground forces. The same study concluded that China's ability to attack U.S. air bases in the region, combined with its across-the-board improvements in its air defense capabilities, meant that, in a war over Taiwan, the United States and Taiwan could "no longer count on controlling the air over Taiwan or the Strait."¹²

Compounding these challenges would be China's attacks on the ability of U.S. and allied forces to observe activities in the battlespace and to direct operations. PLA doctrine places heavy emphasis on ensuring that the adversary does not achieve information superiority during a conflict. The PLA has invested heavily in air defenses, countersatellite systems, electronic warfare systems, and offensive cyber capabilities to ensure this. As a result, any U.S. and allied forces that are able to withstand attacks on their bases and get to the fight are less effective than they might be because of poor coordination and flawed targeting information. Other assessments suggest that if the PRC's forces perform more poorly than expected, if Taiwan's forces are better equipped and fight effectively, and if the government of Japan allows U.S. forces deployed there to conduct early combat operations, the coalition could defeat the invasion.¹³ However, there can be little doubt that the vulnerabilities and shortcomings of U.S. and coalition forces and posture

¹¹ Shlapak et al., 2009, p. 51.

¹² Shlapak et al., 2009, p. 135.

¹³ See Mark F. Cancian, Matthew Cancian, and Eric Heginbotham, *The First Battle of the Next War: Wargaming a Chinese Invasion of Taiwan*, Center for Strategic and International Studies, January 9, 2023.

revealed by the wargames are real. A strengthened deterrent posture will need to address these.

In short, although conducting a large-scale amphibious landing in the face of determined resistance is an inherently difficult and risky enterprise, currently fielded capabilities leave open the possibility of a rapid victory by China.

The situation in Europe is less dire, at least for now. To begin with, Russia had smaller inventories of deep strike weapons than China has, even prior to expending large quantities of these weapons in Ukraine. NATO's military infrastructure, particularly the number and quality of its air bases, is more substantial than that available to U.S. and allied forces in the Western Pacific. And, as noted previously, the war in Ukraine has resulted in heavy losses to Russia's limited pool of trained manpower, conventional weapons, and munitions. Assuming that the Western coalition maintains the restrictions it has placed on the sale of sensitive technologies and other goods to Russia, it could be a decade or more before Moscow is able to rebuild forces capable of threatening an invasion of NATO territory. NATO's defense planners should prepare for this eventuality by rebuilding their own stocks of conventional munitions and by strengthening the readiness and posture of their forces along the Alliance's eastern flank.

The terrain between Riga and Russia's border is flat and fairly open. In past wargames, Red team forces typically have been able to reach Riga's outskirts in 72 hours or less despite the Blue team's efforts to stop them.¹⁴ NATO forces defending the Baltic states would face many of the same challenges that manifest themselves in the Taiwan fight:

- Space-based and airborne reconnaissance assets would be subjected to heavy attacks.
- Attacks on air bases would suppress the generation of air combat power.
- Those aircraft that managed to reach the battlespace would encounter dense arrays of modern, long-range SAM systems, threatening both air-to-surface weapons and the aircraft delivering them.
- Ground forces maneuvering to engage the invaders would be subjected to heavy attacks by Russia's artillery, rockets, and short-range missiles.

¹⁴ Shlapak and Johnson, 2016, p. 4.

- Commanders at operations centers seeking to orchestrate defensive operations could be hamstrung by cyber, electronic warfare, and missile attacks on their facilities.

In short, we judge that if Russia, following a termination of hostilities with Ukraine, can rebuild the readiness of a substantial portion of its army and reconstitute inventories of ballistic and cruise missiles, NATO's current defensive posture on the Alliance's eastern flank will not be adequate to prevent the rapid loss of key territory in the Baltic states.

The Need for a New Approach to Warfare

A time-honored axiom of military wisdom is that, in battle, the side that is "the firstest with mostest" generally carries the day.¹⁵ This maxim neatly characterizes the basic shortcomings of the current U.S. approach to confronting aggression by the United States' most capable state adversaries. Put simply, in the scenarios outlined above, U.S. forces consistently fail to apply sufficient combat power quickly enough to prevent the *fait accompli*. The problem arises from two major factors. The first is a posture problem: The United States and its allies maintain inadequate forces and supplies in a posture that can respond promptly to enemy attacks in these two scenarios. The second springs from outmoded operational concepts and capabilities that, in combination, allow enemy anti-access and area denial (A2/AD) capabilities to delay and blunt the ability of defending forces to bring lethality to bear against invading forces.

We examine each of these problems in turn.

The Problems of an Expeditionary Approach

Since ODS, U.S. forces have taken an approach to conducting large-scale military operations in Eurasia that is essentially expeditionary. That is, the bulk of the force that is needed to prosecute a successful large-scale operation

¹⁵ This is the quote attributed to the Confederate General Nathan Bedford Forrest. More-fastidious sources claim that he actually said, "I always make it a rule to get there first with the most men."

must deploy to the theater of operations from elsewhere. This was unavoidable in ODS because the United States had virtually no forces or sustainment assets in the region when Iraq invaded Kuwait. It took five months to build up forces and supplies on the Arabian Peninsula before General Norman Schwarzkopf was prepared to begin the counteroffensive. U.S. planners later embraced a global expeditionary posture as a virtue when they began to draw down forces that had been forward stationed in Europe and East Asia for decades. The drawdown was especially pronounced in Europe, where the number of U.S. military personnel stationed fell from 320,000 in 1989 to 79,000 by 2013.¹⁶

Bringing the troops home was attractive at that time because it is marginally less expensive to maintain most types of units in the United States than abroad.¹⁷ More significantly, when overall force levels are being reduced, as they were following the end of the Cold War, it is politically painless to eliminate units that had been stationed abroad and often quite difficult to do so to units stationed at bases in the United States. Strategically, the risks associated with thinning out the U.S. military posture overseas were acceptable as long as the nation's principal adversaries were regional powers, such as Iraq, Iran, and North Korea. Because U.S. forces enjoy a substantial margin of overmatch against the forces of these countries, should war occur, U.S. commanders could be confident of regaining the operational initiative very soon after the outbreak of hostilities, even if their forces were caught flat-footed by a short-warning offensive.

The same cannot be said for the scenarios that animate U.S. force development today. Should China attack Taiwan in force and the United States be compelled to respond from its current posture with whatever forces it could muster within a few days or even weeks of warning, those forces would find themselves outnumbered and fighting in a disjointed way against a force

¹⁶ U.S. General Accounting Office, *Military Presence: U.S. Personnel in NATO Europe*, October 6, 1989, p. 3; and Michael J. Lostumbo, Michael J. McNerney, Eric Peltz, Derek Eaton, David R. Frelinger, Victoria A. Greenfield, John Halliday, Patrick Mills, Bruce R. Nardulli, Stacie L. Pettyjohn, Jerry M. Sollinger, and Stephen M. Worman, *Overseas Basing of U.S. Military Forces: An Assessment of Relative Costs and Strategic Benefits*, RAND Corporation, RR-201-OSD, 2013, p. 20.

¹⁷ Lostumbo et al., 2013, p. 232.

of roughly equal quality. The result of such engagements is rarely good. If Moscow is able to rebuild some portion of the forces and assets it lost in Ukraine, NATO forces could again find themselves outnumbered and outgunned on the Alliance's eastern flank.

In both theaters, then, U.S. planners are confronted with the need to rethink the posture of forces and supporting assets that they maintain in these critical regions.

The Loss of Domain Dominance

As noted, maintaining only a light forward posture of forces can allow an aggressor to prevent defending forces from gaining the initiative in the battlespace, at least for a time. That is very much the case in our two scenarios of greatest concern. For example, by habit and by doctrine, U.S. forces place great store in achieving air superiority over the enemy at the outset of a conflict. Coalition operations in the opening days of ODS were heavily weighted toward suppressing Iraq's surface-to-air defenses, destroying its air force, and dismantling its air defense command and control capabilities. Having achieved this, coalition air forces could observe and attack targets throughout Iraq with relative impunity.¹⁸

In early wargames devoted to exploring the demands of the Taiwan and Baltics scenarios, airmen on Blue teams who were as yet unschooled in the rigors of combat against highly capable adversaries consistently tried to apply the ODS model to the goal of defeating the adversaries' invasion.¹⁹ Without exception, they failed. Not only were they judged to be unable to meaningfully suppress the enemy's air defenses, but they also wasted precious time and resources attempting to do so, allowing the enemy to achieve the goals of its offensive.

The same basic problem is manifest in other domains. For example, Blue teams try to create favorable conditions for naval surface forces to operate

¹⁸ Over 42 days of combat in ODS, U.S. air forces lost 38 aircraft to Iraqi air defenses, for an attrition rate of one fixed-wing aircraft per 1,800 sorties—a historically low loss rate (Thomas A. Keaney and Eliot A. Cohen, *Gulf War Air Power Survey Summary Report*, U.S. Department of Defense, 1993, pp. 61–62).

¹⁹ These insights are drawn from wargames conducted by RAND and components of DoD between 2008 and 2018.

within close proximity to Taiwan by, among other things, attacking China's over-the-horizon sensing systems; hunting China's submarines; and, sometimes, trying to attack airfields and missile launchers in China. They seldom find this to be a rewarding strategy. Likewise, knowing how much U.S. forces rely on satellites for sensing; communications; and positioning, navigation, and timing, Blue teams are tempted to try to neutralize China's antisatellite capabilities by mounting attacks on China's space domain awareness centers, antisatellite missile launchers, high-energy lasers, and other counterspace systems. They find that, unfortunately, the Red team has anticipated such attacks and has taken pains to ensure that its systems are well defended; redundant; and, often, either mobile or hardened.

In addition to the sheer difficulty of promptly neutralizing these A2/AD threats, Blue teams must cope with the reality that, in a fight with China or Russia, the United States will not enjoy a position of escalation dominance. The layman can best grasp the significance of this by, again, comparing a Taiwan or Baltics conflict with the wars that the United States fought in the post-Cold War era. During ODS or the conflicts with Serbia or Afghanistan, coalition forces could attack essentially any targets in those countries without serious fear of reprisal. The adversary had only very limited means to strike back at the bases or homelands of the coalition. China and Russia, by contrast, have many options for imposing costs on their adversaries through cyberattacks on critical infrastructure; conventional strikes; or, possibly, nuclear use.

For this reason, in any conflict involving China or Russia, national leaders will have to determine how much risk of escalation they are willing to accept as part of their efforts to thwart aggression. As a general rule, military planners would be well advised to minimize escalation risk by finding ways to defeat aggression by these adversaries without resorting to attacks on their home territories or, at most, by confining those attacks to purely military targets that are directly involved in supporting the enemy's offensive. Again, this dictum runs counter to the experience of U.S. forces over the past 30-plus years.

A New Approach: Defense Without Dominance

As Blue teams and analysts absorbed the dismaying lessons of wargames in these scenarios, they began to use the games to develop and test new approaches. The games became exploratory vehicles for examining the operational utility of different mixes of forces, alternative regional postures, and innovative operational concepts. In recent years, repeated iterations of these games have helped planners to refine their thinking about these matters and to gain insights into how China and Russia might adapt their forces and strategies in response to revised U.S. approaches.

Although it would be premature to state that the U.S. armed forces have coalesced around a single, fully fleshed-out vision of the future force and concepts for its employment, the broad outlines of a new approach to defeating aggression by China and Russia are emerging. The remainder of this chapter lays out the principal elements of this still-nascent approach and the sorts of military capabilities needed to make it a reality. Chris Brose, in his book *The Kill Chain*, articulated something similar and calls it *defense without dominance*, a term that we find to be fitting.²⁰ The approach has four basic elements:

- Posture forces, enablers, and sustainment assets to allow for effective forward defense and strikes at scale with hours or days of preparation (as opposed to weeks or months).
- If deterrence fails, reach into the contested battlespace *from the outset of hostilities* to find, track, and target the adversary's invasion force.
- Rapidly and survivably generate combat power from both within and beyond the reach of enemy strike systems to strike the enemy's invasion force.
- After thwarting the enemy's invasion, prepare to asymmetrically reduce remaining military forces to lay the basis for a negotiated cessation of hostilities on terms favorable to the defenders.

²⁰ Christian Brose, *The Kill Chain: Defending America in the Future of High-Tech Warfare*, Hachette Books, 2020, p. 184.

Posture

As noted, in the scenarios of greatest concern, China and Russia can be expected to try to seize the principal objectives of their respective offensives within days or weeks of the commencement of hostilities. And they will seek to mask preparations for their offensives by conducting large-scale training exercises in the run-up to the conflict. To avoid a *fait accompli*, U.S. and allied forces must be postured to respond promptly. But in a world where these adversaries have thousands of missiles to shoot at forward bases and forces, simply stacking up more forces in known and vulnerable forward locations would constitute more of a provocation than a deterrent.

Therefore, as U.S. planners rethink their global posture, they will want to make forward-based and rotationally deployed forces harder for the enemy to find and to strike. This means, among other things, making those forces more mobile, reducing the time required to move them and their support assets out of garrison, hardening the bases that will be used in war-time, and deploying cost-effective missile defenses at critical locations. An especially promising approach appears to be to develop and field significant numbers of mobile missile launchers, as well as runway-independent unmanned aerial systems (UASs)—smart drones that can be launched from mobile trailers, accomplish their missions autonomously, and return and land via parachute in open fields. U.S. forces showed in ODS how difficult it can be to find and strike mobile missile launchers even in the open terrain of the Iraqi desert. Forcing the enemy to, in effect, go “Scud hunting” if they wish to suppress U.S. air operations can greatly increase the survivability of U.S. and allied land-based air forces.²¹

Allies and partners can play important roles in this approach. In addition to contributing their own combat forces to the fight, they can make their facilities and lands available to U.S. forces. This will help to reduce the density of those forces at any single location, complicating the enemy’s targeting problems. Allies and partners can also provide assets grouped under the heading “host nation support,” such as trucks, rail stock, and fuel, that

²¹ During the 1991 Gulf War, coalition air forces devoted more than 1,000 sorties to trying to locate and destroy mobile Scud and other missile launchers in the Iraqi Desert. Despite the fact that those forces had complete air superiority, they were singularly unsuccessful at locating these targets. See Keaney and Cohen, 1993, pp. 83–89.

can facilitate the movement and field operations of U.S. and allied forces. (For more on ways that key allies can contribute to a robust defense, see the next chapter.)

Equally important, U.S. forces should move swiftly to increase the capacity and lethality of forces that can promptly strike at the enemy's forces without exposing themselves or their bases to attack. Chief among these forces today are the U.S. fleets of heavy bombers and attack submarines. The bombers—B-1s, B-2s, and B-52s—supported by aerial refueling aircraft, can operate from bases beyond the reach of most enemy missiles. And the submarines, being stealthy and nuclear powered, can remain underwater and undetected in forward areas for long periods. If properly positioned, both types of platforms can deliver weapons to the Taiwan Strait or to NATO's eastern flank from fairly secure locations within hours of an order to do so.

U.S. planners should ensure that the U.S. Air Force is buying sufficient numbers of weapons (principally, standoff missiles) to ensure that the bomber force can conduct a high tempo of operations for at least 30 days. They should also vigorously explore options for affordably expanding the number of platforms that can deliver such weapons. Promising candidates for this expansion are large-diameter unmanned underwater vehicles (LDUUVs), which can be built far more cheaply than manned submarines and stationed forward, and concepts for configuring large military cargo aircraft, such as the C-17, with equipment to allow them to deliver standoff weapons.

Find, Track, and Target

Military planners know that the way to prevail in war is to attack and damage or destroy the enemy's "centers of gravity" and, at the same time, protect one's own. In these scenarios, the operational-level centers of gravity for China and Russia are their invasion forces—the amphibious and airborne units and their transports in the case of a Taiwan fight, and the ground maneuver forces and their supporting fires and logistics assets in the case of a Baltics fight. Once combat has begun, these forces will be on the move. To strike them, therefore, one must first find and track them. As we have seen, both China and Russia will take pains to prevent defending forces from doing that. Besides attacking U.S. sensing capabilities, they

will try to shield their forces with multilayered air defenses. And they will complement these efforts by employing standard military deception, concealment, and camouflage techniques.

Time being of the essence, U.S. and allied forces will not have the option of spending days trying to reconstitute sensors and establish air superiority in the highly contested battlespaces around the enemy's invasion forces. They must find ways to locate, identify, track, and target the key platforms that constitute the enemy's center of gravity from the outset of hostilities. If they succeed at this, victory is possible. If they fail, it is hard to imagine that the defenders would be able to generate sufficient lethality to prevail in the time available.

A variety of options exist for enhancing the resiliency of U.S. and allied sensing capabilities in these demanding circumstances:

- **Space.** Commercial ventures are leading a revolution in space-based imaging and communications by deploying large numbers of small, inexpensive satellites into orbit. These approaches are inherently more resilient than the traditional approach of relying on small numbers of large, sophisticated, and expensive satellites. And, as has been seen in the fighting in Ukraine, satellites of this class can provide important capabilities to the warfighter.
- **Stealth.** Most of today's manned and unmanned airborne sensing platforms, such as the E-3 airborne warning and control system (AWACS), E-8 joint surveillance and target attack radar system (JSTARS), RC-135, RQ-4 Global Hawk, and MQ-9 Reaper, are designed to fly in benign operating environments. They perform important roles in peacetime intelligence collection missions and support combat operations against nonstate adversaries, such as ISIS. But all of them are easily tracked via radar and, therefore, vulnerable to being shot down in combat against China or Russia. It is likely that low-observable platforms would be more effective in these more challenging scenarios.
- **Nontraditional intelligence, surveillance, and reconnaissance (ISR).** Two distinct approaches have been grouped under the heading of nontraditional ISR. The first is 5th-generation fighter aircraft, such as the F-35, which are equipped with elaborate sensor suites and onboard processing capabilities. These fighters, which feature stealth and can

venture closer to contested areas than nonstealthy aircraft, could use data links to provide information that they collect during their missions to other joint forces. A second approach involves gathering, synthesizing, and interpreting data from publicly available sources, such as cell phones and social media sites. Despite injunctions from their commanders, military personnel have been known to use their cell phones while in combat zones, providing their enemies with opportunities to locate and attack their units and to gain other information about their operations.²²

Each of these approaches has some promise, but all have limitations. Commercial satellites may not be protected against cyberattacks, jamming, or dazzling of their sensors. Current techniques for low observability work well in some portions of the electromagnetic spectrum but not others, particularly the long-wave infrared band. Fighter aircraft will not be able to dwell in contested areas for prolonged periods. And, like larger unmanned sensor platforms, they need access to undamaged runways and other facilities at air bases to operate in contested zones. Finally, cell phones and social media can be spoofed and may not prove to be reliable sources for timely information on the location and identity of the forces of greatest import to halting the invasion.

- **A sensing and targeting grid.** Ongoing developments in robotics and autonomous sensing can enable a force to establish a ubiquitous sensing and targeting grid in contested areas using large numbers of unmanned platforms. If the platforms and other hardware used in the grid can be procured at low cost, such an approach can achieve resiliency through sheer numbers. In the Taiwan Strait, for example, the United States' and Taiwan's forces together could launch hundreds of unmanned drones into the strait and the airspace above it. Each drone would be equipped with one or more sensors, allowing them to collect data via electro-optical, radar, and acoustic means. Using edge processing, these data could be processed onboard each sensor platform

²² For examples of how cell phone emissions and other forms of open-source intelligence are being used to support military operations, see Vanessa Smith-Boyle, "How OSINT Has Shaped the War in Ukraine," *American Security Project*, June 22, 2022.

and shared with other platforms in the grid in real time via data links. Using automatic target recognition algorithms, the grid itself would determine what types of vessels it has observed. As defending forces launched antiship missiles toward the battlespace, the grid would assign a target to each one, communicating the target's latest location to the incoming weapon using the same data links that were used to share information with other platforms within the grid.²³ The same approach could be employed to support a defense against Russia's invasion, substituting unattended ground sensors for unmanned maritime drones.

Of course, an enemy would be compelled to try to disable the grid. The enemy could employ patrol craft to locate and destroy drones on the surface of the Taiwan Strait and use surface-to-air or air-to-air missiles to destroy airborne sensor platforms. The grid would achieve survivability through mass: U.S. and allied forces would need to be able to repopulate the grid faster than the enemy could attrit it. Ideally, each platform in the grid would also cost less than the weapon used to neutralize it. The sensors and data links onboard the drones would also need to work, at least most of the time, in the presence of enemy electronic jamming, cyber, and other attacks. Analysis suggests that achieving these advantages over the enemy is feasible against the sorts of defenses available to China and Russia today.

Strike

If joint and combined forces can be postured for prompt and sustained response and if those forces are supported with timely and accurate information about the location and disposition of the invasion force, analysis shows that modestly enhanced forces can rapidly destroy enough of the

²³ For a more detailed description of the sensing and targeting grid concept in the context of a Taiwan scenario, see Thomas Hamilton and David A. Ochmanek, *Operating Low-Cost, Reusable Unmanned Aerial Vehicles in Contested Environments: Preliminary Evaluation of Operational Concepts*, RAND Corporation, RR-4407-AF, 2020. For a description of maritime sensing drones being used by the U.S. Navy today, see Sam LaGrone, "Austal USA Inks Deal with Saildrone to Build Wind-Powered Drones as USV Work Expands," USNI News, September 1, 2022.

ships, aircraft, tanks, and artillery pieces in the enemy's offensive to allow defending forces to contain and defeat the survivors. As one example, China might employ on the order of 60 amphibious and 100 cargo vessels to transport its invasion force across the Taiwan Strait. Those vessels, in turn, could be protected by 60 or so surface combatants providing defenses against air and submarine attacks.²⁴ Such a force could be annihilated by something on the order of 1,000 capable antiship weapons, again, if those weapons were directed to engage the right targets most of the time.

It is not difficult to imagine mixes of forces made up of mobile anti-ship weapon launchers operated by Taiwan's armed forces, supplemented by U.S. heavy bombers, submarines, and LDUUVs delivering that number of missiles into the Taiwan Strait within 24 hours.²⁵ U.S. air forces will also need to team up with mobile surface-based air defenses in Taiwan to defeat PLA air operations over the island. This will call for the ability to generate air-to-air and surface-to-air combat power sufficient to destroy large cargo aircraft, transport helicopters, and fighter aircraft in the early days of a conflict. Here, runway-independent UASs carrying air-to-air missiles can bring the bulk of the needed capacity to the fight when traditional fighter aircraft may be hindered by attacks on their bases.

Likewise, Russia's force of 50 battalion tactical groups arrayed against NATO would consist of approximately 2,500 tanks and armored fighting vehicles and 600 self-propelled artillery and rocket launcher vehicles.²⁶ If NATO forces could deliver on the order of 10,000 guided antiarmor weapons along the routes being used by the invasion force, well over two-thirds of that force could be damaged or destroyed, even assuming that many of the incoming weapons were intercepted by enemy air defenses.

²⁴ DoD, *Military and Security Developments Involving the People's Republic of China*, 2021, p. 162.

²⁵ A single B-52 sortie, for example, can deliver up to 20 long-range antiship missiles.

²⁶ Lester W. Grau and Charles K. Bartels, "Getting to Know the Russian Battalion Tactical Group," Royal United Services Institute, April 14, 2022.

Dismantle and Attrit

The preceding three imperatives—posture, targeting, and strike—are intended to prevent the adversary from imposing a *fait accompli*. Although doing so is necessary to achieving a satisfactory outcome to the conflict from the U.S. and allied perspective, it may not be sufficient. There is no guarantee that China or Russia, having failed in their initial attempt at a land grab, will be ready to sue for peace. To lay a firmer basis for a negotiated end to hostilities, therefore, the United States and its allies should plan for follow-on operations, the purpose of which would be to make clear to the adversary that continuing the conflict will redound to their disadvantage. The most obvious way to do this is to continue to attack the enemy's military forces and to ensure that the losses resulting from such operations are borne asymmetrically by the enemy.

For example, having thwarted China's invasion attempt, U.S. and allied forces would be in a position to more methodically draw down China's air defenses along the coast, to sink PLA Navy ships and submarines that had not been engaged in the invasion, and to damage facilities at bases that China had established in contravention of international law in the South China Sea. As long as these attacks can be carried out with acceptable risks to U.S. and allied personnel and platforms, they should strengthen the enemy's incentives to accept an agreement ending hostilities on terms favorable to its adversaries but not unreasonably so. Although the risk that China might choose to escalate the conflict cannot be ruled out, a strategy that focuses on attacking military assets, as opposed to directly threatening China's economy or political leadership, should minimize such risks.

A Deny-Plus Strategy

A force that can operate along the lines of the concept outlined here can support a strategy that might be called *deny-plus*. That is, that force can deny the enemy the principal territorial objects of an invasion and, having done that, continue to impose costs asymmetrically on the aggressor should hostilities continue. This strategy is attractive for several reasons:

- First, presenting adversaries with the prospect of failing to achieve the central objectives of their aggression is self-evidently the most credible

way to deter that aggression. A posture capable of denial, backed up by clear declaratory policies, leaves far less to chance than less direct approaches to deterrence, such as threatening to impose costs on the aggressor through economic sanctions or military reprisals.

- Second, the deny-plus strategy achieves the policy goal of preventing the loss of critical territory while at the same time minimizing escalatory pressures on the adversary. By withholding or tightly limiting attacks on the homelands of China or Russia, the strategy gives those adversaries incentives to show similar restraint.
- Third, unlike strategies of coercion or cost imposition, the deny-plus approach offers U.S. allies and partners that are threatened with attack reason to expect that, should deterrence fail, they will not be overrun.²⁷

The problem is this: *Neither today's force nor forces currently programmed by DoD appear to have the capabilities needed to confidently execute the deny-plus strategy.* Significant changes to the U.S. defense program and to the forces of key allies and partners will be needed to ensure that those forces can, in combination, respond promptly to threats of an invasion, establish robust means for finding and targeting the enemy invasion force, rapidly damage and contain that force, and conduct follow-on operations. The initiatives and systems enumerated in the next section illustrate the sorts of steps that our analysis shows are called for.

The good news is that the changes needed to achieve such capabilities appear to be technically feasible, operationally viable, and fiscally affordable. We believe that the United States, acting in concert with key allies and partners, can restore credible postures of deterrence against major aggression without having to regain overmatch in any operational domain against China or Russia.

To summarize, we believe it important that the United States, in conjunction with its allies, become capable of supporting a deny-plus strategy in both Europe and Asia. Some might see this as being excessive, a return to

²⁷ For a more complete comparison among alternative strategies of deterrence vis-à-vis China, see David A. Ochmanek, *Sustaining U.S. Leadership in the Asia-Pacific Region: Why a Strategy of Direct Defense Against Antiaccess and Area Denial Threats Is Desirable and Feasible*, RAND Corporation, PE-142-OSD, 2015.

a two-war strategy of the past. However, we no longer propose maintaining the capability to decisively defeat either of the major powers, as this would invite nuclear retaliation—a suicide pact that must be avoided. Moreover, the United States need not carry the whole burden, as U.S. allies have much to contribute and should be expected to do so. What we propose instead is maintaining the ability to deny Russia and China the ability to achieve their objectives in Europe and East Asia, which is still a daunting task but one that is substantially less demanding than maintaining the capability to decisively defeat either major power, to say nothing of decisively defeating both. Our goal is to maintain an effective defense posture in two critical theaters, which is far different from maintaining the ability to invade and occupy a hostile power. For force sizing purposes, we might refer to this as *deny plus* in two critical theaters.

Capabilities of a Future U.S. Force

In this report, we do not aspire to make recommendations regarding specific changes in force structure, posture, or equipment that are called for to enable postures sufficient to support the deny-plus approach against China and Russia. In some cases, more analysis—some of it involving classified data—is required. But sufficient work has been done to support our belief that the approaches outlined here offer *an* answer (if not *the* answer) to the vexing challenges associated with deterring and defeating aggression by the nation's two most powerful state adversaries. Therefore, the principal vectors along which U.S. military forces and posture should evolve to meet the demands of this mission are clear.

Within the span of the current Future Years Defense Program (that is, between 2023 and 2028), U.S. defense planners should take steps along the following lines toward fielding a force that can execute all four elements of the deny-plus strategy.

- **Equip and posture forces and support assets for rapid and robust response.** Candidate initiatives include the following:
 - Develop, test, and deploy concepts, such as large-displacement unmanned underwater vehicles, for deploying standoff weapons

underwater at far less cost and in greater numbers than manned submersibles.

- Forward station units with mobile rocket and missile launchers, such as multiple-launch rocket systems (MLRSs) and high-mobility artillery rocket systems (HIMARSs), along NATO’s eastern flank and, potentially, in Japan.
 - Develop, test, and deploy runway-independent unmanned aerial vehicles (UAVs) as weapon carriers that can be pre-positioned, along with their support equipment, in forward areas; rapidly dispersed to field operating locations; and launched, recovered, and relaunched by mobile teams.
 - Procure and deploy fuel bladders, expeditionary aircraft shelters, munitions storage assets, and runway repair assets at air bases in the Western Pacific and Europe that would be used by U.S. forces in both scenarios.
 - Procure and deploy mobile short-range air defense (SHORAD) systems to selected locations in the Western Pacific and Europe to provide defense against subsonic cruise missile attacks.
 - Station a U.S. Army corps headquarters and an armored BCT in Poland.
 - Explore options for more-intensive planning and training with allied and partner forces to improve interoperability in wartime. Exemplar focus areas could include embedding U.S. targeting and communication specialists in allied and partner ground force units and conducting training in urban warfare.
-
- **Field the basic elements of a multidomain sensing and targeting grid.**²⁸ The following approaches appear promising:
 - Build and test prototypes of one or more types of small, runway-independent UASs (with payloads of approximately 60 pounds) that would be suitable for use in conflicts over Taiwan and the Baltic

²⁸ Several components within DoD are pursuing aspects of a future joint, all-domain command and control complex. The sensing and targeting grid would constitute a key component of that complex and, therefore, should be integrated into those broader development efforts.

states. The program should include testing of mission software and data links, as well as procedures for launching and recovering air vehicles in the field.

- In parallel, develop and test sensors and associated software to support autonomous sensor integration and automatic target recognition onboard small airborne platforms.
 - Continue to pursue avenues to increase the survivability and resilience of space-based sensor and communications capabilities, including exploitation of civil-sector assets. Efforts should include approaches to reconstituting lost on-orbit capabilities through rapid launch.
 - Evaluate the utility of currently fielded and other types of unattended ground sensors in detecting and characterizing moving armored and mechanized ground forces along NATO's eastern flank.²⁹ Explore options for integrating data from ground-based sensors into a multidomain sensing grid.
 - Evaluate the utility of currently fielded and other types of maritime drones in detecting and characterizing shipping in the Taiwan Strait. Explore options for integrating data from maritime sensors into a multidomain sensing grid.
- **Field weapons and platforms capable of delivering sufficient levels of lethality into contested battlespaces to impose severe attrition on the enemy's invasion force in the opening days of a conflict.** Steps taken to posture the force appropriately under the first set of initiatives will lay a strong foundation for this step. Planners will also want to ensure that U.S. and allied forces have sufficient capacity to inflict losses on two enemy invasion forces quickly enough to prevent the faits accompli. Having diverse systems with basing modes and attack profiles that differ from one another will help to ensure robustness in the face of adaptive adversaries. Near-term options include the following:

²⁹ Leading candidates for unattended ground sensors include such systems as those that have been used to monitor traffic on the U.S. southern border and in operations in the U.S. Central Command area of responsibility. See, for example, U.S. Department of Homeland Security, "Ground Based Technologies," fact sheet, December 22, 2017.

- Significantly increase stocks of standoff antiship and antiarmor weapons deliverable by heavy bombers, mobile missile launchers, and LDUUVs.
 - Develop the palletized munitions concept to enable military cargo aircraft to deliver standoff weapons.
 - Continue the development of ballistic and hypersonic missiles that have high degrees of penetrativity against missile defense systems. Weapons such as these, even in limited numbers, can have outsized effects early in a conflict in striking enemy surface-to-air defenses and, thus, enhancing the survivability of subsonic weapons.
 - Explore concepts for using small, autonomous UAVs (sometimes referred to as *loitering munitions*) to strike high-value targets in the enemy's rear areas.
 - Ensure that all weapons to be delivered from standoff ranges can receive and respond to updated targeting data from the sensing grid.
- **As the requirements of the previous three imperatives are met, ensure that inventories of preferred munitions and other consumables are sufficient to carry out continued strikes against enemy forces.**

This is a rather long list, but none of it implies that a wholesale revamping of U.S. force modernization plans is needed. Many of the platforms (aircraft, ships, combat vehicles) currently in the inventory of U.S. and allied forces or under development are suitable for carrying out the emerging operational concept. What is missing largely falls into the class of capabilities referred to within DoD as *enablers*—things like sensors, data links, pre-positioned stocks, and base hardening. Investments in these sorts of capabilities generally cost orders of magnitude less than major platforms, and they can be developed and fielded more rapidly. If leaders in the U.S. defense community can forge a broad consensus on the way ahead and devote sustained resources (on the order of tens of billions, not hundreds of billions, of dollars per year) to developing and procuring the appropriate capabilities, robust capabilities to deny China and Russia the ability to invade and hold territory of U.S. allies and partners can be fielded within a decade.

Especially in the case of China, speed is of the essence. We do not know whether China's military and political leaders yet have confidence in the ability of their forces to prevail in a major conflict with Taiwan and the United States, but the U.S. defense establishment has surely not done enough to deny them that confidence. U.S. forces, posture, and operational concepts over the past two decades have remained an essentially static and predictable target against which China has developed increasingly potent threats. Decisive action is needed to solidify a new operational concept for joint and combined forces, select key investment priorities, produce game-changing systems at scale, and field these in new, resilient postures in both the Indo-Pacific and European regions.

All of these initiatives should be undertaken in concert with efforts by key allies and partners to enhance their capabilities for defeating large-scale aggression as part of combined operations with the United States. The next chapter examines the capabilities of selected allies today and identifies options for enhancing their contributions to a combined defense.

Fighting Together: The Evolving Capabilities of Key U.S. Allies and Partners

As noted in Chapter 2, the network of alliances and partnerships that link the United States to the world's other leading democratically governed states is an invaluable inheritance from the Cold War. Those relationships are as strategically important today as they were when what was then known as the *free world* confronted an implacable and ideologically driven Soviet adversary. Many U.S. allies and partners have interests in deterring aggression by China and Russia that are at least as strong as those held by the United States. This makes them natural partners in this effort to devise and field new and more-capable defenses against aggression by these powers.

This chapter focuses on a subset of U.S. allies and partners whose location and capabilities we believe are most relevant to the two scenarios at the heart of our analysis: (1) Japan and Taiwan vis-à-vis China and (2) France, Germany, the United Kingdom, Poland, the Nordic, and the Baltic countries vis-à-vis Russia. We briefly review recent trends in the evolution of each country's military forces and posture and offer suggestions for how each might best adapt its future forces to best contribute to an enhanced and innovative combined defense.

Taiwan

China is the biggest security concern for the United States, and the most credible flash point between the United States and China is Taiwan. The

potential for conflict appears to be growing based on the political rhetoric from leaders in Beijing and the PLA's sustained investment in capabilities well suited to operate against Taiwan, as well as U.S. and other forces that might seek to help defend Taiwan. As the PLA's capabilities grow, successfully defending Taiwan becomes more doubtful without change.

Revitalizing Taiwan's military capabilities is important for Taiwan's ability to maintain a democratic society. What is less appreciated is that Taiwan's defense preparations and investments are important for the United States because the rapid rate of PLA improvement makes it more and more costly for the United States to effectively support Taiwan's defense and because the United States needs to feel that securing Taiwan is a partnership and not an outsourcing.

In recent years, the United States has become increasingly concerned about the likelihood of a PRC invasion of Taiwan and about the growing cross-strait capability gap stemming from the heavy investment in the PLA. At the same time, Taiwan's leaders have a broader set of concerns that include direct political or economic disruptions from the mainland designed to destabilize Taiwan and military intimidation of Taiwan through such means as encroachment on Taiwan's airspace and maritime approaches by mainland military forces. Military intimidation and efforts to disrupt Taiwan's economy and political system are all likely mainland strategies; some are being applied today, and others could be employed should the cross-strait situation deteriorate. But a major invasion of Taiwan would have such devastating consequences that it is hard to understand why Taiwan would not want to work very hard to deter such an outcome.

Many unclassified descriptions of a possible invasion have been published, including a brief description in Chapter 2.¹ Some describe it in terms

¹ David A. Shlapak, David T. Orletsky, and Barry Wilson, *Dire Strait? Military Aspects of the China-Taiwan Confrontation and Options for U.S. Policy*, RAND Corporation, MR-1217-SRF, 2000; Piers M. Wood and Charles D. Ferguson, "How China Might Invade Taiwan," *Naval War College Review*, Vol. 54, No. 4, 2001; Scott L. Kastner, "Is the Taiwan Strait Still a Flash Point?" *International Security*, Vol. 40, No. 3, 2015; Ian Easton, *The Chinese Invasion Threat: Taiwan's Defense and American Strategy in Asia*, CreateSpace, 2017; Robert D. Blackwill and Philip Zelickow, *The United States, China, and Taiwan: A Strategy to Prevent War*, Council on Foreign Relations, February 2021; Michael E. O'Hanlon, "Can China Take Taiwan? Why No One Really Knows," Brook-

used in PLA doctrine, for instance, assuming that the conflict begins with a joint fire strike campaign to target important fixed assets, such as air bases, large radars, and command and control nodes. The PLA would supplement these attacks with sweeps by air and maritime forces designed to cripple Taiwan's air force and navy and leave Taiwan defenseless. When conditions are favorable, this is followed by the insertion of PLA forces across the Taiwan Strait. This could involve amphibious ships inserting forces on a beach, transport ships utilizing secured ports, or helicopters and airplanes conducting aerial delivery. This is the most precarious part of the operation, as PLA forces will be subject to interdiction if Taiwan and its security partners can maintain capabilities to interdict them throughout the preceding attacks. Finally, once in Taiwan, PLA forces will try to secure ports and airfields to facilitate their force buildup and sustainment as they secure positions to defend themselves and eventually to expand their area of control and prepare for offensive operations.

Over the past 15 years, analysts have published many urgent recommendations to improve Taiwan's defense outlook, as has the Taiwan Ministry of National Defense. The sense of urgency stems from assessments of Taiwan's legacy military, which for many reasons is not suited to defending against a major PLA assault. Although many good ideas have been suggested, Taiwan continues to prioritize investment in legacy capabilities.²

ings Institution, August 2022; Lonnie Henley, "PLA Operational Concepts and Centers of Gravity in a Taiwan Conflict," testimony before the U.S.-China Economic and Security Review Commission, February 18, 2021; DoD, *Military and Security Developments Involving the People's Republic of China*, 2022, November 29, 2022b, particularly Appendix I: PRC and Taiwan Forces Data; and Michael Casey, "Firepower Strike, Blockade, Landing: PLA Campaigns for a Cross-Strait Conflict," in Joel Wuthnow, Derek Grossman, Phillip C. Saunders, Andrew Scobell, and Andrew N. D. Yang, eds., *Crossing the Strait: China's Military Prepares for War with Taiwan*, National Defense University Press, 2022.

² Taiwan's former Chief of the General Staff, Lee Hsi-min, attributes this to popular opinion: "In everyday people's minds, large and sophisticated traditional platforms are symbols of national power" (Lee Hsi-min, remarks on "Taiwan's Overall Defense Concept: Theory and Practice," September 27, 2021a). Conventional systems are also preferred by Taiwan's military and government leaders as a means to strengthen security ties with the United States and for their importance in military recruitment and retention.

As a result, there is a gap between the U.S. preferences for Taiwan's military and Taiwan's actions, and, until these can be reconciled, the two countries will be partners on two different paths. Both the United States and Taiwan recognize the security threat to Taiwan from China, but one will be preparing for an invasion and measuring the value of military investments using the yardstick of an invasion while the other will be preparing for more-modest military actions and measuring investment value through a different lens. This divergence has grown over three decades; the question is how to bridge it.

Taiwan's transition to a democracy in the 1990s was threatening to the mainland on many levels. Prior to this, Taiwan's authoritarian leaders had, rhetorically at least, sought unification with the mainland, but this has not been a goal of Taiwan's democratic leaders. A further threat to CCP leaders in Beijing was the simple fact that Taiwan became a democracy. Only a few years before, massive public demonstrations across the mainland seeking major government reform had resulted in the sacking of the sitting CCP leader and culminated in a violent PLA takeover of protester-occupied Tiananmen Square. Taiwan's democracy provided an example of an alternative governing model for Chinese people on the mainland but made future integration more difficult as democracy allowed people in Taiwan to develop and express a distinct identity separate from the mainland.

