

US Army War College
USAWC Press

Monographs, Collaborative Studies, & IRPs

7-24-2024

2024 Annual Estimate of the Strategic Security Environment

Follow this and additional works at: <https://press.armywarcollege.edu/monographs>



Part of the [Defense and Security Studies Commons](#), [Military, War, and Peace Commons](#), [Other Public Affairs, Public Policy and Public Administration Commons](#), [Peace and Conflict Studies Commons](#), and the [Terrorism Studies Commons](#)

Recommended Citation

Strategic Studies Institute, *2024 Annual Estimate of the Strategic Security Environment* (Carlisle Barracks, PA: USAWC, Strategic Studies Institute, 2024), <https://press.armywarcollege.edu/monographs/970>

This Book is brought to you for free and open access by USAWC Press. It has been accepted for inclusion in Monographs, Collaborative Studies, & IRPs by an authorized administrator of USAWC Press.

2024 ANNUAL ESTIMATE of the STRATEGIC SECURITY ENVIRONMENT

— — — — —
Strategic Research and Analysis Department





2024 Annual Estimate of the Strategic Security Environment

Strategic Research and Analysis Department

July 2024



US Army War College

The United States Army War College educates and develops leaders for service at the strategic level while advancing knowledge in the global application of Landpower.

The purpose of the United States Army War College is to produce graduates who are skilled critical thinkers and complex problem solvers in the global application of Landpower. Concurrently, it is our duty to the Army to also act as a “think factory” for commanders and civilian leaders at the strategic level worldwide and routinely engage in discourse and debate on the role of ground forces in achieving national security objectives.



The Strategic Studies Institute publishes national security and strategic research and analysis to influence policy debate and bridge the gap between military and academia.

The SSI Live podcast series provides access to SSI analyses and scholars on issues related to national security and military strategy with an emphasis on geostrategic analysis.



The Center for Strategic Leadership provides strategic education, ideas, doctrine, and capabilities to the Army, the Joint Force, and the nation. The Army, Joint Force, and national partners recognize the Center for Strategic Leadership as a strategic laboratory that generates and cultivates strategic thought, tests strategic theories, sustains strategic doctrine, educates strategic leaders, and supports strategic decision making.



The School of Strategic Landpower provides support to the US Army War College purpose, mission, vision, and the academic teaching departments through the initiation, coordination, and management of academic-related policy, plans, programs, and procedures, with emphasis on curriculum development, execution, and evaluation; planning and execution of independent and/or interdepartmental academic programs; student and faculty development; and performance of academic-related functions as may be directed by the commandant.



The US Army Heritage and Education Center engages, inspires, and informs the Army, the American people, and global partners with a unique and enduring source of knowledge and thought.



The Army Strategic Education Program executes general officer professional military education for the entire population of Army general officers across the total force and provides assessments to keep senior leaders informed and to support programmatic change through evidence-based decision making.



Table of Contents

Front Matter

Foreword	4
Introduction	5

Theme 1: Regional Challenges and Opportunities

Asia: The United States Indo-Pacific Command Area of Operations	6
Europe: The United States European Command Area of Operations	10
The Middle East and Central Asia: The United States Central Command Area of Operations	14
North America: The United States Northern Command Area of Operations	20
Central and South America and the Caribbean: The United States Southern Command Area of Operations	26
Africa: The United States Africa Command Area of Operations	30

Theme 2: Domestic Challenges

Civil-Military Relations	34
Strengthening the US Defense-Industrial Ecosystem	38

Theme 3: Institutional Challenges

The Profession	46
The Force	48
The Strategy	50

Theme 4: Challenges to the US Strategic Advantage

The Polar Regions	52
The Space Domain	54
Emerging Technology	58
Nuclear Deterrence	62

Foreword



The United States faces a complex and ever-changing global environment. With threats ranging from traditional state actors to non-state militant groups and cyber warfare, the Army must be prepared for a wide range of potential conflicts. Additionally, increasing globalization makes it more difficult to predict where conflicts may arise and how they may impact US interests. The US Army's ability to confront these complexities successfully will require constant vigilance, strategic planning, and a commitment to staying at the forefront of military innovation.

Future strategic operations will heavily rely on allies and partners. Through strong international relationships, the Army can leverage resources, intelligence, and capabilities that would otherwise be limited by operating independently. The collaborative nature of these partnerships allows for improved response times during emergencies and crises, enhancing global stability and security, which directly contributes to safeguarding the American homeland from external threats.

Chief of Staff of the Army General Randy A. George has called on the force to revitalize professional discourse. The *2024 Annual Estimate of the Strategic Security Environment* supports this initiative by setting the foundation for cutting-edge research to understand the ever-evolving security environment domestically and internationally. The subsequent collective research inspired by this estimate informs military strategy and decision making and contributes to overall national security discussions. This framework ensures aspiring researchers are well equipped to assess emerging threats with informed perspectives and challenges them to propose innovative solutions to complex problems.

Major General David C. Hill
53rd Commandant
US Army War College



Introduction

The following analysis is the third iteration of a product that continues to adapt to the changing security environment. The *2024 Annual Estimate of the Strategic Security Environment* is designed to guide the collective defense community to research and write about critical national security challenges. To enable this research, it is organized into four broad and enduring themes:

Theme 1 – Regional Challenges and Opportunities

Theme 2 – Domestic Challenges

Theme 3 – Institutional Challenges

Theme 4 – Challenges to the US Strategic Advantage

Instead of attempting to recreate and update assessments from last year, each section examines how the environment is trending and highlights challenges likely to impact the Department of Defense significantly in the near future.

Competition with the People’s Republic of China continues to dominate the strategic narrative, with global implications for US national interests. The Russia-Ukraine War and the deteriorating situation in the Middle East, however, present immediate and political challenges that will undoubtedly influence US military efforts abroad.

At the same time, the United States faces domestic challenges in navigating civil-military relations, and the Army is working diligently to overcome institutional hurdles. The United States published its first *National Defense Industry Strategy* in January 2024, focusing on resilient supply chains, workforce readiness, flexible acquisition, and economic deterrence. Additionally, the Army released the 2024 white paper “Army Force Structure Transformation,” which lays the groundwork for creating new capabilities, initiates new recruitment modernization efforts, and justifies challenging personnel reductions across the force.

Finally, the prevalence of competition in new and maturing arenas (such as space and the polar regions) may impact a delicate balance among the great powers. This balance, and the potential relative advantage the United States maintains over its adversaries, is further challenged by emerging technologies, many of which have yet to realize their impact on defense operations.

The *2024 Annual Estimate of the Strategic Security Environment* will evolve to address the fluid and complex world the Army faces. The US Army War College and the Strategic Studies Institute stand ready to address these challenges by fostering research across the Army and the broader defense community. This estimate serves as a starting point for this critical research and is supplemented by a list of strategic issues that offers insight into the particularized matters impacting defense organizations.

Theme 1: Regional Challenges and Opportunities

The United States Indo-Pacific Command Area of Operations

Asia



In the Asian strategic security environment, as in the world, the People's Republic of China and its growing power, ambitions, and assertiveness pose the most significant challenges facing the United States and its allies and partners. The United States–China rivalry, which features competition in security affairs, economics, technology, and visions for the future of the world order, raises the possibility of military conflict in potential hot spots in the Indo-Pacific.

Security Challenges in the Indo-Pacific

United States–China relations reached a low point in 2023 when a Chinese spy balloon crossed the United States before being shot down. The spy-balloon incident occurred only a few months after China conducted large-scale military exercises near Taiwan in response to then Speaker of the House Nancy Pelosi's August 2022 visit to the island. Following Pelosi's visit, China closed formal military-to-military communications channels with the United States. The spy-balloon incident, the events surrounding Pelosi's Taiwan visit, and other issues, including China's continued close relationship with Russia amid the Russia-Ukraine War, contributed to rising tensions in the United States–China relationship.

The United States sought to use President Joe Biden's November 2023 meeting with Chinese President Xi Jinping to stabilize the bilateral relationship. The two leaders discussed cooperation in regulating artificial intelligence, stemming the flow of fentanyl precursors from China, and other issues. Military-to-military ties resumed, resulting in US Secretary of Defense Lloyd Austin's video teleconference with Chinese Minister of National Defense Dong Jun in April 2024, Austin's first meeting with his Chinese counterpart since becoming the secretary of defense. In the renewed military-to-military discussions, US officials have expressed concern about unsafe Chinese intercepts and encounters with US aircraft and ships, challenging the limitations of current crisis-management mechanisms.

Despite efforts to stabilize the relationship, US concerns about China's capabilities and intentions continue to grow. China is increasing the scale, tempo, and frequency of its military activities near Taiwan. The People's Republic of China's concerns about Taiwan's trajectory will likely increase following the victory of Democratic Progressive Party candidate Lai Ching-te in Taiwan's presidential elections in January 2024. China sought to pressure Taiwanese voters not to elect Lai, who rejects the notion Taiwan is part



of China and argues Taiwan should maintain its free and democratic way of life. Lai's May 2024 inauguration marks the third consecutive presidential term for the Democratic Progressive Party, heightening the People's Republic of China's concerns its prospects of gaining control of Taiwan are fading. In turn, US concerns that China could invade Taiwan or mount a blockade of the island sometime in the coming years are increasing.

China has also increased its aggressive activity in the South China Sea, especially toward the Philippines. In defiance of a 2016 ruling by an international tribunal, China claims ownership of nearly the entire South China Sea, including the Second Thomas Shoal, which lies within the Philippines' exclusive economic zone. On several recent occasions, Chinese coast guard vessels fired water cannons at Philippine vessels that were resupplying troops stationed onboard a warship the Philippines grounded on the Second Thomas Shoal to stake the Philippines' claim to the area.

China's continued close relationship with Russia is also a source of tension in its relations with the United States. Since Russia mounted its full-scale invasion of Ukraine in February 2022, China has maintained a position of pro-Russian neutrality concerning the Russia-Ukraine War. China has joined Russia in blaming the West for provoking the conflict and has offered crucial economic support to Russia, including through increased purchases of energy resources. Still, China has refrained from providing Russia with lethal assistance. But in spring 2024, US officials accused

China of helping Russia strengthen its industrial base by providing chips, cruise-missile engines, and dual-use technologies that contribute to the Russian war effort. The United States threatened to impose sanctions on Chinese companies and financial institutions involved in transactions with Russia.

Xi's consolidation of power in recent years strengthened his ability to pursue assertive foreign and security policies. Xi secured a third term as general secretary of the Chinese Communist Party in October 2022 and as president in March 2023, subsequently stacking the top Chinese leadership with loyalists. The overall emphasis of Xi's policies has shifted toward national and regime security, even at the cost of some economic growth. In 2023, Xi dealt with a corruption scandal in the People's Liberation Army Rocket Force that resulted in the removal of many officials. Defense Minister Li Shangfu also disappeared from his position and was eventually replaced.