PRC anxieties about Taiwan's new democracy and the possibility that, under President Lee Teng-hui, Taiwan was actively pursuing independence, as well as concern that U.S. support for the One China policy was weakening, ultimately manifested in military action in 1995 and 1996.³ The PRC

³ Kristen Gunness and Phillip C. Saunders, *Averting Escalation and Avoiding War: Lessons from the 1995–1996 Taiwan Strait Crisis*, National Defense University Press, 2022, lists four factors: (1) divergent objectives for China and Taiwan regarding cross-strait relations; (2) Taiwan's recent democratization and diplomatic initiatives, which raised concern in China that Taiwan was actively pursuing independence; (3) China's concern about a weakening U.S. commitment to the One China policy; and (4) Jiang Zemin's political weakness. See also Robert S. Ross, "The 1995–1996 Taiwan Strait Confrontation: Coercion, Credibility, and the Use of Force," *International Security*, Vol. 25, No. 2, 2000; Andrew Scobell, "Show of Force: Chinese Soldiers, Statesmen, and the 1995–1996 Taiwan Strait Crisis," *Political Science Quarterly*, Vol. 115, No. 2, 2000; Arthur S. Ding, "The Lessons of the 1995–1996 Military Taiwan Strait Crisis: Developing a New Strategy Toward the United States and Taiwan," in Laurie Burkitt, Andrew

conducted a series of military exercises and missile tests around Taiwan following Lee's unofficial visit to the United States that were intended to demonstrate the PRC's willingness to use military force to prevent Taiwan from becoming independent. These tests brought the United States and Taiwan together, and both began making preparations, including revitalizing U.S.-Taiwan defense cooperation. A 2000 RAND Corporation report warned of the increase in PLA missiles threatening Taiwan and recommended ways for the United States and Taiwan to better prepare for an invasion.⁴ In 2001, the United States offered a major arms package to Taiwan; however, there were signs that the United States and Taiwan were not fully in sync. The arms sales package became politicized in Taiwan, and the resulting delay frustrated the United States. Meanwhile, the United States was awakening to the growing antiaccess threats posed by China's rapidly modernizing forces and began to see a Taiwan conflict as an important and difficult military challenge.⁵

At the same time, it was becoming increasingly clear that Taiwan's previous qualitative military advantage over the PLA was eroding.⁶ To address this, numerous external analysts recommended that Taiwan develop more asymmetric capabilities (more on that later).⁷ Authoritative government documents from Taiwan picked up on these themes, but Taiwan's defense program is not moving quickly or substantially in this direction. This dis-

Scobell, and Larry M. Wortzel, eds., *The Lessons of History: The Chinese People's Liberation Army at 75*, U.S. Army War College, 2003; and John W. Garver, *Face Off: China, the United States, and Taiwan's Democratization*, University of Washington Press, 1997.

⁴ Shlapak, Orletsky, and Wilson, 2000.

⁵ Roger Cliff, Mark Burles, Michael S. Chase, Derek Eaton, and Kevin L. Pollpeter, *Entering the Dragon's Lair: Chinese Antiaccess Strategies and Their Implications for the United States*, RAND Corporation, MG-524-AF, 2007; and Shlapak et al., 2009.

⁶ Michael S. Chase, *Taiwan's Security Policy: External Threats and Domestic Politics*, Lynne Rienner, 2008.

⁷ See William S. Murray, "Revisiting Taiwan's Defense Strategy," *Naval War College Review*, Vol. 61, No. 3, 2008; and Wallace C. Gregson, remarks to the U.S.-Taiwan Business Council Defense Industry Conference, September 28, 2009. On November 25, 2009, Taiwan's then-President Ma Ying-jeou called for "innovation and asymmetry in defense modernization" (Alexander Chieh-cheng Huang, "The United States and Taiwan's Defense Transformation," Brookings Institution, February 16, 2010).

connect between rhetoric and actions creates friction in the U.S.-Taiwan relationship and growing risks for Taiwan's and Asia's security.

Taiwan's Defense Strategy and Priorities

The government of Taiwan is transparent about its defense program, its priorities, and its resources, but the United States is not always listening. This section summarizes Taiwan's key priorities and puts its views about the United States' preferred asymmetric approaches in context, drawing from the two most recent authoritative documents from Taiwan that are publicly available.

Fundamentally, Taiwan seeks to “construct a credible defense force.”⁸ Its goal for the military is to “develop effective defensive capabilities with an asymmetric concept to deter the enemy's military actions, so as to achieve the goal of war prevention and peace maintenance.”⁹ U.S. advisers would agree with this.¹⁰ Taiwan summarizes its military strategy as “resolute defense and multi-domain deterrence.”¹¹ Part of the idea behind resolute defense is that it involves the population.¹² Taiwan discusses a layered defense concept succinctly: “resist the enemy on the opposite shore, attack it at sea, destroy it in the littoral area, and annihilate it on the beachhead,” with the goal of preventing enemy forces from landing in Taiwan.¹³ Taiwan further recognizes that, in a major war, it would have to interdict PLA forces, and its forces would have to survive and maintain a viable force in the midst

⁸ Ministry of National Defense of the Republic of China, *2021 Quadrennial Defense Review*, March 2021a.

⁹ Ministry of National Defense of the Republic of China, 2021a.

¹⁰ Taiwan has four other supporting goals: professionalism of the military force and “self-reliant defense,” which means preferentially developing indigenous defense suppliers and defense technology, protecting the well-being of the people, and expanding strategic cooperation.

¹¹ Ministry of National Defense of the Republic of China, 2021a.

¹² Ministry of National Defense of the Republic of China, *National Defense Report 2021*, October 2021b, p. 59.

¹³ Ministry of National Defense of the Republic of China, 2021a, p. 19.

of daunting PLA strike capabilities.¹⁴ By demonstrating survivable capabilities and fielding effective, dissimilar forces, Taiwan seeks to deter attacks from a stronger enemy.¹⁵ These ideas summarized so far are sound, but they need to be realized.

What Would Implementation of More-Effective Strategies Entail?

New capabilities are desirable to the extent that they solve operational problems. The PLA would likely pose many operational problems for Taiwan.¹⁶ The PLA's reconnaissance targeting systems can detect, track, and target all of Taiwan; the thousands of long-range precision weapons can hold at risk Taiwan's forces and critical infrastructure; and integrated air defenses will protect the mainland and most forward forces (by preventing Taiwan's aerial ISR platforms from targeting PLA forces and intercepting those missiles that can be used), making it difficult for Taiwan to unlock the vise. The PLA can attack Taiwan's ability to command and control its forces. Without the ability to maintain an accurate picture of both friendly and adversary forces on the battlefield and to coordinate actions across distance, Taiwan would find it difficult to interdict PLA forces across the battlespace.

¹⁴ Ministry of National Defense of the Republic of China, 2021b, p. 60.

¹⁵ In the words of Taiwan's *National Defense Report* (NDR),

Asymmetric warfare aims at attacking or capitalizing on the adversary's vulnerabilities and disrupting its operational center of gravity rather than attacking its principal strength. It leverages areas where the adversary has not adequately prepared for the threat or cannot fully defend given technological or quantitative constraints and, in wartime, uses the natural barriers provided by the Taiwan Straits and our resilient capabilities to strike the enemy's critical nodes of operations, so as to thwart its war plans, disrupt its operational tempo, and paralyze its combat power. By maximizing our asymmetric advantages, we can frustrate the enemy's desire for a quick endgame. (Ministry of National Defense of the Republic of China, 2021b, p. 67)

See also Alexander Chieh-cheng Huang, "A Net Assessment of Taiwan's Overall Defense Concept," in Joel Wuthnow, Derek Grossman, Phillip C. Saunders, Andrew Scobell, and Andrew N. D. Yang, eds., *Crossing the Strait*, National Defense University Press, 2022.

¹⁶ David A. Ochmanek, *Restoring U.S. Power Projection Capabilities: Responding to the 2018 National Defense Strategy*, RAND Corporation, PE-260-AF, 2018b.

Ultimately, a call for Taiwan to invest in asymmetric capabilities is a call for Taiwan to invest in capabilities to solve the operational problems posed by the PLA: its ability to detect, track, and target Taiwan's forces and to generate effective fires in the face of attacks. How do Taiwan's investment priorities address these operational problems and fulfill Taiwan's defense concept?

Taiwan's Defense Program

Military Missions

In both the United States and Taiwan, there are a variety of views about the likelihood and feasibility of a PLA invasion, but there is growing pessimism about the trends. For instance, although for a long time it appeared that China was in no rush to settle the Taiwan issue, more recently there have been indications that the developments in Taiwan are foreclosing the possibility of future unification.¹⁷ At the same time, the PLA is rapidly advancing toward a goal of having a world-class military. Some argue that China does not seek to invade Taiwan, only to prevent it from asserting its separate status.¹⁸ Others claim that the PLA does not yet have the ability to invade.¹⁹ Still others are concerned that once the PLA is ready to invade,

¹⁷ Christopher P. Twomey, in "The Fourth Taiwan Strait Crisis Is Just Starting," *War on the Rocks*, August 22, 2022, wrote, "Beijing sees Washington as moving away from its 'One China Policy' and increasingly creating an official relationship with Taiwan." Similarly, a report by the Task Force on U.S.-China Policy says, "China appears convinced that the United States seeks to prevent China from ever achieving what it sees as its legitimate national objectives, and that U.S. policy on Taiwan is part of that strategy" (Task Force on U.S.-China Policy, "Avoiding War over Taiwan," October 12, 2022, p. 3).

¹⁸ Bruce Gilley, "Not So Dire Straits," *Foreign Affairs*, January 1, 2010; and Kastner, 2015.

¹⁹ Larry Diamond and James O. Ellis, Jr., "Deterring a Chinese Military Attack on Taiwan," *Bulletin of the Atomic Scientists*, March 13, 2023; Andrew J. Nathan, "Beijing Is Still Playing the Long Game on Taiwan: Why China Isn't Poised to Invade," *Foreign Affairs*, June 23, 2022; O'Hanlon, 2022; and Rachel Esplin Odell and Eric Heginbotham, "Strait of Emergency? Debating Beijing's Threat to Taiwan: Don't Fall for the Invasion Panic," *Foreign Affairs*, September/October 2021.

it will increase the political pressure on leaders in Beijing.²⁰ The PLA does appear to be developing many of the capabilities needed for an invasion.²¹

Taiwan takes a fairly broad view of threats from the mainland, including political, economic, and security. Taiwan's leaders are concerned that the mainland will use its economic leverage to harm Taiwan and will actively seek to undermine Taiwan politically. Although they worry about China's military buildup, it is only one part of this broader set of concerns regarding possible disruptions from the mainland.

Over the past 30 years, U.S. concern about the possibility of invasion has steadily increased, but Taiwan has consistently emphasized concerns about more-limited applications of military power.²² One recent example comes

²⁰ For instance, in October 2022, U.S. Secretary of State Antony Blinken announced that China has taken “a fundamental decision that the status quo was no longer acceptable and that Beijing was determined to pursue reunification on a much faster timeline” (Ellen Francis, “China Plans to Seize Taiwan on ‘Much Faster Timeline,’ Blinken Says,” *Washington Post*, October 18, 2022). A Center for Strategic and International Studies survey of experts found that 44 percent of respondents believed China has a hard deadline for resolving the Taiwan issue by 2049 and that “29 percent of former senior [U.S. government] officials [surveyed] believed the exercises [conducted in August 2022] indicate” that “China is accelerating its timeline for using large-scale military force [against Taiwan]” (Bonnie Lin, Brian Hart, Matthew P. Funaiole, Samantha Lu, Hanna Price, and Nicholas Kaufman, “Surveying the Experts: China’s Approach to Taiwan,” Center for Strategic and International Studies, September 19, 2022, p. 6). An article by Oriana Skyler Mastro asserts that, “Once China has the military capabilities to finally solve its Taiwan problem, Xi [Jinping] could find it politically untenable not to do so, given the heightened nationalism of both the CCP and the public” (Oriana Skyler Mastro, “The Taiwan Temptation: Why Beijing Might Resort to Force,” *Foreign Affairs*, July 3, 2021). This may not be the first time that a leader of China has set such a goal. In 2004, Hu Jintao set a goal for the PLA to be able to invade Taiwan by 2020 (see Wanda Ayuso and Lonnie Henley, “Aspiring to Jointness: PLA Training, Exercises, and Doctrine, 2008-2012,” in Roy Kamphausen, David Lai, and Travis Tanner, eds., *Assessing the People’s Liberation Army in the Hu Jintao Era*, Strategic Studies Institute, 2014).

²¹ For an extensive discussion of these political and military developments, see U.S.-China Economic and Security Review Commission, “Chapter 4: A Dangerous Period for Cross-Strait Deterrence: Chinese Military Capabilities and Decision-Making for a War over Taiwan,” *Annual Report to Congress*, 2021.

²² For a description of some of the possible reasons for this, see Michael A. Hunzeker, Alexander Lanoszka, Brian Davis, Matthew Fay, Erik Goepner, Joseph Petrucelli, and Erica Seng-White, *A Question of Time: Enhancing Taiwan’s Conventional Deterrence Posture*, George Mason University, November 2018. See also Chase, 2008.

from Taiwan's 2021 NDR, which lacks a discussion about an invasion in the section identifying threats to Taiwan. Although previous versions, like the 2013 NDR, did name several possible coercive scenarios of concern, Taiwan's current NDR does not specify the scenarios motivating Taiwan's force planning. Instead, the NDR describes PLA capability development and then specifies both gray-zone and nonconventional actions. It does not explicitly identify an invasion as a threat. Interviews with Taiwan government officials over many years indicate that this may not be an oversight. Taiwan officials have expressed to many visitors concern about economic coercion and tend to regard the possibility of invasion as remote.²³

Public opinion in Taiwan also appears to discount the possibility of an invasion, as reflected in several recent polls. When asked, "How concerned are you about China invading Taiwan?" in May 2022, only 25 percent of respondents were "very" or "extremely" concerned, while 30 percent answered "moderately" concerned, and the remaining 45 percent answered "slightly" or not at all.²⁴ Should an invasion happen, there are mixed views regarding its outcome.²⁵ A poll conducted in February 2023 by the Taiwanese Public Opinion Foundation indicates that, although a majority of respondents are concerned Taiwan will become a second Ukraine, the share has decreased in the year since the war began.²⁶

There are other factors that might push Taiwan away from low-cost, survivable capabilities and toward continued investment in expensive, legacy

²³ See Bernard Cole, *Taiwan's Security: History and Prospects*, Routledge, 2006, p. 173; and Hunzeker et al., 2018, pp. 45–47, for reports of these views spanning over ten years. Many people in Taiwan view China as trying to "buy" Taiwan rather than invade.

²⁴ Timothy Rich, "Parsing Taiwanese Skepticism About the Chinese Invasion Threat," Global Taiwan Institute, June 29, 2022. For results of an earlier poll, see John Feng, "Taiwan Not Concerned About War with China, Despite Sky-High Tensions," *Newsweek*, October 12, 2021. See also Austin Horng-En Wang, Charles K. S. Wu, Fan-Yu Chen, and Yao-Yuan Yeh, "What Do People in Taiwan Think About Their Military?" *The Diplomat*, October 21, 2021.

²⁵ Matthew Strong, "Taiwan Poll: 51.2% See China Win After Invasion, 29.6% Expect Taiwan to Win," *Taiwan News*, September 9, 2022. The survey was conducted by the Taiwanese Public Opinion Foundation.

²⁶ Matthew Strong, "Taiwanese Faith in US Intervention Against Chinese Attack Increases: Poll," *Taiwan News*, February 21, 2023.

systems. Taiwan's security is closely tied to its relationship with the United States, and buying expensive items, such as fighter aircraft, is seen in Taiwan as solidifying its security relationship with the United States and encompassing an important symbol of U.S. support that has both domestic political and deterrence benefits.²⁷ Such sales guarantee defense interaction over the life of the system and may include training and consultations that are important for Taiwan to maintain. Still, this strategy provides only a partial explanation because Taiwan also seeks to build its own defense industry, and one of the most expensive systems that Taiwan is currently pursuing is an indigenously built submarine. But, more fundamentally, locking in a large share of defense spending in vulnerable and expensive items ignores a fairly clear preference from the United States in recent years that Taiwan move away from such systems.

Some of these high-end systems are seen as contributing to countering China's coercion.²⁸ Taiwan officials appear especially concerned about PLA intrusions across the Taiwan Strait centerline and into Taiwan's territorial waters and airspace—a form of military pressure that also challenges Taiwan's de facto sovereignty. Differing assumptions about whether the threat of an invasion or the threat of coercion should drive defense spending reflect differing views within Taiwan's military. Military officers argue that fighters and warships are necessary to defend Taiwan's territorial waters and airspace.

This dynamic is recognized within DoD. A recent paper by someone who worked in the Pentagon on Taiwan issues describes some of the competing views within Taiwan. One unique insight is that some in Taiwan see expensive systems as important for striking the mainland, even while recognizing the survivability problems. Instead of offering a rebuttal, the author offers a sympathetic summary, stating that it is “very difficult to judge whether a particular system being acquired is ‘good’ or ‘bad’ for Taiwan’s total defense,

²⁷ For example, Lee Hsi-min and Eric Lee write, “The high visibility of conventional systems positively impacts Taiwanese morale and improves public confidence in the military, while at the same time complicating the CCP’s political warfare operations and decision-making in Beijing” (Lee Hsi-min and Eric Lee, “Taiwan’s Overall Defense Concept, Explained,” *The Diplomat*, November 3, 2020).

²⁸ Hunzeker et al., 2018, p. 61.

since one could argue the need for expensive platforms for peacetime deterrence, and for smaller, numerous, asymmetric capabilities that can survive to counter an invasion force.”²⁹ In a resource-constrained environment, this offers no path to a clear choice. The claim that expensive platforms are “good” for peacetime deterrence is very generous to those within Taiwan who might make such an argument, but we do see a clear approach to guide investment choices.

Investment options for Taiwan can be judged on the basis of their suitability under rules of engagement permitting lethal force. Systems that can survive and operate effectively in those conditions should be prioritized. Other systems that are not suited to combat but that people might claim to be important under more-restrictive rules of engagement are a luxury, resting on an unprovable claim about deterrence and on a fiction about their ability to prevent PLA military coercion.

Taiwan cannot win a coercive conflict through military means; it wins through political resilience. The political purpose of coercion may be quite different from that of invasion. Coercive use of force has “more to do with halting and reversing Taiwan’s perceived drift toward independence than with expanding the CCP’s administrative control to Taiwan.”³⁰

Under a coercive scenario, if lethal force is not authorized, even the most exquisite military system is not empowered to forcibly prevent PLA action. Taiwan must maintain the utmost restraint in the use of force when dealing with its larger and more powerful neighbor. But that means that PLA aircraft and ships will not be prevented from their reckless incursions. Some in Taiwan might be encouraged that some of their military forces contest such actions, but if, over time, these incursions never stop, the comfort provided by these contestations will diminish.

It might be argued that some of these systems provide Taiwan with a prompt response capability. That may be true, but at that point, Taiwan will have crossed into combat, so these systems should be judged by their combat contribution, not their ability to contest coercive actions. Until Taiwan has

²⁹ Drew Thompson, *Winning the Fight Taiwan Cannot Afford to Lose*, Institute for National Strategic Studies, October 2021, p. 334.

³⁰ Thomas J. Christensen, “Posing Problems Without Catching Up,” *International Security*, Vol. 25, No. 4, 2001, p. 23.

enough systems suited for combat, investments in systems suited to non-combat should be rare.

Given limited defense resources, Taiwan will have to prioritize some scenarios over others.³¹ Taiwan's leaders may doubt that the PLA will actually invade, just as the leaders of Ukraine doubted Russia would invade in early 2022,³² but an invasion poses an existential risk to Taiwan. Given the PLA's buildup, the PLA's regular exercises of land, sea, and air tactics relevant to an invasion; and threats from mainland leaders, it is becoming harder to reject the possibility of invasion. When faced with an existential threat, even if unlikely, a country cannot afford to gamble. Even if the mainland does not currently have the intention to invade, that can change quickly if it has the ability to invade.

Taiwan urgently needs to develop capabilities that can exploit PLA weaknesses. Taiwan's concept of layered fires and defenses is sound in that it provides a clear direction for Taiwan's military. Taiwan will need to engage PLA forces in these different layers, and, as PLA forces approach, Taiwan will be able to employ different sensors and strike systems. What it needs are investments in equipment, organization, and employment concepts to create capabilities that can survive attacks and remain effective in each of these layers.

Force Buildup

Taiwan groups its acquisition priorities into six categories: strike, counter-air, sea control, homeland defense, information and cyber, and joint command and control. In the NDR, it identifies procurement priorities within each of these categories. In Table 3.1, we list Taiwan's priorities and evaluate the ability of each investment to survive and operate effectively in the case of a PLA invasion.

³¹ Lee Hsi-min put this succinctly: "In my view, we don't have to pay too much attention to the gray-zone aggression because you just cannot stop them from doing that. However, we need to put more resources on how to counter the full-scale invasion" (Lee Hsi-min, "The Evolving Military Balance in the Taiwan Strait," Council of Foreign Relations, panel session, October 7, 2021b).

³² See Shane Harris, Karen DeYoung, Isabelle Khurshudyan, Ashley Parker, and Liz Sly, "Road to War: U.S. Struggled to Convince Allies, and Zelensky, of Risk of Invasion," *Washington Post*, August 16, 2022.

TABLE 3.1
Taiwan Procurement Priorities and Critique

Capability	Survivability	Effectiveness Countering Invasion	Comments
66 F-16 V and retrofit 144 F-16 A/B	No	No	These absorb a large fraction of the defense budget as long as they are maintained.
Indigenous submarines	Yes	Yes	The capacity is limited for strike; as ISR, they need effective communications links.
Mobile SAM systems, Pac-2 and Pac-3 missiles, Sky Bow II and III missiles (Taiwan), Sky Sword II (Taiwan), naval version of Sky Sword II (Taiwan), Stinger missiles, MANPAD, field air defense radar	Yes	Yes	Previous RAND work estimated that many more launchers and interceptors than are currently planned are needed. The mobility of these systems, a key component of survivability, is mixed.
M1A2T tanks	Only if operated in conjunction with air defense	Yes	Tanks could be valuable to counter landed PLA forces but carry high annual costs and need to be employed survivably.
HIMARSs, self-propelled howitzer, TOW-2B, and Javelin	Only if operated in conjunction with air defense	Yes	Tactical precision fires are important for defending against landed PLA forces and those in transit.
MQ-9 ISR, short-range UAV for ISR, maritime defense radar	Possibly—UAVs needed in large numbers and with runway independence; radars need mobility	If survivable	Depending on the number of systems, this may not be sufficient to sustain ISR capabilities under attack.

Table 3.1—Continued

Capability	Survivability	Effectiveness Countering Invasion	Comments
SLAM-ER, JSOW, HARM	Not as air-launched missiles	No	These air-launched weapons cannot be used if Taiwan's fighter aircraft are suppressed.
<i>Tuo-Chiang</i> -class corvette	Not in the presence of adversary maritime surveillance and ASCMs	No	As an island, Taiwan needs some maritime surface capability, primarily for threats to maritime sovereignty, not for an invasion.
Hsiung Feng II and III, U.S. Harpoon	Yes, ground-launched variants	Yes	It is unclear how many launchers and missiles Taiwan operates, but countering a large invasion will require many of both.
Defensive naval mines	Yes	Yes	These require an advance warning of invasion and decisive action to employ, as well as predictive placement.
Ground C4ISR, mobile digital microwave communications	Possibly	If survivable	Depending on the number of systems, this may not be sufficient to sustain communications capabilities under attack.

SOURCE: Features information from Ministry of National Defense of the Republic of China, 2021b, pp. 67–69.

NOTE: ASCMs = antiship cruise missiles; C4ISR = command, control, communications, computers, intelligence, surveillance, and reconnaissance; HARM = high-speed antiradiation missile; JSOW = Joint Standoff Weapon; MANPAD = man-portable air defense system; SLAM-ER = standoff land attack missile—expanded response.

In Table 3.1, the F-16 program is particularly conspicuous for its lack of survivability and for high costs, which will continue as long as the aircraft are in service.³³ Devoting such a large fraction of the defense budget to capabilities that are ill suited to the existential threat of an invasion is hard to justify. Furthermore, although these fighters could be employed in response to a PLA coercive campaign, the PLA has the option to counter these fighters while they are in the air using either other fighters or SAMs, or while they are on the ground. Thus, even in a coercive scenario, the value of this investment is marginal at best.

We assume that Taiwan will be able to operate its new submarines in survivable ways, although a concerted air and maritime effort by the PLA to find and track these assets could call this into question. But, assuming that the submarines can operate, the big limitation of these platforms is their capacity. Taiwan currently intends to field eight of these systems. At any given time, at least two of these will be in port undergoing maintenance. The submarines have a finite complement of weapons. Their capacity to influence an invasion is limited by their magazine and their slow speeds. Submarines are also expensive to build and operate, so they will consume a large share of Taiwan's small defense budget.³⁴ There are much cheaper ways to sink ships.

In contrast, Taiwan's investment in SAM systems is of utmost urgency. Taiwan should seek to create dense, multilayered defenses. To counter the PLA reconnaissance strike capabilities, Taiwan will need mobile SAMs. Layered SAMs are required for Taiwan to be able to protect and launch its

³³ An earlier RAND study estimated that the life-cycle costs for these 212 aircraft over 20 years would be approximately \$25 billion in 2013 U.S. dollars. At Taiwan's 2021 defense spending rate, that amount would claim just under 10 percent of the entire budget. Michael J. Lostumbo, David R. Frelinger, James Williams, and Barry Wilson, *Air Defense Options for Taiwan: An Assessment of Relative Costs and Operational Benefits*, RAND Corporation, RR-1051-OSD, 2016, p. 95.

³⁴ Australia currently operates six *Collins*-class submarines. An external assessment of their costs estimated \$1.2 billion per year in Australian dollars (for sustainment, the submarine workforce, and for upgrades), which would equate to about \$1 billion in U.S. dollars for eight conventional submarines. Taiwan's costs may be quite different, but, on this scale, it is not unreasonable to be concerned that submarines and fighter aircraft will be major defense expenditures for years to come. See Marcus Hellyer, "What's the Real Cost of Australia's Submarine Capability?" *The Strategist*, August 24, 2021.

diverse precision strike forces. Without this investment, the strike forces may be too easily suppressed. SAMs are expensive systems, and they will suffer attrition; however, if they are operated in survivable ways (through maneuver and short-duration emissions and by being grouped to offer mutual support), a mobile, multilayered system should be able to contest PLA air superiority to enable Taiwan to conduct other types of defensive operations. The radars are the most vulnerable element of the system, so having redundant radars and decoy radars is essential.³⁵

Taiwan does propose to buy several U.S. strike systems and to develop others indigenously. It is difficult to judge how survivably such systems will be employed. Several of these investments are for air-launched missiles (like the SLAM-ER, JSOW, and HARM). If these missiles are intended as armaments for Taiwan's aircraft, they will not be survivable. Some air-launched missiles, such as the Air Intercept Missile (AIM)-9X and AIM-120, can be employed from mobile ground launchers. Such configurations would offer SHORAD capabilities that could be effective.

Taiwan seeks to procure several enhancements to its ground forces, which could contribute to strike and protected maneuver, including tanks, HIMARSs, self-propelled howitzers, tube-launched optically tracked wire-guided TOW-2Bs, and Javelin antitank weapon systems. We think it reasonable for Taiwan to include modern tanks and tactical precision fires as part of combined-arms ground maneuver force elements, but these capabilities need to be well balanced. Tanks are very costly to operate, so the concern is that if the balance is wrong, the investment in tanks will crowd out other needed capabilities. A combined-arms force element should include a mix of tank and infantry elements, supported by short-range air defenses, precision fires, indirect fires, and short-range UAS capabilities. Although the stated procurement priorities *could* be used to support modern ground formations, to date, Taiwan has not publicly shared an accompanying vision of how Taiwan's combined-arms units can operate effectively in the context of a future invasion against landed PLA forces and how it will deal with the PLA's strike complex.

³⁵ An earlier RAND study suggested that a mix of 21 Patriot batteries and 21 medium-range systems could create 18 two-hour periods of cleared airspace for Taiwan to conduct other operations. Lostumbo et al., 2016, pp. 74–81.

Several procurement priorities indicate that Taiwan understands the challenges of detecting and tracking adversary movements. Investments in long-range MQ-9 UASs, short-range UASs, and maritime search radars can all be part of the answer to this problem. The survivability of the UAS starts on the ground. Taiwan should consider a heavy investment in small UASs that do not require airfields, which are vulnerable to attack. In doing so, it may have to forego armed systems, such as the MQ-9, which require runways, in favor of inexpensive ISR UASs to allow Taiwan to proliferate these systems and to absorb possible attrition. Here again, procurement of the right systems is not sufficient if the units that employ them are not suited to the new operating environment. Taiwan needs to operate these systems survivably and connect these units with the rest of the force so that its ISR data are well utilized and the units maintain the awareness needed to operate in the needed areas at the right time.

Taiwan's procurement priorities for sea control include a mix of surface vessels, precision fires, and mines, in addition to the submarines already addressed. Coastal defense cruise missiles (the indigenous Hsiung Feng II and III and the U.S. Harpoon) are some of the most important investments for Taiwan to counter a possible invasion. Like the investment in air-launched weapons, these antiship weapons need to operate from survivable platforms. This means not relying on large surface ships, which are highly vulnerable. Taiwan has long had some land-mobile coastal defense cruise missiles, but to counter a large invasion it will need numerous units operating mobile cruise missile launchers. It is unclear whether Taiwan will field enough of these units and invest in enough launchers and cruise missiles.

Finally, Taiwan seeks to invest in communications technology. The effectiveness of these systems is difficult to assess externally, yet they are a critical element of modern operations. In the U.S. experience, the command relationships and the ability to communicate effectively across the force require continuous attention, investment, and adjustments. Given that Taiwan has a mix of indigenous and foreign systems and will need to integrate all its services and link with any foreign forces supporting them, we expect that the level of effort required to meet Taiwan's future command and control needs will be substantial. Some of the most important changes may be organizational. Taiwan's centralized command elements are likely to be priority targets for the adversary, so Taiwan will need to make organi-

zational changes now to disaggregate the command functions and become more resilient to attacks on command nodes.

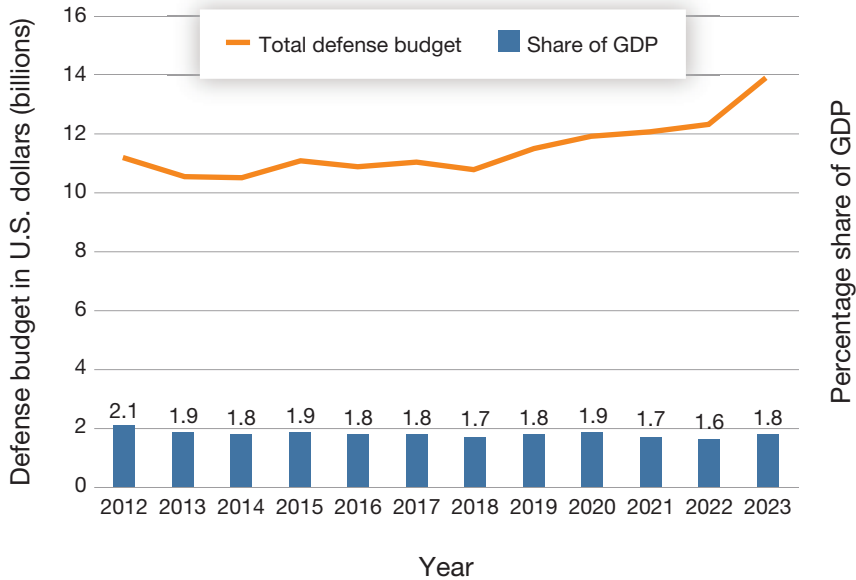
Taiwan's Defense Budget

Taiwan faces an existential threat but is not responding in a way that suggests that it recognizes and accepts this. One of the easiest ways to measure this is through its defense spending.³⁶ In 2021, Taiwan's defense budget was about \$12 billion. This represents a roughly one-third increase since 2016, but this growth reflects growth in Taiwan's economy rather than shifting priorities. In response to the military provocations by the mainland in August 2022, Taiwan sought to increase defense spending in 2023 to almost \$14 billion (a 13 percent increase). Even with this increase, the share of gross domestic product (GDP) devoted to the defense budget is projected to remain under 2 percent (see Figure 3.1). This is comparable to the defense budgets of many NATO allies, but the threat to Taiwan is much graver, and Taiwan lacks the mutual support of an alliance and the operational depth of NATO.

Both the amount Taiwan spends on defense and how it spends those resources should be evaluated. Many antiquated systems remain in Taiwan's military: decades-old ships, tanks, and aircraft. Taiwan is in the process of acquiring numerous new systems and will fund many of these large acquisition programs with a "special budget," not from the core defense budget shown in the figure. Although this could help to solve the procurement problem, Taiwan will need to carve out resources from its core budget to operate and maintain the newly procured items, either by increasing the overall budget or by cutting existing force structure. Thus, systems that are expensive to operate, such as fighters, submarines, and tanks, if not survivable and potent, are a considerable fiscal drag on Taiwan's ability to modernize and create and operate a more survivable and lethal force.

³⁶ Richard Bush notes that the Taiwan government extracts less resources than most countries. Government resources in Taiwan are about 16 percent of Taiwan's GDP, which ranks 184th internationally. Bush goes on to say that "the principal reason why the Taiwan military's share of the budgetary pie is relatively low is that the pie is too small. Despite the growing danger from the PRC, the public is unwilling to provide more in taxes to respond to that danger" (Richard C. Bush, *Difficult Choices: Taiwan's Quest for Security and the Good Life*, Brookings Institution, 2021, pp. 40, 178).

FIGURE 3.1
Taiwan's Defense Spending and Its Share of GDP



SOURCE: Features information from Stockholm International Peace Research Institute, undated; and National Statistics: Republic of China (Taiwan), "Statistical Tables," webpage, Directorate General of Budget, undated.

NOTE: Budget reported in constant 2021 U.S. dollars. The 2023 data are proposed budget and projected GDP.

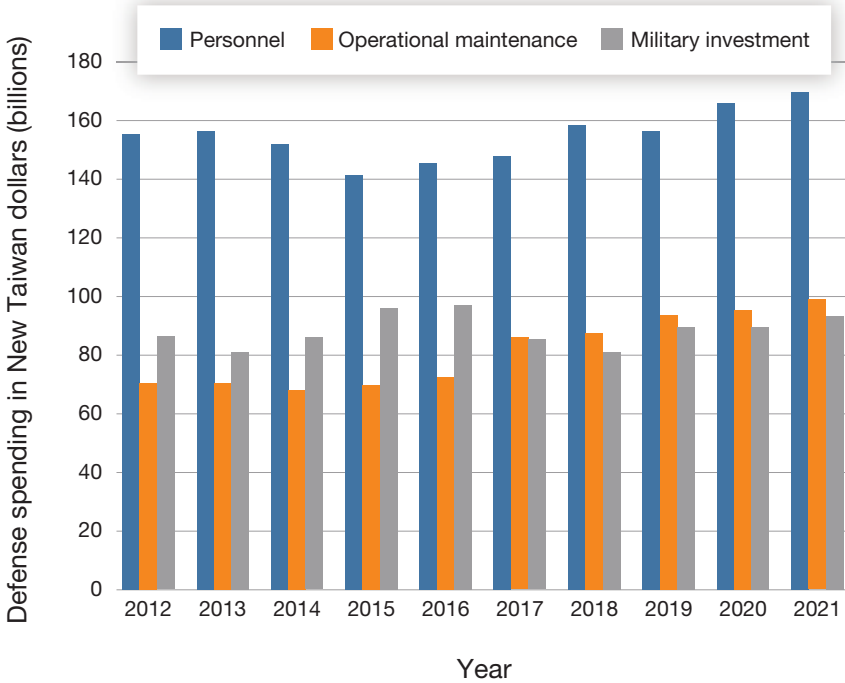
Personnel

Even though about one-half of its defense budget is devoted to personnel (see Figure 3.2), Taiwan's military has shrunk considerably. Its mid-1990s force of approximately 450,000 personnel is now just over 200,000. In the past decade, Taiwan has sought to increase the quality of its force by increasing the fraction of volunteers, which has grown to 90 percent of the current force. The remainder are short-term conscripts, who serve for one year.³⁷

³⁷ The one-year conscription was added after August 2022 and replaced the previous four-month conscription, in which volunteers received eight weeks of basic training, followed by training in two or three specialty fields (each also eight weeks in duration).

FIGURE 3.2

Taiwan's Defense Spending by Category



SOURCE: Features information from Ministry of National Defense of the Republic of China, *National Defense Report 2013*, October 2013; Ministry of National Defense of the Republic of China, *National Defense Report 2017*, December 2017; and Ministry of National Defense of the Republic of China, 2021b.

NOTE: Budget reported in then-year New Taiwan dollars.

Some published accounts based on interviews with Taiwan service members raise concerns about the manning levels of combat units, some of which are estimated to have only 60 percent to 80 percent of their desired force levels.³⁸ In a conflict, Taiwan cannot count on having time to train troops to augment undermanned units. Similarly, Taiwan's mobilized reserve forces will

Conscripts received five weeks of basic training and 11 weeks of training in one specialty field. Ministry of National Defense of the Republic of China, 2021b, pp. 75–76.

³⁸ Paul Huang, "Taiwan's Military Is a Hollow Shell," *Foreign Policy*, February 15, 2020.

need to be ready, able to muster, and immediately combat capable, but current training and equipping of conscripts and reserve units are insufficient to prepare them for such roles.

Continuity of U.S.–Taiwan Strait Policies

Understandably, Taiwan seeks self-sufficiency in the realm of defense, but, in practice, it relies on the United States for high-end military capabilities, and the U.S. commitment to Taiwan is a major element of its overall security. The United States and Taiwan have aligned—but not identical—interests. Politically, they both agree that the cross-strait differences should be settled peacefully. However, there are strong asymmetric political forces that must be managed. The mainland clearly seeks unification, but that idea holds less and less appeal in Taiwan. Many in Taiwan favor a much different direction, in which Taiwan is recognized in its own right. When Taiwan elected Chen Shui-bian president in 2000, many worried that his policies in office might be highly provocative because he was a former political activist and supporter of an independent Taiwan and because, a decade earlier, his party, the Democratic Progressive Party (DPP), had added to its charter the goal of holding a constitutional referendum and sought to change the formal name of the island to the Republic of Taiwan. In his inaugural address, he signaled a pragmatic approach to cross-strait relations and the status of Taiwan. Throughout his colorful eight years in office, there were concerns that he would go too far. There were times when the mainland issued threats and accused Chen of creeping toward independence. He also earned a rare public rebuke from the United States after he proposed a constitutional referendum.³⁹ The political position on the mainland hardened during this period; one notable example is that, in 2005, the National People's Congress passed the Anti-Secession Law, which includes a threat to use force if Taiwan takes action that accomplishes or might lead to separation from China or if the possibility of peaceful unification is lost.⁴⁰ Eight

³⁹ Brian Knowlton, "Bush Warns Taiwan to Keep Status Quo: China Welcomes U.S. Stance," *New York Times*, December 10, 2003.

⁴⁰ Order of the President of the People's Republic of China, No. 34, Anti-Secession Law, March 14, 2005.

years after Chen's term, another president was elected from the DPP, Tsai Ing-wen. She has been much more measured in her cross-strait policies; however, soon after her inauguration, Beijing suspended official cross-strait relations.⁴¹

Taiwan has developed a strong sense of its own identity, and a pragmatic political consensus that appears stable has emerged. In recent years, several global democracies elected populist leaders espousing strong, sometimes reckless nationalist sentiments. Unless Taiwan experiences that type of populist rupture, it will continue its pragmatic course. Should this change, it would certainly trigger a rupture with the United States. In short, the "Taiwan declares independence" path to conflict is not credible under current circumstances, not least because DPP leaders believe that Taiwan is already an independent state, and a formal declaration is unnecessary. However, because unification is currently not of interest to Taiwan, the radically different visions of the future held on the mainland and in Taiwan will likely lead to increasing friction. For its part, the mainland has contributed to these political trends in Taiwan in that Beijing has continually issued military threats to deter political change in Taiwan but has rarely attempted to offer encouragement or constructive policies to reward continued restraint by Taiwan. As one report notes, "Beijing has failed to assure the population of Taiwan that refraining from steps toward permanent separation or independence will be met with restraint rather than increased efforts to compel unification on Beijing's terms."⁴²

The United States has also maintained a pragmatic consensus that favors supporting Taiwan. Around the time of the switch of U.S. diplomatic recognition from Taipei to Beijing, the United States gave assurances to both sides about its position on the status of Taiwan and on U.S. military support to Taiwan. The United States has maintained a consistent policy for over 40 years, even though many things have changed on both sides of the strait. The Taiwan Relations Act included these key points:

- The United States expected differences to be settled peacefully.

⁴¹ Javier C. Hernandez, "China Suspends Diplomatic Contact with Taiwan," *New York Times*, June 25, 2016.

⁴² Task Force on U.S.-China Policy, 2022, p. 4.

- The United States would view with “grave concern” the use of non-peaceful means, including boycotts, embargoes, or other coercion of Taiwan.
- The United States would provide defensive arms to Taiwan to enable it to “maintain a sufficient self-defense capability.”⁴³

Three years later, the Reagan administration pledged to China that it would gradually “reduce its sale of arms to Taiwan, leading, over a period of time, to a final resolution.”⁴⁴ The last clause reflects that the U.S. pledge to China was made at a time when the leaders of Taiwan sought unification. Few in Taiwan today aspire to unification with mainland China; a majority want to maintain the status quo. Taiwan is now a democracy whose population increasingly leans toward a separate identity from the mainland, but China has offered little that might slow or reverse these trends. Quite the contrary: Its treatment of Hong Kong has spoiled any appetite in Taiwan for a “one-country, two-system” approach to unification. Instead, the PRC issues threats, with officials making such statements as, “external forces . . . have encouraged and instigated provocative actions by the separatist forces. . . . Relying on external forces will achieve nothing for Taiwan’s separatists, and using Taiwan to contain China is doomed to fail.”⁴⁵

One change that has been suggested in recent years is for the United States to end its policy of ambiguity, which is intended partly to deter movement toward Taiwan’s independence, and announce its intention to actively support Taiwan in any future war with China. This may not strike the right balance to meet U.S. objectives of deterring war and reassuring Beijing. In 2022, President Joe Biden expressed publicly what many have long assumed: that if the mainland does attack Taiwan, the United States will respond militarily. But these assurances have not been reiterated in formal government

⁴³ Public Law 96-8, 1979.

⁴⁴ China and the United States, U.S.-PRC Joint Communiqué, August 17, 1982. Concurrently, the United States unilaterally and secretly provided Taiwan with “six assurances,” which have since been declassified. Blackwill, 2021, p. 16.

⁴⁵ Taiwan Affairs Office of the State Council and the State Council Information Office of the People’s Republic of China, *The Taiwan Question and China’s Reunification in the New Era*, white paper, August 2022.

statements, and U.S. officials denied that U.S. policy had changed. Presumably, any formal assurance would come with the caveat that it will apply only to situations in which Taiwan has not provoked the mainland, which would just be a public acknowledgment of the sentiment that has driven U.S. policy for many years.

Fit with U.S. Capabilities

Given this long-standing implicit U.S. security commitment, Taiwan should consider how its investments might fit with U.S. capabilities. The U.S.-Taiwan security relationship is two-sided, and both sides would benefit from greater collaboration. In December 2022, the U.S. National Defense Authorization Act called on DoD to identify gaps in Taiwan's capabilities and to develop bilateral plans to address those gaps, which has provided an opportunity for the United States and Taiwan to collaborate on defense planning and force development to a level not seen since 1979.⁴⁶ In addition, it opens a door to discussions of how Taiwan's capabilities and investments fit with U.S. capabilities and plans.

The United States faces obvious challenges of projecting power across the Pacific Ocean that are made worse by the dearth of land-based operating locations near Taiwan. In considering the end-to-end needs of effective U.S. operations, these distance and basing constraints have implications for each aspect of the kill chain. Although the United States has growing long-range strike options, operating in the Western Pacific will challenge the persistence of U.S. long-range fires. Furthermore, these fires are better suited to attacking some types of targets than others. Specifically, today's inventories of U.S. standoff weapons can be effective against large ships, airborne military aircraft, and fixed infrastructure. Current U.S. long-range strike capabilities are not well suited to attacking other targets, particularly those associated with interdicting ground forces.

The United States has numerous systems for conducting battlefield surveillance and targeting in benign environments. Many of these are on airborne platforms where distance and basing might limit their persistence. In

⁴⁶ Public Law 117-263, James M. Inhofe National Defense Authorization Act for Fiscal Year 2023, December 23, 2022, Sec. 1244.

addition, the PLA has invested in some very long-range SAMs and anti-aircraft missiles that can prevent nonstealthy aircraft from operating within line of sight of the Taiwan Strait.

To complement U.S. long-range strike, Taiwan should seek strike and ISR capabilities that overlap U.S. capabilities and ones that are unique. Some overlapping capabilities will help to achieve better persistence when combined with U.S. capabilities and be able to sense the battlespace and hold at risk ships and aircraft more continuously. Other areas, such as the ability to strike ground forces, small landing craft, and layered air defenses, should be considered to be primarily under Taiwan's purview.

Taiwan should hope to be able to benefit from U.S. sensing capabilities, but this will require preparations that will include agreements regarding how the information is shared, organizational changes to receive and distribute the information, and communications systems and computer networks to facilitate the exchange. Taiwan can also consider the ways that its own sensor network might complement that of the United States. Taiwan is well placed to provide a variety of passive sensors and mobile active sensors. Passive sensors are difficult to locate and target, so they offer important persistent capability. Mobile sensors could be on UASs, ground vehicles, or small maritime platforms. Survivable ISR in forward areas could complement U.S. systems by providing an ability to update aimpoints for long-range weapons in flight to facilitate striking mobile targets. Looking to the future, the United States is likely to field more and more autonomous ISR systems. Taiwan may be able to acquire or develop similar systems.⁴⁷ Taiwan should also consider ways to productively operate with these systems, such as by providing communications nodes in Taiwan to link with allied networks and forward systems. Taiwan's forward position can also be used to jam adversary communications in forward areas. This could be an important means of countering adversary kill chains.

Taiwan will need a very capable command and control system designed to withstand attacks and degrade gracefully, to link with the United States and other countries that may provide assistance, and to allow for a distributed kill chain so that systems in different areas and operated by different

⁴⁷ Taiwan has produced several military and civilian UASs indigenously, so it may continue to prefer its own systems.

services and/or countries can combine to provide military effects. That said, there will also be advantages to organizing as a more distributed force that is less reliant on centralized control. For example, some coastal defense units might be able to operate necessary ISR, command and control, and precision fire capability organically, without needing external support. This requires organizing forces in ways that allow them to act autonomously by providing their commander with the authority to operate independently and training the unit to be effective in these circumstances. Similarly, at the regional and national levels, Taiwan should be preparing to achieve more-resilient command and control capabilities, not only by investing in the appropriate kits but also by organizing in disaggregated command elements and developing and practicing concepts for the chain of command to degrade gracefully under attack. To a certain extent, this may require Taiwan to surpass the United States because the likelihood of sustained attacks on command and control nodes and modes of communication will require Taiwan to operate independently at lower echelons of command than comparable U.S. forces.

As Ukraine's forces have shown in their defense against Russia's 2022 invasion, precision strike can be used to lethal effect on the modern battlefield. Taiwan will need both a variety of strike systems and deep magazines. Precision strike is not cheap, but, when based on mobile, survivable platforms, it can provide a formidable defense. Taiwan may wish to focus on strike capabilities that complement those of the United States, which offers some ASCMs and numerous land attack cruise missiles, but would find it difficult to provide the volume of fire needed to blunt a very large attack in successive defense layers. So, Taiwan could continue to make some investments in similar systems. For these more distant layers over the strait, Taiwan could also invest in loitering autonomous air and maritime systems, which would create a more complex environment for the attacker. Such systems could include loitering radar-homing weapons to degrade the organic air defense capabilities of an attacking force and thus raise the effectiveness of subsequent strikes from Taiwan or its partners.

To the extent that a PLA attack will include small maritime craft, helicopters, and airborne insertion, Taiwan will need to take the lead in holding those forces at risk. Similarly, any forces that do land in Taiwan should be met with a combined-arms force that includes organic precision fires, similar to army tactical missile systems, HIMARSs, and MLRSs.

Many of the above suggestions call for systems that are mobile so that they can be survivable. The survivability of all the systems will be greatly enhanced by investments in mobile, layered air defenses. Without such investments, the effectiveness of all the enhancements we discussed will be reduced.

Assessment

Taiwan lacks a sense of urgency about security reform and investment. Its defense budget has remained below 2 percent for many years and is inadequate to meet the threat. But even within the constraints of current budget levels, Taiwan is not getting all it could from its investment. Recent decisions commit a large fraction of its future defense budget to systems that are not suited to defending against a concerted PLA attack. This will lock in spending on vulnerable or unproductive systems for years to come. Given current trends, a shifting of priorities and implementation of a sustained increase in military spending by Taiwan will come only after a substantial evolution in threat perceptions in Taiwan. It is possible that Russia's 2022 invasion of Ukraine and China's provocative military drills in August 2022 provide such a spark. Taiwan's moves to increase the length of conscription and increase the budget certainly suggest renewed concern about the country's security. How Taiwan uses those resources and the productivity of the extended conscription are yet to be settled. What lessons Taiwan's leaders take from the fighting in Ukraine and whether this leads them to prioritize the capabilities and concepts that will add both resilience and potency to Taiwan's military also remain unclear. If Ukraine does not spur substantial change in the thinking in Taiwan about needed military improvements, that will be quite revealing.

Whether this situation will remain acceptable to the United States is unclear. After all, at some level, the United States is complicit for agreeing to sell to Taiwan such systems as new fighter aircraft.⁴⁸ The United States

⁴⁸ The United States agreed to the sale of 66 F-16s in 2019. Taiwan had long expressed interest in acquiring new F-16 aircraft; however, both the George W. Bush and Barack Obama administrations had discouraged Taiwan from making a formal request because of concerns that the acquisition would take resources from more-effective capabilities.

has in the past called on Taiwan to increase defense spending, unsuccessfully. The fact is, the United States spends more preparing to defend Taiwan than Taiwan spends on its defense. This is because the United States is persuaded that an invasion of Taiwan is plausible enough and the consequences grave enough that it is worth making investments to try to deter such an attack and to be prepared to act should deterrence fail. Such investments also provide the wherewithal to allow U.S. forces to confront China's aggression elsewhere. To these ends, the United States is investing in new capabilities and developing new concepts and organizational structures that are primarily designed to counter the cross-strait threat from China.

In addition, motivated by Russia's invasion, the U.S. Congress has directed DoD to reengage with Taiwan to identify gaps in military capability and to collaborate on ways to fill those gaps. These may be important steps to better align bilateral goals. The most productive avenue for change may be to focus U.S.-Taiwan discussions on the extent to which an invasion of Taiwan is seen as the pacing threat that guides Taiwan's investments and preparations. If Taiwan sees other conflict scenarios as more plausible, that needs to become an important point of discussion with U.S. officials so that bilateral efforts can become more productive.

It is certainly understandable that some in Taiwan who have experienced a dramatic increase in PLA military activity around Taiwan in recent years would argue that because the mainland already resorts to military coercion, a priority for Taiwan should be to fund capabilities to contest those actions. We are sympathetic to those arguments but contend that the focus should nonetheless remain on countering an invasion for three reasons: (1) An invasion represents an existential threat, and, given the current plausibility of an invasion, it should be the focus of defense efforts; (2) counterinvasion capabilities denude coercive military tactics; and (3) Taiwan is not able to stop the coercive activities, only to contest them.

The power of coercion lies in latent military power held in reserve. In that sense, for the PRC to coerce Taiwan, the PRC needs to be perceived as able to invade, or at least heavily damage, Taiwan. Often in history, such strategies have failed.⁴⁹ For coercion to work, the PLA needs to be perceived

⁴⁹ For instance, Operation Rolling Thunder, from 1965 to 1968, failed to prevent North Vietnam from supporting the guerrillas in South Vietnam. In 1986, the United

as having the ability to escalate the conflict successfully. Without that, its efforts could fail in the face of a resolute response from Taiwan. The political utility of the coercive use of force by the mainland is also questionable. Coercion might be used to dissuade Taiwan from permanently separating from the mainland, but that is something Taiwan controls. A more extreme case would be to use military coercion to achieve unification, but limited force would likely be insufficient to convince Taiwan to agree to unification. Therefore, this strategy would likely not be effective, and the mainland would be forced to either back down or escalate. Cross-strait stability from Taiwan's perspective ultimately rests on the ability to contest an invasion and to maintain a pragmatic consensus regarding Taiwan's status. Thus, the stable goal for both the United States and Taiwan is to build Taiwan's defenses while at the same time offering reassurances in both Washington and Taipei about long-term political stability on questions dealing with Taiwan's political status.⁵⁰

Those in Taiwan who believe an invasion from the mainland is a remote possibility that should not be the main driver of spending or capability currently appear ascendant. However, an alternate perspective is that a fundamental goal of defense spending is to guard against low-probability but potentially devastating events, as in this case. It appears that the PLA is making investments and preparing for an invasion. Even if it does not intend to act now, once Beijing has this capability, the decision to use it could change quickly.

Findings and Recommendations

Findings

Taiwan has embraced the rhetoric of asymmetric warfare, but its budget reflects a preference for legacy systems. As a result, there is a gap between

States conducted a military strike on Libya in response to its support for terror attacks, which resulted in a surge in Libyan-sponsored terror attacks. Daniel Byman and Alex Waxman, *The Dynamics of Coercion*, Cambridge University Press, 2002.

⁵⁰ This linking of deterrence theory and political practice is made well in Thomas J. Christensen, "The Contemporary Security Dilemma: Deterring a Taiwan Conflict," *Washington Quarterly*, Vol. 25, No. 4, 2002.

the United States and Taiwan over the direction of Taiwan's defense program. Numerous external recommendations over many years have been made to Taiwan regarding how its defense program could be modernized, but these recommendations have met with only mixed success.

Taiwan's capabilities and investment choices matter to the United States because the PLA military challenge creates many operational problems. The United States and Taiwan should consider how their capabilities could best complement each other in the future.

Taiwan's layered defense concept is an effective way to approach the defense of Taiwan. The magnitude of the threat suggests that Taiwan will need considerable capacity to interdict PLA forces in each layer, as they progress from the mainland, across the Taiwan Strait, and into Taiwan.

Taiwan appears to be focused on potential threats from invasion to more-limited applications of force. This is understandable, but, in the context of its small size and limited budget, Taiwan runs the risk of overextending its forces and resources.

Recommendations

Taiwan should assess both its existing force and all future investments to determine the ability of these investments to survive and operate effectively against a full-scale attack on Taiwan. Assessing the existing force is important to focus on systems that occupy a large fraction of the budget. Taiwan should ruthlessly slash capabilities that are not both resilient to attack and potent against adversary forces, starting with an assessment of its ability to field layered, mobile air defenses. Taiwan should acquire more mobile and rugged systems, such as the National Advanced Surface-to-Air Missile System (NASAMS) or Indirect Fire Protection Capability Increment 2 and mobile longer-range SAMs. Taiwan should prioritize strike systems of various types to hold at risk PLA forces as they move through different layers of marshaling, transit, and arrival in Taiwan.

In addition to acquiring the systems, Taiwan should develop mature organizational and command and control concepts to enhance the survivability and effectiveness of these capabilities. Taiwan's forces need to be able to operate as disaggregated forces, either self-sufficient with organic assets or as part of a survivable Taiwan kill chain. Units need to have the training

and authority to operate as disaggregated forces and cannot be reliant on a high degree of centralized control.

To complement U.S. capabilities, Taiwan should consider strike systems that add persistence to U.S. capabilities, such as antiship missiles. It should view smaller targets and those close to or in Taiwan as ones where Taiwan will provide the preponderance of strike capabilities. More shorter-range guided missiles, such as Harpoon and Hellfire, might be well suited to these types of targets.

Taiwan should also consider how it can contribute to a multinational kill chain with the United States or other partners. This can include operating sensors, such as UASs—especially small, runway-independent systems—or other mobile active sensors and passive sensors, all linked to multinational kill chains. In addition, Taiwan should prepare for information-sharing with external partners to prepare the organization, equipment, and command concepts to effectively utilize this information. An important aspect of maintaining such relationships is to put in place policies and procedures to protect information against China's efforts to penetrate information systems and recruit informants.

The problem of landed PLA forces in Taiwan should also motivate planning and investments. Taiwan's ground units will need a combination of protected maneuver and lethal fires. They cannot rely on legacy concepts of ground engagement. Preparing for this challenging assignment could require substantial changes to unit organization, equipment, and command and control concepts. Ground units must be tightly linked with air defense, ISR, and fires—many of which will be provided by or supplemented from other units, services, or even coalition partners. Such units need to be ready now, because there will not be time to fill undermanned or underequipped units following warning of an impending attack. When combined, these efforts will help Taiwan achieve a combat-credible force.

Options for Enhancing the Security and Military Capabilities of Japan

In this section, we identify the capabilities that Japan's Self-Defense Forces (SDF) possess today and are likely to develop and field in the next five years,

focusing on those that are most relevant to countering threats from China. We describe the current and planned capabilities and deployment of SDF assets and explore the gaps between the demands of a possible U.S.-led strategy for defeating China's aggression against Taiwan and the capabilities, posture, and operational concepts of Japan's forces. We then provide options for enhancing Japan's capability and capacity, consider changes in the SDF's posture and force deployments for enhancing the defense of Japan, and offer suggestions on how Japan can spend its expected defense increases over the coming years to the greatest effect.

We argue that Japan's threat perceptions largely align with those of the United States, thereby supporting U.S. strategic objectives. Driven by increasing provocations and the rapid modernization efforts of the PLA, Japan's commitment of resources to strengthen its already robust and modern forces and move into new domains and deterrent capabilities provides critical support to U.S. forces in the Indo-Pacific region. The result is a much stronger and more capable ally with high-end capabilities that can operate across multiple domains and provide critical force-multiplying support to a regional operation involving the United States. Whether this affords the United States greater flexibility in achieving its strategic objectives vis-à-vis China in a Taiwan contingency is uncertain, however, given several challenges the SDF faces and the alliance that may delay or impede Japan's contributions to a U.S.-led military operation that does not directly involve the defense of Japan.

Current Trends and Defense Strategy

Japan is a highly committed U.S. ally with shared threat perceptions that have grown more aligned over time. When Japan drafted its first *National Security Strategy* (NSS) in 2013, the document highlighted the severe security challenges posed by China and North Korea but focused on ways to cooperate with Russia.⁵¹ Although this tendency to cooperate with Russia was rooted in Japan's desire to resolve a lingering territorial dispute and sign a peace treaty, Russia's revanchism and hesitancy to move forward on these two issues brought Japan closer in line with U.S. strategic thinking. Russia's

⁵¹ Government of Japan, *National Security Strategy*, December 17, 2013, p. 25.

most recent invasion of Ukraine has solidified Japan's position. The Kishida Fumio administration not only calls Russia's invasion of Ukraine "a grave breach of international humanitarian law and war crimes," it also goes on to call it an "absolutely unacceptable" act that Japan "vehemently condemns."⁵² And in the 2022 *Diplomatic Bluebook*, Russia is identified multiple times as a threat to the international order.⁵³

Today, Tokyo views China, North Korea, and Russia as Japan's primary security challenges; China is viewed as the pacing threat, although Tokyo does not explicitly use such language. In December 2022, Tokyo released a new NSS, *National Defense Strategy*, and *Defense Buildup Program* that demonstrate Japan's increasingly close alignment with the United States. The NSS refers to China's "current external stance, military activities, and other activities" as "a matter of serious concern for Japan and the international community," adding that these activities "present an unprecedented and the greatest strategic challenge in ensuring the peace and security of Japan and the peace and stability of the international community."⁵⁴ Similar language is present in the accompanying *National Defense Strategy*, with more details provided about China's military activities. North Korea's activities are described as posing "an even more grave and imminent threat to Japan's national security than ever before."⁵⁵ And despite the previously anodyne language regarding Russia in the 2013 NSS, Russia's activities are now described as having "shaken the very foundation of the international order"; "the most significant and direct threat to security in the European region"; and, particularly in the Indo-Pacific region, "of strong security concern."⁵⁶

This stronger language is the culmination of language seen in several speeches and publications by the government over the previous year. In a speech that opened the fall 2022 special session of parliament, Prime Minis-

⁵² Government of Japan, "Japan Stands with Ukraine," September 26, 2022a.

⁵³ Ministry of Foreign Affairs (Japan), *Diplomatic Bluebook 2022*, 2022.

⁵⁴ Government of Japan, *National Security Strategy of Japan*, Cabinet Office, December 2022b, p. 9.

⁵⁵ Government of Japan, 2022b, p. 9.

⁵⁶ Government of Japan, 2022b, p. 10.

ter Kishida argued that unilateral attempts to change the status quo by force are unacceptable in any part of the world while stating his strong sense of foreboding that Ukraine may be tomorrow's East Asia.⁵⁷ What those threats may be are identified elsewhere. In the 2022 iteration of the Ministry of Defense's (MOD's) *Defense of Japan*, the challenges that Russia, North Korea, and China pose to the international order and Japan are described in detail. Russia is described as an "aggressor," North Korea as posing "grave and imminent threats to Japan's security and significantly undermin[ing] the peace and security of the region and the international community," and China as trying to unilaterally change the status quo.⁵⁸ Furthermore, in the MOD's budget request released in August 2022, all three countries are identified as examples of the international community "entering a new era of crisis."⁵⁹ And in agreement with the United States, in May 2022, a joint statement by President Biden and Prime Minister Kishida identified the three biggest pressing issues as Russia, China, and North Korea.⁶⁰

Although the allies are in alignment on their strategic outlook, defense spending by Japan has historically not followed suit. As demonstrated in the next section, Japan has military capabilities able to operate across all domains—air, sea, land, space, and cyberspace—but has historically limited its defense budgets to 1 percent of its GDP. This artificial limitation, with roots in the 1970s, has meant that Japan's investments in critical defense capabilities have remained limited.⁶¹ Despite this, the past decade has seen annual increases. In 2022, the ruling Liberal Democratic Party called for

⁵⁷ Kishida Fumio, "Policy Speech" ["所信表明"], NHK, October 3, 2022.

⁵⁸ Ministry of Defense (Japan) (MOD [Japan]), *Defense of Japan 2022*, white paper, 2022a—see the prefix.

⁵⁹ MOD (Japan), *Defense Programs and Budget of Japan: Summary of FY 2023 Request Estimates* [我が国の防衛と予算: 令和5年度概算要求の概要], 2022d, p. 2.

⁶⁰ White House, "Japan-U.S. Joint Leaders' Statement: Strengthening the Free and Open International Order," May 23, 2022a.

⁶¹ In 1976, Prime Minister Takeo Miki responded to party and public opposition to Japan's increasing defense budgets during a time of Cold War détente by limiting defense spending to 1 percent of GDP. With the exception of three years in the 1980s, this artificial barrier has remained ever since.

Japan to double its defense spending to 2 percent of GDP within five years.⁶² Although some doubt that this is economically feasible, media reporting in late November 2022 showed that the Kishida administration not only intends to achieve this goal but also plans to reach 2 percent by 2027 by increasing spending and combining budgets from other ministries and agencies.⁶³ The initial budget request was the largest defense budget request in modern Japanese history, at 5.59 trillion yen (\$40.4 billion in U.S. dollars).⁶⁴ In December 2022, when Japan released its new strategic documents, the Kishida documents followed through on these expectations, announcing a planned 65 percent increase in the annual defense budget between 2022 (5.4 trillion yen) and 2027 (8.9 trillion yen). Importantly, Japan will start this five-year process on the right foot: The defense budget for 2023 is slated to increase by 26 percent compared with 2022, marking the 11th consecutive year-on-year increase.⁶⁵ Because there are many programs that are not listed in the initial budget request, the final total is expected to grow. One Japanese newspaper estimated that the final defense budget for 2023 could grow beyond 6 trillion yen.⁶⁶ If Japan does meet its goals over the next five years, one estimate claims that Japan will have the world's third-largest defense budget, after those of the United States and China.⁶⁷

If prioritized for areas needing the most attention, greater defense spending will address many of the weaknesses outlined below, thereby helping to

⁶² Liberal Democratic Party, “Defend Japan” [“日本を守る”], 2022 Upper House Campaign Promise [参院選公約 2022], 2022.

⁶³ “Prime Minister Kishida: ‘2% of GDP for Defense in FY 2027’ Funding Will Be Settled by the End of the Year” [“岸田首相「防衛費GDP2%、27年度に」財源は年内決着”], *Nikkei Shimbun*, November 28, 2022.

⁶⁴ MOD (Japan), 2022d, p. 4; and Hana Kusumoto, “Japan’s Record-High Defense Budget Request of \$40.4 Billion Still Lags Its G-7 Peers,” *Stars and Stripes*, August 31, 2022.

⁶⁵ Isabel Reynolds, “Japan Begins Defense Upgrade with 26% Spending Increase for 2023,” *Bloomberg*, December 23, 2022.

⁶⁶ “Defense Budget Request Adjusted to Record Maximum of 5.5 Trillion Yen, Further Increase Expected” [“防衛費概算要求、過去最大5.5兆円で調整 さらに増額の見込み”], *Mainichi Shimbun*, August 4, 2022.

⁶⁷ Andrew Salerno-Garthwaite, “Japan as the Third Global Military Power,” *Army Technology*, October 3, 2022.

support the alliance's specific roles and missions. In the alliance, which is referred to as a *shield and spear* relationship, Japan (the shield) maintains primary responsibility for defending its territory and conducting defensive operations in Japan, its surrounding waters and airspace, and its air and maritime approaches.⁶⁸ The United States (the spear), coordinating closely with Japan, is responsible for shaping the regional environment in a way that supports the defense of Japan.⁶⁹ For Japan's part, this has historically meant a heavy focus on territorial defense, leading to the establishment and development of an SDF focusing solely on defensive roles in a denial strategy meant to delay aggressors until U.S. forces could arrive. Over time, however, the SDF has become more capable, and, combined with U.S. pressure, that strategy has changed to one that is more focused on forward defense.⁷⁰

Traditionally, Japan's primary security concern was Russia (and the Soviet Union). Until recently, this meant a heavy focus on land warfare and a posture heavily concentrated on the north. Over the past 20 years, China's increasingly provocative actions in Japan's southwest have not only motivated Japan to recalibrate its national security policies and defense strategies but also led Tokyo to reorient its defense posture to one focused on deterring air and maritime threats from China in the Southwest Islands (called the *Nansei Shotō* in Japanese). Although this has resulted in the SDF divesting itself of some heavy artillery and tanks and moving toward more-mobile platforms across domains, the overarching posture of the SDF remains largely unchanged, consisting of the following:

- Ground Self-Defense Force (GSDF): The largest of the three services, with 139,620 personnel, consists of five regional armies that comprise one armored division, six brigades, and several other artillery, antiaircraft artillery, and engineer units.⁷¹ Each regional army also maintains

⁶⁸ Ministry of Foreign Affairs (Japan) and U.S. Department of Defense, *The Guidelines for Japan-U.S. Defense Cooperation*, April 27, 2015, pp. 10–11.

⁶⁹ Ministry of Foreign Affairs (Japan) and U.S. Department of Defense, 2015, pp. 10–11.

⁷⁰ Eric Heginbotham and Richard J. Samuels, "Active Denial: Redesigning Japan's Response to China's Military Challenge," *International Security*, Vol. 42, No. 4, 2018.

⁷¹ MOD (Japan), 2022a, reference 56, "Authorized and Actual Strength of Uniformed SDF Personnel and Changes in Them."

an antitank helicopter squadron, and three maintain antiship missile regiments. Finally, a Ground Component Command consists of one Airborne Brigade, one Amphibious Rapid Deployment Brigade meant for retaking outlying islands, one Helicopter brigade, and one Central Readiness Regiment.

- Air Self-Defense Force (ASDF): The second-largest SDF service, with 43,720 personnel, consists of 376 fixed-wing aircraft—of which 318 are fighters—spread out across the country into four defense areas: northern, central, western, and southwestern.⁷² All fall under the Air Defense Command, and each has an assigned Air Defense Force attached to it. The northern central and western areas are each composed of two fighter wings—versus one fighter wing for the southwestern area—and one Aircraft Control and Warning wing, an Air Defense Missile Group, and an Air Civil Engineering Group (and Air Band). The ASDF also has three Tactical Airlift wings to assist across all four defense areas.
- The Maritime Self-Defense Force (MSDF), with 43,435 personnel, consists of 137 surface and subsurface ships (of which 47 are destroyers and 22 are submarines) and 166 aircraft (consisting of 73 P-1 and P-3C patrol planes, six US-2 rescue planes, and 87 rotary-wing aircraft).⁷³ The MSDF is organized into one Self-Defense Fleet divided into five domestic regional districts. The fleet is composed of the Fleet Escort Force, Fleet Air Force, Fleet Submarine Force, Mine Warfare Force, and some support command. The Fleet Escort Force is made up of four assigned escort flotillas that each comprise two escort divisions centered on a helicopter destroyer (similar to a carrier strike group)

⁷² MOD (Japan), 2022a, reference 56, “Authorized and Actual Strength of Uniformed SDF Personnel and Changes in Them”; and MOD (Japan), 2022a, reference 8, “Number of Major Aircraft and Performance Specifications.” Other fixed-wing aircraft include 34 transport aircraft, seven aerial refueling and transport aircraft, and 17 early warning and control aircraft. The ASDF also maintains a fleet of 52 rotary aircraft for transport and rescue.

⁷³ MOD (Japan), 2022a, reference 56, “Authorized and Actual Strength of Uniformed SDF Personnel and Changes in Them”; MOD (Japan), 2022a, reference 9, “Number of Major Ships Commissioned into Service”; and MOD (Japan), 2022a, reference 8, “Number of Major Aircraft and Performance Specifications.”

and various destroyers, as well as an additional five escort divisions that are not organized into an escort flotilla. The Fleet Air Force is composed of seven Air Wings that include four Air Patrol Squadrons, five Air Anti-Submarine Warfare Helicopter Squadrons, a Mine Countermeasures Helicopter Squadron, an Air Service Squadron, an Air Rescue Squadron, an Air Development Squadron, and an Air Electronic Warfare Squadron. The Fleet Submarine Force is made up of two submarine flotillas composed of three submarine divisions each, and the Mine Warfare Force includes ten minesweeper divisions and a Landing Ship Division.

When looked at together, this posture, and the capabilities deployed, are very much consistent with a defense strategy that uses facilities in Japan as the main operating bases rather than an expeditionary force projecting force abroad.

Because the SDF is a significantly smaller force than the PLA and lacks a nuclear deterrent of its own, it is unlikely that this posture alone provides a combat-credible posture against China. However, because of the sizable U.S. presence in Japan, as well as the U.S. extended deterrence commitment, Japan's forces can play important force-multiplying roles in any future conflict. Therefore, the United States can bolster the SDF's effectiveness by leveraging the SDF's strengths while simultaneously working to help mitigate some of the SDF's ongoing challenges.

Japan's Strengths

Japan's first strength is the robust and modern nature of the SDF's major platforms and weapons. Although there are critical challenges in some of these (identified below), the fact remains that the SDF maintains a broad variety of sophisticated capabilities. In the air, this includes F-35A/Bs, F-15s, P-1s and P-3Cs, E-2Cs and E-2Ds, and V-22s. On the sea, the SDF possesses helicopter destroyers (light aircraft carriers); guided-missile destroyers, including Aegis-equipped variants, and minesweepers and sophisticated conventional submarines. And on land, reflecting its historic concerns over threats from the Soviet Union, the SDF maintains 540 tanks, 900 other

armored vehicles, and 400 pieces of field artillery.⁷⁴ Finally, the country has devoted considerable resources to deploying a two-tier ballistic missile defense (BMD) network comprising eight ship-based Aegis guided missile destroyers operating the standard missile (SM) system and 24 ground-based fire units operating the Patriot system.⁷⁵ After the cancellation of two Aegis Ashore systems in 2020 that would have bolstered these existing capabilities, the government decided to invest in ships devoted strictly to missile defense with a plan to deploy two 20,000-ton ships by 2029, making these the largest ships in Japan's fleet.⁷⁶ The SDF is postured with capabilities geared toward defending Japan's territory.

Supplementing these robust capabilities are investments in recent years in the space, cyber, and electromagnetic domains to meet the evolving security landscape. Currently, Japan's capabilities in these domains are not robust, but its identification of these shortfalls has resulted in concentrated commitment to rapidly building up these areas. Japan's first big push into these areas occurred in 2018. In the release of the *National Defense Program Guidelines* (NDPG) that year, Japan signaled an early—yet concerted—effort to strengthen its defenses in these key new domains. In space, rooted in an interest to realize cross-domain operations (and building from a 2015 revision in its *Basic Law on Space Policy*), the SDF moved to improve various capabilities that leverage space, including information-gathering, communication and positioning capabilities, and persistent ground- and space-based space situation monitoring.⁷⁷ Importantly, included in the NDPG was a statement of the SDF's intentions to strengthen capabilities “to disrupt

⁷⁴ MOD (Japan), 2022a—see reference 7, “Number of Tanks and Major Artillery Owned.”

⁷⁵ One Japanese fire unit is composed of five launchers. In addition to the 24 fire units noted in the text, there are four other training fire units.

⁷⁶ Jeffrey W. Hornung, “Japan Is Canceling a U.S. Missile Defense System,” *Foreign Policy*, July 2, 2020b; Yoshihiro Inaba, “New Details on Japan's Future BMD Vessels Revealed,” *Naval News*, September 12, 2022; and “Toward the Construction of a Giant Aegis Ship as Replacement of the Land-Based Missile Defense System—MOD Voices Calling It ‘Reiwa Era Battleship Yamato’” [“巨艦イージス建造へ 陸上配備代替、ミサイル防衛—令和の戦艦大和”の声も・防衛省], *Jiji*, September 1, 2022.

⁷⁷ The 2015 revision focused on pursuing three goals over the next two decades: (1) ensuring space security, (2) promoting the use of space in the civilian sector, and

opponent's command, control, communications and information.”⁷⁸ A similar focus was in the MOD's cyber efforts, which stated that the SDF would strengthen capabilities for persistent monitoring of command and communications systems and networks; for damage limitation and recovery; and “to disrupt, during attack against Japan, opponent's use of cyberspace for the attack.”⁷⁹ Finally, while there was an eschewing of efforts to strengthen Japan's electromagnetic attack capabilities, there was a dedicated effort to enhance the SDF's information and communications collection and analysis capabilities and to improve the SDF's capabilities to minimize the effect of an adversary's electronic jamming.⁸⁰

In the years since, the MOD has made gradual efforts to strengthen capabilities in these three domains, with a primary focus on defensive efforts.⁸¹ The 2022 strategic documents continue this trend, with an increase in resources in these areas. The *National Defense Strategy*, for example, specifies that the MOD and SDF “will expand capabilities necessary to disrupt or neutralize the opponent's use of space, cyber, and electromagnetic spectrum domains.”⁸² The resources dedicated to these domains are increasing, but the intended focus in all three domains remains heavily on defensive missions.

The space domain has seen the establishment of a Space Operations Group in the ASDf; the establishment of a Space Domain Planning Section in the Joint Staff; and a devotion of funds to develop and/or enhance capabilities in space situational awareness, information-gathering, space resiliency, and satellite communications. The fiscal year (FY) 2021 defense

(3) maintaining and strengthening Japan's space industry and scientific/technological bases. MOD (Japan), *Defense of Japan 2018*, 2018a, pp. 329–330.

⁷⁸ Government of Japan, *National Defense Program Guidelines for FY2019 and Beyond*, Ministry of Defense, December 18, 2018, p. 20.

⁷⁹ Government of Japan, 2018, p. 20.

⁸⁰ Government of Japan, 2018, pp. 20–21.

⁸¹ MOD (Japan), *Defense Programs and Budget of Japan: Overview of JFY2020 Budget*, 2020; MOD (Japan), *Defense Programs and Budget of Japan: Overview of FY2021 Budget*, 2021; MOD (Japan), *Defense Programs and Budget of Japan: Overview of FY2022 Budget (Including FY2021 Supplementary Budget)*, 2022c; and MOD (Japan), 2022d.

⁸² Government of Japan, *National Defense Strategy*, December 16, 2022d, p. 26.

budget also began a study on hypersonic glide vehicle detection and tracking systems using satellite constellations.⁸³ The *National Defense Strategy* also included reference to reorganizing the ASDF into the Air and Space Self-Defense Force to reinforce its space operation capability and develop a system to ensure superiority in the use of space (subsequent reporting has hinted that the new name may be Aerospace Self-Defense Force to maintain the ASDF moniker).⁸⁴

Similarly to its efforts in space, the MOD has worked to create an SDF Cyber Defense Command; procure a cyber information-gathering system to gather information on the tactics, techniques, and procedures of cyberattacks against the MOD and SDF; enhance the protective functions of the closed Defense Information Infrastructure (the common communications infrastructure shared by the MOD and SDF); and conduct research on cyber-related issues, such as cybersecurity measures for network devices used by the MOD and SDF and cyber-resilient technology to ensure continuous operation by MOD and SDF equipment's information-processing systems even during a cyberattack. In the 2022 *National Defense Strategy*, there is also a new stated emphasis on establishing "active cyber defenses."

Finally, in the electromagnetic domain, the MOD has sought improvements through the continued acquisition of F-35 A/B aircraft and RC-2 reconnaissance aircraft, as well as improvements in the electronic warfare capabilities of the SDF's F-15s. Additionally, the MOD has worked to develop standoff electronic warfare aircraft capable of conducting communication jamming; to research anti-air electronic warfare capabilities; and to enhance the capabilities of the SDF's ability to collect and analyze signals, neutralize communication, and detect and jam adversary assets. The MOD has also researched high-powered microwave radiation. Although much work in this domain is yet to be done, the 2022 *National Defense Strategy* recognizes that it is "the frontlines of offense and defense in contemporary warfare."⁸⁵

A third strength is Japan's significant investments in modern munitions—including high-end systems—that help ensure that the SDF is

⁸³ MOD (Japan), 2021, p. 4.

⁸⁴ Government of Japan, 2022d, p. 31.

⁸⁵ Government of Japan, 2022d, p. 16.

a lethal defense force. In its defensive systems (e.g., SAMs and BMD), Japan already has large numbers of launchers but is in need of more interceptor missiles. Its strike systems, however, are a relatively newer development, resulting in Japan's need for both launchers and missiles. Japan's efforts at attaining more-robust strike capabilities began in 2018 when it announced an intention to field an array of standoff missile capabilities.⁸⁶ Although Japan has long possessed various types of missiles for its ships and aircraft, as well as ground-launched antiship and antiair platforms, the 2018 NDPG stated that the SDF would "acquire stand-off firepower and other requisite capabilities to deal with ships and landing forces attempting to invade Japan, including remote islands, from the outside of their threat envelopes."⁸⁷ This was further fleshed out in the accompanying Medium-Term Defense Program, which listed, among other things, acquisition plans that included the Joint Strike Missile, the Joint Air-to-Surface Standoff Missile, and the Long-Range Anti-Ship Missile.⁸⁸

Although many of the standoff capabilities in the NDPG and Medium-Term Defense Program were never fully resourced and procured, Japan's strategic documents that were released in 2022 show a continued effort to acquire these strike capabilities, including Tomahawk cruise missiles. To date, in the area of strike capabilities, Japan is currently very limited to a handful of Joint Strike Missiles for the F-35, the ASM-1/2, and Type-12 ASCMs. The August 2022 defense budget request signaled continued funding in these capabilities, including funds to acquire the Joint Air-to-Surface Standoff Missile for the F-15, an advanced Type-12 ASCM with an extended range, and high-velocity glide missiles, as well as research on hypersonic cruise missiles. Japan is also developing the ASM-3. Importantly, as mentioned, the government will acquire Tomahawk cruise missiles as its long-range counterstrike capability.⁸⁹ Despite having limited capability in strike

⁸⁶ MOD (Japan), 2022d, p. 8.

⁸⁷ Government of Japan, 2018, p. 21.

⁸⁸ MOD (Japan), *Medium Term Defense Program (FY 2019–FY 2023)*, December 18, 2018b, p. 12.

⁸⁹ Sébastien Roblin, "The U.S. Finally Sold 400 Tomahawk Missiles to Japan, Here's Why," *Popular Mechanics*, February 28, 2023.

systems and munitions today, Japan's strategic documents demonstrate that it is going to heavily focus on this area in the years ahead. Standoff defense capability is listed as the number-one priority in the defense budget and 2022 *Defense Buildup Program*.⁹⁰

The MOD also is seeking to improve its missile defenses through enhanced detection and tracking capabilities, more-efficient countermeasures through networking, and enhanced interception capabilities. This includes improving warning and control capabilities in the Japan Aerospace Defense Ground Environment, improving FPS-5 and FPS-7 radars, acquiring the components necessary to advance Aegis system-equipped ships' BMD intercept capabilities, and strengthening response capabilities to ballistic and cruise missiles and hypersonic glide weapons (including SM-6s, PAC-3MSE systems, SAMs for air defense of bases, and Type-03 intermediate-range SAMs). Japan is hoping to "establish a system to enable unified and optimized operation of various sensors and shooters through networks to reinforce integrated air and missile defense capabilities."⁹¹ Together, these advances in Japan's missile arsenal support the SDF's primary function of defending Japan.

Collectively, all these strengths (including the future payoffs from current investments) play to Japan's shield responsibilities. Japan's sophisticated air fleet enables the ASDF to engage in defensive counterair missions around the Japanese archipelago to defend Japanese airspace while its BMD systems and growing network of antiair capabilities help provide air defense for U.S. and Japanese bases in Japan. These capabilities are aided by sophisticated surface, subsurface, and antiship missile capabilities that together can help defend sea lines of communication, conduct minesweeping operations, and conduct chokepoint control throughout critical waterways near Japan. And Japan's wide array of ISR, antisubmarine warfare, and airborne early warning and control platforms in the air and sea support robust capabilities and capacity to identify threats in the air and water far from Japanese shores. Additionally, given the focus on defensive capabilities in the space, cyber, and electromagnetic domains—particularly capabilities that are deemed

⁹⁰ Government of Japan, *About the Defense Buildup Program* [防衛力整備計画について], December 16, 2022c; and MOD (Japan), 2022d, p. 8.

⁹¹ Government of Japan, 2022d, p. 24.

“disruptive” in nature—Japan is posturing its shield to meet future conflict demands. Finally, Japan’s focus on newer missiles will give Japan critical abilities to strike farther from Japanese shores, thereby expanding the reach of that shield. Importantly, although developed under the notion of defending Japan, all these strengths act as critical force multipliers for the United States as they defend both Japanese and American bases in Japan, thereby allowing the U.S. military to focus its efforts on more-offensive operations (i.e., the spear).

U.S.-Japan Strengths

In addition to the SDF’s strengths, it is important to note that although the SDF does not have combat experience, it has significant training and exercise experience with U.S. forces that translates into a considerable level of interoperability between U.S. and Japanese forces. Because of the permanently stationed 55,485 active-duty U.S. military personnel in Japan, the allies can exercise across all services on a continual basis.⁹² Every year, dating back decades, each U.S. service and each of Japan’s three services participate in numerous exercises, including a regular joint training event that brings together approximately 40,000 participants from both countries. Examples of these activities include command post and field training exercises for the U.S. Army, the U.S. Marine Corps, and the GSDF; anti-submarine training and minesweeping training for the U.S. Navy and the MSDF, and air defense and fighter combat training for the U.S. Air Force and the ASDF.⁹³ Even though U.S. and Japanese troops have never deployed to combat together, these activities help Japan’s troops and their U.S. counterparts stationed in Japan by maintaining their individual levels of operational readiness and enhancing specific skills, and the alliance benefits because the two countries’ forces learn how to operate together through the

⁹² Defense Manpower Data Center, “Military and Civilian Personnel by Service/Agency by State/Country (Updated Quarterly),” June 2022.