Despite the corruption scandal, China's military modernization continues, featuring significant investments in naval, nuclear, missile, and space capabilities and hypersonic-weapons development. China's military buildup complicates US efforts to defend allies and partners against Chinese aggression in the Indo-Pacific. The People's Republic of China has also advanced a series of initiatives to attract support from countries worldwide, particularly in the Global South, and to lay the groundwork for a revised international order conducive to China's one-party, authoritarian system flourishing. China's initiatives include the Belt and Road

Theme 1: Regional Challenges and Opportunities

Initiative, the Global Security Initiative, and the Global Development Initiative. China's efforts to expand nontraditional security cooperation, both bilaterally and multilaterally, have achieved varying results but are still in their early stages.

In addition to the challenges China poses, North Korea's increased assertiveness is also a source of growing concern for the United States and its allies and partners in the Indo-Pacific. In early 2024, North Korea fired hundreds of artillery shells in waters near South Korean border islands, abandoned its policy of peaceful reunification with South Korea, and said it had tested an underwater nuclear drone. North Korea's military buildup and accelerated pace of weapons testing led some observers to conclude North Korean leader Kim Jong-Un seeks to gain recognition of his country's nuclear status and to gain concessions from the United States. Some observers even raised alarms North Korea might be preparing for a military assault on South Korea. North Korea appeared to be emboldened by its increasingly close relationship with Russia, which North Korea has supplied with artillery shells, missiles, and other munitions for the Russia-Ukraine War. In June 2024, Russian President Vladimir Putin visited North Korea, where he and Kim Jong-Un signed a defense pact in which they pledged to provide immediate military assistance to each other in the event of war. The Russia-North Korea relationship is a potential source of irritation for China, which has long been the country with the greatest influence over the regime in Pyongyang.

A Concerted Response

American allies in the Indo-Pacific have responded to the increased threat they perceive from China by strengthening cooperation with the United States and among themselves. In August 2023, Biden hosted Japanese Prime Minister Fumio Kishida and South Korean President Yoon Suk-Yeol for a summit to strengthen a three-way alliance. Japan and South Korea have a long history of mistrust dating to the era of Japan's colonial occupation of South Korea. But Japan and South Korea's shared concerns about China have spurred greater cooperation, including in a trilateral format with the United States.

In April 2024, during Kishida's visit to Washington, the United States and Japan announced what they called the most significant upgrade in the history of the US-Japanese alliance. The upgrade features a restructuring of the US military command in Japan to strengthen bilateral operational planning and exercises. The perception of a growing threat from China, the Russian invasion of Ukraine, and the increasingly close China-Russia partnership have together prompted a shift in Japan's military and security policies. Japan issued a new *National Security Strategy* in 2022, significantly increasing Japan's defense spending. In addition to its growing cooperation with South Korea, Japan has also sought closer collaboration with other US allies and partners in the Indo-Pacific.

During Kishida's visit to Washington in April 2024, he also participated in a trilateral summit with Biden and Philippine President Ferdinand Marcos Jr., during which the three



High Mobility Artillery Rocket Systems with the 1-94th Field Artillery, 17th Field Artillery Brigade, fire missiles at simulated targets during the US-Thai exercise Cobra Gold 2024 on a range near Lop Buri, Thailand (US Army National Guard photo by Sergeant Alec Dionne); page 6 sidebar: Local area orientation flights occur during the annual US-Philippines exercise Salaknib 24 at Fort Magsaysay, Philippines (US Army photo by Specialist Abreanna Goodrich).

leaders vowed to strengthen the deterrence of China in the South China Sea. Japan and the Philippines have discussed deploying Japanese troops to the Philippines on a rotating basis. Australia, Japan, the Philippines, and the United States announced they would hold a joint military exercise in the Philippines' exclusive economic zone. The defense pact between Australia, the United Kingdom, and the United States (known as AUKUS) has also discussed inviting Japan to join Pillar 2, which involves cooperating on advanced technologies, such as artificial intelligence, quantum computing, undersea capabilities, and hypersonic weapons. In 2023, Japan also signed a security-cooperation agreement with the United Kingdom that allows Japan and the United Kingdom to deploy forces in each other's countries.

Japan continues to engage actively in the Quadrilateral Security Dialogue, along with Australia, India, and the United States. India is vital to the US Indo-Pacific strategy, despite not being fully aligned

with US policies. A bloody clash between Indian and Chinese troops along the two countries' disputed Himalayan border in June 2020 helped push India toward closer cooperation with the United States and other Quadrilateral Security Dialogue members. But India has declined to join efforts to support Ukraine in its resistance against Russian aggression, preferring to maintain India's long-standing ties to Moscow. India has also refrained from fully embracing the US strategies for restraining China or defending Taiwan. Given India's preference for strategic autonomy, its ultimate role in US strategy in the Indo-Pacific remains uncertain and is likely to depend primarily upon the threat India perceives from China.

Conclusion

The challenges China poses to the interests of the United States and US allies and partners in the Indo-Pacific are likely to grow in the coming years. China's actions toward Taiwan and in the South China Sea make both locations potential hot spots, and China's tenuous relations with Japan and India are also sources of regional tension. Additionally, the Korean Peninsula remains a source of concern, especially in light of North Korea's increasingly provocative behavior.

The United States has responded to the China challenge by combining deterrence and assurance. The US response involved increasing the US military posture in the Indo-Pacific and strengthening cooperation with regional allies and partners, bilaterally and in multilateral groupings. In the years ahead, maintaining peace and stability in the Indo-Pacific will depend on the success of US efforts.

Theme 1: Regional Challenges and Opportunities

The United States European Command Area of Operations

Europe

Security in Europe—a region vital to US economic, political, and military interests—remains unstable due to three main factors. First, Russia persists in its brutal war in Ukraine and its efforts to promote instability across the continent. Second, major European economies face ongoing economic headwinds and other hurdles that frustrate the economies’ ability to respond to security challenges more robustly. Third, the comments and known policy preferences of some American political leaders have generated serious concerns about the US commitment to NATO as well as the transatlantic relationship more broadly.

The Russia-Ukraine War

Regarding the Russia-Ukraine War, both encouraging and troubling indicators prevent knowing in what direction events will unfold. On the one hand, at the broadest level, Russia remains a pariah, at least among Western-oriented countries in Europe and beyond. At a more operational level, most analysts assess Russian Landpower has suffered a devastating blow over the last two years—most notably in terms of casualties among experienced, well-trained troops and junior leaders and in terms of equipment stocks. Meanwhile, in the economic and information domains, Europe has maintained and

strengthened sanctions against Russia and pushed back against Moscow’s efforts to meddle in domestic European affairs through hybrid operations and election interference. Finally, Ukraine has managed to endure the long delay in US military assistance with little territorial loss while also approving a politically difficult mobilization of military manpower.

But several reasons for pessimism exist. Vladimir Putin’s reelection in early 2024, the assassination and suppression of opposition figures at home and abroad,



US Infantry soldiers with Headquarters and Headquarters “Crusher” Company, 1st Battalion, 187th Infantry Regiment “Leader Rakkasans,” 3rd Brigade Combat Team, 101st Airborne Division (Air Assault), supporting 3rd Infantry Division, wait for further instruction during a force-on-force exercise near Tapa, Estonia (US Army photo by Specialist Trey Gonzales); sidebar: US Army paratroopers with the 1st Squadron, 91st Cavalry Regiment, 173rd Airborne Brigade conduct an airborne operation with support from 12th Combat Aviation Brigade CH-47 Chinook helicopter crews at Bunker Drop Zone, Grafenwoehr, Germany (US Army photo by Markus Rauchenberger).



An M109A7 Paladin with Charlie Battery, 1st Battalion, 9th Field Artillery Regiment, 2nd Armored Brigade Combat Team, 3rd Infantry Division, receives a resupply between fire missions during a Table XVIII field training exercise held at the Pabrade Training Area, Lithuania, (US Army photo by Captain Zackery Babcock).

and the enduring crackdown on political and civil rights in Russia indicate an increasingly personalist, highly centralized dictatorship is forming in Moscow. Academic research indicates such regimes are more insular, risk tolerant, and aggressive than others.

Economic Challenges

Despite Western efforts to isolate Russia economically, Moscow is skillfully leveraging serious gaps to benefit its military and maintain social stability. The Russian military is also showing some troubling signs of stronger resilience and faster-than-expected reconstitution, maintaining significant quantitative advantages over Ukraine. Russia remains aggressive in its efforts to employ sabotage, espionage, and disinformation to curtail Western support for Ukraine.

Europe's wherewithal to maintain and build upon its strong support for Ukraine in humanitarian, financial, and military terms and Europe's ability to compete more broadly with Russia as well as China remain unclear, given continued sluggish economic growth; persistent shortcomings in European defense-industrial capacity, policies, and regulations; and the uncertain implications of significant political change. In terms of economic strength, stagnation characterized the larger European economies through the end of 2023, and growth across the euro zone in 2024 is expected to be an anemic 0.5 percent. The only significant silver lining is inflation is likely to drop closer to 2 percent. Without an expanding economic pie, the funds devoted to defense and deterrence are unlikely to grow significantly. More NATO Allies than ever meet the 2 percent

Theme 1: Regional Challenges and Opportunities

defense-investment pledge. At the same time, the 2 percent spending level's inability to fulfill the Alliance's plans while simultaneously assisting Ukraine is evident.

Even if the funding were available, Europe would remain hampered by defense-industrial policy choices made decades ago, resulting in a limited productive capacity, dependence on foreign sales, and a shrunken skilled labor force. The fact most Allies cannot direct defense-industry priorities during peacetime, and many cannot engage in long-term contracts that would incentivize industry to add productive capacity, compounds the funding problem.

European elections have also created another degree of uncertainty. June EU parliamentary elections saw the far right—typically friendly toward Moscow—make big gains. Although the EU parliament has little authority over defense and security matters, the political winds that aided the far right will influence governments and decisionmakers across the continent. One immediate impact was French President Emmanuel Macron's call for snap elections in France. Although the far right did not come to power, they fared better than ever and have set the stage for a heated presidential contest in 2027. Until then, the upheaval in French politics will complicate Macron's remaining years in office. Meanwhile, across the Channel, the Labour Party secured a resounding victory in the United Kingdom, ending 14 years of Tory rule. Although historical trends indicate this situation could mean a slightly higher British defense budget, the new government is expected to

focus more heavily on domestic issues in an effort to strengthen a listless UK economy and raise living standards.

US Commitment to NATO

Overshadowing all events in Europe is another set of elections—those in the United States. Recent political discourse has raised questions in Europe about the strength and durability of the US commitment to its treaty obligations and America's willingness to partner with Europe to confront threats to the transatlantic community more broadly. Shifting perspectives on support for Ukraine among some US lawmakers have added to concerns across Europe about future US support.



American soldiers assigned to Fox Troop, 2nd Squadron, 2nd Cavalry Regiment, conduct combat arms training during Saber Strike 24 exercise at Bemowo Piskie Training Area, Poland (US Army photo by Eugen Warkentin).