⁹³ Jeffrey W. Hornung, *Japan’s Potential Contributions in an East China Sea Contingency*, RAND Corporation, RR-A314-1, 2020a, p. 56. For examples from the most-recent fiscal years, see MOD (Japan), 2022a, reference 25, “Record of Main Japan-U.S. Bilateral Exercises in FY2021.”

building of similar methods, strategies, and tactics. These ongoing efforts could pay dividends in a crisis.⁹⁴

This interoperability is supported by the allies' use of similar equipment or equipment that can share real-time information and communications across platforms. Japan acquires more than 90 percent of its defense imports from the United States.⁹⁵ These imports include the F-35 Joint Strike Fighter, the E-2D Airborne Early-Warning Aircraft, the KC-46 Refueling Tanker, the Global Hawk UAS, and the MV-22 Osprey tilt-rotor aircraft, as well as various missiles, including SM-3 Block IIA BMD interceptors, the AIM 120 Advanced Medium-Range Air-to-Air Missile, and the UGM-84 Harpoon missile. As the author of a 2020 RAND report argue, operating similar equipment helps minimize the technical aspects of interoperability challenges and could pay dividends in emergencies if the allies need to draw on similar parts or stockpiles.⁹⁶

This greater interoperability is part of a general trend of alliance strengthening in recent years. One significant step toward a stronger alliance came in 2015 with the allies' passage of revised defense guidelines. Drafted initially in 1978, the defense guidelines provide clarity on the expected roles and missions for security and defense cooperation. This Cold War iteration lasted until 1997, when new threats of the post-Cold War era led the allies to revise the guidelines to account for North Korea's expanding security challenge. Almost two decades later, in 2015, the allies revised them again to address the growing military challenge posed by China. This 2015 iteration was arguably the document's most significant revision because of the further clarification it made to the roles and missions of the allies in four distinct scenarios.⁹⁷ Although the guidelines are not legally binding, the details of the full spectrum of expected roles and missions—primarily in

⁹⁴ Hornung, 2020a, pp. 55–57.

⁹⁵ Bureau of Political-Military Affairs, "U.S. Security Cooperation with Japan," fact sheet, U.S. Department of State, January 20, 2021.

⁹⁶ Hornung, 2020a, pp. 55–56.

⁹⁷ The four scenarios, as well as the associated expected roles and missions, are peacetime, emerging threats to Japan's peace and security, actions in response to an armed attack against Japan, and actions in response to an armed attack against a country other than Japan. Ministry of Foreign Affairs (Japan) and U.S. Department of Defense, 2015.

the defense of Japan—help to clarify what the allies have agreed to do in scenarios involving the use of force. The result is the allies’ agreement on the broad framework of how their forces would operate together in different situations, thereby ensuring that this type of work does not need to be initiated when a crisis commences. In January 2023, the allies advanced this cooperation further: The treaty now covers aggression in the space domain.⁹⁸

Japan’s Challenges

Despite the SDF’s strengths and the combined strengths of U.S. and Japanese forces, there are several areas where Japan and the U.S.-Japan alliance may be severely challenged in a regional war. While the SDF has focused on operations directed against Japan from bases located throughout the country, it has devoted insufficient attention to some fundamental aspects of sustainment and resiliency.

One area is lift, both air- and sealift. According to the central government, the Japanese archipelago is made up of 416 inhabited islands and 6,432 uninhabited islands.⁹⁹ These islands make up approximately 378,000 km² of territory.¹⁰⁰ This expanse necessitates a robust air and sea fleet to deliver any type of defense materiel throughout the archipelago in times of conflict. If we assume a scenario in which Japan has significant advanced warning to pre-position capabilities and the requisite supplies, munitions, and fuel where they would best serve an operation against China, it is conceivable that the SDF’s current air transport and sealift capabilities—including civilian contractors—will be sufficient. If Japan does not have the luxury of pre-positioning items prior to a conflict or is forced to conduct these operations after an active combat situation commences, it is likely that these assets will come under tremendous strain.

⁹⁸ U.S. Embassy and Consulates in Japan, “Joint Statement of the Security Consultative Committee (2+2),” January 11, 2023.

⁹⁹ Ministry of Land, Infrastructure, Transportation and Tourism (Japan), *Measures Taken in 2018 Regarding the Promotion of Remote Islands: Report from Subcommittee on Remote Island Promotion Measures* [平成30年度に離島の振興に関して講じた施策 ～離島振興対策分科会報告～], June 12, 2019, p. 2.

¹⁰⁰ Japan Institute of Country-ology and Engineering, “Knowing Our Land/Unexpectedly Unknown Japan” [“国土を知る / 意外と知らない日本の国”], webpage, undated.

Consider first airlift. Although all SDF services have helicopters and the GSDF also uses the MV-22 tilt-rotor aircraft, the core of the SDF's airlift is the ASDF's heavy transport fleet. Currently, this fleet consists of three main platforms dedicated solely to transport: C-130Hs, C-1s, and C-2s that together total 34 aircraft.¹⁰¹ The ASDF is planning to phase out the C-1 from operation, leaving it with the C-2 and C-130H. If needed, the ASDF also maintains seven KC-767s and KC-130Hs that can perform either aerial refueling or transport missions. Over the next ten years, Japan is expected to have only two squadrons of air transport units.¹⁰² If Japan utilized those KC-130H aircraft solely in their refueling roles, with reference to the 2018 iteration of the Medium-Term Defense Program for details, by 2030, the ASDF's airlift fleet would consist of about 15 C-2s and 13 C-130Hs.¹⁰³ The primary problem with this is the small numbers. Although there is no agreed-upon standard for how many airlift platforms would be considered "sufficient" for the SDF, the paucity of sealift (which we discuss later) and the possible need for quick movements in a wartime situation could put a heavy strain on the expected approximately 30 aircraft dedicated to airlift. Although helicopters (e.g., CH-47J/JA, UH-2) and MV-22s can assist in moving materiel and troops between locations that are close together, transporting things in fewer flights or over longer distances, such as from bases on Honshū to those in the Nansei Shotō, will require larger, fixed-wing aircraft. Because we can expect attrition, as well as planes temporarily grounded for maintenance, in any conflict, a fleet consisting of approximately 30 aircraft to cover an archipelago the size of Japan is arguably insufficient, even more so if these aircraft are also tasked with helping to transport civilians from war zones to other parts of Japan. If Japan had a robust sealift fleet to balance the airlift paucities, the small number might not be problematic. However, Japan's sealift capabilities face even greater challenges.

The SDF's heavy sealift capability consists of three *Ōsumi*-class tank landing ships (LSTs). These ships, capable of transporting not only person-

¹⁰¹ MOD (Japan), 2022a, reference 8, "Number of Major Aircraft and Performance Specifications."

¹⁰² Government of Japan, 2022c, p. 34.

¹⁰³ Hornung, 2020a, p. 41.

nel and cargo but also oversized items, such as tanks, heavy armored vehicles, and munitions, will be critical to any Japanese operation. Additionally, these ships are tasked with assisting in the transport of the GSDF's amphibious capabilities from their bases in Kyūshū to points elsewhere. Not only are three ships insufficient to carry out this full array of tasks in any conflict operation in an archipelagic country like Japan, but these ships are too large to enter the shallow bays of many of Japan's smaller islands, some of which house key antiship and antiair missile capabilities in the Nansei Shotō. Although Japan contracts out sealift capabilities to private-sector companies that can be manned by MSDF personnel (or reserve units) in a contingency situation, none of these private-sector ships are armored or armed.¹⁰⁴ For the foreseeable future, the SDF has only three conflict-ready sealift LSTs. With a vast geographic expanse like Japan, where many of its launchers and munition stockpiles are separated across islands, three ships are insufficient. Should one be damaged or lost, that insufficiency increases exponentially.

The MOD is aware of this paucity in lift. The current MOD budget and 2022 strategic documents show an effort to try to begin to address this situation, with “mobile deployment capabilities” (機動展開能力) listed as a priority area in the new documents. This effort includes procuring eight transport vessels (e.g., logistic support vessels, landing craft utility ships, and maneuverable boats) but no outlays for large sealift vessels as successors to the aging *Ōsumi*-class of LSTs.¹⁰⁵ Instead, for larger transport needs, the MOD plans to strengthen its reliance on the civilian contractor Private Financial Initiative's ships (i.e., *Nacchan World* and *Hakuo*). Although the logistic support vessels are arguably suitable for smaller islands with shallower ports, it is unclear what weight and size limitations they face and, more importantly, when they will be deployed. In the air, as mentioned earlier, although investments are being made in transport and utility helicopters (CH-47J/JA, UH-2), there is no dramatic uptick in the number of heavy airlift capabilities because only six C-2s will be procured, in addition

¹⁰⁴ See National Diet of Japan, “House of Councillors Budget Committee 190th Diet Session (Japanese only),” March 25, 2016.

¹⁰⁵ Government of Japan, 2022c, pp. 8, 33.

to 13 aerial refueling and transport aircraft (e.g., KC-46A).¹⁰⁶ Despite these efforts, the challenges in sufficient lift capabilities are unlikely to be fully resolved soon, leaving Japan with inadequate capacity to transport forces and supplies quickly during and after enemy attacks on Japan.

A second expected challenge area is Japan's current stockpiles of precision guided munitions (PGMs) for strike purposes (as opposed to SAMs or BMD). Granted, there are no public records of munition stockpiles in Japan. Past research conducted on the topic, however, concluded that consistent shortages exist. For example, in August 2022, Japan's *Sankei Shimbun* reported that the GSDF would need 20 times more ammunition than it currently has to respond to an island invasion of Japan by China.¹⁰⁷ And a *Nikkei Shimbun* report from July 2022 said that, in a large-scale conflict, the SDF would completely run out of ammunition in two months.¹⁰⁸ A 2020 RAND report found that, even though Okinawa is the ASDF's primary operating base for the region, the number of PGMs (as well as supplies and parts) stored there is sufficient for supporting training and exercises in peacetime only, not a possible combat situation.¹⁰⁹ Although the MOD has provided funds for expanding munition stockpiles in past budgets, if the aforementioned reports are to be believed, the SDF's standing munition stockpiles are critically insufficient.¹¹⁰

Policymakers have long been aware of this shortcoming. It is because of this recognition that recent MOD budgets and the 2022 strategic documents included a significant devotion of funds to "securing continuous

¹⁰⁶ Government of Japan, 2022c, p. 33.

¹⁰⁷ "(Original) 20 Times More Munitions Needed for Contingency with China, Kyushu and Okinawa Stockpiles Less Than 10%" ["<独自>対中有事で弾薬20倍必要 九州・沖縄の備蓄1割弱"], *Sankei Shimbun*, August 12, 2022.

¹⁰⁸ "SDF 'Will Run Out of Ammunition in 2 Months': Facilities and Equipment Insufficient for an Assumed Contingency" ["自衛隊「2カ月で弾切れ」 有事想定足りぬ装備・施設"], *Nikkei Shimbun*, July 26, 2022.

¹⁰⁹ Hornung, 2020a, p. 37.

¹¹⁰ There are arguments that refute this. One article, for example, argues that PGMs are incompatible with maintaining large stockpiles, and Japan already enjoys large stocks of more-basic ammunition. "Questioning the Argument About Strengthening the Munition Stockpiles" ["考えものの弾薬備蓄強化論"], *Japan In-Depth*, September 1, 2022.

operations,” under which anti-air and standoff munitions procurements are listed, although exact procurement data are classified.¹¹¹ Although Japan is therefore trying to address this known challenge, it is unclear whether current efforts (roughly \$180 million per year) are sufficient to address the known gaps. This challenge is the number-one priority in the government’s list of seven defense buildup priorities. Toward that end, Japan is focusing on standoff missiles—acquiring new types of missiles and extending the range of some types of missiles (e.g., extending Type 12 ASCM’s range from 200 km to closer to 1,000 km). The August 2022 defense budget also highlights the need for the SDF to have sufficient ammunition (as well as fuel and equipment supplies) for continued operations and a focus on securing ammunition depots, ammunition for continuous operations, and manufacturing systems of some types of ammunition; the Type-12 ASCM was listed as an example.¹¹²

The details matter, however. Although the government is prioritizing munitions and putting resources into the maintenance of munition depots, it is unclear whether new depots are being built or old ones are being modernized. And because public documents do not specify the number of munitions that Japan is aiming to stockpile or whether there is an effort to ensure that there are depots in areas closer to the expected battlespace, it is difficult to judge the extent to which Japan is addressing this known issue. The ability to address this issue may be partially out of Japan’s control because Japan relies on U.S. production lines for key munitions: the Joint Strike Missile, the Joint Air-to-Surface Standoff Missile, and the Tomahawk. Even assembly of the SM-3 Block IIA takes place in the United States.

A third challenge the SDF faces is in passive defense capabilities. *Passive defense* can mean any number of things. One effort is dispersal: operation from several locations with smaller presences that would otherwise be concentrated at fewer locations. Another effort is hardening of facilities, such as depots, aircraft shelters, or critical communication and fuel lines. A third effort is runway repair. A fourth is decoys. Although little is published about Japan’s passive defenses, it is generally recognized that Japan has not

¹¹¹ MOD (Japan), *Defense Programs and Budget of Japan: Overview of FY2022 Budget*, 2022b, p. 20.

¹¹² MOD (Japan), 2022d, p. 18.

invested heavily in passive defense capabilities around its SDF facilities. Despite MOD efforts to create dispersal pads on individual ASDF bases, ASDF capabilities remain concentrated at a small number of bases in each air defense area. Despite efforts by the government to get peacetime access to privately owned and operated civilian airfields, there is no airport that houses ASDF parts and supplies to provide the SDF with alternatives if its main operating bases were struck. Additionally, although Japan has invested in hardened aircraft shelters, these are limited to three ASDF bases,¹¹³ and many were built decades ago. Because of their expense, the MOD instead has been investing in constructing walls that can protect parked aircraft from nearby explosions (although, with no overhead protection, they offer no protection from aerial bombardment).¹¹⁴

The two areas in which Japan appears to have made concerted efforts are air and missile defense (examined earlier) and runway repair. But because Japan's geography places it within range of most of China's missile arsenal, any runway repairs will likely be negated relatively quickly, or Japan's limited stockpiles of surface-to-air interceptors will be quickly depleted trying to defend these bases.¹¹⁵ There are no areas of sanctuary within Japan from which Japan's or the United States' forces can operate, and the growing numbers and accuracy of China's missiles will continue to challenge the ability of Japan's and the United States' forces to operate in a contingency.

It is important to note that Japan is not singularly challenged in passive defense efforts. Passive defenses of U.S. bases in Japan have never been a priority for DoD. A 2016 RAND report found that U.S. forces may not be postured in a resilient manner in the Western Pacific, which makes them

¹¹³ As of August 2020, the three bases are Chitose, Misawa, and Komatsu. Chitose and Komatsu each have enough hangars to house one squadron of F-15s, leaving one squadron unprotected. At Misawa, the entire F-35 squadron is protected. "The Foundation for the '15 Minute Wipeout Theory.' Why Do Air Bases Need 'Shelter?' Defend Your Aircraft from the Conventions of Modern Warfare!" ["空自15分全滅説"]の根拠 航空基地に「掩体」なぜ必要? 現代戦の定石から機を守れ!], *Norimono Nyūsu*, August 24, 2020.

¹¹⁴ MOD (Japan), 2022d, p. 20.

¹¹⁵ Center for Strategic and International Studies, "Missiles of China," *Missile Threat*, Missile Defense Project, April 12, 2021.

vulnerable to attack.¹¹⁶ Another RAND report from 2015 highlighted the risks of this lack of passive defense efforts, finding that, in the case of ballistic missile attacks on Kadena Air Base, a relatively small number of accurate PLA missile volleys could severely limit flight operations there for days at the outset of hostilities, and focused attacks could close any base in Japan for weeks.¹¹⁷

The primary reason for this challenge is the paucity of critical passive defense measures. Although Japan's August 2022 budget request does not change the situation, sustainability and resiliency are highlighted as one of the MOD's seven lines of effort. Although some of these efforts are not new, such as the continuing focus on runway repair capabilities, others appear to be new steps, such as improving the survivability of SDF facilities by moving command units underground and establishing countermeasures against electromagnetic pulse attacks.¹¹⁸ Although the budget request includes development of the port of Sasebo into a logistical hub, it does not address establishing alternative runways, ports, and bases or pre-positioning critical supplies at dual-use and civilian facilities that could be accessed in times of war.

U.S.-Japan Alliance Challenges

The alliance faces two major challenges in its ability to respond to a regional contingency.

The first has to do with posture. As noted, the U.S. approach to conducting large-scale overseas operations has been expeditionary. Despite the large U.S. military presence in Japan, the United States does not have the posture or key capabilities stationed in Japan to execute an operation meant to defend Taiwan from a full-scale invasion. For example, except for Patriot batteries, the United States has not historically maintained ground-

¹¹⁶ Jeff Hagen, Forrest E. Morgan, Jacob L. Heim, and Matthew Carroll, *The Foundations of Operational Resilience—Assessing the Ability to Operate in an Anti-Access/Area Denial (A2/AD) Environment: The Analytical Framework, Lexicon, and Characteristics of the Operational Resilience Analysis Model (ORAM)*, RAND Corporation, RR-1265-AF, 2016.

¹¹⁷ Heginbotham et al., 2015.

¹¹⁸ MOD (Japan), 2022d, p. 18.

based missile batteries anywhere in the Japanese archipelago. A January 2023 announcement of the 12th Marine Regiment in Okinawa transitioning into the 12th Marine Littoral Regiment promises to change that with the introduction of ASCMs, but this unit appears to be the sole exception to the norm.¹¹⁹ It is also questionable whether U.S. forces maintain critical enablers and sustainment assets that would allow for effective forward defense and strikes that can promptly respond after the initiation of conflict. Without a deep stockpile of critical munitions, as well as fuel and parts, dispersed throughout Japan, the United States will likely struggle to maintain not only offensive attacks against China’s over-the-horizon sensing systems, airfields, and missile launchers but also operations in the East China Sea and closer to Japan. And despite the U.S. Air Force maintaining its largest overseas air wing in Okinawa, the geographical proximity of China’s air and missile forces—combined with insufficient passive defenses on U.S. and Japanese bases—means that the alliance may be challenged to secure air superiority during the conflict.

A second challenge that the alliance faces revolves around questions about *what* the United States can do from its bases in Japan in a conflict if Japan is not attacked, as well as questions about *when* it can act from those bases. The 2015 defense guidelines delineate expected roles and missions in specific situations, but they are not legally binding. This is important because there are aspects of Japan’s responses to different regional scenarios that remain unclear, which, in turn, potentially affects what sorts of operations Japan is willing to allow the U.S. forces to conduct from their bases in Japan short of a direct armed attack on Japanese territory.

In a 1960 exchange of notes between the governments regarding the implementation of Article VI of the security treaty, the two governments agreed that “major changes in the deployment into Japan of United States armed forces, major changes in their equipment, and the use of facilities and areas in Japan as bases for military combat operations to be undertaken from Japan other than those conducted under Article V” are subject to prior

¹¹⁹ Headquarters Marine Corps, “2+2 Announcement Ensures USMC Remains Ready to Address Regional Security Challenges,” January 11, 2023a; and Headquarters Marine Corps, “Marine Littoral Regiment (MLR),” January 11, 2023b.

consultation.¹²⁰ In other words, if Japan is not attacked (Article V) but the United States wants to use its forces to defend the Far East (Article VI), the United States must consult Japan to use U.S. bases and forces in Japan prior to conducting any combat operations. As a result, Japan has agency in the process, which, according to some interpretations, gives Japan a veto over U.S. operations.¹²¹ How strong that veto role can or would be is open to debate, but at the very least, assent should not be assumed, and the process of acquiring consent could take time.

Even if prior consultations went smoothly, the United States may face limitations on what operations it can conduct from its bases in Japan owing to factors related to how Tokyo interprets relevant security legislation that was passed in 2015. These laws revise domestic regulations pertaining to authorization of the SDF's ability to use force, but they also have direct ties to U.S. access requests. The core issue at stake in the legislation pertains to two situational concepts that were introduced, expanding the range of situations beyond an armed-attack situation against Japan (which completes the three total possible situations outlined in the legislation). The first is a situation that would have an important influence on Japan's peace and security (重要影響事態) and, if not addressed, would have the potential to lead to an armed attack against Japan. The second, although not an armed-attack situation against Japan directly, is still one threatening Japan's survival (存立危機事態). How Tokyo defines a situation directly affects what the SDF can do and, by extension, what Tokyo will likely feel comfortable with the United States performing from its territory. For example, in the former situation, when force is not authorized, it is likely that the SDF will be limited to noncombat, rear-area support activities, thereby potentially restraining any combat operations by the United States from Japanese territory. In the latter situation, by contrast, where force is authorized for the SDF, it is likely that the United States would be able to launch combat operations directly from Japanese territory.

¹²⁰ Japan and the United States of America, "Exchanged Notes, Regarding the Implementation of Article VI of Treaty of Mutual Cooperation and Security Between Japan and the United States of America," January 19, 1960.

¹²¹ Hornung, 2020a, p. 93.

The interpretation that will be made is not predetermined; rather, it is heavily dependent on the political willingness of the sitting prime minister to involve Japan in a regional contingency in which Japan may not initially be directly involved. This has the potential to directly affect United States–led operations. Should a sitting prime minister concur with U.S. requests and allow the United States to prosecute operations directly from Japan’s territory, as well as support U.S. operations, Japan’s possession of a very capable and modern armed force would deliver critical capabilities to the United States. In this case, Japan would play an important force multiplier role for the United States in any Taiwan contingency. If, however, a prime minister takes a constrained stance on an unfolding situation, the role of the SDF will likely be limited, meaning that many of SDF’s strengths may not be exercised, and the United States’ flexibility to act from its bases in Japan will be restricted (or potentially delayed). This could also severely limit U.S. force dispersal efforts prior to conflict, as it could mean limited options for the United States to move critical forces and their support assets onto SDF bases, public land, or civilian-owned facilities.

Conclusion

Japan’s defense capabilities, as well as current and planned investments, are primarily geared toward defense. These capabilities are still critical for the United States because they act as force multipliers for other regional operations, even if those operations are not strictly related to Japan’s defense. Because these capabilities are increasingly focused across all domains and Japan’s forces have some level of interoperability with U.S. forces, the SDF arguably could be leveraged to assist U.S. operations in the East China Sea region even if Japan were not directly involved in the defense of Taiwan. Leveraging of the SDF comes with the caveats listed earlier: SDF forces would be primarily focused on self-defense, those operations would likely have to occur close to Japanese territory, and operations would take place only after a sitting prime minister deemed a situation as falling into a specific category of threat to Japan’s security.

With these caveats aside, the SDF could fill certain niches in U.S. operations pertaining to logistical support and defense of the Japanese archipelago and, by extension, U.S. bases in Japan. Importantly, although interopera-

bility with the United States continues to increase, domestic legal restrictions and clear division of roles mean that Japan continues to be limited in its ability to conduct more-offensively oriented operations. This is not necessarily detrimental to U.S. objectives, because this defensive focus falls in line with Japan's shield responsibilities to ensure that the United States can focus more on its offensive operations (i.e., spear responsibilities) while Japan assists with base defense, escorts, and logistical support.

Japan's defense posture, robust defense capabilities, and strategic alignment with the United States not only support U.S. strategic objectives but also strengthen overall allied defense efforts in the Indo-Pacific region. The extent to which these strengths afford the United States greater flexibility in achieving its strategic objectives is uncertain, however, given several challenges that the SDF and the alliance face, which can potentially constrain the alliance's impact in a U.S. military operation in the region.

From an alliance perspective, the United States can clearly benefit from Japan's self-defense focus only if Japan can assure its ally that its defense efforts help strengthen Japan's resiliency and sustainability to enable the SDF to stay in any hypothetical fight longer than the first volley. The United States and Japan should pursue several lines of effort, including the following:

- Reexamine U.S. posture in Japan as Japan continues to modernize and enhance the SDF's capabilities and capacity, and ensure that key gaps are identified and addressed. For example, given Japan's interest in counterstrike capabilities, the United States should examine forward-deployed units with mobile rocket and missile launchers. A less politically sensitive option would be for the United States to configure some of its cargo aircraft stationed in Japan with equipment to allow these platforms to deliver palletized munitions. Another promising option could be to develop and field runway-independent UASs, thereby preventing China from obtaining air superiority in the early days of a conflict, when U.S. and Japanese bases are expected to be struck. Although deploying UASs on civilian or public land is unlikely, the United States could nevertheless examine pre-positioning them on SDF bases, particularly in the Nansei Shoto.

- Link individual base resiliency efforts to broader alliance posture and plans, set minimum standards for base resiliency, and leverage Japan's increased defense budgets for funding air and missile defense capabilities. Work with Japan to deploy fuel bladders and expeditionary aircraft shelters at both U.S. and SDF bases and ensure that existing SHORAD capabilities throughout Japan are robust.
- Rapidly increase and maintain a robust stockpile of not only fuel and parts but also PGMs that both allies can use to execute a prolonged operation. In addition to procuring and deploying munition storage assets on U.S. bases that can house large numbers of PGMs, encourage greater Japanese production of key antiship and antiair missiles. Promote Japan-licensed production of SM-3 Block IIA to increase capacity.
- Increase SDF air- and sealift platforms to optimize alliance capabilities ready for rapid movement of personnel, supplies, and munitions throughout high-combat areas and contested logistical spaces.
- Clarify what Japan is willing to do in times of war (rather than what it legally can and cannot do) to ensure that Japan's political timelines keep pace with U.S. operational timelines. Using agreed-upon allied roles and missions, the allies should create a joint plan for military operations regarding a contingency involving Taiwan and explore options for more-intensive training based on this plan to improve war-time interoperability.

Enhancing Deterrence and Defense in Europe: Security Cooperation with Key NATO Allies and Partners

In this section, we explore how and to what extent the evolving defense strategies, force structures, capabilities, readiness, posture, and operational concepts of key NATO allies and partners can meet the demands of stated U.S. and allied strategy for the defense of Europe. We analyze how championing increased focus on modernization and readiness, as well as enhancing allied capability and capacity, can strengthen collective transatlantic defense and afford the United States greater flexibility in achieving its strategic objec-

tives. This approach echoes the sentiment of the 2022 National Security Strategy, stressing that the United States will count on its allies to continue assuming greater responsibility by increasing their spending, capabilities, and contributions.¹²² We proceed from the assumption that effective and coordinated action by allies through NATO is by far the best vehicle available for achieving these objectives.

Our analysis focuses first on the NATO allies with the most-robust military forces and capabilities—France, the United Kingdom, and Germany—and how they can support the United States in providing credible deterrence and defense of the Euro-Atlantic area in the evolving security landscape. Each of these nations is reviewing its defense priorities and lead NATO battlegroups (BGs) on the Alliance’s eastern flank.

We then review the capabilities of the Polish and Romanian armed forces. These committed allies are highly exposed to threats of Russia’s aggression or intimidation, play an essential role in the defense of NATO’s eastern flank and the projection of power into the Baltic and Black Sea regions, and are hosting rotational U.S. brigades and other allied forces as a result of decisions announced at NATO’s June 2022 Madrid Summit. We then discuss the efforts that Estonia, Latvia, and Lithuania have taken to improve their conventional and territorial defense forces and national resilience capabilities and how NATO can strengthen deterrence in the Baltic region.

Next, we examine the potential contributions of several countries on NATO’s other flanks that are recalibrating their national security policies and defense strategies in the wake of the war in Ukraine. On the northern flank, Norway, Finland, and Sweden provide for a more robust defense of the Nordic, Baltic, and Arctic regions. Each has high-end capabilities and can fill critical niches in regional defense. Finland and Sweden have been moving for some time to deepen interoperability with the United States and European militaries. On the southern flank, Türkiye, which has the second-largest land force in NATO and is making major investments in its naval, amphibious, and air forces, is likely to continue balancing relations with Russia and its allies and remain reticent about contributing its forces to NATO efforts to deter Russia’s further aggression in the Black Sea region

¹²² White House, *National Security Strategy*, October 12, 2022c.

and beyond. Other allies, particularly Italy and Spain, are making major contributions to NATO's deterrence and defense posture in Europe and support to Ukraine; however, a review of the defense strategies and capabilities of all allies was beyond the scope of this report.

We highlight the major military capabilities that each of these nations possesses today and that are likely to be developed and fielded in the next five years. We also consider the ability of these nations to rapidly deliver critical capabilities that are fundamental to gaining a competitive advantage in modern warfare and briefly describe likely constraints. These constraints include defense industrial base-related challenges, such as ramping up and backfilling gaps resulting from transferring older weapon systems to Ukraine, which are exacerbated by the need to replenish stockpiles depleted over the past two decades, replace obsolete Cold War-era equipment, and develop new critical capabilities. All of these allies are committed to substantial increases in defense spending, but it will take time to remedy some key shortfalls in capabilities, readiness, and sustainability or to better integrate them into evolving U.S. and NATO defense plans for the European theater.

We review recent changes in the U.S. European Command posture and NATO's expanded force deployments and military strategy for deterrence and defense of the North Atlantic region to counter Russia's further aggression. We also note the potential impact of new concepts and activities.

We discuss the contribution that national resistance and resilience capabilities, which are particularly well developed in the Baltic and Nordic states and which the Ukrainian government has applied with great effect in limiting Russia's military gains, can make to effective enablement of NATO forces to ensure deterrence and defense in Europe and how the United States and other allies can bolster their effectiveness.

In each section, we identify ways in which U.S. policies and practices for security assistance and military-to-military cooperation, as well as various NATO mechanisms, could be adapted and better leveraged to meet common needs and strengthen the overall unity of Western defense efforts.

Any consideration of deterrence and defense in Europe, particularly in an era of Putin's threats of escalation, must include the contribution of UK and French nuclear weapon systems, as well as U.S. nonstrategic nuclear weapons deployed in Europe and assigned to NATO missions. NATO remains a

nuclear alliance, and the link to U.S. strategic deterrent forces is the ultimate guarantee of allied security. Finally, although we focus on deterring Russia in Europe, several allies have significant military capabilities and mutual interests in advancing national defense strategy priorities in other regions and domains, particularly in the Indo-Pacific and Middle East. In that vein, we also note the growing contribution of European allies to enhancing the resilience of U.S. and allied space and cyber systems.

Table 3.2, at the end of this section, provides a summary of the strengths and shortfalls of the 11 NATO allies and one partner country that we examine and opportunities to enhance unity of Western defense efforts.

The Big Three

France

Defense Strategy and Capabilities

France maintains one of Europe's most potent, professional, full-spectrum armed forces capable of undertaking overseas expeditionary, high-intensity conventional, cyber, space, and nuclear dissuasion operations. However, current plans for a "complete and balanced army model" to preserve this comprehensive set of capabilities could undermine initiatives by the armed forces to enhance their capacity to sustain high-end conventional operations.¹²³ French military leaders have recognized that high-intensity combat could occur in Europe, such that France needs to rebalance its military capacities in the coming years, as the UK decided to do in its 2021 integrated review (IR).¹²⁴

President Emmanuel Macron entered office in 2017 pledging to provide the armed forces with the means to enhance France's strategic sovereignty, develop a common European defense, and strengthen ties between the nation and the military. Macron initiated the 2017 Defense and National Security Strategic Review,¹²⁵ which developed the 2019–2025 Military Pro-

¹²³ Government of France, Cour des Comptes, "The French Military Programming Law (LPM) 2019–2025 and the Capacities of the Armed Forces," press release, May 11, 2022.

¹²⁴ UK Government, *Global Britain in a Competitive Age: The Integrated Review of Security, Defence, Development and Foreign Policy*, July 2, 2021.

¹²⁵ Government of France, *Defence and National Security Strategic Review*, 2017.

gramming Law (LPM). The LPM projected gradual increases in defense spending with a goal of allocating 2 percent of GDP to defense by 2025.¹²⁶ After two decades of downsizing the armed forces, the 2019–2025 LPM called for increasing the number of both active-duty personnel (by 6,000, to 209,000) and reserve personnel (by 8,000, to 40,000), enhancing their readiness, and modernizing critical equipment. The LPM also envisioned a 40 percent increase in funding for the modernization of the air and sea components of France’s nuclear deterrence forces starting in 2020, amounting to 10 percent of LPM spending.

In a June 2022 speech, Macron said that France “has entered into a war economy” in the wake of Russia’s invasion of Ukraine and directed the defense ministry and armed forces chiefs of staff to adjust the LPM.¹²⁷ The next month, the French government proposed a \$42.8 billion military budget for 2023, which is a 7 percent increase over 2022—double the spending growth of the previous two years.¹²⁸ In January 2023, Macron called on parliament to approve a new LPM for 2024–2030 of €413 billion (\$438 billion in U.S. dollars)—30 percent larger than the 2019–2025 LPM. Macron said that this increased spending is required to “transform the armed forces” to have the capabilities and responsiveness to sustain high-intensity warfare against capable adversaries.¹²⁹ French officials contend that this plan will bring the country’s defense budget above 2 percent of projected GDP after the budget fell short of that goal every year except 2020. However, inflation and a possible recession may make that goal difficult to realize, and analysts note that the French government has been slow to finalize orders for new weapons.¹³⁰ These investments are earmarked to support army and navy

¹²⁶ Nicolas Baverez and Mahaut de Fougères, “Zooming In on French Defense,” Institut Montaigne, Paris, January 7, 2022.

¹²⁷ “Macron Calls for French Budget Defence Boost in ‘War Economy,’” France 24, June 13, 2022.

¹²⁸ Vivienne Machi, “French 2023 Defense Budget Adds \$3 Billion to Fund ‘War Economy,’” *Defense News*, September 28, 2022b.

¹²⁹ Emmanuel Macron, “Discours du Président de la République” [“Speech by the President of the Republic”], Mont-de-Marsan Air Base, France, January 20, 2023.

¹³⁰ Leila Abboud, “Emmanuel Macron to Boost French Defence Spending in Response to Ukraine War,” *Financial Times*, January 20, 2023.

modernization; develop cyber, space, uncrewed, and networked warfare systems; and boost the country's defense industrial base.

Over the past 30 years, the French armed forces have financed their modernization in part by reducing the numbers of personnel and platforms. However, as reflected in Macron's remarks about the 2024–2030 LPM, there is growing consensus within the French military that all branches of the armed forces lack the mass required to sustain high-intensity operations against a peer competitor like Russia and that French forces therefore need to strike a new balance between quality and quantity.¹³¹ In his initial testimony to the *Assemblée Nationale* in 2021, the Chief of the Defence Staff, General Thierry Burkhard, stated categorically that the armed forces need greater mass and sustainment capabilities.¹³² Macron called for doubling the size of the reserve forces (now at 40,000) and scaling up new reserve units to provide more reinforcements in the event of a crisis or conflict.¹³³

The army now has two divisions composed of seven brigades with roughly 77,000 deployable personnel. The army is designed for what the French call the *middle segment of the conflict spectrum*—heavy enough to wage conventional warfare but light enough for expeditionary operations—and has trained mostly for the latter over the past two decades. Two of the brigades are equipped with heavy tanks, MLRSs, and infantry fighting vehicles (IFVs). However, the army has only 11 MLRSs after transferring two to Ukraine.¹³⁴ The commander of French Army schools has questioned whether the army could sustain more than 48 hours of high-intensity con-

¹³¹ Raphaël Briant, Jean-Baptiste Florant, and Michel Pesqueur, "La Masse Dans Les Armées Françaises: Un Défi Pour La Haute Intensité," *Focus Stratégique*, No. 105, June 2021; and Stephanie Pezard, Michael Shurkin, and David A. Ochmanek, *A Strong Ally Stretched Thin: An Overview of France's Defense Capabilities from a Burdensharing Perspective*, RAND Corporation, RR-A231-1, 2021, pp. 33–37.

¹³² Murielle Delaporte, "France Wants to Transform Its Beautiful Army for High-Intensity Warfare," *Breaking Defense*, December 16, 2021.

¹³³ Macron, 2023.

¹³⁴ International Institute for Strategic Studies, *The Military Balance*, 2023, February 2023, p. 91.

flict, given its limited stocks and shortcomings in maintenance and rapid resupply in a hostile environment.¹³⁵

The army's *Scorpion* program to replace a variety of aging French armored vehicles, which builds on considerable investments over the past three decades in networked information-sharing and logistics, is expected to improve the army's maneuver warfare capabilities.¹³⁶ Two of the program's new systems have already entered service—the *Jaguar* armored reconnaissance vehicle and the *Griffon* wheeled armored personnel carrier—but they are lightly armed. The French Army has begun to reassess its requirements for high-intensity combat at the brigade level and above and is considering development of heavier vehicles, such as the *Titan*, designed to replace the *Leclerc* main battle tank, or the AUF1 self-propelled artillery. The Franco-German battle tank project has been plagued by delays and is not expected to produce an operational system for 15–20 years.¹³⁷

The French Air and Space Force (AAE) has maintained a wide range of capabilities but, akin to the army, also suffers from limited capacity. The AAE has 40,000 active-duty personnel operating a fleet of approximately 200 combat aircraft and a roughly equal number of Rafale and Mirage 2000 multirole fighters. Limited stocks of munitions, particularly for suppression of enemy air defenses, along with shortfalls in aircraft maintenance, constrain the AAE's capacity for high-end warfare. The AAE also has shortfalls in transport and tanker aircraft because of delays in the A400M program,¹³⁸ aging C-130H and C-160 aircraft, and limited numbers of refueling aircraft. These limitations constrain air mobility both in theater and at strategic distances. The AAE aims to have 130 Rafales and 55 Mirage 2000Ds by 2025, and the 2019–2025 LPM projected 185 AAE Rafales by 2030. However, development of the next-generation fighter, Future Combat Air System (a joint project with Spain and Germany), has slowed. The AAE has seven SAMP/T

¹³⁵ Delaporte, 2021.

¹³⁶ Yohann Michel, "The French Army's Combat Vehicle Programme Steals a March?" *Military Balance Blog*, International Institute for Strategic Studies, March 18, 2022.

¹³⁷ Sidney E. Dean, "Main Ground Combat System (MGCS): A Status Report," *European Security and Defence*, January 23, 2023.

¹³⁸ "Airbus Agrees New Contract for Delayed A400M Military Transporter," *Reuters*, June 13, 2019.

medium-range, mobile air defense batteries, one of which is deployed with the NATO BG in Romania.¹³⁹

The French government promulgated its first Defence Space Strategy in July 2019 with a central goal to ensure France's freedom of decision and action in space and created a space command.¹⁴⁰ France is investing \$5.2 billion in military space capabilities and services between 2019 and 2025.¹⁴¹ The MOD initiated a new program called *Maîtrise de l'Espace* (Space Control) to integrate improved space situational awareness capabilities and active defense measures, including use of satellite-borne lasers, to respond to hostile space activities and safeguard national and key European space assets.¹⁴² France is also considering steps to ensure continuity of space services, including the development of nanosatellites and other capabilities that could rapidly provide ISR or communications if existing satellites were damaged or destroyed.¹⁴³

The French Navy has significant global power projection capabilities supported by its aircraft carrier the *Charles de Gaulle* (the only European nuclear-powered carrier capable of launching long-range aircraft) and three *Mistral*-class amphibious assault ships. The navy presently operates five nuclear-powered attack submarines. However, the fleet is aging, and delays in procurement programs have limited the navy's ability to support current operations. The Navy presently has ten frontline ships—five destroyers and five *Aquitaine*-class frigates—along with five lightly armed *La Fayette*-class frigates. Modernization plans call for construction of a replacement for the *Charles de Gaulle* to begin in 2025 and work on various surface combatants to result in 15 new vessels in 2030 and beyond. The navy is also modernizing its 20 *Atlantique 2* maritime patrol aircraft, and a replacement is planned after 2030. The navy is expected to receive the first four of six *Barracuda*-

¹³⁹ International Institute for Strategic Studies, 2023, p. 127.

¹⁴⁰ French Ministry for the Armed Forces, *Space Defence Strategy*, July 2019.

¹⁴¹ Vivienne Machi, "France Puts Space at Top of National—and European—Security Priorities," *Defense News*, March 14, 2022a.

¹⁴² French Ministry for the Armed Forces, 2019, p. 25; and "France to Develop Anti-Satellite Laser Weapons: Defence Minister," *France 24*, July 25, 2019.

¹⁴³ Arthur Laudrain, "France's 'Strategic Autonomy' Takes to Space," *Military Balance Blog*, International Institute for Strategic Studies, August 14, 2019.

class nuclear attack submarines, armed with Exocet antiship missiles, as well as naval cruise missiles, by 2025.

The French strategic deterrent triad is composed of three elements: four ballistic missile submarines (SSBNs), each fitted with 16 submarine-launched ballistic missiles armed with six to ten multiple independently targetable reentry vehicles; the Strategic Air Forces (Rafale fighter jets armed with ASMP-A nuclear missiles); and the Nuclear Naval Aviation force (Rafael M aircraft deployed aboard the *Charles de Gaulle* that can also launch the ASMP-A). Construction of a third-generation SSBN is planned for the 2030s.

In terms of deployments and posture, France is leading the NATO BG in Romania and supports the NATO BG in Estonia and the Baltic Air Police mission. With more than 1.6 million citizens living in dispersed overseas territories and three-quarters of the nation's exclusive economic zone in the Indo-Pacific region, the French government has a comprehensive Indo-Pacific strategy.¹⁴⁴ France maintains a permanent military presence in the region consisting of 8,000 service members and naval bases in Tahiti and New Caledonia, as well as regular deployments of various naval vessels, including the *Charles de Gaulle* carrier strike group and Mistral amphibious ready groups, for increased protection. France also maintains significant maritime presence missions elsewhere around the globe, including in the North Atlantic, in the South Atlantic and Caribbean, in the Arabian Gulf, and off the coast of West Africa, as well as a base in Djibouti.

Options for Strengthening Unity of Effort

U.S.-French military-to-military relations are stronger than ever across all services. The French Army and AAE can bring substantial experience in joint operations, heavy ground forces, artillery (though with a need for more MLRSs), short- and medium-range air defenses, and advanced combat aviation to a high-intensity conflict in Eastern Europe. Munitions quantities remain a paramount challenge, as is the case for U.S. and other allied forces.

¹⁴⁴ Government of France, Ministry of Europe and Foreign Affairs, *France's Indo-Pacific Strategy*, May 2018.

A 2021 RAND report identified several capability areas, including electronic warfare, countering of massed precision fires, and air defenses, in which increased U.S.-French collaboration could improve France's ability to sustain high-end combat in Eastern Europe.¹⁴⁵ French shortfalls in air mobility and aerial refueling are expected to persist for some time. For example, some of the French forces then serving in the land element of NATO's Very High Readiness Joint Task Force (VJTF) that was deployed to Romania in February 2022, as part of the force's first ever collective-defense mission in response to Russia's invasion of Ukraine, arrived on chartered Ukrainian AN-22s.¹⁴⁶ Although France requires more of its own strategic lift, U.S. assistance could enhance the French contributions to defense of NATO's southeastern flank for at least the next several years.¹⁴⁷

The U.S. and French armies have deepened their cooperation in recent years under a Strategic Vision Statement that includes a multiyear plan of exercises and wide array of professional exchanges designed to improve interoperability for high-end warfighting.¹⁴⁸ The two armies are close to realizing their goal that a U.S. Army division can train and operate under the French-led NATO Allied Rapid Reaction Corps (ARRC) headquarters or vice versa.

U.S. and other NATO naval aviation assets can operate from France's aircraft carrier and three Mistral amphibious assault ships. On the eve of Russia's invasion of Ukraine, the U.S. and French navies initiated dual-carrier operations in the Eastern Mediterranean involving two air wings

¹⁴⁵ Pezard et al., 2021, pp. 73–74.

¹⁴⁶ NATO, "NATO Response Force Units Arrive in Romania," March 2, 2022d.

¹⁴⁷ The U.S. Air Force has provided airlift and refueling, as well as other support, to French forces operating in the Sahel for nearly a decade. John Hudson, "Biden Mulled Reducing Support for France's Military Operations in Africa. Instead, He Doubled Down," *Washington Post*, January 12, 2022.

¹⁴⁸ William Hogan and David Ashcraft, "Battle Buddies: Modernizing US, French Militaries Work Together," Association of the U.S. Army, November 22, 2022; and Pierre-Olivier Marchand, Antoine de Malartic, and Nicolas Konieczny, *News from the Front: French Participation in JWA: How to Prepare Our Future Together*, U.S. Army Combined Arms Center, Center for Army Lessons Learned, 2020.

along with 15 surface ships, submarines, and maritime patrol aircraft to enhance defense of NATO's southeastern flank.¹⁴⁹

The French Navy is reportedly considering dual-carrier operations with the U.S. Navy in the Pacific in 2025, in line with the bilateral Strategic Interoperability Framework signed in 2021.¹⁵⁰ The framework is designed to deepen interoperability for high-end warfighting over the next 20 years.¹⁵¹ The French are also interested in conducting similar high-intensity exercises with the Royal Australian Navy and the Japan MSDF. These exercises serve to enhance stability and counter China's assertiveness in the region.

In 2019, the French government committed to maintaining 20 Rafales, with accompanying strategic lift and maintenance crews, on a 48-hour notice for operations anywhere in the world. If this commitment can be sustained, it would offer a highly responsive global capability to safeguard Western interests.¹⁵²

French cooperation with the United States on outer space security has deepened considerably over the past decade, moving from information-sharing to regular participation in exercises and operational collaboration, since France joined the U.S. Combined Space Operations (CSpO) initiative in 2020.¹⁵³ As the French Space Command achieves its full mission capabilities over the next few years, there are opportunities to expand operational cooperation and interoperability with U.S. Space Command and the U.S. Space Force and other allies and partners. In addition, as host of NATO's new Space Centre of Excellence, France can play a leading role in sharing

¹⁴⁹ "French Navy and US Navy Conduct Dual Carrier Operation," *Naval News*, March 16, 2022. U.S. and French marine units have periodically embarked on each nation's assault ships.

¹⁵⁰ Xavier Vavasseur, "French Navy Plans Aircraft Carrier Mission to the Pacific in 2025," *Naval News*, July 22, 2022.

¹⁵¹ U.S. Navy, "Navy, French Marine Nationale Sign Strategic Interoperability Framework," December 18, 2021.

¹⁵² Anika Binnendijk, Gene Germanovich, Bruce McClintock, and Sarah Heintz, *At the Vanguard: European Contributions to NATO's Future Combat Airpower*, RAND Corporation, RR-A311-1, 2020, p. 31.

¹⁵³ U.S. Space Command, "USSPACECOM Hosts French Vice Chief of Defence," January 19, 2023.

best practices, lessons learned, and research on space domain awareness, combined operations, and coordination to enhance interoperability among NATO and national space organizations.¹⁵⁴

Germany

Defense Strategy and Capabilities

In a February 27, 2022, address to an emergency session of the Bundestag in the wake of Russia's aggression toward Ukraine, German Chancellor Olaf Scholz declared that his country must invest much more in its own security, strengthen the Bundeswehr, and equip it with "new, strong capabilities."¹⁵⁵ Epitomized as *Zeitenwende*, this historic turning point marked by the resurgence of traditional security threats brings defense to the top of the German political agenda. After decades of prioritizing civil dimensions of national power over military means and underspending on defense, underpinned by the quest for a peace dividend and avoidance of a military buildup in Europe, the German government is gradually taking long-overdue steps to reframe the historically and politically sensitive debate on projecting military strength beyond crisis management.¹⁵⁶

In March 2022, the new federal government coalition agreed to develop Germany's first ever comprehensive national security strategy within a year. Reportedly delayed by differences within the coalition, the document, titled *Robust. Resilient. Sustainable. Integrated Security for Germany*, was unveiled on June 14, 2023.¹⁵⁷ A clear departure from adopting a series of policy documents providing a framework for Germany's security and defense policy

¹⁵⁴ NATO Allied Command Transformation, "One More Step for NATO's Space Centre of Excellence," January 20, 2023.

¹⁵⁵ German Federal Government, "Resolutely Committed to Peace and Security," policy statement by Olaf Scholz, Chancellor of the Federal Republic of Germany and Member of the German Bundestag, February 27, 2022.

¹⁵⁶ Kenneth Rogoth, "Is the Peace Dividend Over?" Project Syndicate, March 2, 2022.

¹⁵⁷ Henning Hoff, "Germany's National Security Strategy Is in Limbo," *Internationale Politik Quarterly*, January 4, 2023; and German Federal Government, *Robust. Resilient. Sustainable. Integrated Security for Germany*, Federal Foreign Office, June 14, 2023b.

but no grand strategy, this represents a cultural shift.¹⁵⁸ White papers over the previous five years that set the current strategic priorities for the federal government emphasized crisis prevention and crisis management as the cornerstones of its security policy and global engagement.¹⁵⁹ The inaugural strategy, recognizing the “dramatically changed security situation,” further focuses on building robust defense—credible deterrence and defense capability—as the “indispensable foundation of German, European and transatlantic security.”¹⁶⁰ It does so however without providing clear means to achieve the strategy’s intent, stating that, “given the considerable demands on our public finances at present, we will strive to implement this Strategy at no additional cost to the overall federal budget.”

Although Germany committed to adhere to the NATO Defense Investment Pledge by spending a minimum 2 percent of its GDP on defense from 2022 onward¹⁶¹—compared with the previous 1.5 percent or less—experts project that Germany’s spending will continue to come in just below the target until 2027.¹⁶² In 2022, Germany’s defense budget, although a 4.08 percent increase over the 2021 figure rising to \$60.9 billion, was 1.49 percent of Germany’s GDP.¹⁶³ This trend makes it persistently difficult to make up for decades of underspending, address well-documented shortcomings, replace aging or obsolete equipment, and mitigate poor capacity and readiness levels.¹⁶⁴ The new strategy confirms the intention of allocating 2 percent of

¹⁵⁸ German Federal Ministry of Defence, “Lambrecht: Bundeswehr Must Be at the Heart of German Security,” September 16, 2022.

¹⁵⁹ German Federal Foreign Office, “International Cooperation in the 21st Century: A Multilateralism for the People,” May 19, 2021.

¹⁶⁰ German Federal Government, 2023b, pp. 30–31.

¹⁶¹ In 2006, NATO defense ministers agreed that each member country would commit a minimum of 2 percent of its GDP to defense spending to continue to ensure the Alliance’s military readiness. See NATO, “Funding NATO,” webpage, June 1, 2023e; and “Germany Commits €100 Billion to Defense Spending,” DW.com, February 27, 2022.

¹⁶² Torben Schütz, Joseph Verbosky, and Heiko Borchert, “Beware of Potemkin: Germany’s Defense Rethink Risks Reinforcing Old Habits,” *War on the Rocks*, April 11, 2022.

¹⁶³ NATO, “Defence Expenditure of NATO Countries (2014–2022),” June 27, 2022g.

¹⁶⁴ International Institute for Strategic Studies, “Military Balance+,” webpage, undated.

GDP to reach NATO capability goals, but as “an average over a multi-year period.”¹⁶⁵

A “special Bundeswehr’s fund” announced by the federal government in February 2022, providing a one-off sum of roughly \$106 billion for necessary investments and armaments projects, may be used to help close the gaps in spending and capabilities. Approved by the Bundestag in June 2022, the fund is designed to begin to close critical shortcomings in the Bundeswehr’s personnel, readiness, and capabilities, identified in the January 2020 report of the Parliamentary Commissioner for the Armed Forces.

The lion’s share of the fund, about \$40.4 billion, will be used to boost Germany’s airpower, including through the procurement of 35 F-35 Lightning II fighter jets to replace the aging fleet of Tornado fighter bombers for NATO’s dual-capable aircraft mission. It will also fund 15 Eurofighter Typhoon fighters (on top of 140 already in service), 60 Boeing CH-47F Chinook helicopters, and the Franco-German-Spanish Future Combat Air System program. The fund earmarks \$20.5 billion for command capability and digitalization; \$16.3 billion for land forces (including Puma IFVs); and \$8.3 billion for the chronically underresourced German navy, including F126 frigates. However, the delays caused by a slow and complex defense procurement system, as well as inflation and interest payments, have significantly diminished the effectiveness of the fund, further exacerbating the state of the Bundeswehr.¹⁶⁶

Germany has also undertaken a “critical stocktaking”¹⁶⁷ of its armed forces that resulted in more than 30 proposals to improve the Bundeswehr’s operational readiness as a matter of urgency. These proposals include the following:

- reorganization of the army’s operational forces to reflect the current scenarios of national and Alliance defense, including establishment of a fully equipped and operational division by 2025 and adjustment of

¹⁶⁵ German Federal Government, 2023b.

¹⁶⁶ Loveday Morris, Kate Brady, and David L. Stern, “Germany Pledged a Military Revamp When Ukraine War Began. Now It’s Worse Off,” *Washington Post*, February 16, 2023.

¹⁶⁷ Bundesministerium der Verteidigung, *Status Report on Stocktaking*, July 2022.

- structures at the battalion, brigade, and division levels, as well as capability improvements to meet NATO requirements for responsiveness
- establishment of the Bundeswehr Territorial Operations Command in Berlin to better align the command and control organization of the armed forces with national and NATO requirements; strengthening of land commands and establishment of homeland security regiments, and strengthening of enablement capabilities pooled in the Joint Support and Enabling Service (mobile logistic forces; chemical, biological, radiological, and nuclear [CBRN] defense forces; military police forces) to improve the fulfillment of Alliance commitments
- creation of the Bundeswehr Space Command
- establishment of the Bundeswehr Joint Doctrine Center.

Furthermore, in a major policy speech about the first National Security Strategy on September 12, 2022, then-German Minister of Defense Christine Lambrecht emphasized that military security must be recognized as “a key task of this country” and a central public service provided by the state.¹⁶⁸ She reiterated the need for significant investment in the modernization, operational readiness, and combat power of the German armed forces. She also reaffirmed the federal government’s plans to field three operationally ready and combat-capable army divisions by the 2030s that will be “fully equipped, with three brigades each, plus additional forces,” though at least one of the divisions will include troops from other allies.¹⁶⁹

Germany is committed to increasing the Bundeswehr’s military personnel to 198,000 from its current level of 183,150; much of the increase will be used to form a sixth armored battalion in the army.¹⁷⁰ The German army presently consists of seven brigades organized in three divisions (two armored, one air mobile and rapid reaction), plus national elements of the Franco-German brigade. However, the divisions are hollow; many units have only 70 percent of needed organic equipment and lack the necessary

¹⁶⁸ German Federal Ministry of Defence, 2022.

¹⁶⁹ Cagan Koc, “Dutch Army to Merge Land Combat Units with Germany This Year,” Bloomberg, February 1, 2023.

¹⁷⁰ International Institute for Strategic Studies, *The Military Balance*, 2018, February 2018, p. 107; and International Institute for Strategic Studies, 2023, p. 95.

quantity of division-level assets for high-intensity combat.¹⁷¹ Although a December 2021 German MOD report claimed significant improvements in the readiness of most major weapon systems, significant shortfalls remain.

Germany has pledged to provide a first operational land division in 2025 to support NATO VJTF, a modern combat-ready mechanized division by 2027, and an additional two divisions by 2031.¹⁷² Such a force would be a significant contribution to NATO defense and deterrence and would make Europe less dependent on the United States. However, since ending conscription in 2011, Germany has struggled with recruiting and maintaining an all-volunteer force and reforming its procurement system to meet the needs of a sizable modern military.

Germany leads the NATO Enhanced Forward Presence (eFP) BG in Lithuania with a permanent brigade headquarters and roughly 1,500 personnel. The rest of the brigade is based in Germany and maintained on high readiness with planned exercises involving 5,000 personnel deploying to Lithuania.¹⁷³ Germany's and Lithuania's governments have also bilaterally agreed on an additional "enhanced vigilance" deployment of the German 41st Brigade Forward Command Element as part of the implementation of the NATO Madrid Summit decisions on strengthening deterrence and defense in the eastern part of the Alliance.¹⁷⁴

On January 1, 2023, Germany took over from France command of NATO's VJTF.¹⁷⁵ In 2023, VJTF land forces include approximately 11,500 troops provided by eight NATO allies in addition to Germany. Germany

¹⁷¹ See Janes.com, "Germany, Military, Military Capability Assessment," *Country Intelligence*, last updated May 5, 2021, which cites a 2019 German parliamentary report and a December 2020 Bundeswehr report.

¹⁷² Tim Martin, "Spurred by Russia, Germany Rolls Out 3-Year Plan to Fully Equip All Armed Forces Personnel," *Breaking Defense*, January 27, 2023a; and Bundeswehr Kommando Heer, *We Are the Army: Always Ready to Deploy, Worldwide*, 2020, p. 13.

¹⁷³ NATO, "NATO's Forward Presence," fact sheet, June 2022e.

¹⁷⁴ Ministry of National Defense of the Republic of Lithuania, "Lithuanian and German Defence Ministers Will Inaugurate the Forward Command Element of the German Brigade in Lithuania," October 4, 2022.

¹⁷⁵ NATO, "Germany Takes the Lead for NATO's High Readiness Force," December 28, 2022k.

is providing up to 2,700 troops with *Panzergranadierbrigade* (Armored Infantry Brigade) 37 at their core, supported by other armored, artillery, supply, and transport helicopter units.¹⁷⁶ Germany also took the lead of the VJTF's special forces command. Germany's materiel readiness to lead the VJTF came into question when all 18 of its most advanced IFVs (i.e., Pumas)—which were deployed in a training exercise in December 2022—malfunctioned and had to be replaced by Cold War-era Marder IFVs.¹⁷⁷ On January 16, 2023, Lambrecht resigned over missteps concerning the war in Ukraine and inadequate progress in driving forward modernization, operational readiness, and combat power of the German armed forces, as well as the inability to instigate meaningful reform to support the *Zeitenwende*.¹⁷⁸ Her successor, Boris Pistorius, has demonstrated greater focus and resolve to advance the required enhancements of the Bundeswehr, but financial and bureaucratic impediments remain.¹⁷⁹

Therefore, it remains to be seen how Germany will deliver on its commitments. The growing imbalance between high-level political statements and challenges Germany faces to close the gaps resulting from decades of underinvestment in defense is of concern. In December 2022, the German government's chief spokesperson scaled down expectations about meeting the 2 percent defense spending target by 2025.¹⁸⁰ In addition, delays in the procurement of 35 dual-capable F-35 fighter jets for Germany's air force and grave shortages of ammunition (current stocks are reported to be able to last from only a few hours to a maximum of two days of combat) raise ques-

¹⁷⁶ Nicholas Fiorenza, "Germany Takes Command of NATO VJTF," *Janes*, December 30, 2022.

¹⁷⁷ Guy Chazen, "Germany Reassures NATO on Task Force After Equipment Failure," *Financial Times*, December 19, 2022.

¹⁷⁸ Sabine Kinkartz and Ben Night, "German Defense Minister Christine Lambrecht Resigns," DW.com, January 16, 2023.

¹⁷⁹ Benjamin Tallis, "The *Zeitenwende* Is Here, It's Just Unevenly Distributed," *Internationale Politik Quarterly*, April 3, 2023.

¹⁸⁰ Hans von der Burchard and Gabriel Rinaldi, "Germany Backtracks on Defense Spending Promises Made After Ukraine Invasion," *Politico*, December 5, 2022.

tions about Germany's readiness levels.¹⁸¹ In January 2023, German media reported that the Bundeswehr inspector general's semiannual report to the Bundestag on the state of the German armed forces highlights, among other issues, limited BG leadership capabilities, the inability to send artillery units to Lithuania, the lack of logistics capabilities, and severe capability deficits in air defense. The report details concerns about Germany's ability to fulfill the Bundeswehr's national and NATO collective defense tasks and calls for reestablishing operational readiness for the entire military and addressing the materiel shortages, in particular for modern heavy equipment, command and control equipment, munitions, and replacement parts.¹⁸²

Options for Strengthening Unity of Effort

To ensure its ability to not only take on the required tasks but also assume greater responsibility and leadership, Germany could prioritize investments to mitigate personnel, materiel, and infrastructure shortcomings, as well as further recalibration of its security and defense policy. Germany plays an important role in protecting and securing NATO's northeastern flank. A founding nation of the Multinational Corps Northeast—part of the NATO force structure located in Szczecin, Poland—Germany could support additional efforts to raise readiness levels of the land component and advance tabletop exercises and training for defensive operations.

Germany could also leverage its role in theater enablement and sustainment: It serves as a host nation for the Joint Support and Enabling Command (JSEC), a NATO command located in Ulm. Established in 2018, JSEC reached its full operational capability in September 2021. Its mission is to help enable and support the Alliance in setting the theater for reinforcement by forces in peacetime, as well as to coordinate reinforcement and subsequent sustainment during crisis and conflict. There is scope for an enhanced role in better aligning and integrating reinforcement and sustainment functions in the planning processes, as well as coordinating efforts with all rel-

¹⁸¹ Hans von der Burchard, "German Defense Minister Comes Under Heavy Fire over Ammunition Shortages," *Politico*, December 1, 2022.

¹⁸² Matthias Gebauer and Konstantin von Hammerstein, "An Examination of the Truly Dire State of Germany's Military," *Der Spiegel*, January 17, 2023.

evant stakeholders, including civilian, governmental, and nongovernmental institutions of NATO and European Union (EU) member states.

In addition, Germany hosts NATO's Allied Air Command in Ramstein. The air command is responsible for planning, exercising, and executing integrated air and missile defense (IAMD) operations within NATO's European area of responsibility during peacetime and conflict. In October 2022, Germany spearheaded the European Sky Shield Initiative, which aims to strengthen NATO's IAMD by facilitating the multinational acquisition and integration of a broad range of air defense capabilities by European allies.¹⁸³

The Allied Air Command in Ramstein is also home to the NATO Space Centre, which was established in 2020 to support NATO's activities, operations, and missions, as well as share information and help coordinate allies' efforts in the space domain.¹⁸⁴ In September 2020, the federal MOD opened the Air and Space Operations Centre in Uedem to facilitate capacity-building in the field of space,¹⁸⁵ and, in July 2021, Germany inaugurated a new military command dedicated to space at the same location. The establishment of the Bundeswehr Space Command and the investment in space capabilities signal the growing importance of space and the "increasing dependency of the armed forces on space-supported data, services and products."¹⁸⁶ Germany has been a member of the CSPO initiative since December 2019, working with Australia, Canada, France, New Zealand, the United Kingdom, and the United States to advance multilateral space collaboration.

Germany also plays an important role in NATO's nuclear sharing arrangements, replacing existing dual-capable aircraft with F-35s for NATO's nuclear mission. Although the German government coalition reached an agreement to work toward "a Germany free of nuclear weapons,"¹⁸⁷ Russia's

¹⁸³ NATO, "European Sky Shield Initiative Gains Two More Participants," February 15, 2023b.

¹⁸⁴ NATO, "NATO's Approach to Space," April 23, 2023d.

¹⁸⁵ Dominic Vogel, "German Armed Forces Approaching Outer Space," *Stiftung Wissenschaft und Politik*, October 2020.

¹⁸⁶ "Germany Launches 'Space Command' to Protect Infrastructure," AP News, July 13, 2021.

¹⁸⁷ German Government Coalition Statement, "Mehr Fortschritt Wagen: Bündnis Für Freiheit, Gerechtigkeit Und Nachhaltigkeit" ["Dare More Progress: Alliance for Free-

recent threats to use nuclear weapons against the West and energy security concerns have prompted a consensus that removing nuclear weapons is no longer of interest to the government.¹⁸⁸

Finally, Germany should strive to reinvigorate the Weimar Triangle defense collaboration, bringing together France, Poland, and Germany for greater unity of effort. In a February 2023 statement, Polish, German, and French leaders highlighted the need to coordinate efforts to meet Ukraine's pressing military and defense equipment needs, strengthen the European defense industrial and technological base, and support Ukraine's reconstruction efforts.¹⁸⁹

United Kingdom

Defense Strategy and Capabilities

In March 2021, the UK government published *Global Britain in a Competitive Age*—a result of a yearlong IR of its security, defense, development, and foreign policy and the largest endeavor of this kind carried out since the end of the Cold War.¹⁹⁰ The document set forth the strategic, post-Brexit framework for achieving UK national security and international policy objectives aligned with the vision for the UK in 2030. The IR said that, although the UK would focus its security and defense efforts primarily on the Euro-Atlantic, the government would also place a greater emphasis on the Indo-Pacific given the region's global importance, including an increased maritime presence to support norms.¹⁹¹

The IR was immediately followed by a defense command paper, *Defence in a Competitive Age*, which aimed to assess current and future threats,

dom, Justice, and Sustainability”], December 7, 2021.

¹⁸⁸ Alison Meakem, “Germany Confronts Its Nuclear Demons,” *Foreign Policy*, June 20, 2022.

¹⁸⁹ German Federal Government, “Statement of the Heads of State and Government of the Weimar Triangle,” February 24, 2023a.

¹⁹⁰ UK Government, 2021.

¹⁹¹ UK Government, 2021, pp. 69, 72–73.

means and ways to address them, and the equipment and resources required to field them to “turn hollow forces into credible ones.”¹⁹²

The IR advocated a more dynamic posture through persistent engagement that requires more availability and investment to improve readiness across all domains, resilience, and sustainability of UK armed forces, as well as improved capability of high-intensity warfighting. The defense command paper further stressed that “the ability and willingness to commit hard capability to fighting wars is a fundamental foundation of our influence and deterrence” and placed emphasis on working alongside allies to reinforce resilience from shared threats, as well as the need for operating, training and exercising, and developing doctrine and capabilities together.

These documents, while highlighting the ambition to become “the leading European Ally within NATO,”¹⁹³ failed to fully recognize the magnitude of Russia’s direct threat to the Alliance and forecast appropriate conventional capabilities needed to deter Russia’s aggression. In July 2022, the House of Commons Defence Committee called for the IR to be updated in light of the war in Ukraine, stressing that, as “open conflict has returned to Europe,” British military ambitions are not matched by resources to meet the new challenges.¹⁹⁴ On March 13, 2023, Prime Minister Rishi Sunak announced the completion of the 2023 IR Refresh (IR23), which outlines how the United Kingdom will respond to growing global volatility. Although the document reiterates the UK’s ambition to “play a leading role in Euro-Atlantic security,” it also affirms “consolidating the strategic shift”—achieved largely through nonmilitary means—called for in the IR’s Indo-Pacific tilt.¹⁹⁵

In November 2021, Defence Secretary Ben Wallace unveiled the Future Soldier program, outlining a major reorganization of the British Army to

¹⁹² UK Ministry of Defence, *Defence in a Competitive Age*, March 2021a.

¹⁹³ UK Government, 2021, p. 6.

¹⁹⁴ House of Commons Defence Committee, *The Integrated Review, Defence in a Competitive Age and the Defence and Security Industrial Strategy*, July 28, 2022.

¹⁹⁵ UK Government, “PM Announces Major Defence Investments in Launch of Integrated Review Refresh,” March 13, 2023c; and UK Government, *Integrated Review Refresh 2023: Responding to a More Contested and Volatile World*, Command Paper 811, March 2023a, pp. 6–7.

address next-generation threats around the world.¹⁹⁶ The program calls for more globally engaged forces to underpin the British Army's new expeditionary posture and pledges to commit to NATO a fully modernized war-fighting division by 2030 while developing capabilities to detect and defeat enemy forces at longer range and with greater accuracy. It also calls for spending \$10.6 billion on high-end equipment modernization, including Boxer armored vehicles, Challenger 3 tanks, AH-64E Apache helicopters, long-range precision missiles, and several UASs, as well as cyber and electromagnetic capabilities. Additionally, it establishes a new Experimentation and Trials Group to take advantage of increased research and development (R&D) investment and facilitate integration of new technologies into the force. Furthermore, Future Soldier introduces the Collective Training Transformation Programme to deliver an expeditionary and digitalized Collective Training System that will enable the British Army to train from 2024 onward globally in challenging, realistic, and multidomain environments.

The Ministry of Defence Equipment Plan 2021–31, published in February 2022, details government modernization plans that include spending \$270 billion on equipment procurement and support, building on the 2020 commitment to defense spending standing at 2.2 percent of GDP (to be increased to 2.5 percent by 2030).¹⁹⁷ It reflects significant new investments in capabilities aligned with the new strategic direction and commitment to experimentation with the goal of transitioning from *sunset* capabilities, which are “vulnerable or redundant in the Information Age,” to *sunrise* capabilities, which are based on information-centric technologies.¹⁹⁸

The new investments are oriented toward increasing maritime capability, reflecting an ambition to restore the UK as the foremost naval power in Europe centered on the entry into service of the carrier strike group equipped with fifth-generation fighters (F-35 Lightning) and littoral strike

¹⁹⁶ Ben Wallace, “Defence Secretary Announces Future Soldier for the British Army,” statement delivered to the House of Commons, November 25, 2021.

¹⁹⁷ UK Ministry of Defence, *The Ministry of Defence Equipment Plan 2021–31*, February 2022a.

¹⁹⁸ UK Ministry of Defence, *Integrated Operating Concept*, August 2021b.

groups.¹⁹⁹ The plan outlines efforts to improve the sustainability, lethality, and availability of the fleet, including upgrading the Sea Viper air defense capability, investing in a lightweight torpedo and a highly capable ship-to-ship missile, and extending in-service Merlin helicopters. The UK also plans to boost its shipbuilding enterprise and increase the capability and size of the Royal Navy's surface fleet, including through the development of three Fleet Solid Support ships, a Multi-Role Ocean Surveillance ship, Multi-Role Support ships, and Type 31 and Type 32 frigates.

To help offset the cost of engagement in the Indo-Pacific, new equipment, and investment in emerging technologies, the plan introduces cuts to personnel and platforms that will significantly reduce the capabilities of land and air forces for high-intensity conventional conflict.²⁰⁰

The British Army has maintained a balance between light and heavy forces and is assessed to be capable of sustaining indefinitely a brigade-sized land force anywhere in the world.²⁰¹ However, with just 83,400 regular personnel and 28,350 reservists, the British Army is now the smallest it has been since the 18th century.²⁰² Although the Army will upgrade 148 of the existing Challenger 2 Main Battle Tanks to Challenger 3 Main Battle Tanks to meet future threats, it will do away with one-third of them.²⁰³ The army will also cancel the Warrior Capability Sustainment program, retiring the entire fleet of more than 700 Warrior IFVs.²⁰⁴ Justifying the reductions, then-British Army chief General Sir Mark Carleton-Smith remarked that “most close battles in the future are going to look and feel very much more

¹⁹⁹ “The Future of the Royal Navy: A Conversation with First Sea Lord Admiral Sir Ben Key,” Center for Strategic and International Studies, February 16, 2022.

²⁰⁰ International Institute for Strategic Studies, *The Military Balance, 2021*, February 2021, Chapter 4.

²⁰¹ Janes.com, “United Kingdom, Army, Summary” *Country Intelligence*, last updated April 5, 2023a.

²⁰² “Does the UK Need to Change Its Defence Strategy After the Ukraine War?” *Financial Times*, March 29, 2022; and International Institute for Strategic Studies, 2023, p. 145.

²⁰³ UK Government, “Challenger 3 Tanks Reach Next Milestone,” press release, March 25, 2022a. The delivery of the initial fleet of Challenger 3 main battle tanks is expected in 2027.

²⁰⁴ The UK will be essentially the only major NATO ally without armored IFVs.

like Mosul and Raqqa and Fallujah, than it is going to feel like the central European plain.”²⁰⁵

The Royal Air Force will modernize Typhoon Eurofighters, develop a new E-7 airborne command and control aircraft, sustain its nine P-8A Poseidon maritime surveillance aircraft, and increase the capacity and capability of its A400M Atlas airlift force. However, it also plans to retire 24 Typhoon Tranche 1 fighters, eight early-model Chinook heavy-lift helicopters, the Puma HC2 medium-lift helicopter fleet, and all 14 of its C-130J Hercules medium-transport aircraft. Their role will be assumed by the larger A400M Atlas. Moreover, in a 2021 wargame with U.S. and French forces, British units exhausted national stockpiles of critical and precision munitions in eight days,²⁰⁶ which underscores the need for expanding the defense industrial base.

A National Audit Office report published in November 2022 that addressed the equipment plan for 2022 to 2030 concluded that the UK MOD cannot afford to fund all the capabilities announced in the 2021 IR.²⁰⁷ Despite calls to increase defense spending in the aftermath of the invasion of Ukraine, UK Chancellor of the Exchequer Jeremy Hunt announced on November 17, 2022, that defense spending would remain in line with the UK’s NATO commitments, and any new spending decisions would await the guidance of the IR Refresh.²⁰⁸ IR23 calls for an additional \$6 billion to be provided to the Ministry of Defence through 2025 to support replenishment of ammunition stocks, nuclear enterprise modernization, and the next phase of the Australia–UK–U.S. submarine program. Prime Minister Sunak deferred a new defense spending review until 2025 but said that he “will set out an ambition to increase defense spending to 2.5 [percent] of GDP in the

²⁰⁵ Andrew Chuter and Aaron Mehta, “Fresh Thinking on ‘Close Battles’ Sealed British Warrior Vehicle’s Demise,” *Defense News*, May 20, 2021.

²⁰⁶ Alex Vershinin, “The Return of the Industrial Warfare,” Royal United Services Institute, June 17, 2022.

²⁰⁷ UK National Audit Office, *Value for Money: The Equipment Plan 2022 to 2032*, November 29, 2022.

²⁰⁸ Andrew Chuter, “UK Refuses to Make Defense Spending Commitments amid Strategy Review,” *Defense News*, November 17, 2022.

longer [unspecified] term.”²⁰⁹ The UK also plans to lead a conversation with allies on future posture and burden-sharing at NATO’s Vilnius Summit in July 2023.²¹⁰ A new defense command paper detailing acquisition and technological priorities is set to be completed before the summit. Members of Parliament have expressed concerns that inflation and foreign exchange pressures will reduce real defense spending and undermine commitments to NATO and that the “failure to modernise land forces raises questions about the ability of the British army to deploy an effective force in continental Europe, should it be required.”²¹¹

The direction taken by the UK government signals a reduction of combat power and capability needed for a large-scale conflict between peer adversaries in the Euro-Atlantic area in favor of an increased presence in the Indo-Pacific, reflected by the first operational deployment of the UK’s carrier strike group in the region in July 2021 and engagement in the Australia–UK–U.S. partnership, including support for Australia’s development of nuclear-powered attack submarines.²¹² However, the radically changed security context since Russia’s unprovoked invasion of Ukraine requires the UK to rethink its defense strategy, its plans, and the size of its armed forces. Speaking at the RUSI Land Warfare Conference 2022, the chief of the general staff, General Sir Patrick Sanders, warned—alluding to the UK’s early preparations to bolster defense capabilities in the face of the Nazi military buildup before World War II—that “this could be our 1937 moment,” if the UK fails to mobilize the army to help prevent war in Europe by being ready to fight and win alongside NATO allies and partners.

The UK government is also committed to modernizing its strategic nuclear-deterrent, space, and cyber capabilities. Renewal of the UK nuclear deterrent includes replacing its four *Vanguard*-class SSBNs, beginning in the early 2030s, with four new *Dreadnought*-class boats, which incorporate

²⁰⁹ Tim Martin, “UK Pledges \$6B in Defense Spending ‘Ramp Up’ to Replenish Stocks, Support AUKUS Subs,” *Breaking Defense*, March 12, 2023b.

²¹⁰ Martin, 2023b.

²¹¹ John Paul Rathbone and George Parker, “Failure to Sustain Defence Spending Would Imperil NATO Pledge, MPs Warn,” *Financial Times*, March 6, 2023.

²¹² UK Government, “Joint Leaders Statement on AUKUS: 13 March 2023,” March 13, 2023b.

into their design the same missile compartment used by the *Columbia*-class SSBNs. The UK is also modernizing its sovereign nuclear warhead, working closely with U.S. counterparts to ensure that it remains compatible with the Trident missile that both navies will continue to deploy on their new boats. Whether the UK should or can afford to maintain both its nuclear-deterrent and conventional forces (on a scale needed for a conflict with Russia) generates only occasional national debate.

The UK government issued a Defence Space Strategy in 2021 to support its National Space Strategy ambition to become a “meaningful player in space.”²¹³ It established a National Space Council and a joint space command. UK Space Command’s capabilities and workforce have expanded to include a new Space Operations Centre and command of Royal Air Force Fylingdales—the UK’s primary military space sensor operated jointly with the United States and the only 360-degree radar supporting the U.S.-led space surveillance network.²¹⁴ UK Space Command also participates in the CSPO initiative, along with other allies; Operation Olympic Defender, a U.S.-led multinational coalition formed to deter hostile actors in space and reduce the spread of debris in orbit; and the development of NATO’s space activities.

In spring 2022, the UK increased its presence in Estonia by deploying a second battalion, temporarily doubling the total number of personnel to over 1,600. It will also expand its existing headquarters in Tallinn. Led by a brigadier, the enhanced headquarters will support the rapid deployment of high-readiness forces at the brigade level. The UK will also support Estonia with training and logistics and the development of its first divisional-level headquarters. In April 2022, the UK, in partnership with Estonia, announced the decision to host the European headquarters for NATO’s Defence Innovation Accelerator for the North Atlantic to accelerate, test,

²¹³ Lucia Retter, James Black, and Theodora Ogden, *Realising the Ambitions of the UK’s Defence Space Strategy: Factors Shaping Implementation to 2030*, RAND Corporation, RR-A1186-1, 2022.

²¹⁴ Royal Air Force, “UK Space Command,” webpage, undated.

evaluate, and validate new technologies that address critical defense challenges and contribute to Alliance deterrence.²¹⁵

In addition, the UK has deployed hundreds of troops to Poland and sent aircraft to conduct air policing in Romania, and HMS *Prince of Wales* led the Alliance's Maritime High Readiness Force in 2022.²¹⁶

Options for Strengthening Unity of Effort

Considering the decisions in the IR on force structure and equipment, there is concern among military planners as to whether the UK will remain able to fully support the ARRC, provide a modernized division with high-end warfighting capabilities, support the NATO BG in Estonia, and maintain leadership of the Joint Expeditionary Force (JEF).²¹⁷ ARRC is the UK's largest deployable land headquarters, and, as the framework nation, the UK provides 60 percent of the overall staff. The army's reductions in mass needed to conduct large-scale combat operations and regional reorientation may warrant a review of mission assignments in NATO.

The JEF, formed in 2014, is a flexible political-military arrangement among ten Northern European governments. UK high-readiness units are at its core to pool multiservice military capabilities and expertise under "an opt in/opt out arrangement" to respond rapidly, "anywhere in the world, on behalf of international organizations such as the UN or NATO."²¹⁸ The JEF has undertaken several deployments in the Baltic states and increased its activities in Northern Europe in 2022, including a command post exercise in Denmark and military deployments and other assurance measures to Finland and Sweden.²¹⁹ The UK provides a Standing Joint Force Headquar-

²¹⁵ UK Ministry of Defence, "UK to Host World-Leading Nato Defence Innovation Headquarters," April 5, 2022b.

²¹⁶ UK Royal Navy, "'Pride, Passion and Purpose' as Royal Navy Takes On Key NATO Mission," January 11, 2022.

²¹⁷ The AARC is the UK's largest deployable land headquarters. As the framework nation, the UK provides 60 percent of the overall staff. For background, see NATO Allied Rapid Reaction Corps, "About Us," webpage, undated.

²¹⁸ UK Ministry of Defence, "International Partners Sign Joint Expeditionary Force Agreement," September 5, 2014.

²¹⁹ UK Ministry of Defence, "Statement from the Joint Expeditionary Force: The JEF Defence Ministers Met in Edinburgh to Discuss Future Cooperation," press release,

ters, which has been operating in Lithuania and Latvia since May 2022 and is designed to enhance deterrence on the eastern flank.²²⁰ The JEF could play a valuable role in organizing the initial responses to various contingencies throughout Northern Europe and the Arctic before all 30 allies are prepared to act.²²¹

Given the global importance of the Indo-Pacific to the UK and global economy, British diplomatic, economic, and security cooperation with the United States, France, Australia, and other countries is a valuable contribution to protecting mutual interests in the region. The decision to pursue a larger British military engagement in the Indo-Pacific was made before Russia's invasion of Ukraine. Moreover, deploying the Queen Elizabeth strike group to the South China Sea in July 2021 was a major effort that the Royal Navy would be hard-pressed to undertake routinely. Periodic deployments of frigates and smaller ships, with the option of surging a carrier task group, should be sustainable and would support these interests. As IR23 is being implemented, there would be merit in engaging the UK government in a dialogue on the relative benefits of expanding UK military presence in the Indo-Pacific, as opposed to sustaining NATO commitments, as well as the UK's leadership of the JEF.

The UK government confronts a critical choice about the future of its armed forces. It could opt to maintain the IR's ambition of the UK being a global first responder, further leveraging the JEF and high-readiness air, maritime, and mobile land—including special operations forces (SOF)—along with growing space and cyber capabilities, or it could prioritize meeting its commitment to collective defense in the Euro-Atlantic region by

November 10, 2022c.

²²⁰ Sean Monaghan, "The Joint Expeditionary Force: Global Britain in Northern Europe?" Center for Strategic and International Affairs, March 25, 2022; and UK Government, "Joint Expeditionary Force Deploys to the Baltics," press release, May 20, 2022b.

²²¹ See, for example, James Black, Stephen J. Flanagan, Gene Germanovich, Ruth Harris, David A. Ochmanek, Marina Favaro, Katerina Galai, and Emily Ryen Gloinson, *Enhancing Deterrence and Defence on NATO's Northern Flank: Allied Perspectives on Strategic Options for Norway*, RAND Corporation, RR-4381-NMOD, 2020.

expanding land forces and providing them with the capabilities required for sustained, high-intensity warfare.

Key East European Allies

Poland

Defense Strategy and Capabilities

Centrally positioned on NATO's eastern flank, Poland is on the front lines of a heightened great-power competition and a foreground for almost every potential crisis and large-scale conflict that could arise between Russia and NATO. Poland's vital security interests and defense depend directly on the combined strength and resilience of the Alliance and NATO's collective defense guarantees under Article 5 of the North Atlantic Treaty, as well as additional security guarantees offered by the United States.²²²

Placing emphasis on enhancing mobility and technical modernization, the 2020 Polish National Security Strategy underscored the need for moving decisively to fill the gaps in defense capabilities, including through the following:

- accelerating the development of operational capabilities of the Polish Armed Forces and increasing defense spending to 2.5 percent of GDP in 2024
- continuing the adaptation of the peacetime and wartime command structures of the Polish Armed Forces
- increasing numbers of personnel, equipment, and training programs to adapt to the modern multidomain operational environment; boosting capabilities to conduct asymmetric operations; building A2/AD systems (battlefield isolation); and enhancing forces' maneuverability and ability to sustain operations in the field for extended periods
- building a national integrated situational awareness system based on various means of reconnaissance, communication, and command and control, including national earth observation and communications satellites and UAV systems operating in network-centric structures while maintaining full cryptographic security

²²² NATO, *The North Atlantic Treaty*, April 4, 1949.