US Army soldiers with the 1st Battalion, 506th Infantry Regiment “Red Currahee,” 1st Infantry Brigade Combat Team, 101st Airborne Division (Air Assault), supporting the 3rd Infantry Division, conduct live-fire training on the M136E1 AT4-CS confined space light anti-armor weapon as part of anti-tank weaponry training in Adazi, Latvia (US Army photo by Sergeant Cesar Salazar Jr.).

From Europe’s perspective, a potentially unreliable—or even hostile, at least in the economic realm—United States spells real trouble. Yet, ironically, if Washington pushes Europe away and essentially allows Europe to become contested terrain vis-à-vis Russia (and China), the United States is more likely to get drawn into European security affairs eventually and at a much greater cost to Americans. The United States is likely to become involved because the European economy remains vital to the American way of life. As three system-wide wars in the twentieth century (World War I, World War II, and the Cold War) attest, Washington would likely not remain on the sidelines indefinitely if Europe descends into chaos.

Conclusion

European security remains strategically essential for the United States. But European security is in question as the region faces an ongoing military crisis, economic challenges, and concerns about a US leadership transition. The European theater will continue to be a significant component of a broader US Department of Defense strategy as an object of vital interest and a means of pursuing other US goals across the globe. Military planners should understand the challenges confronting the region and the associated political nuances to navigate the uncertain European environment.

Theme 1: Regional Challenges and Opportunities

The United States Central Command Area of Operations

The Middle East and Central Asia



The Middle East remains a volatile theater underpinned by historical political and civil-liberty challenges, weak economies that struggle to support growing populations, and limited access to critical resources like water. Although a gradual US withdrawal over the last few years has shifted the emphasis on the region, recent events remind the defense community of the Middle East's strategic importance for national security. Consequently, current events are drawing the United States back into the Middle East. The region is trending toward chaos, fueled by the eruption of violence in Gaza, the horizontal escalation of the Yemeni Civil War, an emboldened Iran that is filling a regional power vacuum, and great-power influence in Central Asia.

The Fight for Gaza

On October 7, 2023, Hamas launched a complex attack against Israel that reignited long-standing hostilities and plunged a vital US ally into a deadly conflict. Israel's response was swift, and the world shifted its focus away from the Russia-Ukraine War to observe the Israel-Hamas War. Although the United States is prioritizing its military efforts in the Pacific, an attack on Israel was a tangible reminder of the importance of the Middle East.

The US government has historically supported Israel and continues to provide military assistance while remaining only indirectly involved in any operations.

Civilian casualties inherent in the urban conflict have increased opposition to the war, which has placed pressure on Israel to cease operations short of its military and political goals. In turn, the US population has scrutinized Israeli operations, with pro-Palestine protests occurring across the country. The subsequent arguments against Israel's actions echoed earlier debates about discrimination in urban warfare that dominated the Russian invasion of Ukraine. Consequently, continued US support to Israel became a contested issue as the situation transformed into a humanitarian crisis, exacerbated by the fact the belligerents' aim is the eradication of the other. The broader challenge of Arab-Israeli relations will remain a complex issue for anyone assessing the region, regardless of what type of resolution the combatants eventually reach. The ramifications of the current violence will likely be long lasting, as negotiations between interested actors remain slow and uncertain. To complicate matters, some spillover from the conflict is already affecting other regional issues, like the Yemeni Civil War.



US Army soldiers rappelling from a UH-60 Blackhawk helicopter are assisted by their belays to execute a safe landing during the Rappel Master Course at Camp Buehring, Kuwait (courtesy photo); page 14 sidebar: US Army M1A2 Abrams tanks assigned to Task Force Reaper conduct maneuver training during Exercise Bright Star 2023 at Mohamed Naguib Military Base, Egypt (US Army photo by First Lieutenant Michael Needham).

The Yemeni Civil War

For nearly a decade, the Yemeni Civil War has garnered little attention in the United States, likely overshadowed by the war on terrorism and the fight against the Islamic State of Iraq and Syria. Saudi Arabia leads a regional coalition in the fight against the Houthi movement, which has grown to represent a broader regional proxy fight with Iran. The Yemeni Civil War was contained in Yemen, but the recent fighting in Gaza provided a justification for the Yemeni Civil War to spill over and escalate horizontally.

In November 2023, Houthi rebels, as part of the broader Iranian axis of resistance against Western influence, began targeting international shipping with increased intensity. Although the Houthis' actions are not new, the expanded operations and

public justification signified a transition in the conflict. Houthi forces have conducted dozens of attacks on ships in the Red Sea and the Gulf of Aden using drones and missiles. The Houthis are attacking shipping explicitly to impose costs on Israel's supporters. While the drone and missile strikes are regional, the impact is much broader.

The United States and its allies responded in December 2023 by creating Operation Prosperity Guardian, whose mission is to ensure freedom of navigation in the Red Sea. Shortly after, in January 2024, the coalition began a series of air strikes and naval bombardments against critical Houthi positions in Yemen, code-named Operation Poseidon Archer. The coalition's highly publicized strikes represent a shift in the Yemeni Civil War, an escalation that adds to the tensions between the West and an increasingly emboldened Iran.

Iran the Spoiler

Iran has gradually expanded its influence in the Middle East, often using proxies. Notably, Iran has varying levels of control over proxy forces, giving the nation a level of deniability that has reduced the likelihood of a major regional war. But recent actions—by proxies and by Iran proper—have created an unstable situation in the region. As already discussed, the actions of the Houthis in Yemen and the actions of Hamas in Israel have fostered direct confrontations with the West. At the same time, Iranian-backed forces have increased attacks on US installations across the Middle East, including locations in Iraq, Syria, and Jordan.

Theme 1: Regional Challenges and Opportunities



A US Army Pacific Command soldier observes munitions being loaded onto a military vehicle near the ammunition supply activity they established as part of the Salaknib and Balikatan exercises in the Philippines (Photo by Sergeant First Class Joshua Brandenburg).

Although most of the forces' actions are negligible, in January 2024, a drone strike killed three US servicemembers in Jordan. Iran denied involvement. Still, the United States responded, striking critical facilities associated with the Iranian proxy forces the United States believed to be involved.

But in April 2024, Iran's engagements expanded beyond the deniability of proxy forces. At the beginning of the month, an Israeli-Iranian proxy fight in Syria escalated when Israel conducted a strike against the Iranian consulate in Syria, killing high-level Iranian officers. A tit for tat followed. On April 13, 2024, Iran launched a massive volley of drones and missiles at Israel, most of which Israeli and partner air-defense systems defeated. Even though the resulting attack achieved minimal damage, it was a clear escalation. Israel responded in kind. On April 19, 2024, Israel conducted a strike on Iran.

The details of the extent of the damage from either strike and, more importantly, the results of such engagements are unclear. Iran has been increasing its actions for years, and Iran's efforts to secure a regional hegemony seem to have come to a head. What comes next may shape Department of Defense efforts for the foreseeable future. But the United States cannot become hyperfocused on Iran, as competition between great powers is ongoing more broadly in the region.

Central Asia: The Center of Chinese-Russian Interaction

Compared to the rest of the region, Central Asia seems stable and quiet, but its placid surface obscures significant changes underway. Since the collapse of the Soviet Union, Russia has been the primary regional security manager. But Russia's invasion of Ukraine and Russia's sometimes bellicose rhetoric toward Central Asia—especially Kazakhstan—have regional governments seeking other partners.



China had long been content to focus on its economic interests in the region, especially its Belt and Road Initiative investments: Central Asia is vital to China's goal of creating a global trading system with China at the system's center. Beijing is increasing its diplomatic and military presence in the region. China has created its own C5+1 format, engaging Central Asian governments without Russia in the room, and China has recently acknowledged a security presence in Tajikistan in the form of a base in the mountainous Gorno-Badakhshan region along the border with Afghanistan. Even Pakistan, a nuclear-armed state, has become more closely connected to China via the China-Pakistan Economic Corridor. But Pakistan's existential crisis with India over Jammu and Kashmir continues to make Central Asia unstable and the world uncomfortable. Additionally, Pakistan is marred by an internal struggle between its

army and its civilian political parties, which recently led to the former prime minister being jailed and the formation of a tenuous political coalition.

At the moment, Chinese and Russian security interests in Central Asia are aligned. But the fall in Russian power and influence in Central Asia, coupled with China's rise in the region, may prove difficult for the two to manage. As Russia's influence declines, China will likely fill that vacuum.

An Emerging Iraq

When Iraqi Prime Minister Mohammed Shia al-Sudani visited Washington, DC, in April 2023, his message was clear: Iraq is ready for the United States to treat relations between the countries as an opportunity rather than a problem.¹ As al-Sudani pointed out during his US engagements, the threat from the Islamic State has significantly diminished, and Iraqis are ready to transition from military operations to policing in the former areas of conflict.² Concurrently, he has signed the ambitious *National Strategy for Iraq Security Sector Reform* to build an administration system capable of responding to emerging risks, threats, and challenges that incorporates the security services, judiciary, and oversight organizations.³ Moreover, despite calls for the withdrawal of US combat forces, the Iraqi government is engaging its US and European partners for assistance with these reforms.⁴

While calls to withdraw US forces may be partly politically motivated, they also reflect a revised understanding of Iraq's security needs. During a closed-door



A paratrooper assigned to the 82nd Combat Aviation Brigade, 82nd Airborne Division, flies over the Middle East on a CH-47 (US Army photo by Staff Sergeant Catessa Palone).

Theme 1: Regional Challenges and Opportunities

session, al-Sudani described the security situation within Iraq as stabilizing, indicating a need to bolster police forces as military forces transition to more peacetime roles.⁵ Under these conditions, combat forces are not only unnecessary but also create the impression that Iraq remains unstable, which undermines international and domestic investment. While assessments of the Islamic State's diminished capacity may be optimistic, the desire to create a professional and responsible security sector capable of addressing a range of security challenges (as stated in the strategy) is genuine. In fact, the Iraqis have formed reform committees in each security sector ministry and agency, underscoring their commitment to a professional and responsible security sector.⁶

Security sector reform remains an important area for international assistance, and facilitating this trend toward stabilization will require international partners to shift focus from security assistance to economic and social development. Iraq's non-oil sector showed a strong recovery, with non-oil GDP growth estimated at 6 percent, driven by increases in public expenditure and agricultural output.⁷ However, overall economic performance was tempered by oil production cuts due to OPEC+ agreements and interruptions in the pipeline with Türkiye. Economic growth for 2024 is projected to rebound amid fiscal expansion, with continued strong performance expected in the non-oil sectors.⁸ Iraq's unemployment rate is around 15.6 percent, having risen steadily since 2008 when it was around



US Army soldiers assigned to Task Force Reaper conduct a M121 120 mm mortar live-fire mission during a combined arms live-fire exercise, celebrating successful end to the 11th iteration of Eager Lion in Jordan (US Army photo by Captain Matthew Shields).