- ensuring a capability for effective air defense, including missile defense
- building the operational capabilities of the Polish Armed Forces to carry out precision long-range strikes and capabilities for anti-aircraft and anti-tank defense
- developing operational capabilities to conduct the full spectrum of military operations in cyberspace, including the creation of Cyber Defense Forces
- improving the mobilization system, including the training of personnel reserves
- strengthening the operational capabilities of the Polish Navy
- building Territorial Defense Forces and enhancing civic defense readiness.²²³

Russia's 2022 invasion of Ukraine unfolding on Poland's doorstep and the resulting sense of insecurity reinforced strategic resolve to intensify efforts to bolster readiness and ensure adequate deterrence and warfighting capabilities. On March 11, 2022, the Polish Senate approved the Homeland Defense Act, raising defense expenditure to 3 percent of GDP starting in 2023, establishing—outside the defense budget—the Armed Forces Support Fund for modernization, and significantly increasing troop levels.²²⁴ There are indications that Poland will double its armed forces to 300,000, with 250,000 active-duty and 50,000 Territorial Defense Forces personnel.²²⁵ Poland's SOF, supported by the 7th Special Operations Aviation Squadron, are highly regarded and undertake regular training with U.S. and other allied SOF units.²²⁶ The Territorial Defense Forces will also play a critical role in providing and coordinating host nation support to enable efficient reception and staging of Alliance elements in Poland, including U.S. forces.

²²³ President of the Republic of Poland, *National Security Strategy of the Republic of Poland*, May 2020.

²²⁴ Sejm of the Republic of Poland, "March 11, 2022, Homeland Defense Act" ["Ustawa z dnia 11 marca 2022 r. o obronie Ojczyzny"], 2022.

²²⁵ "Defense Minister Inaugurates Voluntary Military Service," Polish Press Agency, May 21, 2022.

²²⁶ Anthony Bryant, "Shadows in the Night; Polish, German SOF Train with U.S. Special Forces," *U.S. Army News*, July 14, 2022.

In 2022–2023, the Armed Forces Support Fund will provide \$13.5 billion to fast-track modernization over and above a record defense budget of \$20.66 billion for 2023, which represents just over 3 percent of GDP and is 69 percent higher in nominal terms than the 2022 budget and more than triple its 2014 level. Major purchases from U.S. suppliers for the army include a \$4.75 billion deal for 250 M1A2 Abrams SEPv3 tanks, to be delivered from 2025 to 2026;²²⁷ a \$1.4 billion contract for a second batch of 116 M1A1 Abrams tanks with associated equipment and logistics;²²⁸ and 500 M142 HIMARs.²²⁹ Poland also concluded a \$4.75 billion contract in 2018 for two Patriot PAC-3+ batteries with 200 missiles that are expected to become operational in 2024 under Phase I of Poland’s *Wisła* medium-range IAMD system. Poland plans to procure six additional batteries in Phase II.²³⁰ In addition, Poland is hosting one of the Aegis Ashore sites at the Redzikowo military base as a contribution to the NATO BMD program.

The Ministry of National Defense is also acquiring a SHORAD system capable of firing the Common Anti-Air Modular Missile and has signed an agreement with the UK government to develop a medium- to long-range surface-launched missile that can be used in both land and maritime environments. In addition, citing concerns over the ability of the transatlantic defense industrial base to backfill gaps resulting from Poland’s transfer of older weapon systems to Ukraine, Poland concluded a series of deals with South Korean firms in 2022 to procure 980 K2 main battle tanks, 648 K9 self-propelled howitzers, nearly 200 Chunmoo multiple-rocket launchers,

²²⁷ These tanks will replace Soviet-designed T-72 tanks, which Poland supplied to Ukraine. Jaroslaw Adamowski, “Poland Signs \$4.75 Billion Abrams Tank Deal as Russia’s War Speeds Procurements,” *Defense News*, April 5, 2022b.

²²⁸ “Poland Signs Deal to Buy 2nd Batch of Abrams Tanks,” *Defense News*, January 4, 2023.

²²⁹ Jaroslaw Adamowski, “Poland Will Get a New Air-Defense System After the Summer,” *Defense News*, April 14, 2022c.

²³⁰ Jaroslaw Adamowski and Jen Judson, “Poland Requests Six Additional Patriot Batteries from the United States,” *Defense News*, May 24, 2022; and Aleksandra Krzysztozek, “Poland Relocates Its Patriot Missiles to Warsaw,” *EURACTIV*, February 7, 2023.

and 48 FA-50 light attack aircraft.²³¹ The arrival of the first shipment of K2 battle tanks and K9 howitzers in December 2022 was welcomed by Poland as “a rapid delivery of crucial importance” in the face of Russia’s aggression.²³²

The efforts to modernize and adequately equip the Polish Armed Forces not only substantially raise the credibility of NATO’s deterrence posture on the eastern flank but can also increase Poland’s readiness and commitment to host allied forces or rotate them through the theater.

Since 2017, Poland has been a host nation to NATO’s eFP BG-Poland, composed of units from Croatia, Romania, the United Kingdom, and the United States operating alongside the Polish 15th Mechanized Brigade, as well as a rotational U.S. brigade. In June 2022, President Biden announced additional deployments to Poland, including the permanent forward stationing of the U.S. Army V Corps Headquarters Forward Command Post, an army garrison headquarters, and a field support battalion, together with maintenance and enhancement of a substantial rotational force presence, including an armored BCT, a combat aviation brigade element, and a division headquarters element.²³³ These deployments, coupled with the NATO Multinational Division Northeast led by Poland, are key to supporting the Supreme Allied Commander Europe (SACEUR) in deploying and employing combat forces on the eastern flank. The Polish offer to fund infrastructure and logistical support to U.S. forces in Poland²³⁴ and the Poland-Provided Infrastructure and Poland-Provided Logistical Support programs (part of the 2020 *Enhanced Defense Cooperation Agreement* between Poland and the United States²³⁵) will be key in supporting long-term sustainment, enhanced pre-positioning, and modernized infrastructure on the eastern

²³¹ Ko Dong-hwan, “Korea Inks Record \$3.55 Billion Weapons Export Deal with Poland,” *Korea Times*, November 4, 2022.

²³² President of the Republic of Poland, “South Korean Armament for the Polish Army Already in Poland” [“Południowokoreańskie uzbrojenie dla polskiej armii już w Polsce”], website, December 2, 2022.

²³³ White House, “Fact Sheet: The 2022 NATO Summit in Madrid,” June 29, 2022b.

²³⁴ Paul McLeary, “Poland Agrees to Pay Almost All Costs of US Troops Presence,” *Breaking Defense*, August 3, 2020.

²³⁵ U.S. Department of State, *Poland (20-1113)—Enhanced Defense Cooperation Agreement*, November 13, 2020.

flank. Furthermore, Poland has expressed interest in hosting U.S. nuclear weapons on its territory under NATO's nuclear sharing arrangements.²³⁶

Poland has traditionally deprioritized naval forces, giving it a less rounded joint force than those of the big three. That said, in 2022, Poland's navy signed a deal with the UK defense firm Babcock for coproduction of three frigates, based on the Royal Navy's Type 31 design warships, that will be built in Polish shipyards. This deal is expected to enhance the Polish Navy's ability to counter naval and air threats and the country's shipbuilding industry.²³⁷

Overall, within five years, Poland may very well bypass at least the UK and Germany in terms of its contribution to NATO's force structure and readiness for collective defense.

Options for Strengthening Unity of Effort

President Biden's visit to Poland on the eve of the first anniversary of Russia's invasion of Ukraine spotlighted the emergence of Poland as the United States' critical ally in the region and an essential contributor to Euro-Atlantic security.²³⁸

Poland stands among NATO allies as one the most committed nations to provide Ukraine with the assistance needed to defend its territory and defeat Russia, including significant military equipment and training worth roughly \$2.6 billion,²³⁹ as well as humanitarian and economic aid. Poland provided training to Ukrainian SOF before 2022 and leads SOF training under the Substantial NATO-Georgia Package.²⁴⁰

Poland also plays a critical role as the main hub in the transmission of Western security assistance to Ukraine. Together with the UK-led International Donor Coordination Centre at U.S. Army Europe Headquarters and other mechanisms to support long-term security assistance to Ukraine,

²³⁶ Julian Borger, "Poland Suggests Hosting U.S. Nuclear Weapons amid Growing Fears of Putin's Threats," *The Guardian*, October 5, 2022.

²³⁷ "Poland Strikes Deal to Buy British Type 31 Frigates," *Forces.Net*, March 5, 2022.

²³⁸ White House, "Remarks by President Biden and President Andrzej Duda of Poland After Bilateral Meeting," February 21, 2023.

²³⁹ Kiel Institute for the World Economy, "Ukraine Support Tracker," webpage, undated.

²⁴⁰ NATO, "The Substantial NATO-Georgia Package," fact sheet, February 2022c.

Poland could become a training, exercising, interoperability, and logistics hub for the Alliance, working closely with the United States and other allied forces in the region. Creating a NATO forward defense hub in Poland would give the United States flexibility to rotate forces in the region and allow for reinforcement of allies on the eastern flank on short notice.

The Suwałki corridor, also known as the Suwałki Gap, which stretches about 40 miles along the Lithuanian-Polish border between Belarus in the east and the highly militarized Kaliningrad Oblast (a territory of Russia since the end of World War II) to the west, is critical to the defense of the Baltic states. Because there are only two roads and one railway line in the corridor, it could easily become a choke point.²⁴¹ Furthermore, in a conflict, Russia, operating from Kaliningrad and Belarus, could attempt to take control of the Suwałki corridor to cut off Lithuania, Latvia, and Estonia and prevent NATO land forces from reinforcing the Baltics. The establishment of a “common defence space” between Russia and Belarus, including Russia’s deployment of tactical nuclear weapons on its ally’s territory, has also led Poland to view Belarus as an immediate threat to its security.²⁴² Poland’s officials assess the Brest gap—open terrain along Poland’s border with Belarus in close proximity to Warsaw—as one of the most vulnerable spots on the eastern flank, and they plan to reinforce it with Abrams tanks.²⁴³ Exercises like DEFENDER-Europe 22, designed to build readiness and interoperability among U.S., other allied, and partner militaries, are key to determining what is needed for military mobility and contested logistics in a high-end scenario and should be further leveraged.

A stray missile that struck the territory of Poland near the border with Ukraine in November 2022 highlighted the need to further secure the airspace. In response, Poland accepted Germany’s offer to deploy the Patriot

²⁴¹ Heinrich Braus, Ben Hodges, and Julian Lindley-French, *Moving Mountains for Europe’s Defence*, CEPA Task Group, Center for European Policy Analysis, March 2021.

²⁴² Anna Maria Dyer, “Belarus and Russia Move to the Next Stage of Integration,” Polish Institute of International Affairs, January 4, 2023; and Guy Faulconbridge, “Russia Moves Ahead with Deployment of Tactical Nukes in Belarus,” Reuters, May 25, 2023.

²⁴³ “Poland’s Army to Be Strongest in Europe in Two Years—Defence Minister,” Polish Press Agency, April 12, 2023.

air defense system after initially asking to send it directly to Ukraine.²⁴⁴ With its acquisition of up to eight Patriot batteries and other SHORAD systems under its *Wisła* program, plus its hosting of the Aegis Ashore site, Poland is on track to be a major contributor to NATO's IAMD in Central and Eastern Europe.

Romania

Defense Strategy and Capabilities

Romanian officials have long expressed concern about Russia's hostile intentions in the Black Sea region and beyond. Prior to 2014, Bucharest lamented a perceived U.S. underestimation of Russia's threat. The Romanian government advocated for the development of a NATO Black Sea fleet in the run-up to NATO's 2016 Warsaw Summit, but allies agreed only to a tailored forward presence with a Romanian framework brigade and headquarters staff.²⁴⁵ The U.S.-Romanian Strategic Partnership established in 1997 along with Romania's active engagement in the Partnership for Peace resulted in growing security cooperation even before Romania joined NATO in 2004. Romania has provided U.S. forces with access to key facilities, such as the Mihail Kogalniceanu air base and the Port of Constanța, since 1999 (this includes support of the 2003 Iraq War) and developed national infrastructure to enable an enduring U.S. and NATO military presence and combined training and exercises.

The *National Defense Strategy 2020–2024* calls for increasing Romania's role and efforts in the EU, strengthening its strategic profile within NATO, and deepening and extending the Strategic Partnership with the United States.²⁴⁶ The strategy calls for the continuation of efforts begun in 2015 to strengthen Romania's deterrence and defense capabilities, military interoperability with allies, institutional capacity to counter hybrid threats, and national resilience measures. The strategy includes a commitment to devote at least 20 percent of the defense budget to the acquisition of military equip-

²⁴⁴ Maciej Onoszko, "Poland Makes U-Turn, Accepts German Patriot Missiles on Its Soil," Bloomberg, December 6, 2022.

²⁴⁵ Marian Chiriac, "Romania Calls for Permanent NATO Black Sea Force," Balkan Insight, February 2, 2016.

²⁴⁶ President of Romania, *National Defence Strategy 2020–2024*, 2020, pp. 32–33.

ment and at least 2 percent to R&D and innovation. It also calls for implementation of the force described in the “Strategic Defence Analysis 2020” and enhanced combat readiness and early warning capabilities.²⁴⁷

Romania’s armed forces have made important strides in expanding and modernizing their military capabilities in recent years but still have significant gaps because of declining budgets in the wake of the 2008 global financial crisis. Modernization efforts have focused on acquisition of additional F-16 fighters, Patriot air and missile defense systems, new armored vehicles and artillery systems, frigate upgrades, and new corvettes. In addition, the Ministry of National Defence submitted a request in 2023 for the procurement of the country’s first combat submarines in 20 years, new mine-hunting vessels, and modernization of the navy’s existing missile corvettes. Romania has also expressed interest in acquiring two French *Scorpene*-class submarines.²⁴⁸ Progress toward realization of modern and balanced armed forces has been hampered by erratic funding, political turmoil, corruption, and personnel shortfalls.²⁴⁹ Many units are still outfitted with aging Soviet-origin equipment. The new defense strategy seeks to address these shortcomings, including the provision of multiyear funding. Nevertheless, Romania has proven to be a reliable, capable, and well-integrated NATO ally.

The Romanian Land Forces, with 35,500 active personnel, comprise two divisions with three additional brigades directly subordinate to Land Forces Command—one special forces, one engineer, and one artillery. The land forces have trained primarily for territorial defense, and units not committed to NATO have low readiness. However, Romanian SOF and other forces served with distinction in the NATO missions in Afghanistan.²⁵⁰

In 2011, Romania agreed to host the U.S. Aegis Ashore system at the Deveselu air base as part of NATO’s Phased Adaptive Approach to BMD of

²⁴⁷ President of Romania, 2020, p. 32.

²⁴⁸ “Romania Seeks Acquisition of First Submarines in 20 Years,” *Maritime Executive*, April 14, 2023.

²⁴⁹ Janes.com, “Romania, Armed Forces,” *Country Intelligence*, last updated June 5, 2023b.

²⁵⁰ International Institute for Strategic Studies, 2023, p. 126.

Europe against regional (Iranian) missiles, and the system became operational in 2016.²⁵¹ To achieve advanced national air defenses and protect the Aegis Ashore site, Romania is acquiring seven Patriot PAC3+ batteries.²⁵² Romania has also purchased three HIMARS MLRSs to enhance its indirect fire support capability and strategic cooperation with NATO allies.²⁵³ Since early 2021, the U.S. Air Force has also deployed MQ-9 Reaper aircraft and approximately 90 airmen at Campia Turzii, Romania, to conduct ISR missions in support of NATO operations.²⁵⁴

Options for Strengthening Unity of Effort

The Romanian Armed Forces have gained considerable experience and improved interoperability with U.S. and other allied militaries through expanded combined exercises and operations in the region since 2014. Romanian forces have demonstrated the capacity to provide valuable niche capabilities, such as bridging equipment, in a part of Europe with very limited infrastructure.

Romania is now serving as a leader in supporting efforts to deter and defend against Russia's aggression in Southeastern Europe and to provide security assistance to Ukraine. Regional defense is being enhanced by the deployment of an augmented NATO BG—led by France—and supported by rotational deployments of U.S. and Polish mechanized infantry units, as well as a rotational U.S. BCT. A brigade from the U.S. 101st Airborne Division has been deployed in Romania since summer 2022 training with Romanian forces, including in coastal defense missions along the country's border with Ukraine—experience that could be relevant to the defense of

²⁵¹ The U.S. Army also deployed the Terminal High Altitude Area Defense system to Romania in 2019 to cover a scheduled maintenance and update period of the Aegis Ashore. U.S. Army Missile Defense Agency, "Aegis Ashore," fact sheet, August 23, 2022.

²⁵² The first battery was delivered for evaluation in September 2020 and became operational in 2021. Three more of the most advanced version were slated for delivery in the second half of 2022, and three more between 2024 and 2026. Andrei Chirileasa, "Romania Receives First Patriot Missile System," *Romania Insider*, September 17, 2020.

²⁵³ The first units arrived in early 2021. Irina Marica, "First Elements of HIMARS Rocket System Arrive in Romania," *Romania Insider*, February 22, 2021.

²⁵⁴ Savannah L. Waters, "MQ-9s Execute New Mission in Romania," U.S. Air Force, February 5, 2021.

Taiwan. The U.S. Army announced on January 21, 2023, that a replacement brigade from the 101st Division will be deployed in Romania for at least nine months and that the mission will be led by a two-star general with senior staff and planners from the 10th Mountain Division.²⁵⁵

With these U.S., French, and other allied deployments, there is now scope for leveraging Romania's leadership of the NATO Multinational Division Southeast, which oversees NATO Force Integration Units in Romania and Bulgaria and commands the Multinational Brigade South-East in Craiova, with the Romanian 26th Infantry Battalion serving as the framework nation, to enhance the integration of regional defenses. With enhanced U.S. and allied command and control and building on Romania's strides to modernize its ground and air defense forces, Romania can and should serve as the center of gravity for NATO's deterrence strategy in Southeastern Europe.

There is also growing consensus in the United States and Europe of the need for a more integrated transatlantic strategy for defense and long-term stability of the Black Sea region. The FY 2023 omnibus appropriations bill included language authored by Senators Jeanne Shaheen and Mitt Romney directing the Secretary of State to develop a strategy in the Black Sea region, working with NATO allies and the EU to increase economic ties, enhance security assistance, and bolster democratic resilience in the region.²⁵⁶

The Baltics

Defense Strategy and Capabilities

The Baltics—Estonia, Latvia, and Lithuania—are strategically vital to deterrence and defense of Alliance territory but highly exposed to direct threats of Russia's aggression and intimidation. Given their limited national defense capabilities, modest NATO forward presence, and proximity to sizable Western Military District forces in Russia, they remain the most vulnerable

²⁵⁵ Lara Jakes, "U.S. Extends Troop Deployment in Romania, at Ukraine War's Doorstep," *New York Times*, January 21, 2023.

²⁵⁶ Office of Senator Jeanne Shaheen, "Signed into Law: Senior Member of Senate Appropriations Committee, Senator Shaheen Secures Numerous NH Priorities in FY23 Government Funding Bill," press release, December 29, 2022.

states on NATO's front line.²⁵⁷ A series of RAND wargames in 2014 to 2015 concluded that Estonia and Latvia would be very vulnerable to short-notice or mobilized attacks by Russia but that a NATO force of “about seven brigades, including three heavy armored brigades—adequately supported by airpower, land-based fires, and other enablers on the ground and ready to fight at the onset of hostilities—could suffice to prevent the rapid overrun of the Baltic states.”²⁵⁸ The three Baltic states have undertaken significant steps since 2015 to boost their conventional and territorial defense forces and national resilience, and NATO allies deployed and recently augmented the eFP rotational BGs in each country and updated defense plans. Nevertheless, regional leaders seek a larger NATO forward posture to preclude a rapid defeat. Estonia's Prime Minister Kaja Kallas has contended that her country would be “wiped off the map” under existing NATO defense plans that would allow the three Baltic states to be overrun before liberating them after 180 days.²⁵⁹ Kallas and Latvia's and Lithuania's prime ministers have

²⁵⁷ The Estonian Defence Forces total 7,200 personnel, mostly in the land forces, which are organized into one mechanized and one light infantry brigade (both reserve based). There are also 17,500 militarily trained volunteers in the *Kaitseliit* (Defence League), with 15 territorial defense battalions that support the Defence Forces. The National Armed Forces of Latvia have 6,600 professional service members with one mechanized army brigade (1,700), 10,000 members of the *Zemessardze* (National Guard), and 5,500 reservists. Latvia plans to reinstitute conscription in 2023 with the goal of raising these numbers in five years to 14,000 active personnel, 16,000 National Guard personnel, and 20,000 reservists. The Lithuanian Armed Forces have 22,000 regular and active reserve personnel. The land forces are organized into one mechanized infantry brigade, one motorized infantry brigade, and one engineering battalion. The 5,650 members of the *Kariuomene/Krašto apsaugos savanorių pajėgos* (National Defence Volunteers) are organized into six infantry battalions and an air squadron and deployed to defend the country's major population centers. International Institute for Strategic Studies, 2023, Chapter 4; Ministry of Defence of the Republic of Latvia, “The National Armed Forces,” Military Public Affairs Department, 2021; and Bartosz Chmielewski, “Latvia to Reinroduce Conscription,” Centre for Eastern Studies, Warsaw, September 14, 2022.

²⁵⁸ The RAND wargaming report also noted that not all these forces would need to be forward stationed and that, “Given even a week of warning, NATO should be able to deploy several brigades of light infantry to the Baltics” (Shlapak and Johnson, 2016, pp. 1, 8).

²⁵⁹ Richard Milne, “Estonia's PM Says Country Would Be ‘Wiped from Map’ Under Existing NATO Plans,” *Financial Times*, June 22, 2011.

proposed that NATO allocate a division able to integrate national and territorial defense forces and forward deploy a combat-ready allied brigade, supported by various enablers and built on strengthened eFP BGs, to provide a more effective defense of each Baltic state.²⁶⁰

In response to Russia's invasion of Ukraine, the Baltics have undertaken to raise their defense budgets beyond the already fulfilled 2 percent called for by the NATO Defense Investment Pledge. Estonia will increase defense spending to 2.5 percent of its GDP, allotting a supplementary \$523 million to upgrade its capabilities: in particular, short- to mid-range air defense systems,²⁶¹ advanced air defense, and long-range precision fires. Allocating \$763.9 million toward defense expenditure in 2022, Latvia also pledged to gradually raise its defense budget to 2.5 percent of its GDP by 2025 to finance several acquisition programs, including a coastal defense missile system, indirect fire support, light and medium infantry capabilities, tactical air transportation, and HIMARSs—possibly as a joint acquisition by the three Baltic states.²⁶² Lithuania's government has earmarked 2.52 percent of its GDP for defense and decided to allocate an additional \$144.5 million in 2023 for HIMARSs, Oshkosh joint light tactical vehicles, and Switchblade drones.²⁶³

Options for Enhancing Unity of Effort

Filling key gaps, especially air and missile defense, artillery and ammunition, and ISR, as well as suppression of Russia's A2/AD capabilities, will require additional U.S. and allied security assistance.²⁶⁴ The U.S. Con-

²⁶⁰ Government of Lithuania, "Joint Statement of the Prime Ministers of the Baltic States," April 22, 2022.

²⁶¹ Jaroslaw Adamowski, "Estonia Increases Defense Spending to Buy Air Defense Systems, More Weapons," *Defense News*, March 25, 2022a.

²⁶² Jaroslaw Adamowski, "Latvia Requests HIMARS Weapon to Bolster Baltic Defense," *Defense News*, July 26, 2022d.

²⁶³ Jaroslaw Adamowski, "Lithuania Boosts Defense Budget to Buy HIMARS, Trucks, Drones," *Defense News*, September 29, 2022e.

²⁶⁴ Courtney Herdt and Matthew Zubic, "Baltic Conflict: Russia's Goal to Distract NATO?" Center for Strategic and International Studies, November 14, 2022; and Ben Hodges, Lauren Speranza, and Krista Viksnins, "Bolstering the Baltics: Accelerated Security Assistance," Center for European Policy Analysis, May 11, 2022.

gress has taken significant steps to redress this situation by authorizing \$180 million for FY 2022 and \$225 million for FY 2023 under the Baltic Security Initiative to support the development of Baltic IAMD, maritime domain awareness, long-range precision fires, SOF, and command and control.²⁶⁵ The 2022 NDS has also made clear that for allies and partners that border Russia, including the Baltics, DoD will encourage efforts to build up response options that achieve cost imposition.²⁶⁶ In support of both of these goals, President Biden announced in June 2022 that the United States will enhance its rotational deployments with armored, aviation, air defense, and special operations forces in the Baltic states.²⁶⁷ Allies could also help the three Baltic states replace Javelins and other antitank weapons that they transferred to Ukraine in 2022 and possibly acquire loitering munitions and antivehicular mines.

NATO leaders agreed at the June 2022 Madrid Summit to increase the size of the BGs in the three Baltic states to high-readiness brigades; however, only some elements of those units will be forward deployed. Given the rather light posture of NATO forces in the Baltics, further efforts are warranted to enhance military mobility and pre-positioning of equipment and weapon stockpiles in the region, along with the deployment of various enablers to ensure that rapid allied capabilities are available to project power into the region.²⁶⁸ Other potential posture improvements could include transforming NATO's somewhat symbolic Baltic air-policing mission into a Baltic air defense mission and establishing a border surveillance mission to create a

²⁶⁵ "Gallego, Bacon Introduce Legislation to Bolster Support to Baltic Allies," U.S. Representative Ruben Gallegos, press release, March 30, 2022; and U.S. House of Representatives, Committee on Rules, "James M. Inhofe National Defense Authorization Act for Fiscal Year 2023," Committee Print 117-70, December 6, 2022, pp. 1170-1171.

²⁶⁶ DoD, 2022a, p. 10.

²⁶⁷ White House, 2022b.

²⁶⁸ Germany has undertaken exercises to test its ability to deploy elements of its brigade based in Germany to Lithuania rapidly. See NATO Supreme Headquarters Allied Powers Europe, "Deterrence and Defence in Lithuania—German Brigade Conducts First Exercise on the Road to NATO's New Force Model," October 6, 2022.

continuous ISR presence along NATO's eastern front.²⁶⁹ Allied Command Transformation could conduct or arrange for experiments evaluating the feasibility of creating a sensing and targeting grid from a network of small, inexpensive sensors that could detect, identify, locate, and track vehicles within an armored or mechanized invasion force. If those experiments are successful, allies could pre-position thousands of unattended ground sensors, including cameras, acoustic sensors, and seismic sensors, as well as small autonomous unmanned ground vehicles, in the Baltic states with plans to distribute these along potential axes of advance in times of heightened tensions with Russia.²⁷⁰

Finally, in the face of Russia's potential coercion and hybrid threats, as well as military aggression, all three Baltic governments have adopted a comprehensive approach to national security involving the integration of conventional and special forces, territorial defense units, border guards, police, and societal resilience and resistance efforts. Each Baltic government has made substantial efforts to enlarge and enhance the capabilities of its territorial defense and national guard forces that can deal with limited regional contingencies, serve as operational reserves, and support national resistance efforts in the face of invasion.²⁷¹ The Baltic governments have also implemented plans and policies to prepare their populations for crises in a way that could make an important contribution during an occupation scenario by imposing costs on an adversary, securing external support, denying an occupier's political and economic consolidation, reducing

²⁶⁹ Jan van Tol, Chris Bassler, Katherine Kjellström Elgin, and Tyler Hacker, *Deterrence and Defense in the Baltic Region*, Center for Strategic and Budgetary Assessments, June 2, 2022.

²⁷⁰ Estonia is acquiring unmanned ground vehicles from a domestic firm, Milrem Robotics, which has also sold these vehicles to Ukraine, Germany, the Netherlands, Norway, Spain, the UK, and the United States. Ukraine has been using them for casualty evacuation and transport, but they can be weaponized, perform ordnance disposal, or support intelligence operations. See Milrem Robotics, "Providing Innovative Robotics Solutions for Challenging Environments," website, undated; and "Estonia's Milrem Confirms Delivery of Unmanned Ground Vehicle to Ukraine," *Defense Brief*, September 7, 2022.

²⁷¹ Stephen J. Flanagan, Jan Osburg, Anika Binnendijk, Marta Kepe, and Andrew Radin, *Deterring Russian Aggression in the Baltic States Through Resilience and Resistance*, RAND Corporation, RR-2779-OSD, 2019, pp. 7–13.

an occupier's capacity for repression, and maintaining and expanding popular support for resistance.²⁷² The United States, other allies, and NATO commands have provided significant training and/or security assistance to all three Baltic governments, and this support should be continued. This approach—leveraging unconventional defense plans and capabilities while incorporating comprehensive defense, societal resilience, and resistance strategies—might also serve as a best practice for other allies and partner nations to help build resilience in the Euro-Atlantic area.

Key Flank Allies and Partners: North and South

Norway

Defense Strategy and Capabilities

Norway has consistently punched above its weight in NATO and plays a critical role in the defense of the North Atlantic and High North (Arctic and sub-Arctic) regions. Norway has maintained robust conventional defenses, is committed to a significant modernization of all its forces, and has been strengthening its total defense efforts. Although Russia's ground forces that were deployed on the Kola Peninsula close to the 122-mile-long Norwegian border suffered heavy losses from operations in the war against Ukraine, Russia's Northern Fleet's surface ships and attack submarines remain a threat to allied reinforcement of the Nordic region across the North Atlantic.²⁷³ In addition, because Russia views Norway as a facilitator of U.S. and allied force projection into the Arctic and Baltic Sea regions, Norway's planners remain concerned about Russia's potential countervailing strikes against their country in the context of a wider conflict in Europe.²⁷⁴

Norway has maintained long-term defense cooperation with the United States, including hosting regular rotational deployment of U.S. marines for combined exercises, pre-positioning equipment and supplies in central

²⁷² Anika Binnendijk and Marta Kepe, *Civilian-Based Resistance in the Baltic States: Historical Precedents and Current Capabilities*, RAND Corporation, RR-A198-3, 2021.

²⁷³ Thomas Nilsen, "Norway Boosts Defense Spendings with Priority up North," *Barants Observer*, October 6, 2022b.

²⁷⁴ Norwegian Intelligence Service, *Focus 2022, Assessment of the Current Security Challenges*, 2022, pp. 35–39.

Norway, and providing support to U.S. Air Force bomber assurance missions. In June 2022, the Norwegian parliament approved a Supplementary Defense Cooperation Agreement that will facilitate access to several military facilities to ensure more-rapid deployment of reinforcements to Norway from the United States in the event of a crisis or conflict.²⁷⁵ Norway also maintains close military cooperation with the UK, other Nordic countries, the Netherlands, and Germany. Norwegian forces participate in the UK-led JEF and the French-led European Intervention Initiative. Norway also contributes an armored infantry company to the NATO eFP BG in Lithuania and has provided Ukraine with artillery and other security assistance.²⁷⁶

Norway's *Long Term Defense Plan 2020* called for continued development of the Norwegian Armed Forces into a "more joint, robust, interoperable, resilient, and ready force."²⁷⁷ The plan also includes the introduction of new capabilities; upgrades of existing capabilities and weapon systems; and enhancements to Norway's Total Defence Concept, which integrates civilian and military actions in support of national defense. Highlights of the plan include

- strengthening of army battalions in the north of the country with new main battle tanks, mobile air defense systems, long-range precision fires, and logistical support
- continued modernization of the Home Guard to include forward staging of weapons, ammunition, and supplies
- procurement of additional F-35 Lightning II aircraft, with a fleet of 52 aircraft expected by 2025, and of P-8 Poseidon maritime patrol aircraft to replace the fleet of P-3 Orion aircraft

²⁷⁵ The agreement allows for U.S. access to three airfields and one naval station. Government of Norway, "Defence Cooperation Between Norway and US Essential for Our Security," April 8, 2022a.

²⁷⁶ Jakob Gustafsson, "Norway's Military Capability 2020," Northern Europe and Transatlantic Security Program, Swedish Defence Research Agency, Memo 7596, September 2021.

²⁷⁷ Government of Norway, *The Defence of Norway: Capability and Readiness, Long Term Defence Plan 2020*, Ministry of Defence, April 17, 2020, pp. 2, 14.

- upgrades to the NASAMS II air defense system with modern sensors and introduction of complementary capacity with shorter range to protect bases and reception areas
- upgrades of the navy's frigates and submarines, increases in personnel, and procurement of three new Coast Guard vessels.

Following Russia's invasion of Ukraine, Norway's minister of defense proposed a 7.8 percent increase in Norway's defense budget for 2023 to \$7.79 billion with a focus on enhancing situational awareness and national control in northern regions.²⁷⁸ This will include reallocating funding from investments to enhance operations and preparedness; further improving infrastructure to enhance the reception and onward movement of allied forces in a crisis or wartime; and enhancing the Home Guard with additional personnel, equipment, and training. The minister said that priority will be given to ensuring that the armed force can operate effectively and in a coordinated way in the north of the country.²⁷⁹

Options to Enhance Unity of Effort

Many of the initiatives called for in the *Long Term Defense Plan 2020* and in the proposed 2023 defense budget reflect recommendations of a 2020 RAND study for Norway's MOD on strategic options to enhance the defense of Norway and deterrence on NATO's northern flank.²⁸⁰ Nevertheless, several additional options could further advance these goals.

Norway is already taking steps to maximize the capabilities of the F-35, including assigning three of them to take over from F-16s the NATO quick reaction mission to respond to airspace violations and having them operate from Evenes Air Station, which is farther north in the country.²⁸¹ Norwegian and other allied F-35s have escorted U.S. B-52 and B-2 bombers in European Bomber Task Force missions in the High North to demonstrate

²⁷⁸ Government of Norway, "Strengthens the Armed Forces and Prioritizes Daily Preparedness and Operations," October 6, 2022b; and Nilsen, 2022b.

²⁷⁹ Government of Norway, 2022b.

²⁸⁰ Black et al., 2020.

²⁸¹ Sebastian Sprenger, "Norway Swaps in Its F-35s for NATO Quick-Reaction Mission in the High North," *Defense News*, January 6, 2022.

the integration of strategic and high-end conventional NATO deterrence capabilities and exchange data between land and air forces in complex 5th-generation air operations.²⁸² Given the threat of Russia's long-range missile strikes against Norway and other NATO countries, these operations with deep attack weapons also demonstrate the ability to hold Russia's assets at risk. The Royal Norwegian Air Force has also begun operating the first three of five P-8 Poseidon maritime patrol aircraft from Evenes to improve ISR and antisurface and antisubmarine warfare operations in the region.²⁸³

It would be prudent to review the lessons of recent exercises, such as Trident Juncture 2018, and the war in Ukraine to reassess whether Norway and its allies have sufficient pre-positioned stocks, consumables, and equipment. In addition, given Norway's relatively small army presence along Russia's border, it might also be useful to explore further the utility of low-cost, unmanned weapon systems.

With Sweden and Finland expected to join NATO in 2023, there is an opportunity to build on Norway's long-standing bilateral and trilateral defense cooperation with both those countries, particularly operational cooperation in their far northern regions (North Calotte), developing an integrated regional defense plan as part of NATO's new "family of plans" under the rubric of Deterrence and Defence of the EuroAtlantic Area (DDA).²⁸⁴ The updated statement of intent signed by the defense ministers of the three countries in November 2022 noted that their cooperation complements other Nordic trilateral cooperation among Denmark, Norway, and Sweden and other bilateral defense cooperation, as well as supports the broader objectives of Nordic defense cooperation.²⁸⁵ There is scope for

²⁸² U.S. European Command, "Bomber Task Force Europe: US Integrates with Norway and UK," February 11, 2022; and Thomas Nilsen, "With Take Off from Evenes, Norwegian F-35 Flies Mission with B-2 Bombers," *Barents Observer*, September 10, 2021.

²⁸³ "Norwegian Air Force Takes Delivery of Third P-8A Poseidon Aircraft," *Air Force Technology*, May 30, 2022.

²⁸⁴ See the "Revised NATO Military Plans, Posture, and Operational Concepts" section of this report for a discussion of the DDA. NATO Supreme Headquarters Allied Powers Europe, "Deter and Defend," webpage, undated-a.

²⁸⁵ Government of Sweden, "Defence Ministers of Finland, Norway and Sweden Signed an Updated Trilateral Statement of Intent," Ministry of Defence, November 22, 2022b.

further cooperation with allies on countering cyber threats and enhancing space-based surveillance, building on the capabilities of the Norwegian Space Agency, including Norway's four national satellites that are monitoring maritime traffic in the High North, the Andøya launch facility for small satellites in northern Norway, and ground stations.²⁸⁶

Finland and Sweden

Defense Strategy and Capabilities

Russia's war on Ukraine triggered remarkable, rapid transformations of the nonaligned foreign policies and independent defense strategies that Finland and Sweden had pursued since World War II. The brutality of Russia's attacks evoked bitter memories of Soviet incursions into Finland during the Winter War of 1939 to 1940 and the Continuation War of 1941 to 1944. Although Sweden did not share that historical experience, concerns about Russia's hostile measures and provocative military actions toward the country and its neighbors had been building for several years. Both countries initiated intergovernmental groups to review the implications of the changed security environment and concluded that national efforts could no longer provide an adequate defense and that a NATO collective defense guarantee would be the most reliable and effective way to enhance regional deterrence and ensure international assistance in an armed attack.²⁸⁷

Finland and Sweden's May 2022 decision to apply for NATO membership together was a path that had been prepared by defense cooperation with European countries and the United States that has gradually deepened over the past 30 years. Both have been active members of the Partnership for Peace since 1994 and have contributed forces to NATO-led operations in the Balkans and Afghanistan.²⁸⁸ NATO designated Finland and Sweden

²⁸⁶ See Norwegian Space Agency, "Norway's Satellites," webpage, undated-b; and Norwegian Space Agency, "Green Light for Satellite Launch Base at Andøya in Norway," webpage, undated-a.

²⁸⁷ Government of Finland, *Government Report on Changes in the Security Environment*, April 13, 2022; and Government of Sweden, "Deterioration of the Security Environment—Implications for Sweden," May 13, 2022a.

²⁸⁸ Sweden also contributed to NATO's 2011 Operation Unified Protector in Libya. Both still participate in the NATO Kosovo Force.

Enhanced Opportunity Partners in 2014 to ensure that the connections developed with their forces in these operations would be maintained and interoperability deepened. Both governments have participated in major exercises and the NATO Response Force. Both governments have also been deepening their defense cooperation with the United States under separate bilateral statements of intent concluded in 2016 and a 2018 trilateral statement of intent, which called for intensified dialogues, joint training and exercises, information exchanges, and collaboration on R&D.²⁸⁹ They have also signed host nation access and logistics agreements with the United States and NATO.

Finland's national security strategy has been based on robust territorial defense capabilities, a high level of societal preparedness and resilience, and limited international defense cooperation to receive and provide military assistance.²⁹⁰

The Finnish Defence Forces are composed of a small but highly capable active-duty force of 19,250 personnel, Europe's largest reserve force (238,000), and a wartime mobilization system capable of activating 285,000 troops within 30 days.²⁹¹ The army, with 13,400 personnel (mostly conscripts), includes mechanized and jaeger brigades, armored regiments, SOF, and helicopter battalions and is equipped with hundreds of howitzers and heavy mortars and 56 multiple rocket launchers.

Finland's navy operates missile-capable vessels, minelayers, and mine countermeasure vessels and is replacing older ships with four modern cor-

²⁸⁹ U.S. Secretary of Defense and Minister of Defence of Sweden, "Statement of Intent Between the Secretary of Defense of the United States of America and the Minister for Defence of Sweden," June 8, 2016; U.S. Secretary of Defense and Minister of Defence of the Republic of Finland, "Statement of Intent Between the Department of Defense of the United States of America and the Ministry of Defence of the Republic of Finland," October 7, 2016; and DoD, the Ministry of Defence of the Republic of Finland, and the Ministry of Defence of the Kingdom of Sweden, "Trilateral Statement of Intent Among the Department of Defense of the United States of America and the Ministry of Defence of the Republic of Finland and the Ministry of Defence of the Kingdom of Sweden," May 8, 2018.

²⁹⁰ Finnish Ministry of Defence, *Security Strategy for Society*, November 2, 2017.

²⁹¹ Finnish Army, "About Us," webpage, undated; and International Institute for Strategic Studies, 2021, pp. 99–100.

vettes. Coastal jaeger and amphibious brigades have a coastal defense mission, including maritime surveillance. The air force has three fighter squadrons that presently operate 62 F/A-18 C/Ds fitted with short-, medium-, and long-range weapons. The F/A-18s will be replaced starting in 2026 by 64 F-35A multirole fighters.²⁹² The air force also has units for reconnaissance transport tasks, supported by substantial surveillance systems.

Finland's concept for comprehensive security entails extensive preparedness and cooperation among government authorities, private businesses, nongovernmental organizations, and individual citizens to sustain the vital functions of society. It is overseen by an interdepartmental Security Committee that also coordinates civil-military cooperation.²⁹³ This national resilience effort is one of Finland's greatest strengths in maintaining deterrence and has influenced other countries seeking to enhance their total defense efforts.

Finland's 2023 defense budget of €6.1 billion reflects 2.25 percent of its GDP and a 20 percent increase over the previous year. To support its defense modernization efforts and respond to Russia's growing threat, Finland has committed to spending an additional €2.2 billion on defense over the next four years—including €788 million in 2023 and then €408 million per year until 2026.²⁹⁴

Sweden's security policy had traditionally sought to maintain the country's sovereignty and independent defense capability and nonparticipation in military alliances. However, in 2009, Sweden unilaterally adopted a solidarity declaration in line with the EU Lisbon Treaty stating that it would not remain passive if another EU member state or Nordic country were attacked and would expect those countries to take similar action if Sweden were attacked. As noted, Sweden also moved to deepen defense ties with the United States and other NATO allies.

²⁹² Finnish Air Force, "The Lockheed Martin F-35A Lightning II Is Finland's Next Multi-Role Fighter," press release, December 10, 2021.

²⁹³ Finnish Ministry of Defence, 2017.

²⁹⁴ Finnish Ministry of Defence, "Defence Budget for 2023 to Be Submitted to Parliament," press release, September 19, 2022; and "Finland Boosts Defense Spending by 2B Euros over Ukraine," *Defense Post*, April 5, 2022.

Sweden's small but highly capable armed force has 14,600 active-duty military personnel, a reserve of 11,200, and a territorial Home Guard of 20,100, all supported by a sophisticated defense industry.²⁹⁵ The army has 7,000 personnel organized into brigade-sized task forces and includes an airborne battalion; a chemical, biological, and nuclear defense company; two combat engineer battalions; and two artillery battalions. The force is equipped with Leopard 2A main battle tanks, a Patriot air defense system, CV90 IFVs, and the Archer self-propelled artillery system.²⁹⁶ Conscription was reintroduced in 2018, and the country plans to double its number of conscripts to 50,000 in 2035 from 24,000 in 2025. Sweden's air force boasts 96 multirole JAS 39 Gripen C/D jets designed for short takeoff and landing in austere, cold weather conditions. Sweden's navy operates five attack submarines, five corvettes, over 140 patrol and coastal combatants, seven mine warfare and countermining vessels, and 11 amphibious landing craft.²⁹⁷

A December 2020 defense review covering the period from 2021 to 2025 concluded that an armed attack against Sweden could not be ruled out and called for a 45 percent increase in defense spending, the formation of additional units, and a revival of the country's Total Defence plans to enhance national resilience.²⁹⁸ Parliament approved a plan that called for an increase in the size of the army from two to four brigades, an enhanced military presence on Gotland island in the Baltic Sea, the creation of a division-level command, new submarines and surface combat vessels, a new amphibious battalion, a new combat aircraft system—the JAS 39 E—to join the existing Gripen fleet to form six fighter squadrons, additional missiles and electronic warfare capabilities, new equipment for the Home Guard, and improvements to cyber defense. The plan also calls for the expansion of

²⁹⁵ The Home Guard includes mobile and regional combat units with modern equipment. Members are volunteers who sign contracts to serve a certain number of days each year in training and exercises. Swedish Ministry of Defence, "Personalsiffror" ["Personnel Figures"], December 2021.

²⁹⁶ John R. Deni, *Finland and Sweden in NATO: Looking Beyond Madrid*, Atlantic Council Scowcroft Center for Strategy and Security, November 2022.

²⁹⁷ International Institute for Strategic Studies, 2021, pp. 148–149.

²⁹⁸ Government of Sweden, "Objectives for Swedish Total Defence 2021–2025—Government Bill 'Totalförsvaret 2021–2025,'" December 18, 2020.

the mobilized wartime force structure from 60,000 to 90,000 personnel. In April 2022, the Swedish parliament approved a further increase in defense spending, and the government subsequently accelerated its plan to spend 2 percent of GDP on defense by 2026 rather than 2028.²⁹⁹

Options to Enhance Unity of Effort

An important benefit of Finland's and Sweden's membership in NATO is fully integrated and assured NATO planning for the defense of the Nordic Baltic region. This planning calls for integrating Finland and Sweden into NATO's exercise cycle and making new arrangements to connect existing national headquarters to NATO command and control elements. It may also warrant predeployment of allied equipment and munitions to enhance reinforcement plans.

The Finnish Army is capable of defending its 830-mile border with Russia for an extended period of time. What Finland seeks from NATO allies is assurance of resupply and reinforcement in the event of an overwhelming attack and real-time intelligence-sharing during crises. The information-sharing, access, and status of forces agreements that are already in place with NATO and the United States and other allies provide a sound foundation for this.

Selection of the F-35A as the Finnish Air Force's next multirole fighter will continue to solidify the air force's role as among Europe's most capable.³⁰⁰ Finland's air force has announced that the first F-35s will be stationed at the country's northernmost air base, close to the Kola Peninsula.³⁰¹ This decision provides an opportunity to integrate Norway's F-35s and Sweden's advanced aircraft to enhance NATO's Quick Action Alert defense of allied airspace and counter Russia's air operations in the High North. NATO access to Sweden's airspace and bases, along with its advanced air combat

²⁹⁹ Lars Hoffmann, "Swedish Army to Build Four Fully Equipped Brigades," *European Security & Defence*, May 16, 2022; and Swedish Armed Forces, "Rickard Johansson Is New Commander of the First Division," October 18, 2022.

³⁰⁰ Gene Germanovich, "Complex—but Promising—Prospects as Finland and Sweden Mull NATO Membership," *RAND Blog*, March 3, 2022.

³⁰¹ Thomas Nilsen, "Finland's First F-35s Will Be Based up North," *Barents Observer*, May 28, 2022a.

capabilities that have experience working with NATO, will also greatly enhance defense of the Baltic-Nordic region.

Sweden's navy brings highly capable littoral and undersea warfare capabilities and unique experience in Baltic operations to the Alliance. Finland's navy also has well-regarded minelaying and countermining capabilities, which the United States and other allies lack. As a 2021 RAND study suggested, "Finland could pursue deeper naval cooperation with Sweden, individual NATO members, and NATO's Allied Maritime Command, including by sharing maritime surveillance information and conducting regular deployments and exercises with NATO's Standing Mine Countermeasures Group 1."³⁰² These steps would enhance interoperability and strengthen NATO's collective capacity to deter or constrain Russia's naval and amphibious operations in the Baltic Sea region.

Türkiye

Defense Strategy and Capabilities

Over the past two decades, Türkiye's volatile and increasingly authoritarian politics, assertive foreign and security policies, and sometimes divergent interests have strained relations with the United States and Europe. Nevertheless, enduring mutual interests, treaty commitments, and Türkiye's geostrategic importance have sustained the country's Western security ties. Military-to-military cooperation with the United States and several other NATO allies remains strong—albeit periodically subject to constraints, particularly vis-à-vis Russia.³⁰³

Ankara has been balancing relations between its allies and Moscow to protect several national interests where Russia has an upper hand. It has also undertaken aggressive actions against NATO allies to advance vari-

³⁰² Gene Germanovich, James Black, Linda Slapakova, Stephen J. Flanagan, and Theodora Ogden, *Enhancing US-Finnish and Regional Defence Cooperation: An Exploratory Analysis*, RAND Corporation, RR-A1424-1, 2021, p. 22.

³⁰³ For a detailed analysis of Türkiye's foreign policy and U.S.-Türkiye defense relations, see Stephen J. Flanagan, F. Stephen Larrabee, Anika Binnendijk, Katherine Costello, Shira Efron, James Hoobler, Magdalena Kirchner, Jeffrey Martini, Alireza Nader, and Peter A. Wilson, *Turkey's Nationalist Course: Implications for the U.S.-Turkish Strategic Partnership and the U.S. Army*, RAND Corporation, RR-2589-A, 2020.

ous territorial and maritime claims.³⁰⁴ However, Russia's brutal aggression against Ukraine has heightened Ankara's awareness that Moscow poses a threat to a variety of Turkish regional and global interests. This motivated President Recep Tayyip Erdoğan in early to mid-2022 to repair relations and cautiously bolster security cooperation with NATO allies. Türkiye has provided Kyiv with valuable political support and security assistance and, following Russia's invasion of Ukraine, closed the Turkish straits to the transit of naval vessels and worked with Russia and the United Nations to broker the July 2022 deal that facilitated safe passage of grain from Ukraine's Black Sea ports. However, as his domestic difficulties mounted in 2022, Erdoğan undertook several foreign policy actions to divert public attention and raise his stature, including demanding conditions for ratifying Sweden's and Finland's membership in NATO, claiming that Greece is militarizing several of the Aegean Islands, alleging that the growing U.S. military presence in Greece is directed at Türkiye and not part of enhanced deterrence of Russia, and threatening another military intervention in Syria.³⁰⁵

Türkiye's large armored and mechanized land forces (which consist of 260,200 active personnel) are structured for national defense and have been focused on counterterrorism operations in Syria and in the southeast of the country. However, they have also made significant contributions to NATO missions in Afghanistan and the Balkans. Türkiye also hosts NATO Land Forces Command in Izmir and the U.S. early-warning radar system in Kürecik that is part of the European Phased Adaptive Approach to missile defense.

The Turkish Air Force maintains a fleet of over 300 combat aircraft. Cooperation with the U.S. Air Force has been consistently strong, including Türkiye's hosting of the 39th U.S. Air Base Wing, as well as contingents from other NATO countries, at İncirlik Air Base, and regular exercises, such

³⁰⁴ For example, Türkiye's navy harassed a French naval vessel off the coast of Libya in June 2020 and nearly had a confrontation with Greece's navy in the Aegean in July–August 2020. See “NATO to Probe France-Turkey Naval Incident in Mediterranean,” France 24, June 18, 2020.

³⁰⁵ Selcan Hacaoglu and Sotiris Nikas, “Erdogan Warns Greece over Troops on Aegean Islands at Drills,” Bloomberg, June 9, 2022.

as the Türkiye-led Anatolian Eagle.³⁰⁶ Türkiye also hosts periodic exercises and training by U.S. and other allied units at its Konya Air Base, which is also a forward operating base for NATO AWACS aircraft involved in monitoring Russia's operations in Ukraine.³⁰⁷ Türkiye has also supported NATO's air policing mission in southeastern Europe.

Türkiye's navy is undertaking aggressive modernization efforts via the National Ship (MILGEM) project with planned procurement of 15 ships and submarines, as well as the TCG *Anadolu*, a modern amphibious assault ship that also functions as a light aircraft carrier, and several other amphibious ships.³⁰⁸ Türkiye's navy routinely contributes to the Standing NATO Maritime Group 2 and the Standing NATO Mine Countermeasures Group 2 operating in the Mediterranean; participates in Alliance and multinational exercises; and deploys forces in support of maritime situational awareness and partnership activities, including through Operation Sea Guardian.³⁰⁹ Türkiye recently joined as a participant in NATO's leading forum for amphibious cooperation.³¹⁰ The Turkish and U.S. navies conduct regular passing exercises, and carrier strike group air wings have conducted training with the Turkish Air Force.

Options to Enhance Unity of Effort

Following President Erdoğan's reelection to a five-year term in May 2023, Türkiye will likely continue to balance relations with Moscow and its allies

³⁰⁶ U.S. Air Force, "Incirlik Air Base History," webpage, undated.

³⁰⁷ NATO Airborne Early Warning and Control Force, "FOB Konya," webpage, undated; and NATO, "Multiple Tasks for NATO AWACS During First Konya Deployment in 2022," January 20, 2022a.

³⁰⁸ "Turkey's Naval Ambitions See More Domestic Firms Rising to the Challenge," *TRT World*, June 4, 2020.

³⁰⁹ Allied Maritime Command, "NATO Ships Set Sail Third Focused Patrol of NATO Operation Sea Guardian," press release, April 28, 2022.

³¹⁰ The NATO Amphibious Leaders Expeditionary Symposium (NALES) and the related NALES delivery board serve as the Alliance's main forum for conceptual planning and military advice on amphibious matters. NATO's Allied Maritime Command organizes NALES and runs the NALES delivery board. See, for example, Megan Eckstein, "NATO Maritime Commander: Allies Are Coming Up with Modern Littoral Warfare Concepts, and NATO Needs to Exercise Them," *USNI News*, May 20, 2021.

and be reticent to contribute more of its military capabilities to allied efforts to deter Russia's further aggression in the Black Sea region and beyond.

One area of possible enhanced cooperation relates to NATO's amphibious capabilities. The Turkish Naval Forces could soon be on par with Europe's major amphibious powers, able to deploy a contingent of marines aboard the new TCG *Anadolu*, which will likely be initially fitted with UAVs, including the TB-3 Bayraktar—the marinized version of the now-ubiquitous TB-2. This development opens the door to new elements of security cooperation with the United States and other NATO allies. These could include humanitarian assistance and disaster relief; noncombatant evacuation operations; counterterrorism; counterpiracy missions; and, if Türkiye's position on Russia were to harden, deterrence and defense operations in the Black Sea and Eastern Mediterranean.

The United States and Türkiye have maintained a long-standing defense trade relationship, which has included a consortium to coproduce most of Türkiye's 240 F-16s and a level-three partnership in the Joint Strike Fighter program (DoD suspended Ankara from the program following the delivery of Russia's S-400 air defense units to Türkiye in July 2019). In late 2021, Türkiye officials announced that they had filed a request with U.S. authorities to purchase 40 of the latest model of F-16 fighter aircraft (Block 70) and upgrade kits for 80 older-model F-16s.³¹¹ This acquisition is designed to extend the life of the existing force and provide Türkiye's defense industry with time to develop a planned indigenous fifth-generation fighter aircraft, called the TF-X. In April 2022, the Biden administration notified Congress of its intent to sell Türkiye the upgrades for the existing F-16s, along with short- and medium-range air-to-air missiles, citing Türkiye's support for and defense ties with Ukraine and asserting that the sale would help maintain Alliance unity and capabilities and serve U.S. national security, economic, and commercial interests.³¹² Some members of Congress expressed willingness to support the sale. After Türkiye supported the Madrid Summit invitation for Sweden and Finland to commence NATO accession talks, the

³¹¹ Jim Zanotti and Clayton Thomas, *Turkey: Background and U.S. Relations in Brief*, Congressional Research Service, RR44000, updated June 7, 2022, p. 12.

³¹² Daniel Flatley and Selcan Hacaoglu, "Turkey Wins Biden Backing for Its F-16 Fighter Jets Upgrade," Bloomberg, May 12, 2022.

Biden administration expressed its support for the modernization of Türkiye's fighter fleet as a contribution to U.S. and allied security.³¹³ Following Erdoğan's reelection in May 2023, President Biden stated explicitly that he would support the F-16 deal if Türkiye ratified Sweden's accession to NATO as it had ratified Finland's accession to NATO in March.³¹⁴

Türkiye's defense industry has grown dramatically over the past 15 years. Türkiye has emerged as a major arms exporter and force in international defense industrial cooperation deriving from its success in developing low-cost, leading-edge technologies, particularly in remotely piloted vehicles that have been sold to Ukraine and Poland. The industry now provides for roughly 70 percent of domestic military requirements.³¹⁵ It could continue to be a supplier of affordable but effective systems to allies in Central and Eastern Europe.

Finally, Türkiye's engagement in the Persian Gulf and the Horn of Africa, including military bases in Qatar and Somalia and counterterrorism training programs in Sudan, coupled with its growing naval and amphibious capabilities, offers the prospect of enhancing allied burden-sharing in dealing with regional security threats, particularly as U.S. forces continue their rebalance to the Indo-Pacific.

Revised NATO Military Plans, Posture, and Operational Concepts

After two decades of focusing on expeditionary cooperative security and crisis management operations, NATO has shifted its planning to reprioritize collective deterrence and territorial defense of the Euro-Atlantic area.

Member nations have collectively undertaken considerable efforts to strengthen the Alliance's posture and deliver on commitments made since 2014. These efforts include the following:

³¹³ Humeyra Pamuk and Andrea Shalal, "Biden Supports F-16 Sale to Turkey, Is Confident About Congressional Approval," Reuters, June 30, 2022.

³¹⁴ Oliver Knox, "Erdoğan's Win and What It Means for NATO Expansion," *Washington Post*, May 30, 2023.

³¹⁵ Ferhat Gurini, "Turkey's Unpromising Defense Industry," Carnegie Endowment for International Peace, October 9, 2020.

- the 2014 Readiness Action Plan,³¹⁶ which augmented operational capabilities and exercises on the eastern flank and in which allies agreed to
 - triple the size of the NATO Response Force to approximately 40,000 personnel and create a VJTF with 20,000 personnel, including a multinational land brigade and air, maritime, and SOF components, each led by various allies on a rotational basis; leading elements of the VJTF are ready to move within two to three days
 - create the Initial Follow-On Forces Group comprising two multinational brigades that can deploy quickly behind the VJTF
- the establishment of NATO Force Integration Units—small headquarters in Central and Eastern Europe that are designed to facilitate reception, staging, onward movement, and integration (RSOI) of reinforcing NATO forces with the host nation³¹⁷
- the deployment in 2017 of the eFP group composed of four multinational battalion-sized BGs in Estonia, Latvia, Lithuania, and Poland and the development of a tailored presence on land, at sea, and in the air in southeastern Europe³¹⁸
- the 2016 NATO baseline requirements for national resilience to improve civil preparedness, support the effective enablement of NATO forces, and bolster “individual and collective capacity to resist any form of armed attack”³¹⁹
- the 2018 NATO Readiness Initiative designed to restore a culture of readiness of national forces and their ability to move within Europe and across the Atlantic, including a commitment to provide an additional 30 heavy or medium maneuver battalions, 30 air squadrons, and 30 major naval combat vessels ready to fight within 30 days³²⁰

³¹⁶ NATO, “NATO’s Readiness Action Plan,” fact sheet, July 2016a.

³¹⁷ NATO, “NATO Force Integration Units,” fact sheet, September 2015b.

³¹⁸ NATO Supreme Headquarters Allied Powers Europe, “Enhanced Forward Presence,” webpage, undated-b.

³¹⁹ NATO, 1949, Article 3.

³²⁰ NATO, “NATO Readiness Initiative,” June 2018a.

- an updated threat assessment³²¹
- the 2020 DDA—a new military strategy establishing strategic objectives and the ways and means to implement them³²²
- the 2021 NATO Warfighting Capstone Concept outlining an overarching, adversary-centric plan guiding warfare development for the next 20 years.³²³

SOF from many NATO and partner countries deepened their interoperability through their engagement in operations in Afghanistan and Iraq and, since that time, have participated in regular training exercises with U.S. and other SOF that enhance their readiness. NATO's Special Operations Command Headquarters, under operational command of SACEUR, plays a vital role in training, doctrinal development, advocacy, and coordination to ensure that national SOF units meet NATO requirements and are ready to support NATO and other multinational operations against all threats, particularly from Russia and terrorist organizations.³²⁴ In addition, groups of allied and partner SOF have formed two deployable special operations command and control elements to meet NATO requirements.³²⁵

At the 2016 Warsaw Summit, allies agreed to develop “the fullest range” of cyber capabilities to defend national infrastructures and networks.³²⁶ This encompasses addressing cyber defense at the highest strategic level, further integrating cyber defense into operations, extending coverage to deploy-

³²¹ NATO Supreme Headquarters Allied Powers Europe, undated-a.

³²² NATO Supreme Headquarters Allied Powers Europe, undated-a.

³²³ Allied Command Transformation, “The NATO Warfighting Capstone Concept,” North Atlantic Treaty Organization, 2023.

³²⁴ NATO, “Special Operations Forces,” webpage, February 24, 2015a; and NATO, “NATO Special Operations Headquarters (NSHQ),” webpage, undated.

³²⁵ Belgium, Denmark, and the Netherlands formed the Composite Special Operations Component Command. See NATO, “Three Allies Establish Special Forces Command,” June 7, 2018b. Four allies and one partner nation from Central and Eastern Europe, with Hungary as a framework nation, formed the Regional Special Operations Component Command, which is supported by Poland and the United States. See NATO, “Regional Special Operations Component Command (R-SOCC),” fact sheet, February 2022b.

³²⁶ NATO, *Cyber Defense Pledge*, July 8, 2016b, paragraph 5.

able networks, and allocating adequate resources nationally to strengthen cyber defense capabilities. Facing increasing cyberattacks and persisting vulnerabilities, at the 2022 Madrid Summit, allies pledged to boost resilience against cyber and hybrid threats. To this end, allies, “on a voluntary basis and using national assets,” will launch a virtual rapid response cyber capability to address significant malicious cyber activities.³²⁷ The United States pledged to offer robust national capabilities and should encourage European allies to do so as well.³²⁸

Allies have also made progress in implementing NATO’s Defense Investment Pledge, which calls for spending at least 2 percent of GDP on defense by 2024, through increasing defense spending and investing in major equipment. Although the goal remains aspirational for some nations, total defense spending by European allies and Canada has increased for eight straight years, and the cumulative total of additional defense spending from 2012 through 2021 was over \$260 billion (see Figures 3.3 and 3.4). However, as the Defense Investment Pledge comes to an end in 2024, allies must continue to develop adequate defense spending targets to ensure the Alliance’s military readiness and agree on subsequent commitments beyond 2024.

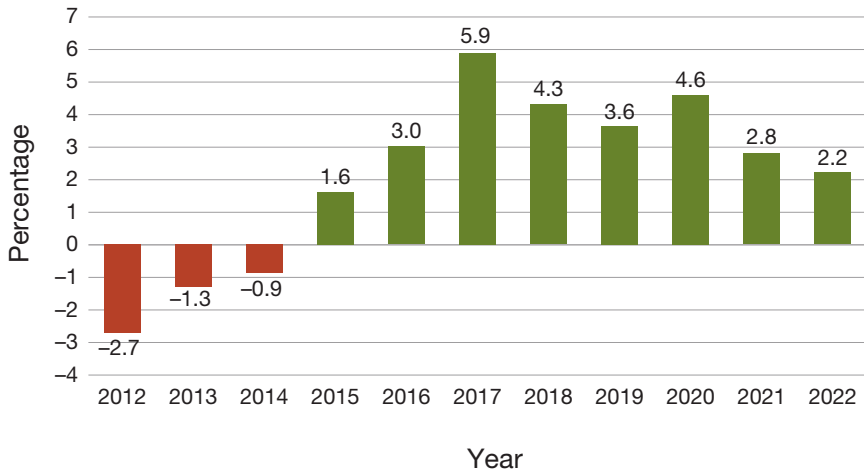
The DDA, approved in 2020, focuses on force employment to deter and defend against current threats. The DDA established a mechanism for rapid force employment in a period of heightened tensions or crisis to deter and defend NATO territory. SACEUR can now initiate enhanced vigilance activities in the context of heightened tensions. In addition, the DDA has initiated development of a new family of NATO defense plans to replace the graduated response plans. These include a strategic plan for defense of the entire North Atlantic area and new operational plans for all the Alliance’s regions and domains that are more flexible than earlier plans and designed to drive NATO force structure, operations, activities, and investments.³²⁹ The NATO Warfighting Capstone Concept, approved in 2021 and being developed by Allied Command Transformation, seeks to identify capabilities that will maintain NATO’s military advantage over the next 20 years,

³²⁷ NATO, *Madrid Summit Declaration*, June 29, 2022h, paragraph 10.

³²⁸ White House, 2022a.

³²⁹ NATO Supreme Headquarters Allied Powers Europe, undated-a.

FIGURE 3.3

NATO Europe and Canada Growth in Defense Expenditures, 2012–2022

SOURCE: NATO, "Defence Expenditure of NATO Countries (2014–2022)," March 21, 2023c.

NOTE: Based on 2015 prices and exchange rates. Figures for 2022 are estimates. The NATO Europe and Canada aggregate from 2017 onward includes Montenegro, which became an ally on June 5, 2017, and from 2020 onward includes North Macedonia, which became an ally on March 27, 2020.

such as cognitive superiority, integrated multidomain defense, and cross-domain command.

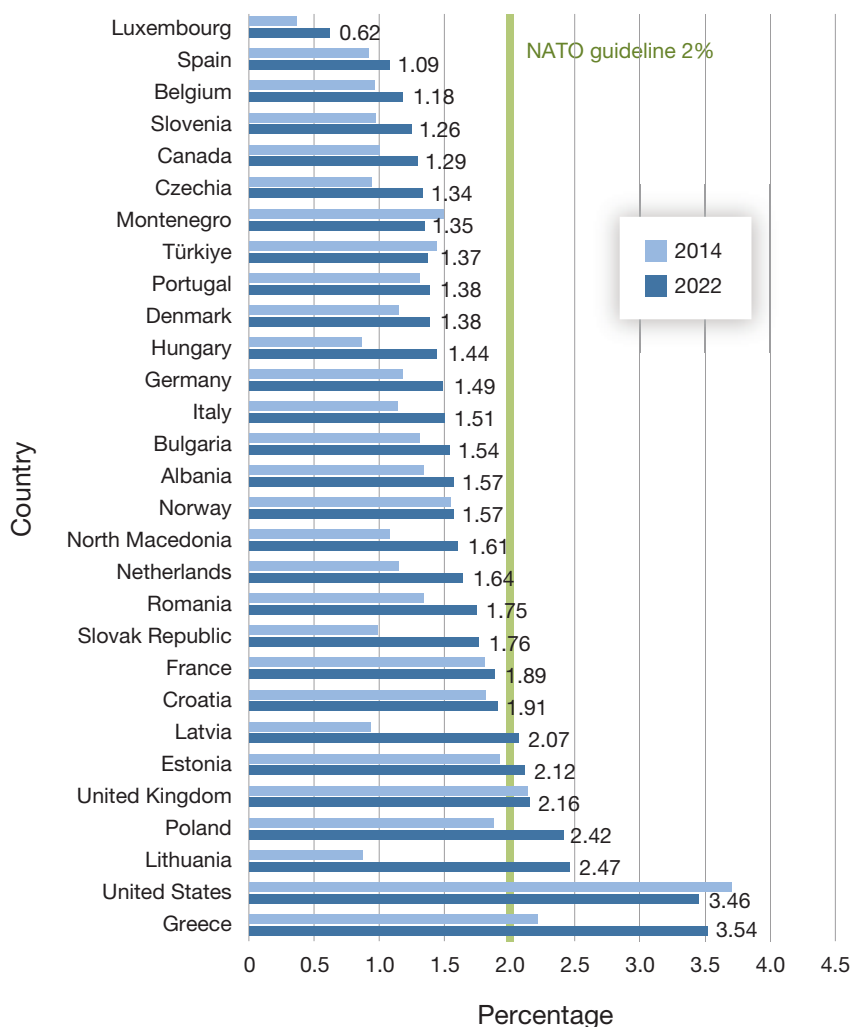
These endeavors laid the groundwork for NATO's decisive and concerted response to Russia's aggression against Ukraine in February 2022. Almost immediately, NATO was able to activate its defense plans, deploy elements of the NATO Response Force, and increase the number of forces on the eastern flank and, in March, agreed to deploy four additional BGs in Bulgaria, Hungary, Romania, and the Slovak Republic.

At the June 2022 Madrid Summit, NATO leaders endorsed a new strategic concept, which underscores that Russia is the most significant and direct threat to allies' security and to peace and stability in the Euro-Atlantic area.³³⁰ Allies also decided to deploy additional "robust in-place

³³⁰ NATO, *NATO 2022 Strategic Concept*, June 29, 2022i.

FIGURE 3.4

NATO Defense Expenditures as a Share of Gross Domestic Product, 2014–2022



SOURCE: Adapted from NATO, 2023c.

NOTE: Based on 2015 prices and exchange rates. Figures for 2022 are estimates.

combat-ready forces” to NATO’s eastern flank, expanded from the current battalion-sized BGs to brigade-size units “when and where required” and underpinned by³³¹

- more pre-positioned equipment and weapon stockpiles
- more forward-deployed capabilities, including IAMD systems
- strengthened command and control
- upgraded defense plans, with specific forces preassigned to the defense of specific allies.

In addition, the new NATO Force Model, anticipated to replace the current NATO Response Force in 2023, aims to provide more than 300,000 troops at high readiness supported by prudent planning options that SACEUR can initiate under various circumstances to respond quickly to emerging threats (see Figure 3.5).³³² It remains to be seen whether allied armed forces will achieve the levels of readiness required to meet the Force Model’s ambitious goals.

NATO’s deterrence and defense posture rests on maintaining an appropriate mix of nuclear, conventional, and missile defense capabilities, complemented by cyber and space capabilities.³³³ Allied governments have repeatedly affirmed that NATO remains a nuclear alliance, backed by the U.S. strategic deterrent and U.S. nonstrategic nuclear forces forward deployed in Europe and supported by allies participating in NATO’s nuclear mission, while noting the contribution to deterrence played by the independent nuclear capabilities of the United Kingdom and France. At the May 2012 Chicago Summit, NATO leaders endorsed the findings of the Deterrence and Defence Posture Review initiated at a time when some allies were contemplating withdrawal from the nuclear mission. The leaders declared that “NATO is committed to maintaining an appropriate mix of nuclear, conventional, and missile defence capabilities for deterrence and defence

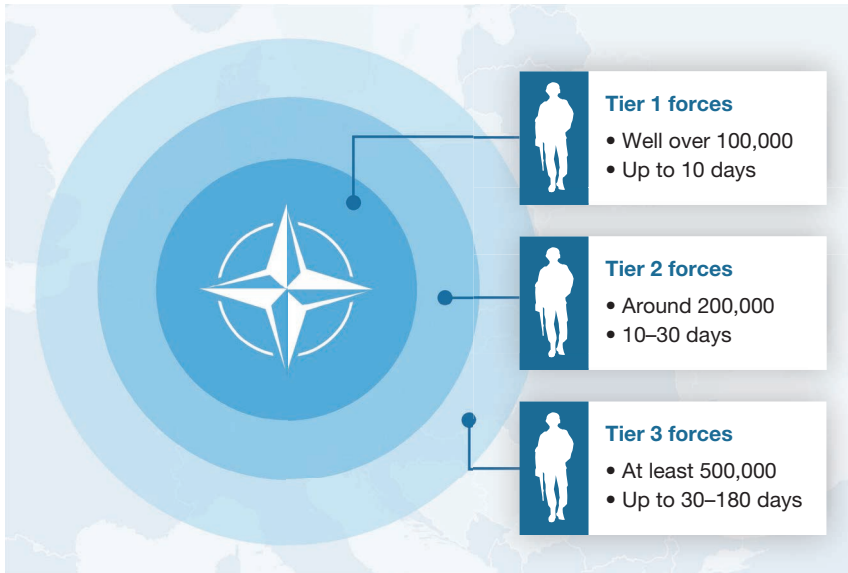
³³¹ NATO, 2022h, paragraph 9.

³³² NATO, “New NATO Source Model,” infographic, June 29, 2022j.

³³³ NATO, 2022i, paragraph 20.

FIGURE 3.5

New NATO Force Model



SOURCE: Adapted from NATO, 2022j.

to fulfil its commitments.”³³⁴ At the 2018 Brussels Summit, allied leaders further affirmed and strengthened these principles. The Brussels document articulated NATO’s nuclear first-use policy option; called for significant investments to modernize and enhance the survivability of the nuclear elements of NATO’s deterrent posture; and, for the first time, stated that “NATO’s nuclear deterrence posture relies on United States’ nuclear weapons forward-deployed in Europe and the capabilities and infrastructure provided by Allies concerned.”³³⁵ Putin’s boasting about his advanced nuclear capabilities and repeated threats about possible use of nuclear

³³⁴ NATO, “Deterrence and Defence Posture Review,” May 20, 2012, paragraph 31.

³³⁵ Robert Bell, “The Challenges of NATO Nuclear Policy: Alliance Management Under the Trump Administration,” Finnish Institute of International Affairs, Working Paper 105, October 5, 2018; and NATO, “Brussels Summit Declaration,” press release, July 11, 2018c, paragraphs 34–36.

weapons since the invasion of Ukraine have made it even more urgent for allies to underscore the nuclear dimension of deterrence. As noted, several allies have supported U.S. Bomber Task Force missions in Europe over the past decade that demonstrate the linkage between U.S. strategic forces and NATO's conventional forces in maintaining deterrence.

Although the Alliance's military capabilities are largely contingent on national defense investment decisions and commitments, NATO's common-funded capabilities—joint ISR, air command and control, BMD, and the Alliance Future Surveillance and Control initiative (replacing AWACS in 2035)—are essential to connect and link national forces and capabilities into a whole that is greater than the sum of its parts. At the 2022 Madrid Summit, allies agreed to increase NATO common funding and continue to invest in key capabilities.

Furthermore, allies began to recognize the need to invest in resilience as essential to “maintain and develop their individual and collective capacity to resist armed attack.”³³⁶ NATO's seven baseline requirements for resilience endorsed at the 2016 Warsaw Summit are

- assured continuity of government and critical government services
- resilient energy supplies
- the ability to deal effectively with the uncontrolled movement of people while deconflicting them from NATO's military deployments
- food and water resources that are safe from disruption or sabotage
- the ability to deal with mass casualties while ensuring that civilian health systems can cope and that sufficient medical supplies are stocked and secure
- resilient civil communications systems ensuring that telecommunications and cyber networks function even under crisis conditions, with sufficient back-up capacity
- resilient transportation systems that allow NATO forces to rapidly move across Alliance territory and enable civilian services to rely on transportation networks in a crisis.

³³⁶ NATO, 1949, Article 3.

NATO has developed an initial set of evaluation criteria to facilitate national resilience self-assessment efforts, and it has been assessing the state of the Alliance’s resilience every two years since 2018. Nevertheless, many shortfalls persist. Increasingly contested logistics, vulnerable transport infrastructure, dependence on Russia’s gas supplies, and the emergence of cyber and hybrid threats require better operationalization of collective resilience objectives and nationally developed goals, as well as robust follow-through mechanisms to assess, review, and monitor progress.³³⁷

Moreover, European allies—especially those who devote significant efforts to “strategic preparation in the form of investments in military readiness and infrastructure” and view Russia as a direct threat to their own and Euro-Atlantic security—have been providing substantial support to Ukraine.³³⁸ The Ukraine Support Tracker, developed by the Kiel Institute for the World Economy, lists and quantifies military, financial, and humanitarian aid pledged by governments (in government-to-government transfers) to Ukraine.³³⁹ As of January 15, 2023, the United States had pledged \$77.5 billion (50 percent) of overall governmental assistance to Ukraine, while the total value of commitments made by EU members and institutions was roughly \$58.4 billion. The U.S. government is also the largest bilateral donor of military assistance (\$47.1 billion), followed by the UK (\$5.2 billion), Poland (\$2.58 billion), Germany (\$2.51 billion), and Canada (\$1.37 billion). France has pledged \$0.70 billion, Norway \$0.63 billion, Sweden \$0.58 billion, Finland \$0.22 billion, Türkiye \$0.065 billion, and Romania \$0.003 billion. In terms of military aid as a percentage of GDP, the Baltic states are the top three donor countries.³⁴⁰ EU governments have pledged an additional \$3.3 billion for lethal and nonlethal military assistance through the European Peace Facility; however, this will be used to reimburse EU member

³³⁷ Anna M. Dowd and Cynthia R. Cook, “Bolstering Collective Resilience in Europe,” Center for Strategic and International Studies, December 2022.

³³⁸ Alexander Lanoszka and Jordan Becker, “The Art of Partial Commitment: The Politics of Military Assistance to Ukraine,” *Post-Soviet Affairs*, Vol. 39, No. 3, 2023.

³³⁹ Kiel Institute for the World Economy, undated.

³⁴⁰ Estonia ranks first, having committed 1.054 percent of its GDP (\$0.33 billion); Latvia second, with 0.919 percent of GDP (\$0.31 billion); and Lithuania third, with 0.52 percent of GDP (\$0.30 billion).

states for the expenses of transferring weapons to Ukraine and for maintenance and repair of military equipment already donated to Ukraine.³⁴¹

Weapon deliveries to Ukraine are overseen by the UK-led International Donor Coordination Centre at U.S. Army Europe Headquarters in Wiesbaden, Germany. DoD has also established the Security Assistance Group-Ukraine—a dedicated headquarters element in Wiesbaden under U.S. European Command—to continue to support Ukraine over the long term.³⁴² In addition, in December 2022, the EU, with the support of the 24 EU member states, launched the EU Military Assistance Mission in support of Ukraine. Colocated with the multinational Combined Arms Training Command established in Poland, it provides training on medical assistance, CBRN, demining, logistics, communication, and maintenance and repair at basic, advanced, and specialized levels to Ukraine’s armed forces personnel.³⁴³ A multinational Special Training Command led by Germany further enhances training assistance provided by the EU.

Options for Strengthening Unity of Effort

Russia’s aggression against Ukraine has fundamentally challenged post-Cold War assumptions about Euro-Atlantic security and territorial integrity, creating a sense of urgency for NATO and allies to refocus efforts to bolster warfighting capabilities. There is a pressing need to ensure that allies deliver on political statements and commitments to invest more in their own defense and keep focus on what NATO Secretary General Jens Stoltenberg calls *the three Cs*: cash, capabilities, and contributions to missions and operations.

Given the likely reconstitution of Russian ground forces over the next two to five years, at NATO’s July 2023 Vilnius Summit and beyond, the

³⁴¹ Christoph Trebesch, Arianna Antezza, Katelyn Bushnell, Andre Frank, Pascal Frank, Lukas Franz, Ivan Kharitonov, Bharath Kumar, Ekaterina Rebinskaya, and Stefan Schramm, “The Ukraine Support Tracker: Which Countries Help Ukraine and How?” Kiel Institute for the World Economy, Working Paper No. 2218, February 2023, p. 11.

³⁴² U.S. Army Europe and Africa, “US Department of Defense Establishes Security Assistance Group-Ukraine in Wiesbaden,” press release, November 16, 2022.

³⁴³ European Union External Action Service, “About EU Military Assistance Mission in Support of Ukraine (EUMAM Ukraine),” December 8, 2022.

United States should work closely with NATO and allies to step up and augment implementation of decisions taken at the Madrid Summit to strengthen deterrence and forward defenses, enhance collective exercises to better prepare for high-intensity operations, and ensure reinforcement of any ally on short notice. In particular, allies should provide forces to bring the eight BGs along NATO's eastern flank to brigade strength, as called for at the Madrid Summit but with qualifications.

Sustaining security assistance and training for Ukraine to bolster its self-defense capabilities is in the long-term security interest of the Alliance and requires further coordination among allies. At the Vilnius Summit, NATO allies should offer Kyiv assurances of long-term security assistance and a clear path to NATO membership. There are several options being considered to advance these goals. They include offering Ukraine a NATO Membership Action Plan, akin to plans that guided Central and East European countries to NATO accession in 1999 and 2004, or a Deterrence and Defense Partnership—a commitment to arm, train, and equip Ukrainian forces to enhance their defense capabilities and a postwar security guarantee until allies are prepared to invite Ukraine to begin NATO accession talks.³⁴⁴ In addition, some allies favor offering Ukraine membership “when conditions allow,” even if Ukraine remains divided under Russian occupation, in line with West Germany's admission to NATO in 1955 when half the country was still occupied by Soviet forces.³⁴⁵

NATO's continued partnership activities with Georgia and Moldova, together with security assistance provided by individual allies, help both countries to strengthen their sovereignty and security in the context of Russia's enduring intimidation. Finally, NATO's Kosovo Force Mission and continued engagement with Bosnia and Herzegovina through the Partnership for Peace and its support for EU Mission Althea remain important con-

³⁴⁴ Hans Binnendijk and Franklin D. Kramer, “Providing Long-Term Security for Ukraine: NATO Membership and Other Security Options,” Atlantic Council, May 23, 2023; and Ian Brzezinski and Alexander Vershbow, “Memo to NATO Leaders: Decisive Action Needed at NATO's Vilnius Summit on Ukraine and the Completion of Europe,” Atlantic Council, April 14, 2022.

³⁴⁵ Steven Erlanger, “If a Divided Germany Could Enter NATO, Why Not Ukraine?” *New York Times*, May 26, 2023.

tributions to peace, stability, and countering Russia's malign influence in the West Balkans.

NATO-EU cooperation is another essential element of enhancing unity of effort on transatlantic security and defense. Political consultations, policy coordination, and practical cooperation between the two organizations have expanded significantly in recent years. Leaders of the two organizations agreed on 74 areas of cooperation in 2016 and 2017 with regular progress reviews that have produced concrete results. These initiatives have included dialogues on resilience, strategic communications, and countering foreign disinformation and interference; efforts to promote coherence between NATO and EU defense planning processes and capability development; exchanges on military mobility; and staff dialogues on various aspects of assistance to Ukraine.³⁴⁶ Russia's war on Ukraine has given added momentum to this cooperation. NATO and the EU have taken common stances, condemning Russia's aggression and supporting Ukraine's sovereignty, territorial integrity, and self-defense efforts. The two organizations have also taken steps to reassure their member countries in Central and Eastern Europe that feel the most vulnerable to possible widening of Russia's aggression. On January 10, 2023, NATO and EU leaders signed their third declaration on cooperation, vowing to take their partnership "to the next level."³⁴⁷ The 2023 document calls for further efforts on geostrategic competition, resilience, and the protection of critical infrastructures. Other priority areas of work include emerging and disruptive technologies, space, and the security implications of climate change.

NATO's resilience is underpinned by member nations' political cohesion and commitment to upholding transatlantic values and the Alliance's founding principles enshrined in the preamble to the North Atlantic Treaty "to safeguard the freedom, common heritage and civilisation of their peoples, founded on the principles of democracy, individual liberty and the

³⁴⁶ NATO, *Seventh Progress Report on the Implementation of the Common Set of Proposals Endorsed by EU and NATO Councils on 6 December 2016 and 5 December 2017*, June 20, 2022f.