US Army soldiers assigned to Task Force Reaper perform tactical movements in an M1A1 Abrams tank during exercise Eager Lion 2024 at Training Area 5 in Jordan (US Army photo by Specialist Nataja Ford).

8 percent. Over the last two years, the rate declined from a high of 16.2 percent.⁹ Although unemployment is declining, it remains a significant concern.

Al-Sudani's Washington visit underscored Iraq's readiness to pivot from aid recipient to equal partner. Doing so builds on the relations built during the fight against extremism to create a sustainable and mutually beneficial relationship that grows opportunities for all partners. To achieve lasting stability, international partners should complement security assistance with initiatives focused on economic growth, entrepreneurship, education, and health care. These efforts can transform Iraq into a more resilient and prosperous nation, leveraging the expertise and support of global partners to foster a secure and thriving society.


Conclusion

The Middle East is a theater on the precipice of a regional war, as terrorism and proxy war push the region to a broader and more significant conflict. Complex relationships define the region, and an assortment of interrelated conflicts is testing the region's complex relationships. Numerous conflicts of varying scales are ongoing in places like Iraq, Israel, Syria, and Yemen. None of the conflicts have an end in sight. At the same time, Iran's efforts to achieve regional hegemony continue. Although the actions of the rogue state will not go uncontested, to what extent great powers will directly intervene is not clear, and their focus may be elsewhere in the region. The region's complexity has no straightforward solution. Instead, any actions the United States undertakes, including a noninterventionist decision, are likely to be contentious.

Theme 1: Regional Challenges and Opportunities

The United States Northern Command Area of Operations

North America



The United States has enjoyed a two-ocean barrier preventing enemy attacks on the homeland for more than two centuries. Except for the minor incursion of Mexican forces into New Mexico in 1916, the continental United States has been free from foreign invaders since the War of 1812. The homeland, however, extends beyond the continental United States. During World War II, the Japanese occupied the Philippines, then a US commonwealth, Attu and Sitka in the Aleutians and Guam and Wake Island—all US possessions. Moreover, since the September 11 attacks, the assumption the homeland is a sanctuary has lost credibility. Presently, the United States and its North American allies face increasing competition from adversaries in the air, land, sea, space, and cyber domains; espionage and terrorism; political unrest; and the effects of climate change. Failure to fund and support militaries, national defense, and security architectures adequately undermines national and collective security.

External Competition

Recent incursions of Russian and Chinese ships into Alaskan territorial waters signal increased competition in the Arctic. The last five years have seen an increase in Chinese and Russian ships operating in the Arctic, including

a combined Russia-China naval exercise in 2021. At the same time, North America faces a growing threat from multiple adversaries' ballistic and cruise missiles and hypersonic weapons. Complicating matters, the recent deployment of Chinese intelligence balloons over North America demonstrated the People's Republic of China's willingness to test US resolve. Additionally, Russian and Chinese espionage is a genuine danger in the military, commercial, and academic realms. The United States expelled 10 Russian sleeper agents in 2010 and another 60 known agents in 2020. The number of deployed agents indicates the degree to which foreign governments are prepared to act against the United States. Technology is changing the threats to the United States. Adversarial cyber operations are not a distant possibility but a genuine and growing concern, inside and outside the United States. Russian interference during the US presidential elections of 2016 and 2020 demonstrates the system's fragility. Exacerbated by cyberattacks that feed paranoia and conspiracy theories, divisions among the US population now challenge national security, demanding our utmost vigilance.

North American economies lack an effective mechanism for screening foreign investments from a national



A dismounted Cavalry scout squad enters a Bradley Fighting Vehicle on Red Cloud Range at Fort Moore, Georgia, during Operation Thunderstrike, a live-fire demonstration featuring tanks, Strykers, mortars, drones, and Bradleys (photo by Daniel Marble); page 20 sidebar: US Army paratroopers assigned to 2nd Battalion, 508th Infantry Regiment, 2nd Brigade Combat Team, 82nd Airborne Division, experiment with new equipment during Joint urban experiments as part of Project Convergence–Capstone 4 at Fort Irwin, California (US Army photo by Sergeant Griffin Payne).

security perspective, which exposes potentially vulnerable supply chains and natural resources. China seeks to expand its relationships in North America and has made significant investments in Mexican industries. For instance, 80 percent of Mexico’s telecommunications are provided by Chinese companies. Failure to counter China’s influence could weaken the US defenses. Mexico spends approximately 1 percent of its GDP on security, one of the lowest among US allies.

Internal Threats

North America faces political unrest, with national elections scheduled in the United States and Mexico in 2024, Canada in 2025, and the Bahamas in 2026. The outcomes of the polls may affect bilateral relations between the United States and each of the other nations. Growing domestic violent extremism, narco-trafficking,

and related terrorism continue to challenge the leadership of all nations.

United States

The hardening of ideological positions in the United States has led to deep political and cultural divides that the election will likely not heal, presenting a danger as significant as any external threat. Political unrest in the United States has damaged our standing, even among our closest allies. A 2021 poll on US soft-power influence found that 69 percent of Canadians perceive the United States as a less trusted partner than before 2016 following US withdrawal from international forums and believe the United States “used to be a good example” of democracy but is not one in recent years. Mexico has also traditionally held a favorable view of the United States, but a 2021 poll showed that only 51 percent of Mexicans advocated closer US ties. Poorly understood US policies constrain our influence

Theme 1: Regional Challenges and Opportunities

in Mexico, particularly regarding migration. The United States must reduce these risks by challenging disinformation and reinforcing the benefits of engagement between neighbors. Public perception of US credibility on critical issues, especially democracy, inclusion, equity, and tolerance, jeopardizes our international leadership position.

Mexico

In Mexico, one of the most significant elections in the nation's history saw the election of the country's first female and first Jewish president in a male-dominated, majority-Catholic society. Claudia Sheinbaum and the ruling National Regeneration Movement (MORENA) party received a significant plurality in the election and now enjoy a clear mandate. Still, the election cycle resulted in unprecedented violence against politicians and candidates. Sheinbaum has pledged to follow her predecessor's policies but has also signaled that she intends to strengthen the police.

Illegal immigration and cross-border drug smuggling have increased dramatically over the last few years. Fentanyl seizures at the border between fiscal years 2021 and 2023 rose 241 percent. Violent crime in Mexico has increased over the past several years, coupled with a weak justice system that eliminated many criminal penalties and eroded public confidence in the national government. Mexican officials cooperate with US authorities to combat crime, but this action has been ineffective. The level of crime in Mexico has led to election-year rhetoric in the United States advocating for the

US military to pursue drug cartels in Mexico. The National Defense Authorization Act for Fiscal Year 2024 directs enhanced security cooperation with Mexico to counter transnational criminal organizations and assess the organizations' role in and impact on national security. The act also requires a plan to counter human- or drug-trafficking operations in coordination with interagency and North and South American defense partners.

Bahamas

American-Bahamian relations are strong, and the Bahamas has been the most pro-American country in the Caribbean bloc and a good partner in the fight against human and narco-trafficking. The United States recently donated a sizable maritime radar system to the Royal Bahamas Defence Force to facilitate better surveillance in the Caribbean. Despite the Bahamas' close economic and defense relationship with the United States, the People's Republic of China has also developed economic ties to the country through travel-industry investments. China sees the Caribbean as a critical competitor to the United States. Nassau hosts the largest Chinese embassy in the world, and the ambassador uses the information space very adeptly to undermine the United States. In contrast, the United States has not had an ambassador in Nassau since 2011. The porous maritime border between the United States and the Bahamas, 50 miles apart at its closest point, presents a significant security vulnerability. Transnational criminal organizations use pathways through the Bahamas to smuggle



US Army soldiers assigned to 1st Battalion, 64th Armor Regiment, 3rd Infantry Division, scan the area for potential enemy contact during Marne Focus at Fort Stewart, Georgia (US Army photo by Private First Class Trey Woodard).

narcotics, people, weapons, and money into and out of the United States.

Former Mexican President Andrés Manuel López Obrador espoused a nationalist economic policy that contradicts US interests and threatens US efforts to pursue a market-based approach to North American competitiveness. The American and Mexican governments work together to counter transnational criminal organizations and illicit networks, but Mexico underfunds the law enforcement agencies that manage Mexican borders. This underfunding allows illegal migration and enables transnational criminal organizations to smuggle humans, weapons, drugs, and other illicit goods.

Canada

American-Canadian relations remain strong and are expected to endure in perpetuity. The two countries share the world's longest international border and

enjoy close cooperation in the diplomatic, information, military, economic, financial, intelligence, and law enforcement realms. The combined North American Aerospace Defense Command / United States Northern Command provides antimissile defense for the continent. The American and Canadian militaries routinely conduct combined exercises, especially in the increasingly important Arctic region. The thawing Arctic ice, however, presents a potential source of conflict for the two nations, as they disagree about the ownership of the Northwest Passage.

The United States, Canada, and Mexico have one of the world's most heavily integrated trade and investment relationships. The United States-Mexico-Canada Agreement (USMCA) ensures strong and stable trade, smooth investment flows, highly integrated supply chains, interconnected energy, and infrastructure. The agreement, however, has also increased the challenges of illegal immigration. Since Canada included Mexico in its visa-exempt travel program in 2016, Canada has become a new pathway for Mexican illegal entry into the United States.

Nonadversarial Challenges

North America is confronted with a persistent and escalating threat from climate change, which has led in recent years to a surge in the severity of hurricanes, tornadoes, and wildfires that have ravaged the homeland. Natural disasters and weather phenomena have intensified in severity and frequency over the last three years, primarily because of climate change. Hurricanes in Hawaii, Florida, and Puerto Rico,

Theme 1: Regional Challenges and Opportunities



US Army soldiers drive a Humvee onto the range during a live-fire exercise to support US Army and Indian Army soldiers by fire in Delta Junction, Alaska, on October 3, 2023 (US Army photo by Specialist Justin Yarborough).

wildfires throughout the western United States, and tornadoes in the Midwest have left caused immeasurable damage. North America conducts regular exercises to prepare for a potentially catastrophic earthquake.

The Bahamas is a low-lying small island archipelago, and climate change poses an existential threat. Studies indicate a one-meter rise in sea levels would cover 80 percent of the Bahamas. In addition to rising sea levels, climate change increases the frequency and intensity of hurricanes and coral reef degradation. Climate adaptation and mitigation are crucial to addressing these threats. Although much of the country depends on buffer systems (like corals and mangroves), many of these important ecosystems are in decline.

With the recent election of climate scientist President Sheinbaum, Mexico is poised to become a more effective

North American partner in addressing climate change. Mexico currently ranks 11th among the leading greenhouse gas-emitting nations. The previous administration focused on strengthening crude oil production while disincentivizing renewable energy.

Besides the humanitarian response natural disasters require, such events pose a real threat to national security. In 2019, floodwaters from the Missouri River inundated Offutt Air Force Base in Nebraska. The resulting significant damage critically inhibited the United States Strategic Command's functioning ability, and repair work is ongoing five years later. North American and other defense and interagency partners continue to examine the potential for weather-events destruction to determine possible climate-mitigation options to protect military bases and critical national infrastructure.