³⁴⁷ NATO, "NATO and European Union Leadership Sign Third Joint Declaration," January 10, 2023a.

rule of law.”³⁴⁸ Democratic backsliding in Hungary, Türkiye, and Poland remains a serious concern that must be addressed. As U.S. Secretary of State Antony Blinken underscored during his first visit to NATO headquarters, “We also have to hold one another [accountable] to the values at the heart of our alliances. . . . We all must speak up when countries backslide from democracy and human rights. . . . We also must help those countries move in the right direction.”³⁴⁹

Although the war in Ukraine has further united the Alliance in the face of a common threat and prompted European allies to shore up their defenses and take on larger responsibilities, it has also exposed serious vulnerabilities that, if left unchecked, will weaken NATO’s ability to respond to unfolding crises in the future. The critical shortfalls in battle-decisive munitions recently addressed by NATO defense ministers demand urgent action to increase defense industrial capacity and replenish stockpiles.³⁵⁰

³⁴⁸ NATO, 1949.

³⁴⁹ Antony J. Blinken, “Reaffirming and Reimagining America’s Alliances,” speech at North Atlantic Treaty Organization Headquarters Agora, March 24, 2021.

³⁵⁰ Henry Foy and Barbara Erling, “NATO Is in Ammunition Race Against Russia in Ukraine, Says Stoltenberg,” *Financial Times*, February 13, 2023.

TABLE 3.2

Allied Strengths, Shortfalls, and Opportunities to Enhance Unity of Effort

Ally	Strengths	Shortfalls	Opportunities
France	• Substantial experience in expeditionary joint operations • Heavy ground forces, artillery • Advanced short- and medium-range air defenses • More than 200 advanced combat aircraft • Sizable maritime power projection forces: a carrier and three amphibious assault ships • Widespread sizable ground and naval presence in South Pacific • Significant investment in strategic deterrent—four new SSBNs • Major investments in space situational awareness and active defenses	• Limited capacity to sustain high-end combat • Limited tanks, MLRSs, munitions • Suppression of enemy air defenses, aircraft maintenance, medium-range air defense • Limited quantity of transport and tanker aircraft, constraining intratheater mobility • Procurement delays that limit naval operations	• Capitalize on strong military-to-military relations with all U.S. services • Continue to deepen interoperability with the U.S. Army for high-end warfighting • Cooperate in a NATO BG in Romania to enhance deterrence and defense in southeast Europe • Cooperate with the United States on electronic warfare, countering massed precision fires, air defenses, and air mobility to help mitigate French shortfalls • Engage in dual-carrier operations with the United States and other navies in Europe and South Pacific • Further integrate space capabilities with allies in CSpO initiative NATO space activities, including of Centre of Excellence

Table 3.2—Continued

Ally	Strengths	Shortfalls	Opportunities
Germany	• Renewed commitment to defense under the Zeitenwende • Army reorganization and readiness improvements at all levels; goal of fully equipped division by 2025 • \$107 billion “special Bundeswehr fund” to close critical shortcomings in personnel, readiness, and capabilities • Plans to boost airpower—35 F-35s to replace Tornado • Plans to improve command capability and digitalization • New Puma IFVs • New frigates • Creation of a space command and participation in CSpO initiative	• Doubts about Zeitenwende follow-through • Slow allocation of special fund, which may be used to meet 2 percent spending commitment • Low readiness and equipment levels in operational units, slow maintenance and repairs, and spare parts shortages • Limited air defense, artillery, and bridging capabilities • Difficulties deploying and sustaining brigade elements in Lithuania • Doubts about army divisions’ ability to support national and alliance defense missions • Aging and/or obsolete equipment • Difficulties recruiting and maintaining all-volunteer force	• Maintain lead of the NATO BG in Lithuania and improve reinforcement • Take a greater role in NATO’s Multinational Corps Northeast in Poland • Enhance role in theater enablement and sustainment as host of NATO JSEC and advance coordination of military and civilian efforts in NATO and EU member states • Take a greater role in NATO’s IAMD as host of the Allied Air Command and European Sky Shield Initiative • Deepen engagement in CSpO initiative and NATO’s space activities

Table 3.2—Continued

Ally	Strengths	Shortfalls	Opportunities
United Kingdom	• Investments to improve the sustainability, lethality, and availability of naval forces • High-readiness naval forces, including carrier strike group with F-35Bs and littoral strike forces, ready in 30 days • Army forward presence to be supported by very high-readiness air assault brigade and combat aviation brigade • Investments in high-end armor, attack helicopters, long-range precision missiles, and UAVs • Planned investments in storage facilities to increase the readiness of land forces for deployment in Europe • Enhanced army training for challenging multidomain environments starting in 2024 • Modernization of strategic nuclear deterrent—four new SSBNs • Improvements in space and cyber capabilities	• Significant cuts to personnel and platforms, which will reduce capacity of land and air forces for high-intensity conventional conflict • Major reductions in armored infantry forces • Doubts that projected funding can support acquisitions planned for 2022–2030 • Low stockpiles of critical ammunition • Limited defense industrial capacity to sustain large-scale wars	• Maintain commitment to the ARRC • Resource a modernized division for high-intensity warfare to NATO by 2030 • Maintain lead of NATO BG in Estonia, support Estonia’s training and force development, and cooperate on new technologies • Maintain leadership of the JEF to organize the initial response to contingencies in Northern Europe and the Arctic before NATO has reached consensus to act • Provide high-end air and naval forces to SACEUR under the new NATO Force Model • Engage in sea control and antisubmarine warfare in North Atlantic with the United States and other allies • Invest in information-centric technologies to achieve disruptive effects • Pursue a sustainable Indo-Pacific presence with periodic deployments of frigates and smaller ships, and create an option to surge a carrier task group • Deepen engagement in the CSpO initiative, Operation Olympic Defender, and NATO’s space activities

Table 3.2—Continued

Ally	Strengths	Shortfalls	Opportunities
Poland	• Aspirations to double armed forces to 300,000 personnel • Commitment to major, fast-track army and air force modernization over and above a record defense budget • An army that is on track to have the largest and most-capable armored force in Europe • Creation of Territorial Defense Forces and Cyber Defense Forces • Outstanding SOF • Planned expansion of short- and medium-range IAMD, including two Patriot PAC-3+ (<i>Wisła</i> system Phase I) • Aegis Ashore site (NATO BMD program)	• Questions as to whether projected resources will support all modernization ambitions • Infrastructure for RSOI needs modernization • Less rounded joint force; navy has not been a priority compared with army and air forces • Lack of a coherent defense industrial strategy	• Act as a lynchpin for forward defense on the eastern flank supporting NATO BG, U.S. rotational forces, and U.S. pre-positioning, as well as reinforcement and sustainment of allied forces • Lead NATO Multinational Division Northeast • Host the U.S. Army V Corps headquarters • Act as the main hub for transmission of Western security assistance to Ukraine, and support training and exercises to build interoperability • Play a critical role in the defense of the Baltic states by keeping the Suwałki corridor open • Expand IAMD, including with six Patriot PAC-3+ (<i>Wisła</i> system Phase II) • Deepen engagement in NATO and other multinational space cooperation as capabilities develop

Table 3.2—Continued

Ally	Strengths	Shortfalls	Opportunities
Romania	• Significant strides in expanding and modernizing military capabilities • New combat aircraft (F-16), armored vehicles, MLRSs, and artillery systems • Planned acquisition of advanced air defense (seven Patriot PAC-3+ batteries) • Aegis Ashore site (NATO BMD program) • Frigate upgrades and new corvettes • Improved interoperability with the United States, France, and other allies	• Realization of modern, balanced forces hampered by erratic funding, political turmoil, corruption, and personnel shortfalls • Forces still heavily reliant on aging Soviet-origin equipment • Infrastructure for RSOI needs modernization	• Act as a critical hub for NATO defense in southeast Europe (Mihail Kogalniceanu air base, Constanța port) • Host the French-led NATO BG, perform rotational deployments of U.S. and Polish mechanized forces, and perform rotational deployments of U.S. BCT • Leverage allied deployments and Romania's leadership of NATO Multinational Division Southeast and Multinational Brigade South-East to enhance allied regional defense capabilities • Develop integrated U.S., NATO, and EU strategy for defense and long-term stability of the Black Sea region

Table 3.2—Continued

Ally	Strengths	Shortfalls	Opportunities
Estonia, Latvia, and Lithuania	• Significant investments to boost conventional, SOF, and territorial defense forces and national resilience with U.S. and allied security assistance • Commitment to exceeding 2 percent GDP for NATO defense pledge • Comprehensive societal defense plans to counter hybrid threats and resist occupation	• Limited national defense capabilities, modest NATO presence, and proximity to Russia's sizable forces • Inadequate short- to mid-range air defense and coastal defense systems • Gaps in artillery, ammunition, and ISR	• Host three augmented NATO BGs and rotational allied forces, and increase exercises • Enhance military mobility and pre-positioned equipment and weapon stockpiles plus enablers to ensure rapid allied reinforcement • Transform NATO Baltic Air Policing into a Baltic Air Defense mission and establish a border surveillance mission with continuous ISR • Participate in the U.S. Baltic Security Initiative to support development of IAMD, maritime domain awareness, long-range precision fires, SOF, and command and control; support resilience measures • Deploy full allied brigade in each country backed by a division able to integrate national and territorial forces to provide a more effective defense of the region

Table 3.2—Continued

Ally	Strengths	Shortfalls	Opportunities
Norway	• Robust conventional defenses and committed to a significant modernization of all services • Planned strengthening of army battalions in the north with mobile air defense systems and long-range precision fires • Substantial 5th-generation air force (52 F-35s by 2025) • Upgrades to NASAMS II air defense system to protect bases and reception areas • P-8 operations improving NATO maritime ISR, antisurface, and antisubmarine warfare operations • Planned addition of antiship missiles to surface fleet • Planned enhancement of Home Guard capabilities and Total Defence plans, and national resilience • Long-term defense cooperation with the United States, which includes regular rotational deployments of marines, pre-positioning of equipment, and support to air force bomber assurance missions • Close military cooperation with the UK, other Nordic countries, the Netherlands, Germany, and France • Participation in JEF and the European Intervention Initiative	• Army battalions in the north potentially overmatched, despite the country receiving more firepower • Unclear whether Norway and allies have sufficient pre-positioned stocks, consumables, and equipment given the tempo of the war in Ukraine	• Strengthen role in the defense of the North Atlantic and High North through cooperation with the United States, other allies, and Finland and Sweden • Maximize capabilities of F-35s, including assigning three to NATO quick reaction mission, and exchange data between air and land forces • Procure deep attack weapons to hold Russia's assets at risk • Provide continued support to U.S. Bomber Task Force missions to demonstrate the integration of strategic and high-end conventional capabilities. • Enhance U.S. access under the Supplementary Defense Cooperation Agreement • Expand space cooperation with NATO and EU members, building on four national satellites monitoring maritime traffic in the High North, launch facility for small satellites, and ground stations

Table 3.2—Continued

Ally	Strengths	Shortfalls	Opportunities
Finland	• Robust territorial defense capabilities and a high level of societal preparedness and resilience • Small, highly capable active-duty force with Europe's largest reserve—wartime mobilization of 285,000 troops in 30 days • An army well equipped with tanks, armored vehicles, hundreds of artillery and heavy mortars, and 22 MLRSs • Major air force modernization (64 F-35s replacing F-18s) • Navy missile-capable vessels, minelayers, and mine countermeasure vessels • Coastal jaeger and amphibious brigades • Planned deepening of bilateral defense cooperation with the United States and trilateral defense cooperation with Sweden and the United States • High level of interoperability with Nordic and NATO forces • Strong societal preparedness and resilience supported by a comprehensive security concept	• Integration into NATO Force Model and alliance defense planning requiring a conceptual shift	• NATO accession will enable the development of integrated regional defense for the entire Nordic-Baltic region • Secure its 830-mile border with Russia, and seek surety of supply from allies • Leverage cooperation with Norway and Sweden to enhance deterrence and defense in the High North • Integrate into NATO exercise cycles

Table 3.2—Continued

Ally	Strengths	Shortfalls	Opportunities
Sweden	• Small but highly capable forces • An army well equipped with tanks, armored vehicles, and artillery • Improved air defenses • Sizable air force (96 Gripen) designed for short takeoff and landing in austere, cold-weather conditions • A navy with highly capable littoral and undersea warfare capabilities and unique experience in Baltic operations • Strong national defense industry • Deepening bilateral defense cooperation with the United States and trilateral defense cooperation with Finland and the United States • High level of interoperability with Nordic and NATO forces • Planned revision of total defense concept to strengthen societal preparedness and resilience	• Limited capacity for high-end warfare • Very small reserve forces	• NATO accession would enable the development of fully integrated regional defense for the entire Nordic-Baltic region • Leverage cooperation with Norway and Finland to enhance deterrence and defense in the High North and Arctic • Integrate into NATO exercise cycles

Table 3.2—Continued

Ally	Strengths	Shortfalls	Opportunities
Türkiye	• Very large armored and mechanized land forces structured for national defense and focused on counterterrorism operations but with significant contributions to NATO missions • More than 300 combat aircraft and strong cooperation with the U.S. Air Force; Incirlik Air Base a key hub • Sizable navy modernization underway—15 ships and submarines, light aircraft carrier, and several amphibious ships • Active in NATO exercise program and troop contributions to NATO missions • Strong support of Ukraine and Georgia, including arms transfers and training • Hosting of U.S. early-warning radar as part of NATO's European Phased Adaptive Approach to missile defense • Dynamic national defense industry that produces leading-edge technologies	• Political tensions with the United States and other allies, differing national interests—particularly vis-à-vis Russia—often hampering defense cooperation • Some important defense capabilities reliant on imports	• Expand amphibious cooperation with other NATO allies for certain missions • Supply affordable leading-edge technologies, particularly remotely piloted vehicles, to allies in Central and Eastern Europe • With its engagement in the Persian Gulf and the Horn of Africa and counterterrorism training programs in Sudan, coupled with growing naval and amphibious capabilities, enhance U.S. and allied burden-sharing in dealing with security threats in those regions

Restoring Solvency

So much in the world depends on you [the United States].

—Volodymyr Zelenskyy to members of Congress, December 21, 2022¹

The ancient Etruscans demarcated time epochs in a unit they called a *saeculum*. A saeculum spanned the years between a certain major event and the point at which the last person who experienced that event died. The world is now on the cusp of closing out the saeculum during which people fought in World War II. Perhaps it should not be surprising, therefore, that despite the advantages of widespread literacy and access to information that people today enjoy compared with the ancient Etruscans, the principal lessons of that war seem to be losing their potency. The first of those lessons, which was codified in a report to the National Security Council (NSC), known as NSC 68, is that aggressive, authoritarian states with revisionist agendas must be confronted with military power sufficient to deter their expansion and defeat their aggressive actions.²

The second lesson is that if the United States does not actively engage in maintaining a modicum of peace and stability in Eurasia, Americans and, indeed, the whole world, can suffer terrible consequences. The appalling brutality of Russia's aggression against Ukraine is the most blatant recent

¹ "Ukrainian President Volodymyr Zelenskyy's Remarks to Congress," CNN, December 22, 2022.

² NSC 68 was a seminal policy document that laid the intellectual foundation for the U.S. Cold War strategy of containment. See James S. Lay, Jr., *A Report to the National Security Council by the Executive Secretary on United States Objectives and Programs for National Security*, U.S. Objectives and Programs for National Security, April 14, 1950.

example of what can happen if important basic international norms of state behavior are not respected and enforced.

And war is only the most extreme consequence of geopolitical amnesia. If the United States cannot summon the will to restore the credibility of its security guarantees to key allies, those allies over time will pursue alternative paths to securing their interests—paths that may include acquiring their own nuclear arsenals or seeking compromise with new regional hegemon. Such trends would signify the loss of one of the great inheritances of the Cold War era—specifically, the commonality of interests among the leading democratically governed states that has facilitated policymaking and coordination across the full range of issues on these nations’ agendas, from trade and macroeconomic policy to environmental regulation to countering international terrorism.

Some will say that the United States can no longer afford to lead what can still justifiably be called the free world, that excessive engagement in international security matters has drained the nation’s resources, and that America must focus its energies at home. Without a doubt, aspects of the U.S. interventions in Afghanistan and, especially, Iraq exhibited elements of overreach. And it is essential that federal, state, and local governments move more energetically to address pressing social problems, including income inequality, inadequate primary and secondary education, homelessness, hunger, unequal access to health care, and the urgent need to transition away from carbon-based energy sources. But the implicit premise behind the “America First” slogan is a false choice: The United States will not be able to make meaningful progress on the most-pressing domestic problems if it fails to lead internationally.

The world is highly interdependent, and the United States cannot insulate itself from the consequences of wars, failed states, economic deprivation, disease, or environmental degradation anywhere. American leadership and deep engagement are needed to catalyze purposeful action by the international community to head off or mitigate the effects of these and other threats to U.S. security and well-being.

In any case, the United States has the resources to move energetically on both fronts. As Chapter 2 makes clear, massive increases in defense spending are not needed to field the sorts of military capabilities that are called for. To repeat the central point of Chapter 2, analysis shows that **the United**

States, acting in concert with key allies and partners, can restore credible postures of deterrence against major aggression without having to regain overmatch in any operational domain against China or Russia. The capabilities that are needed to implement this new approach appear to be technically feasible, operationally viable, and fiscally affordable. Even if the nation decided to spend an additional \$50 to \$100 billion per year on defense, the resulting defense burden would constitute less than 4 percent of the GDP—a level of spending that has been consistent with robust economic growth and innovation in the past and that can be sustained without adding to the deficit if modest changes to the tax code are implemented.

With this in mind, we offer the following summary recommendations for U.S. policymakers.

Defense Strategy and Policy

The promulgation of DoD's 2022 NDS laid a sound basis for force development. DoD leaders should now take steps to increase the coherence of force development within the department, ensure focus on the most-consequential operational problems, and accelerate the fielding of key capabilities. This can be accomplished only with the active and sustained involvement of the Secretary of Defense and the core team of policymakers in DoD. Too many people within DoD can exercise a veto on a good idea. In a very real sense, only the Secretary and Deputy Secretary of Defense have the authority to keep good ideas alive and bring them to fruition.

We suggest that they place a high priority on the following areas:

- **Prepare to defend U.S. territory.** Just as U.S. forces abroad no longer enjoy sanctuary from enemy attacks, it is no longer prudent to assume that U.S. territory and information systems will be immune to attack in the event of war with China or Russia. Protecting critical U.S. infrastructure is primarily the responsibility of the U.S. Department of Homeland Security. But plans need to be undertaken in careful coordination with DoD. This can be done through the auspices of U.S. Northern Command, which increasingly needs to be viewed as a warfighting command and not a supporting entity. In the event of hostili-

ties, U.S. Northern Command will work closely with civil and military authorities at home to protect critical infrastructure, which one should assume will be under attack.

- **Articulate a short list of priority operational challenges for defeating aggression in highly contested environments.** The list should center on the things that joint and combined forces would have to accomplish to deny *faits accomplis* in the Taiwan and Baltic scenarios. As the department's annual budget submissions are developed, DoD leaders should use this list as a primary test of the adequacy of the services' draft budgets.³ These challenges must be addressed before other initiatives are considered.
- **Incentivize innovation.** Too often, the "reward" for proposing to invest in a new system is that the component making the proposal is compelled to fund that new system from what it regards as its own resources. The Secretary of Defense should greatly expand the Rapid Defense Experimentation Reserve fund to cover the expenses not only of development and experimentation but also of the acquisition of new, game-changing capabilities. Good ideas exist across the armed forces. The Secretary and Deputy Secretary of Defense need to pull these ideas to the forefront. They also need to keep the people who generate these ideas in their jobs long enough that they can make a difference. Innovation is not likely to result from a system that is organized around short assignments.
- **Make Congress a partner.** Addressing the challenges posed by China and Russia will require DoD to invest in a variety of new systems, some of which will be quite different from the familiar types of platforms that have long characterized the force structure. Buying new types of systems likely will involve buying fewer of these legacy systems, and that involves choosing winners and losers in the defense resource allocation process. Maintaining legacy systems beyond their useful contribution is both wasteful and unnecessary. With a defense budget of more than \$800 billion, there are sufficient resources to satisfy many

³ For more on this, see David A. Ochmanek, *Improving Force Development Within the U.S. Department of Defense: Diagnosis and Potential Prescriptions*, RAND Corporation, PE-302-RC, 2018a.

competing interests. In light of this, it will be important that congressional members and staff fully understand both the urgent need for change and the ways in which new systems will enable new operational concepts. Sharing unvarnished assessments of the ability (or inability) of current and programmed forces to get the job done in the most-challenging scenarios can help to prepare the ground for a more favorable reception of controversial proposals on Capitol Hill, although doing so can also involve risks.

Operational-Level Considerations

To better focus defense resources, we recommend initiatives along the following lines:

- **Define the future operational concept.** The coherence of DoD's force development efforts will be immeasurably enhanced if all stakeholders have a shared understanding of how joint and combined forces are intended to fight in the future. The services, the Joint Staff, and others have been making progress on this over the past several years, but their efforts to date remain incomplete and disparate. The time is ripe for DoD leaders to finish the job. We suggest that the Secretary or Deputy Secretary of Defense form a small, ad hoc team of creative thinkers at the general and/or flag officer and senior civilian levels to formalize a description of a new operational concept governing the employment of joint U.S. forces. Their goal should be to produce a directive document that is as specific as the AirLand Battle concept that reshaped planning for large-scale warfare in the 1980s.⁴ This will require top-down, hands-on leadership to accomplish, as the product will be overly diluted if left to standard processes. The new concept will not be relevant to all problems, but it should address the most urgent and important ones.

⁴ David E. Johnson, *Shared Problems: The Lessons of AirLand Battle and the 31 Initiatives for Multi-Domain Battle*, RAND Corporation, PE-301-A/AF, 2018.

- **Accelerate force adaptation.** DoD can and should begin to ramp up investments in systems and capabilities that will be needed to implement the new operational concept without waiting for the ad hoc team to complete its work. It should accord highest priority to systems that meet the following three criteria:
 - They fill known gaps in the joint force’s ability to defeat sea, air, and land invasions in highly contested environments and are compatible with the known, broad outlines of the emerging concept.
 - They are sufficiently mature technically that they can be fielded in quantity within the next two to five years.
 - They are deemed to be affordable within projected defense resources such that they can be procured in operationally significant numbers. Table 4.1 provides a summary of investment options that meet these criteria.
- **Focus on munitions.** Within the realm of procurement of systems, munitions merit special emphasis. DoD has long failed to invest adequately in stocks of preferred munitions, especially in costly weapons, such as standoff cruise and ballistic missiles and long-range air-to-air missiles. The effects of this underinvestment have been exacerbated by unreliable and fluctuating budgets that have discouraged defense contractors from building a robust capacity for producing these weapons.⁵ The problem has been made more acute by the laudable decision to provide Ukraine’s armed forces with large quantities of precision guided weapons to bolster their defenses against Russia’s aggression. DoD leaders should undertake three initiatives to remedy these problems:
 - Direct the Office of Cost Assessment and Program Evaluation (within the Office of the Secretary of Defense) and the Joint Staff to conduct independent assessments of the types and numbers of munitions that would be required to promptly defeat the invasions in the Taiwan and Baltic scenarios and to carry out follow-on military operations for a period of at least 60 days.

⁵ See Stacie Pettyjohn and Hannah Dennis, *Precision and Posture: Defense Spending and the FY23 Budget Request*, Center for a New American Security, November 17, 2022.

TABLE 4.1

Summary of Priority Enhancements for U.S., Allied, and Partner Forces

Scenario	Posture	Sense and Target	Strike
Versus China	• Create designs for pre-positioning large numbers of autonomous UAVs, PGMs, and support assets in Guam, the Marianas, and Japan • Procure and deploy fuel bladders and expeditionary aircraft shelters to air bases in the Western Pacific • Assist Taiwan in acquiring sea mines, small UAVs for targeting short-range antiship and antiarmor missiles, MLRSs, and SHORADs	N/A	• Accelerate production of antiship PGMs that are capable of disabling large amphibious transports (e.g., a mix of LRASM, MS-TACTOM, SM-6, and NSM) • Accelerate development of LDUUVs for weapons delivery
Versus China and Russia	• Continue to expand the number of potential operating locations and support capacity to enable distributed operations by forward-based aircraft • Provide logistics infrastructure and assets to sustain joint operations by forward forces • Continue to invest in capabilities to speed runway recovery • Field mobile SHORAD systems (e.g., IFPC-2 or NASAMS) at key bases in the Western Pacific and in central Europe	• Accelerate development of small, autonomous, runway-independent UAVs for sensing • Experiment at scale with autonomous integration and interpretation of sensor data • Develop and test systems and TTPs to ensure rapid connectivity between the sensing grid and joint and combined fires platforms and weapons • Pursue options that exploit civil-sector sensing and communications satellite constellations	• Accelerate development of autonomous, runway-independent UAVs for weapons delivery (air-to-surface and air-to-air) • Accelerate production of PGMs for air superiority (e.g., AARGM-ER, HACM, AIM-260) • Field palletized munitions packages for U.S. and allied cargo aircraft

Table 4.1—Continued

Scenario	Posture	Sense and Target	Strike
Versus Russia	• Station U.S. Army V Corps headquarters and support elements in Poland • Station a U.S.-armored division in Poland • Build out the eight eFP BGs into full brigades • Coordinate with Sweden to prepare logistics supplies and support to allow NATO combat aircraft to operate from Swedish bases during wartime	• With allies, field thousands of unattended ground sensors; pre-position these in eastern flank nations • Fix sensor-to-shooter data links so that airborne sensors can send targeting data to U.S. Army rocket artillery units	• Accelerate production of antiarmor weapons (e.g., SDB II, area munitions for GMLRS and PrSM, JSOW-X with SFW)

SOURCE: Adapted from David A. Ochmanek, *Determining the Military Capabilities Most Needed to Counter China and Russia: A Strategy-Driven Approach*, RAND Corporation, PE-1984-1, 2022.

NOTE: AARGM-ER = Advanced Antiradiation Guided Missile—Extended Range; GMLRS = guided MLRS; HACM = hypersonic attack cruise missile; IFPC-2 = Indirect Fire Protection Capability Increment 2; LRASM = long-range antiship missile; MS-TACTOM = Maritime Strike Tactical Tomahawk; N/A = not applicable; NSM = naval strike missile; PrSM = precision strike missile; SDB II = Small Diameter Bomb II; SFW = Sensor Fuzed Weapon; TTPs = tactics, techniques, and procedures.

- Work with NATO and key allied governments to agree on and implement new guidelines and requirements to strengthen munition stockpiles and expand joint procurement that would be required to defeat Russia’s future aggression against NATO, assuming that the allies continue to supply weapons to Ukraine. DoD should conduct a similar assessment with counterparts in Japan.
- Direct the services to submit five-year plans to field the munitions called for by the efforts outlined above. Direct that funds for these purchases be fenced in future budget submissions.
- **Create a more resilient forward posture.** Important elements of the U.S. forward posture are vulnerable to attack and, therefore, could undermine deterrence and crisis stability. A forward posture that is vulnerable to attack could invite an adversary to initiate an attack in a crisis with the aim of producing a disarming blow—a modern Pearl Harbor. A more resilient posture that could survive an initial strike will be more stabilizing because the adversary understands that it will still confront the remaining military power even after it attacks. Not all elements of resiliency need to be expensive. Protecting fuel supplies and dispersing aircraft are among the easiest steps to make U.S. forces more survivable.⁶ The Secretary or Deputy Secretary of Defense should direct an immediate review of the existing forward posture and infrastructure with the goal of identifying vulnerabilities and remedies and including needed investments in the President’s next budget submission to Congress. Shoring up known vulnerabilities will contribute significantly to deterrence. It will also help ensure that the United States can achieve initial operational objectives with forces in place plus modest reinforcements, which will be a requirement in this era.

⁶ Christopher Lynch, Rachel Costello, Jacob L. Heim, Andrew Karode, Patrick Mills, Robert S. Tripp, and Alan J. Vick, *Operational Imperative: Investing Wisely to Bolster U.S. Air Bases Against Chinese and Russian Attacks*, RAND Corporation, PE-1996-1, 2023.

Strengthening Allied and Partner Roles

The Biden administration deserves credit for recognizing both that America's defense relationships with its principal allies and key partners are essential to its national security and prosperity and that those relationships needed to be repaired and strengthened after the years of "America first" rhetoric and gratuitous insults. Policymakers should sustain efforts to rebuild confidence in the constancy of U.S. policy and to tighten policy coordination with allies and partners regarding the demands of deterring and defeating aggression by common adversaries. As they do so, they may wish to consider initiatives along the lines detailed below.

Taiwan

Defense cooperation between the United States and Taiwan is the closest and most constructive it has been in 40 years. Despite that, the threat perceptions and security priorities of the two do not fully overlap. Taiwan is concerned about a variety of political, economic, and military threats from the mainland. Taiwan's military spending is weighted heavily toward legacy systems and costly new systems that do not solve the operational problems that Taiwan faces from the mainland.

Taiwan cannot afford for this misalignment in spending priorities to continue. Only survivable and potent systems can contribute adequately to deterring aggression by the mainland. Even when assessed through the lens of a coercive campaign, Taiwan's vulnerable legacy systems can provide only small, fleeting returns, but they will consume the bulk of Taiwan's security investment. Taiwan needs many more survivable systems, including a wide variety of mobile air defense systems that can provide multilayered air defenses. But this alone will not be sufficient. Taiwan's sensors, command and control, and strike systems must all have inherent survivability through some combination of mobility, concealment, and hardening.

The United States should help Taiwan to reassess its existing and planned forces so that the majority of Taiwan's spending is allocated to survivable and potent systems that can contribute to deterrence. These assessments should not be limited to consideration of procurement priorities but should extend to organization and training so that Taiwan can get the most out of

its defense spending. The United States could provide valuable insights in this regard, particularly with regard to topics that cross service boundaries, like command and control. Taiwan will need its own forces to be able to interoperate. These discussions should also be extended to the consideration of multinational kill chains. The United States should help Taiwan prepare for information-sharing with external partners by developing the organizations, training, equipment, and command concepts needed to share and effectively utilize this information. Through these links, Taiwan may be able to make valuable contributions in areas like sensors and short- and medium-range strike systems that, when combined with partners' assets, will raise the effectiveness of prospective future coalitions.

Japan

U.S. planners and their counterparts in Japan's SDF should focus efforts on the following areas:

- **Base resiliency.** Despite Japan's substantial investments in missile defenses, the bases used by both U.S. and SDF forces are vulnerable to even modest-sized salvos of ballistic and cruise missiles. More can be done to increase the resiliency of these bases by deploying passive protection measures, such as fuel bladders and expeditionary aircraft shelters, at both U.S. and SDF bases and by ensuring that existing SHORAD systems at those bases are robust. Another promising option could be to develop and field runway-independent UASs, thereby reducing dependence on fixed facilities.
- **Munitions.** Both allies should increase and maintain robust stockpiles of PGMs, as well as other assets, such as fuel and spare parts, that would be needed to sustain high-intensity operations over a prolonged conflict.
- **Intratheater mobility.** Japan's ASDF should consider increasing the size of its military airlift and sealift fleets to support the rapid movement of personnel, supplies, and munitions in wartime.
- **Operational planning.** Perhaps most importantly, U.S. and Japanese policymakers should seek to clarify what Japan would be willing to do in times of war and, especially, under what conditions Tokyo would

permit U.S. forces operating from bases in Japan to conduct combat operations in defense of Taiwan. Using agreed-upon allied roles and missions, the allies should create a joint plan for military operations in defense of Taiwan and explore options for more-intensive planning and training based on this plan to improve wartime interoperability.

NATO Allies

Russia's aggression against Ukraine fundamentally changed post-Cold War assumptions about Euro-Atlantic security and territorial integrity, creating a sense of urgency among NATO allies to refocus and recalibrate national and collective efforts to bolster warfighting capabilities. And although Russia's ability to threaten NATO with large-scale conventional aggression will undoubtedly be hobbled for some years to come, now is the time to build the capabilities and posture that will be needed to ensure deterrence and stability in Europe for the indefinite future.

France; the UK; and, to a lesser degree, Germany are the only European allies with capabilities to operate across the full spectrum of conflict. Each country is reviewing its posture, modernization plans, readiness and training, and operational concepts and is committed to significant steps to better support NATO's deterrence and defense strategy, as well as Ukraine's efforts to counter Russia's further aggression. Each government faces fiscal and other challenges to realizing the full range of planned defense improvements, but their current and likely efforts are key elements of NATO's collective defense posture and reduce the strain on U.S. forces in Europe.

- As France pursues plans for a “complete and balanced army model,” U.S. policymakers may wish to encourage its government to emphasize investments in capabilities for sustained high-end conventional operations against a peer adversary like Russia, as opposed to assets for out-of-area operations.⁷ Washington will also want to monitor France's defense spending to see whether France achieves its stated goal of reaching an annual expenditure equal to 3 percent of GDP by 2025.

⁷ Government of France, *Cour des Comptes*, 2022.

- For its part, the German government announced its intention to finally adhere to the NATO defense spending pledge of 2 percent of GDP, compared with the 1.5 percent that it spends today. Plans call for a modest expansion in the Bundeswehr's armored forces but, more importantly, significant increases in the readiness of existing forces, such that Germany will be able to provide a fully manned and equipped brigade to NATO's VJTF by 2023 and a modernized mechanized division by 2027.
- Force development in the United Kingdom is currently somewhat hamstrung by resource constraints and ambitions to expand its military presence in the Indo-Pacific. Policymakers in Washington may wish to convey to counterparts in London that they view continued British leadership of the NATO BG in Estonia, the JEF, and the ARRC as strategically more valuable than whatever modest assets the UK might be able to sustain in East Asia.

Poland and Romania are committed and capable allies highly exposed to threats of Russia's aggression and intimidation. They will play essential roles in defense of NATO's eastern flank and the projection of power into the Baltic and Black Sea regions, including by hosting brigade-sized U.S. and other allied forces and supporting security assistance to and training of the Ukrainian Armed Forces.

Poland has emerged as a lynchpin of eastern flank security and a crucial strategic ally in maintaining a forward posture. In the next five years, Warsaw's strategic resolve, rapid mobilization, ambitious defense modernization program and investments, and increasing readiness levels will make the Polish Armed Forces one of the best equipped and trained militaries in NATO capable of providing key contributions to allied defense and countering Russia. Poland has also been playing an instrumental role in providing support and military assistance to Ukraine, becoming a de facto logistics hub for the Alliance's forward defense, and could become a training, exercising, and interoperability hub for the Alliance and the EU. In addition, U.S. ground forces in Poland, now continually deployed there, should undertake combined exercises in the Suwałki Gap to enhance defense of this vital land corridor to the Baltic states.

Regional defense in Southeast Europe is being enhanced by the deployment of an augmented NATO BG—led by France and supported by rotational deployments of U.S. and Polish mechanized infantry units—as well as a rotational U.S. BCT. These allied deployments, together with continued U.S. and allied air operations from the Mihail Kogalniceanu air base, Romania’s acquisition of SkyCeptor interceptor missiles for its Patriot air defense system, and Romania’s leadership of the NATO Multinational Division Southeast, can further strengthen regional defenses. Once U.S. and allied naval vessels can again operate in the Black Sea, Romania’s Port of Constanța and naval forces can again be valued partners in Black Sea maritime defense.

Norway, Finland, and Sweden—even before its likely NATO accession—provide a robust defense of the Nordic, Baltic, and Arctic regions. Each has high-end air and maritime capabilities that can fill critical niches in regional defense. Norway’s F-35s have operated effectively with U.S. Air Force Bomber Task Force missions in enhancing regional deterrence. Integrating Finland’s F-18s and F-35s and Sweden’s Gripen fighters into U.S. and NATO air operations will put pressure on Russia’s naval and air operations from the Kola Peninsula and the Baltic Sea. Guaranteed access to Finnish and Swedish airspace and integration of their significant maritime domain awareness and sea control capabilities (Swedish submarines and Finnish mining and mine countermeasure vessels) will enhance NATO’s capabilities to defend the Baltic states and Poland. Finland can more than manage the defense of its 830-mile border with Russia given its capacity to mobilize 800,000 ground forces in 30 days and sizable artillery stocks. NATO allies need to provide Finland with surety of supply in the context of a major offensive by Russia.

The Baltic states have made significant strides in bolstering the capabilities and readiness of their comparatively small conventional and territorial forces. They are committing 2.5 percent of their GDPs to defense, with investments focused on strengthening readiness and mobilization and acquiring tactical vehicles, UAVs, short- to mid-range air defense systems, long-range precision fires, coastal defense missile systems, and HIMARs—possibly as a joint acquisition by the three Baltic states. U.S. and allied security assistance should help fill key gaps in air and missile defense, artillery and ammunition, ISR, and suppression of Russia’s A2/AD and should con-

tinue SOF training with and support to Baltic territorial forces and resilience efforts to counter hybrid threats. Allies also should help the three Baltic states replace Javelins and other antitank weapons that they transferred to Ukraine over the past ten months.

We recommend that NATO defense planners at Allied Command Transformation conduct experiments evaluating the feasibility of creating a sensing and targeting grid from a network of small, inexpensive sensors that could detect, identify, locate, and track vehicles within an armored or mechanized invasion force. If those experiments are successful, allies could pre-position thousands of unattended ground sensors, including cameras, acoustic sensors, and seismic sensors, as well as small, autonomous unmanned aerial and ground vehicles, in the Baltic states with plans to distribute these along potential axes of advance in times of heightened tensions with Russia.

Finally, NATO members as a whole must recognize that a critical lesson from the fighting to date in Ukraine is that, to prevail in a major conflict with Russia, the allies will be compelled to expend munitions at rates and in quantities far beyond what their stocks today could support. As noted earlier, NATO members should work together to define the types and numbers of munitions most needed for the most-stressing plausible scenarios and develop a five-year plan to acquire those weapons with an eye toward strengthening the industrial base required to produce them.

Concluding Thoughts

Mark Twain is said to have observed that history may not repeat itself, but it does rhyme. The year 2022 is not 1947, but important elements of that earlier time are very much present today. The United States and the principles on which it was founded are again being tested by powerful international adversary states and their ideologies. The challenges that they pose have military, economic, technological, and cognitive dimensions. Overcoming those challenges will call for creativity, statesmanship, foresight, and a collective willingness to make some sacrifices in the short term to achieve important longer-term objectives.

In light of this, we can draw inspiration from the words of George Kennan, who was one of the architects of U.S. national security strategy for the Cold War. Writing his “long telegram” from Moscow in 1947, he called on the United States to

create among the peoples of the world generally the impression of a country which knows what it wants, which is coping successfully with the problems of its internal life and with the responsibilities of a world power, and which has a spiritual vitality capable of holding its own among the major ideological currents of the time.⁸

He noted as well that success in this endeavor could not be assumed, adding that “exhibitions of indecision, disunity and internal disintegration within this country would have an exhilarating effect” on U.S. adversaries.⁹ America’s leaders of today would do well to heed his words and to take lessons from their forebears who, standing at a historical inflection point 75 years ago, set this nation on a course of principled global leadership. There is no time to lose.

⁸ George F. Kennan, “The Sources of Soviet Conduct,” *Foreign Affairs*, July 1, 1947.

⁹ Kennan, 1947.

Abbreviations

A2/AD	anti-access and area denial
AAE	Air and Space Force (France)
AIM	Air Intercept Missile
ARRC	Allied Rapid Reaction Corps
ASCM	antiship cruise missile
ASDF	Air Self-Defense Force
AWACS	airborne warning and control system
BCT	brigade combat team
BG	battlegroup (NATO)
BMD	ballistic missile defense
CBRN	chemical, biological, radiological, and nuclear
CCP	Chinese Communist Party
CSpO	Combined Space Operations
DDA	Deterrence and Defence of the EuroAtlantic Area
DoD	U.S. Department of Defense
DPP	Democratic Progressive Party
eFP	enhanced forward presence
EU	European Union
FY	fiscal year
GDP	gross domestic product
GSDF	Ground Self-Defense Force
HARM	high-speed antiradiation missile
HIMARS	high-mobility artillery rocket system
IAMD	integrated air and missile defense
IFV	infantry fighting vehicle
IR	integrated review
IR23	2023 IR Refresh
ISR	intelligence, surveillance, and reconnaissance
JEF	Joint Expeditionary Force

JSEC	Joint Support and Enabling Command
JSOW	Joint Standoff Weapon
LDUUV	large-diameter unmanned underwater vehicle
LPM	Military Programming Law (France)
LST	tank landing ship
MLRS	multiple-launch rocket system
MOD	Ministry of Defense
MSDF	Maritime Self-Defense Force
NASAMS	National Advanced Surface-to-Air Missile System
NATO	North Atlantic Treaty Organization
NDPG	<i>National Defense Program Guidelines</i>
NDR	<i>National Defense Report</i>
NDS	U.S. National Defense Strategy
NSS	<i>National Security Strategy</i> (of Japan)
ODS	Operation Desert Storm
PGM	precision guided munition
PLA	People's Liberation Army
PRC	People's Republic of China
R&D	research and development
RSOI	reception, staging, onward movement, and integration
SACEUR	Supreme Allied Commander Europe
SAM	surface-to-air missile
SDF	Self-Defense Forces (of Japan)
SHORAD	short-range air defense
SLAM-ER	standoff land attack missile–expanded response
SM	standard missile
SOF	special operations forces
SSBN	ballistic missile submarine
UAS	unmanned aerial system
UAV	unmanned aerial vehicle
VJTF	Very High Readiness Joint Task Force

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