Man-made disasters also threaten national security and affect our ability to project power. The recent destruction of the Francis Scott Key Bridge in Baltimore's harbor due to an accidental ship collision highlights the fragility of our most critical infrastructure. The bridge's collapse blocked one of the nation's busiest harbors and disrupted traffic along one of the East Coast's most-traveled corridors. Aside from causing significant economic damage to the region, the incident potentially disrupts military movements from the East Coast.

Cross-border challenges can also threaten US public health and environmental protection. The collapse of one of Tijuana's main sewage plants



in 2017 and the flooding of a pump station in 2019 resulted in millions of gallons of Mexican sewage flowing into the United States. The 2023 Canadian wildfires affected air quality in much of the United States.

The nation has also seen an increase in biological threats during the past couple decades, including outbreaks of Ebola, influenza A (H1N1), and swine flu, culminating in the COVID-19 pandemic, the likes of which the world had not seen in a century. Recent biological threats proved to be more dangerous than terrorist incidents, as the biological threats had no identifiable enemy to blame. Moreover, biological threats revealed national and societal weaknesses in preparing for unexpected events. Patients rapidly overwhelmed existing hospital facilities and depleted the stock of personal

protective equipment. The initial lack of a vaccine for COVID-19 added to the nation's fear, while political divisions and paranoia delayed the containment of the spread of the virus.

Conclusion

North America faces numerous internal and external security challenges. Competition, and possibly conflict, with potential adversaries, including Iran, North Korea, Russia, and the People's Republic of China, presents real dangers. Simultaneously, the region must address political unrest, cyberterrorism, climate change, and other issues threatening regional security. The homeland and its neighboring countries represent an often-overlooked area that is strategically vital to understanding the broader context of Department of Defense planning.



Soldiers from 1st Brigade Combat Team, 101st Airborne Division (Air Assault) act as the opposing force during an engagement with 2nd Brigade Combat Team, 101st Airborne Division, as part of Operation Lethal Eagle 24.1 at Fort Campbell, Kentucky (photo by Specialist Zachery Blevins).

Theme 1: Regional Challenges and Opportunities

The United States Southern Command Area of Operations

Central and South America and the Caribbean

South America, Central America, and the Caribbean directly impact US security and prosperity through trade and investment ties, drugs and migratory flows, and other geographic factors. The area is in a process of profound socioeconomic and political stress and change, giving rise to challenges for the United States in peacetime and a potential future great-power conflict. The region's challenges and evolution also impact its member states' cooperation with the United States on security, political, economic, and other matters, presenting unprecedented risks and opportunities for US policymakers and the US security establishment.

Endemic high levels of insecurity, inequality, and public corruption in South and Central America have been magnified in recent years by the economic and fiscal effects of the COVID-19 pandemic, food and fuel supply and price effects from Russia's invasion of Ukraine, and increased climate-related phenomena, including hurricanes in Mexico and the Caribbean, plus unprecedented droughts, wildfires, and floods from Mexico to South America. Indeed, drought has even significantly impacted the

throughput of the Panama Canal, a significant international transit hub.

Rise of the Left and Other Impacts of Stressors on Regional Politics

Recent stresses in the region have eroded faith in Western-style procedural democracy's ability to address the region's endemic problems, fueling the election of and consolidation of power by populist and other disruptive political movements on both the left and the right, from the authoritarian-populist chavista government in Venezuela and the Sandinistas in Nicaragua, to Nayib Bukele and his New Ideas party. Other governments, such as the Libre government in Honduras, the Gustavo Petro government in Colombia, and the Luis Arce government in Bolivia, though still subject to some institutional and societal checks and balances, generate concerns about antidemocratic behaviors and divergence from the United States in criminal and security cooperation and other policies.

Of particular concern, where citizens' faith in procedural democracy has eroded, groups both in and out of power, particularly on the left, are weaponizing discontent, leveraging social media tools to destabilize, take power, and consolidate control.

Sidebar: Brazilian Army soldiers assigned to the 52nd Jungle Infantry Battalion rush down a pile of gravel toward an enemy position during the final assault of Exercise Southern Vanguard 24 in Oiapoque, Brazil (US Army National Guard photo by Specialist Joseph Liggio).





Still, the left's advance has also stimulated countercurrents in the region. Ecuadorans elected the 35-year-old son of a banana tycoon, partly out of fear of the left's return to power. In Argentina, a severe economic and financial crisis brought the radical libertarian Javier Milei to power with a strongly pro-market agenda and a notably pro-United States/China-skeptical orientation. In Paraguay, Santiago Peña, a young, dynamic leader, seeks to rebrand and develop the country through a business friendly orientation aligned with Israel, Taiwan, and the United States. Yet, the country's endemic corruption and Paraguay's centrality to drug flows across the region undermine Peña's ability to attract the investment corresponding to Paraguay's potential.

Implications of Political Shifts for the Strategic Environment

In the largest countries in the region, the confluence of stresses and disillusionment has empowered governments, posing strategic dilemmas for the United States. In Brazil, comprising roughly half the territory, population, and economy of South America, the Workers' Party government of Luiz Inácio Lula da Silva coincides with the United States on environmental and social justice matters. Yet, Brazil's government adopts regional and global policies in the spirit of an independent foreign policy that are detrimental to the United States on the issues of China, Russia, and the Middle East, and that undermine the isolation of authoritarian governments in the region, such as the Venezuelan and Nicaraguan governments. On the

strategically vital US southern border, the National Regeneration Movement regime of Andrés Manuel López Obrador, which came to power mainly through the inability of Mexico's traditional parties to solve the endemic problems of narco-violence, corruption, and inequality, has a troublingly mixed record of cooperation with the United States on the fundamental issues of drugs, migration, and commercial policy.

An unusually large number of upcoming national elections further magnifies the possibility of political mobilization and polarization in the stressed region, including in Panama and the Dominican Republic in May, Mexico in June, Venezuela in July, and Uruguay in October.

Transnational Organized Crime

Criminal and migratory dynamics have interacted with administratively ineffective and deeply corrupted regimes to stress the region further. Coca production, illicit funds in the economy, and violent competition between armed groups have swelled in Colombia and Venezuela, reflecting problematic policies by the Petro regime in Colombia to limit actions against armed groups while pursuing peace negotiations with them. The cessation of forced coca eradication is also a contributing factor and has augmented the effects of Colombia's flawed 2017 peace agreement with the Revolutionary Armed Forces of Colombia, flooding the country with cocaine and illicit funds. The Nicolás Maduro dictatorship in Venezuela has run the country as a de facto franchise for armed groups, transforming Venezuela into a significant producer of and transit country for cocaine

Theme 1: Regional Challenges and Opportunities

and illegal mining products. Drug flows from the area have also spilled over into Ecuador, producing significant violence as local gangs backed by Colombian and Mexican cartels fight over Ecuadoran drug routes and use terror to intimidate local governments and populations.

In the Caribbean, narcotics flows from Venezuela and Colombia toward both the United States and Europe have also empowered local gangs with access to guns—mainly from the United States—to produce unprecedented levels of violence, particularly in Trinidad and Tobago and Jamaica. Meanwhile, Haiti’s cycle of gang violence and economic collapse has escalated to catastrophic proportions, obligating the neighboring Dominican Republic to expand efforts to seal off its border, including by constructing a border wall. The Haiti crisis has also driven international intervention efforts and added to the flood of migrants, which includes hundreds of thousands of Cubans, Ecuadoreans, Venezuelans, and others, moving across the Darién Gap, through Central America and Mexico, to the United States.

In South America, cocaine from Peru, weakened by ongoing social and political crises, and from Bolivia, fueled by a leftist government sympathetic to the coca producers, moves through Argentina, Brazil, and Uruguay. Cocaine from Peru and Bolivia brings corruption and criminal violence, as well as local addiction and overdose problems related to drugs such as crack cocaine and, increasingly, products laced with fentanyl.

Paralleling the role of Mexican and Colombian cartels in drug routes to the United States, South America faces escalating problems from Brazil-based criminal organizations such as the First Capital Command, the Red Command, and the criminal organizations’ surrogates fighting over routes.

Extra-hemispheric US Rivals in the Region

As a complement to stresses in the region from economic and criminal factors, extra-hemispheric actors are increasingly shaping the dynamics of South and Central America. The People’s Republic of China is expanding as a purchaser of the region’s foodstuffs and commodities, including strategic minerals such as lithium and niobium, and as a builder and operator of the region’s port, electricity, digital, and other infrastructures. The People’s Republic of China also influences the region through expanding business, academic, media, and other people-to-people networks. The People’s Republic of China is forging significant, albeit low-key, military- and public-security relationships and is actively seeking to induce the seven regional governments that engage in relations with Taiwan to switch recognition to the People’s Republic of China. Further, the People’s Republic of China is building and operating dual-use port, digital, and space infrastructures it could use against the United States during times of war.

As a complement to, but not overtly coordinated with, the People’s Republic of China, Russia and Iran maintain relationships with a small group



American Army Specialist Cynthia Walker, an infantryman assigned to the 1st Battalion, 26th Infantry Regiment, 2nd Brigade Combat Team, 101st Airborne Division (Air Assault), disembarks from a boat during a platoon-level jungle mock reconnaissance on an island in Oiapoque, Brazil, during the Southern Vanguard 24 exercise (US Army photo by Specialist Joshua Taeckens).

of pro–United States regimes, including Cuba, Nicaragua, and Venezuela. Russia and Iran’s regional relationships help these extra-hemispheric actors to engage in pro–United States military and other activities and undermine democracy in the region, while supporting the viability of pro–United States regimes. Russia was also formerly a major arms supplier to many countries in the region and is a current niche supplier of nitrate-based fertilizers, giving Russia leverage among agricultural producers. Iran is rebuilding its presence in the region, anchored in oil and arms cooperation with Venezuela and the insertion and movement of Iranian agents in the region with Venezuelan help. Iran’s surrogate, Hezbollah, also has a limited presence, primarily raising funds for operations elsewhere but creating a risk of terrorist activities in the region if the conflict in the Middle East escalates.

Conclusion

The future of South and Central America in the near term will be shaped

by the degree to which regimes looking toward the United States succeed in their efforts to overcome grave challenges, including Argentina with its economic crisis, Ecuador with its security crisis, and Paraguay with the Peña government’s effort to break free of a legacy of corruption. Argentina, Ecuador, and Paraguay’s success or failures will send important signals to the rest of the region regarding the reliability of the United States as a partner and the benefits of pursuing the path of market economies, transparency, and Western-style democracy. At the same time, the United States will be challenged to navigate the landscape of once more closely aligned nations such as Brazil, Colombia, Honduras, and Mexico, which are impacted by criminal and other stresses. Such nations coincide with the United States in some areas but are more willing to take actions that adversely impact US equities, such as providing an opening to authoritarian regimes, such as Cuba, Nicaragua, and Venezuela, and their engagement with extra-hemispheric US rivals.

Theme 1: Regional Challenges and Opportunities

The United States Africa Command Area of Operations

Africa

The African continent is marred by challenges ranging from a succession of recent military coups to governance issues to the growing threat of violent extremist organizations (VEOs). Africa also faces nontraditional security challenges such as climate change, uncontrolled urbanization, famine, limited economic opportunities coupled with a growing youth population, and mass migration. In 2023, VEOs continued to take advantage of weak governance, failed states, and ungoverned areas, resulting in increased violence in the Sahel and Somalia. The eastern Democratic Republic of the Congo, Mozambique, and Sudan have also experienced an upsurge in violence and instability in 2024 as conflicts in these regions remain unresolved. The Sahel, Eastern African, and Central African regions all have unique challenges, which, coupled with governance difficulties, contribute to the broader complexity of the continent's security landscape.

The Situation in the Sahel

Deep-rooted issues, including poor governance, corruption, poverty, and local grievances, plague the Sahel region. According to the *Global Terrorism Index 2024* report, the Sahel accounts for more than half of global terrorism deaths, with terrorism-related fatalities



Members of the Tanzania Peoples Defence Forces on patrol during field training at the Justified Accord 2024 exercise in Nanyuki, Kenya (US Army photo by Sergeant First Class Leron Richards); sidebar: A 1st Battalion, 175th Infantry Regiment, Maryland National Guardsman scans for security threats during a dry-fire situational training exercise lane with Senegalese soldiers as part of the African Lion 2024 exercise in Dodji, Senegal (US Army Reserve photo by Sergeant First Class Nicholas J. De La Pena).

in Burkina Faso increasing by 68 percent from 2023.¹⁰ Recent military coups have complicated Western efforts to counter VEO threats in Burkina Faso, Mali, and Niger. Newly emplaced authorities have broken their security partnerships with France and other Western nations while increasing security cooperation with the Russian government and Russian private military companies. Niger's decision to dissolve its security arrangements with the United States and remove US forces from the country further hampers Western efforts to counter VEO operations in the region. In the coming



years, VEOs may seek to capitalize on the security vacuum left by the termination of the UN peacekeeping mission in Mali and the withdrawal of Western security providers by expanding VEO operations and threatening more stable coastal Western African states.

Engagements in Eastern Africa

In Eastern Africa, the conflict between the Sudanese Armed Forces and the Rapid Support Forces, two rival military factions vying for control of the country, enters its second year with no signs of de-escalation. The Rapid Support Forces, under the control of General Mohamed Hamdan “Hemedti” Dagalo, made significant military gains in 2023, forcing the Sudanese Armed Forces, under the control of General Abdel Fattah al-Burhan, to retreat from cities near the capital, Khartoum, and in the western region of Darfur. The Sudanese Armed Forces regained partial control of the capital, but Khartoum remains a contested area as both sides vie for dominance. International

efforts from the United States have failed to put an end to the conflict, as each side receives foreign support, which has prolonged the war. The ongoing conflict has left the nation on the verge of widespread famine, millions of people are in dire need of immediate humanitarian assistance, and the fighting has forced millions more to flee their homes. The conflict’s consequences extend beyond Sudan’s borders, with potential implications for regional stability, refugee crises, and other humanitarian and security issues.

Somalia reclaimed the top spot on the Fragile States Index in 2023 with little optimism about improving in the near future.¹¹ The Somali National Army is embracing its increased role in Somalia’s security as the African Union Transition Mission in Somalia prepares for its planned withdrawal by the end of 2024. As Somalia prepares for its upcoming elections, al-Shabaab’s efforts to undermine the government’s legitimacy are a genuine concern. At the same time, the Somali National Army’s ability to assume full



Paratroopers with the 19th Special Forces Group (Airborne), 9th Psychological Operations Battalion, Utah National Guard and 2e Brigade d’infanterie Parachutiste (2e BIP), Moroccan Royal Armed Forces, land in a drop zone near Ben Guerir, Morocco, during African Lion 2024 (US Army photo by Staff Sergeant Nathaniel Free).

Theme 1: Regional Challenges and Opportunities



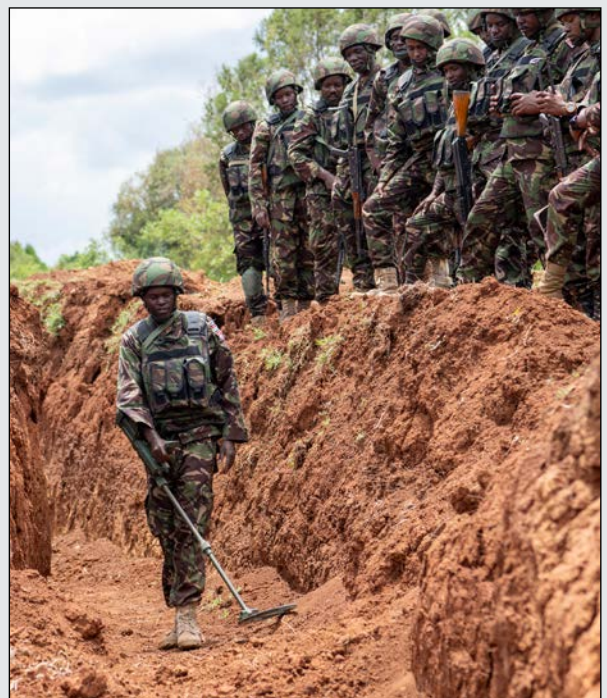
A US Air Force airman from the 26th Special Tactics Squadron, US Air Force Special Operations Command, surveys the training area during Justified Accord 2024 in Kenya (US Army photo by Sergeant First Class Leron Richards).

responsibility for security remains unclear. The Somali National Army's ability to ensure a fair and democratic process is of particular concern, as the success of Somalia's upcoming elections will determine the country's future trajectory.

Since 2021, military intervention in Mozambique by the Southern African Development Community mission in Mozambique and the Rwanda Defence Force has suppressed an insurgency in the northern Cabo Delgado Province by the Islamic State of Iraq and Syria–Mozambique. The insurgency halted a multibillion-dollar liquified natural gas project in the province with the potential to transform the impoverished country's economy. Mozambique's economy is weak but strategically important, known for its abundance of natural gas reserves, critical minerals, and proximity to the Mozambique Channel, a principal global maritime shipping route.¹²

Concerns in Central Africa

In Central Africa, renewed fighting between armed groups and the Congolese military in the eastern Democratic Republic of the Congo threatens to exacerbate an already-troubled security situation. The planned withdrawal of the UN peacekeeping mission by the end of 2024 and the withdrawal of the East African Community force in late 2023 may leave a security vacuum the Congolese military, with the assistance of the newly deployed Southern African Development Community mission in the Democratic Republic of the Congo, may be unable to fill. Still, a military solution alone cannot resolve the governance and economic problems of the region, as is the case in many parts of Africa.



A Kenya Defence Forces soldier searches for notional improvised explosive devices (IEDs) during Justified Accord 2024 counter-IED training at the Counter Insurgency Terrorism and Stability Operations Training Centre in Nanyuki, Kenya (US Department of Defense photo by Staff Sergeant Carter Acton).



US Army Staff Sergeant Devin Sasser, a network communications systems specialist from Maneuver Combat Advisor Team 2310, 2nd Security Force Assistance Brigade, configures a microwave satellite terminal in support of the African Lion 2024 exercise in Dodji, Senegal (US Army Reserve photo by Sergeant First Class Nicholas J. De La Pena).

African Governance

Governance across the African continent varies widely, as some countries are progressively advancing democratic processes whereas others suffer from devastating setbacks. In countries such as Botswana, Cabo Verde, Ghana, Mauritius, and Senegal, peaceful transitions of power are an encouraging sign democratic values are entrenched in society and governments respect their citizens' votes. Countries such as Chad, Equatorial Guinea, Eritrea, Niger, and South Sudan, however, are beset by entrenched autocratic leaders or military juntas with little regard for the democratic process or human rights. In 2024, 19 African countries will hold presidential or general elections. Up to half of the African elections in 2024 may lack competitiveness due to entrenched incumbents' control of the

electoral process. In other elections, such as in South Africa, the power shift could lead to a transition from single-party rule to a multiparty system.¹³

Conclusion

The African continent is complex and deeply entrenched in security challenges. Political instability, military coups, VEOs, famine, mass migration, and strategic competition are just a few factors contributing to the continent's security landscape. Although some countries are making progress in addressing security issues, others are struggling to find stability and are facing deteriorating security situations. The coming years are crucial for the United States and its partner nations' efforts to address regional challenges and ensure a more stable and prosperous future for the continent.

Theme 2: Domestic Challenges

Civil-Military Relations

Today's civil-military environment is one of the most challenging the military has seen since the advent of the all-volunteer force in 1973. Public confidence in the military has been steadily declining, the US Army is facing a yearslong recruiting crisis, and the trust between senior military and political leaders has been eroding for over a decade.¹⁴ In particular, three apparent contemporary trends threaten to damage the military's relationship with both American society and its political leaders further: the emergence and widening of the civil-military gap, the increasing politicization of the military, and the blending of civilian and military infrastructure as a consequence of modern war. Contemporary trends and the concerns they raise offer fruitful paths for research that might refine our understanding of the trends and help us understand appropriate responses.

The Civil-Military Gap

The first important trend impacting civil-military relations today is the emergence of a civil-military gap. When the United States established the all-volunteer force in 1973, more than 20 percent of American adults had previously served in the military. With the decrease in the size of the force after the end of the Cold War, the increase in the US population, and the establishment



Sergeant Bank Wutisen, a chemical, biological, radiological, and nuclear specialist with the 12th Civil Support Team, 54th Troop Command, New Hampshire Army National Guard, showcases his team's hazard detection and identification equipment to firefighters from the Nashua Fire Department hazmat team during joint training at Holman Stadium in Nashua, New Hampshire (US Army National Guard photo by Sergeant Bei Simmons, 114th Public Affairs Detachment); sidebar: Stephen Hill, director of contingency operations and chief of the Office of Homeland Security, US Army Corps of Engineers, joins US Army Corps of Engineers team members and local, state, and federal partners for a briefing prior to touring areas affected by the Hawaii wildfires (photo by Richard Brown).

of the all-volunteer force, only 6 percent of people today call themselves veterans, and only 15–20 percent of Americans report knowing someone who has served in the military.¹⁵ Declining civilian connections to the military may jeopardize civilian control in the United States and damage the legitimacy of the military more broadly. Today, more than 80 percent of recruits have a close family member who has served, concentrating military



service within families and risking the emergence of a warrior caste.¹⁶ Evidence shows some veterans and servicemembers see themselves as having superior values to the rest of American society and see themselves as superior in love of country and honor. If such servicemembers do not respect the values or beliefs of the people they are supposed to put their lives on the line to defend, the democratic ethos is in jeopardy. Second, the emergence of a civil-military gap can undermine the legitimacy of the force, particularly as the officer corps continues to diverge from the American public along demographic and ideological lines.¹⁷ In an era in which identity and demographic characteristics increasingly drive political preferences and behavior, a military that becomes too homogenous could make for an especially attractive target

for politicization. Should that happen, delegitimization could then have tangible effects on the force as recruiting skews and eventually drops, and the American people no longer trust the military to serve the state rather than be loyal to a single political party or agenda.

Politicization of the Military

The second trend in American society today that threatens the principles of civil-military relations is the ongoing and escalating politicization of the military.¹⁸ Military politicization is the tendency of political elites either to use the prestige of the military to try and win political power, or to discredit military leaders as partisan and ideological actors when military leaders' advice conflicts with the preferences of a political group. Efforts to politicize



The Honorable Christine Wormuth, the US Secretary of the Army, joins Lieutenant General Scott A. Spellman, US Army Corps of Engineers (USACE) commanding general and chief of engineers, and Colonel Estee S. Pinchasin, USACE Baltimore District commander, and representatives from Unified Command for a site visit of the Francis Scott Key Bridge response effort on board the USACE survey vessel HR *SPIES* (Key Bridge Response 2024 Unified Command photo by USACE Public Affairs Specialist Dylan Burnell).

Theme 2: Domestic Challenges

the military could effectively turn the military into a partisan political player, unable to give advice or implement policies without being accused of supporting or rejecting a political party. In the process, politicization could severely damage the military's legitimacy and ability to operate as a profession. Indeed, the politicization of the military has, according to some surveys, led to sharp declines in public trust, and appears to be having at least some effect on populations traditionally considered easier to recruit.¹⁹ Political elites must also be able to trust military advice is free from partisan political bias, which is



US Army Staff Sergeant Brandon Martinez, a recruiter with the Fontana Army Recruiting Company, welcomes students at the “Meet Your Army” recruiting event hosted by the US Army Southern California Recruiting Battalion at the Joint Forces Training Base in Los Alamitos, California (US Army Reserve photo by Sergeant Brandon Hernandez).

key to the profession's effectiveness in its role. Opposition to participating in partisan politics continues to deteriorate among the retired general officer corps, casting a shadow of doubt on military leaders currently serving.²⁰ Civilian leaders questioning the professionalism of military leaders because of the politicized actions of military leaders' retired counterparts jeopardizes the entire profession.

Blending Civilian and Military Infrastructure and Assets

The final trend that challenges civil-military relations today is the increasing blending of civilian and military infrastructure, assets, and effects—both in operations below the level of armed conflict and in kinetic action. Modern war will increasingly demand the integration of civilian and military capabilities—from artificial intelligence (AI) to cyber operations to space to a reinvigoration of the defense industrial base.²¹ Moreover, the rise of AI has challenged conventional notions of ethics, professional judgment, and the role humans must play in waging war. The profession of arms faces two primary challenges: its ability to function as an expert body of knowledge imbued by professional ethics and its ability to design and wage war sustainably and thus offer effective and actionable military advice to civilian principles. Today, senior military leaders struggle to articulate the ways in which the military can integrate AI, machine learning techniques, and other algorithms into war waging. As a result, senior military leaders depend upon actors



US Army Major Amber Morton-Chism, a public health nurse with the US Army Health Center in Vicenza, Italy, consults with a translator and patient during the medical civic action program event held as part of the African Lion 2024 exercise in Damongo, Ghana (US Army Reserve photo by Sergeant Caitlinn Belcher).


in private industry to develop both strategies and solutions—yet private-industry actors are not steeped in professional ethics and norms as military officers are over the course of their careers. Increased blending of civilian and military infrastructure and assets might also jeopardize the military’s ability to offer sustainable professional military advice over the course of operations. Whereas traditionally, we think about war as a primarily military phenomenon, novel technologies, domains, and threats now involve commercial and private interests as well. All novel threats require military leaders to understand and account for the possibility—indeed, the likelihood—adversaries will use civil-military integration

to undermine Americans’ commitment to any war effort. Military leaders must offer military advice that corresponds with the political realities of the current era.

Conclusion

As the Army heads into the third straight year of not meeting its end-strength numbers, the US presidential election of 2024 approaches (and with it, opportunities aplenty to politicize the military), and dependence on new technologies and domains to fight modern war deepens, civil-military relations will play an important role in defining the strategic environment well into 2025 and beyond.

Strengthening the US Defense-Industrial Ecosystem



In January 2024, the US Department of Defense released its first *National Defense Industrial Strategy (NDIS)*. The strategy complements the White House’s *2022 National Defense Strategy of the United States of America*, which links the criticality of the US defense industrial base (DIB) to the ability and need to bolster national resiliency and strengthen deterrence in an era of increasing geopolitical confrontation.

The strategy also aligns with various executive orders (EOs) and Department of Defense (DoD) policies issued by the Trump and Biden-Harris administrations, including the following.

- 2017 EO 13806 “Strategic support for a vibrant domestic manufacturing sector, a vibrant defense industrial base, and resilient supply chains is . . . a significant national priority.”²²
- The 2021 EO 14017 stresses the need to bolster weakened and vulnerable US supply chains.
- The 2022 EO 14083 expands the purview of the Committee on Foreign Investment in the United States to review foreign investment in the DIB that poses national security risks.
- The 2023 EO 14105 regulates outbound investments by US companies and individuals that

“pose a particularly acute national security threat because of their potential to significantly advance the military, intelligence, surveillance, or cyber-enabled capabilities of countries of concern.”²³ Embedded in EO 14105 is the US government’s intent to constrain adversaries’ ability to compete with the US DIB.

- The 2024 DoD *Defense Industrial Base Cybersecurity Strategy* improves protection from hackers and adversarial exploitation for companies engaged in DoD business.

These important policy measures put a spotlight on a downward-trending and precarious US DIB, the factors for which the US Army War College’s *2023 Annual Estimate of the Strategic Security Environment* briefly discusses and that are worth revisiting in more detail.²⁴

- **Defense-industry consolidation:** The peace dividend of the 1990s and subsequent DoD encouragement of industry rationalization through mergers and acquisitions led to consolidation in the defense industrial base. Concentration reduced 51 prime contractors down to five companies, which together make up 74 percent of the DoD’s major acquisition programs. Consolidation has been particularly acute among suppliers



US Army Sergeant James Nash (right), innovation noncommissioned officer with 2nd Group, Information Advantage Detachment, and a researcher from Anduril Industries (left) discuss the technical specifications of the Ghost-X Unmanned Aircraft System at Fort Irwin, California (US Army photo by Chaplain [Colonel] Ken Harris, 75th US Army Reserve Innovation Command); page 38 sidebar: The delivery of Precision Strike Missile Increment 1 Early Operational Capability missiles follows successful production qualification testing at the White Sands Missile Range in New Mexico (Photo by Darrell Ames).

of tactical missiles, fixed-wing aircraft, and satellites. The ripple effect on sub-tier suppliers has witnessed 17,045 companies exiting the industry during the last five years.²⁵ Further, the number of people employed in defense-related work has shrunk by two-thirds, from three million workers in 1985 to 1.1 million in 2021.²⁶ The combined impacts have led to dependencies on critical sole-source suppliers and lack of redundancy, often forcing US defense contractors to outsource to foreign suppliers. In some cases, contractors must outsource to suppliers from adversarial nations, even if the suppliers are not outrightly state owned.

- **Deindustrialization:**
The United States is no longer primarily a manufacturing-based economy. In 1953, approximately 32 percent of the US workforce was employed in the manufacturing sector, versus 8 percent today. The corresponding shift to services means the US economy cannot quickly and nimbly mobilize domestic manufacturing capacity to produce at scale to support a peer-on-peer protracted conflict, as the United States did in World War II.
- **Globalization of production and supply chains:** The 1990s witnessed a huge expansion of international trade, overseas investment by US companies, Chinese investment in the US economy, and the internationalization of supply chains. One of the unintended consequences of the economic dynamics of the 1990s is the People's Republic of China is now embedded within the supply chains of US military platforms and weapons systems. Supply-chain dependency on China is evident in microelectronics, especially semiconductors, critical minerals, and rare earths. An additional fallout, brought to the forefront during the COVID-19 pandemic, is that in just-in-time supply chains, DIB suppliers do not stockpile sufficient inventories for surge production.

Studies, including from the Department of Defense itself, have highlighted compounding issues that are negatively affecting the health of the US DIB.²⁷ Key among the issues are DoD

Theme 2: Domestic Challenges

The current and future strategic environment requires immediate, comprehensive, and decisive action in strengthening and modernizing our defense industrial base ecosystem to ensure the security of the United States and our allies and partners. As this strategy makes clear, we must act now.

—Deputy Secretary of Defense Kathleen H. Hicks²⁸

acquisition policies, outdated international traffic in arms regulations, bureaucratic foreign military sales processes, and unstable and uncertain defense funding due to the Department of Defense operating under congressional continuing resolutions, to name a few. Together, the current trend lines are nothing new, but as evidenced by the release of the *NDIS* this year, the US government has a sense of urgency to redress the ailing DIB and to derive mitigation strategies in concert with agencies outside the Department of Defense and with allies and partners.

Why a Renewed Focus on the US Defense Industrial Base?

Two geostrategic issues are driving the renewed focus on the US DIB. First, the Russia-Ukraine War has brought immediacy to the conundrum of how to boost US weapons production for Ukrainian defense forces while avoiding precipitous drawdowns in domestic military inventories, especially artillery and munitions, which could affect US defense readiness. The struggle to meet Ukrainian requirements for American Javelin anti-tank systems and missiles, as well as large-caliber ammunition, points to the tenuousness of the US DIB.

During 2023, for example, Ukrainian defense forces expended ammunition at a rate of 180,000 artillery shells per month, and US production stood at 14,500 shells per month.²⁹ The Department of Defense, with added congressional funding, hopes to raise output to 80,000 per month, but the DIB cannot support such production rates until 2025.³⁰

Across the Atlantic, NATO Allies' military-industrial capabilities are also falling short of meeting Ukraine's war-fighting needs and replenishing dwindling stockpiles, leading French President Emmanuel Macron to call for Europe to create an *économie de guerre*—a war economy to underwrite EU security. Indeed, the sobering state of EU defense-production capacity led to the European Commission and the high representative of the EU for foreign affairs and security policy announcing the very first *European Defence Industrial Strategy (EDIS)* in March 2024. The *EDIS* aims to increase European defense-industrial and technological readiness by incentivizing EU member states “to invest more, better, together and European.”³¹ The *EDIS*'s Europe-first approach is being driven by the uncertainty surrounding the outcome of the 2024 US presidential election and



an overreliance on US weapons systems in NATO inventories the US DIB is unable presently to sustain.

The second geostrategic driver is the military-economic, competitive challenge posed by the People’s Republic of China. The rapid modernization of the People’s Liberation Army forces, civil-military fusion, Chinese companies’ supply-chain penetration into the US and European DIBs, and the underlying weakness in US and NATO Allies’ defense-industrial capacity exposed by the Russia-Ukraine War portend whether the United States can deter and sustain a protracted conflict in the Indo-Pacific.³² For integrated deterrence against the People’s Republic of China to succeed, the United States needs to have the necessary industrial-production capacity in advance so the United States can manufacture, stockpile, and pre-position equipment in theater as well as replenish equipment after hostilities have been initiated. The irony is the

US DIB is heavily reliant on key People’s Republic of China imports. A US government-funded study by Govini, a defense-software company, found Chinese firms are heavily embedded in the supply chains of US prime and subcontractors across the DIB in sectors such as electronics, software, fuses and detonators, and data links affecting long-range precision-strike weapons.³³

The 2024 Department of Defense *National Defense Industrial Strategy*

The first *NDIS* is an ambitious framework in which “the DoD seeks to catalyze generational rather than incremental change.”³⁴ The *NDIS* provides four main lines of effort and supporting actions to redress DIB deficiencies: resilient supply chains, workforce readiness, flexible acquisition, and economic deterrence. The strategy recognizes the Department of Defense implementing the *NDIS*’s four



Lieutenant General Patrick Frank, US Army Central commander, meets with a Terminal High Altitude Area Defense crew next to a launcher emplaced and prepared to launch interceptors to counter ballistic missile threats at an undisclosed location in the US Central Command area of operations (US Army courtesy photo by Captain Duy Nguyen).

Theme 2: Domestic Challenges



Soldiers with the Wisconsin National Guard's 32nd Infantry Brigade Combat Team conduct a rail movement of more than 800 pieces of equipment on nearly 200 railcars at the Fort McCoy, Wisconsin rail yard (US Army photo by Scott T. Sturkol, Fort McCoy Public Public Affairs Office).

key elements alone is insufficient and will require a whole-of-government approach, strong coordination with the private sector, and collaboration with allies and partners. Below is a quick summary of the *NDIS*'s four main priorities.

1. Resilient Supply Chains

To produce defense systems, related technologies, and service securely and at speed, scale, and cost, the *NDIS* lays out multiple actions. Key among the actions are the following.

- Incentivize industry to improve resilience by investing in extra capacity and stockpile planning to decrease near-term risk.
- Continue and expand support for domestic production by encouraging a diverse supplier base and investing in new production methods.

- Friend shoring: Engage allies and partners to expand global defense production and increase supply-chain resilience.

2. Workforce Readiness and Development

A healthy DIB relies on a highly skilled, steadily employed workforce. The *NDIS* recognizes the need to address shortages in the workforce due to baby-boomer retirement, decreased interest among the current generation in entering science, technology, engineering, and mathematics-related employment fields, and a labor market that lacks sufficient skilled workers with security clearances to meet even current domestic defense-production and sustainment needs. To counter current workforce trends, the *NDIS* calls for increasing access to apprenticeship and internship programs; destigmatizing industrial careers while targeting defense-critical skill sets in manufacturing and science,



Kraus Hamdani Aerospace cofounder Stefan Kraus (right) explains the capabilities of the K1000 ultra-long endurance unmanned aerial system to soldiers from the 75th US Army Reserve Innovation Command at Fort Irwin, California (US Army photo by Sergeant First Class John L. Carkeet IV, 75th US Army Reserve Innovation Command).



technology, engineering, and mathematics; and promoting diversity by expanding recruitment of nontraditional communities.

3. Flexible Acquisition Strategies

Being a monopsonist in the market, the Department of Defense has a determining role in shaping the state of the DIB. Consequently, the *NDIS* calls for DoD acquisition strategies that strive for “dynamic capabilities while balancing efficiency, maintainability, customization and standardizations” to reduce lead times, reduce costs, and increase scalability.³⁴ A whole-of-government approach can accomplish the strategies outlined in the *NDIS* by:

- continuing to support acquisition reform;
- prioritizing off-the-shelf acquisition and use of multiyear contract vehicles;
- broadening platform standards and interoperability; and
- updating industrial mobilization authorities and planning to ensure national preparedness.

4. Economic Deterrence

The focus on economic deterrence in the *NDIS* mirrors the US government’s “invest, align, compete” approach to China.³⁷ The administration’s assertive approach to the People’s Republic of China involves a mixture of trade, industrial,

and investment policies designed to bolster US competitiveness in emerging technologies and advanced manufacturing, especially in semiconductors, AI, and quantum computing, while restricting the People’s Republic of China’s access, via export and investment controls, to the US DIB. The intent is trifold: to decouple US supply chains from the People’s Republic of China, to contain the People’s Republic of China’s military modernization, and to deter military aggression in the Indo-Pacific.

Achievement requires:

- strengthening economic-security agreements with partners and allies;
- fortifying alliances to share sales and trading;
- strengthening enforcement mechanisms against adversarial ownership in the US DIB;
- coordinating with interagency partners to support industry in detecting, protecting, and recovering from cyberattacks; and
- bolstering the current administration’s prohibited-sources policy.

Keeping a sustained focus on improving the health of the US DIB will be a challenge moving forward. The *NDIS* is an important first step by the Department of Defense to bring a concerted focus and collaborate

Fear of materially reduced access to US markets, technologies, and innovations sows doubt in the minds of potential aggressors.³⁶

—National Defense Industrial Strategy

Theme 2: Domestic Challenges

The capacity of the US DIB to grow its output, fulfill a surge in military demands, and reconstitute in a major conflict stands as a key test of its health and readiness. Currently, US policies and financial investments are not oriented to supporting a defense ecosystem built for peer conflict.³⁸

—National Defense Industrial Association, *Vital Signs 2024*

with other interagency stakeholders, such as the Departments of State, Commerce, Treasury, and the Office of the US Trade Representative, and with the private sector. Achieving the *NDIS*'s four main lines of effort requires a corresponding implementation plan that is set to be released in both classified and unclassified versions later in 2024.

A Defense Industrial Base View of the *National Defense Strategy*

This statement is a finding by the National Defense Industrial Association, a nonpartisan, nonprofit, educational association. Although affirming the *NDIS* is a notable and positive step in aligning the priorities of the federal government and industry on the topmost issues facing the DIB, more action, particularly from the Department of Defense and Congress, is needed. The National Defense Industrial Association canvassed its members and found the private-sector outlook remained gloomy. Institutional investor pressures, revenue volatility, and economic inflation (which makes meeting fixed-price contracts harder for firms because of rising labor and material costs), were some of the major challenges. Compounding economic impediments are legislative, regulatory,

and compliance requirements. The number one recommendation from the National Defense Industrial Association's report was for the Department of Defense and Congress to make substantial (in the billions of dollars, not millions) investments in the DIB with sustained, multiyear contracts and stable and predictable defense budgets. The report called out the impact of the federal government operating under continuing resolutions: "The parts of the budget most crucial to re-orient DoD to prepare for, deter, and—if necessary—respond to peer conflict



A MIM-104 Patriot surface-to-air missile system assigned to the Fort Bliss, Texas-based 11th Air Defense Artillery Brigade fires as part of a bilateral live-fire exercise with military members from the Royal Netherlands ground-based Air Defense Command at the McGregor Range in New Mexico (US Army photo by Sergeant David Rincon).



US Army M1A1 Abrams tanks prepare to fire as part of the Eager Lion 2024 exercise at Training Area 5 in Jordan (US Army photo by Specialist Nataja Ford).

are the accounts most vulnerable to being cut or squeezed during budget instability: R&D for emerging technologies, as well as procurement and sustainment of current and next generation major platforms.”³⁹

Arguably, the shortcomings discussed here are partial. The Army perforce must also address the current challenges in its organic industrial base. Admittedly, much progress has taken place, but the Army must explain a strategic vision and plan over the next 5–10 years, and not just short-term solutions for Ukraine and Israel.

Conclusion

The US DIB is operating on a late twentieth and early twenty-first-century peacetime footing, and Congress seems to have little appetite for increasing current defense-spending levels. Congress’s seeming ambivalence persists despite the United States balancing multiple conflicts—Ukraine, Israel-Hamas-Iran, and Houthi

insurgents attacking global shipping in the Red Sea—and the competing requirements of building military strength to deter adversaries in the Indo-Pacific. As such, the problematic state of the US DIB is a systemic issue for the US Army—one that will involve trade-offs in the current budgetary environment. For example, how can the Army prioritize ramping up the DIB for relatively low-technology weapons and munitions to support the current Russia-Ukraine War alongside top Army modernization priorities, such as long-range precision fires; air and missile defense; command and control (C2); communications; computers; intelligence, surveillance, and reconnaissance (ISR); and targeting networks to support integrated deterrence in the Indo-Pacific? The Strategic Studies Institute’s *2025 Annual Estimate of the Strategic Security Environment* will likely address these issues.

Theme 3: Institutional Challenges

The Profession

The profession faces many challenges, some articulated in the US Army War College's *2023 Annual Estimate of the Strategic Security Environment*. The Army and its sister services, the Joint Force, and the defense enterprise must continue to clarify the scope and depth of the military professions' expert knowledge and negotiate with civilian leaders to define and enact appropriate jurisdictions of practice. Many of the challenges identified in recent years remain important, including:

- increasingly assertive strategic challengers;
- the changing character of war due to emerging technologies and recent experiences in Iraq and Afghanistan;
- strategic ineffectiveness in recent conflicts;
- emerging societal norms, some of which conflict with military professional norms;
- political polarization and the politicization of the military itself;
- growing societal rejection of professionalism, which has affected the military and other professions (for example, public health and law enforcement); and

- how to define the military in relation to other national security-related professions and communities of practice.

Contemporary events such as the continued Russia-Ukraine War and the violent clash in Israel that exploded following the Hamas terrorist attacks on October 7, 2023, have reinforced the significance of several challenges, including the changing character of war, especially concerning advanced technology such as missiles, air and maritime drones, and the expanding importance of the space and cyber domains. Recent events have also highlighted persistent difficulties in achieving strategic aims against irregular forces that continue to confound American and allied and partnered armed forces in places such as Gaza, Somalia, Syria, Yemen, and the Sahel region.

Given the external challenges to the military profession remain unchanged, examining more recent impacts on the internal jurisdictions for developing expertise and the humans responsible for applying such expertise, particularly within the US Army, is worthwhile.

In September 2023, General Randy A. George took over as the Chief of Staff of the Army. George has declared focus areas in war fighting, delivering combat-ready formations, promoting

Sidebar: Romanian Commanding General of Headquarters Multinational Corps South-East (HQ MNC-SE) Dan Cristain-Daniel (pictured) and other senior military officers attend a war-fighting symposium at HQ MNC-SE in Sibiu, Romania (US Army photo by Specialist Joshua Maxie).



continuous transformation, and strengthening the profession. His focus areas span the defense enterprise. Internally, the focus areas place a premium on leaders to reconcile and balance the complex demands civilian stakeholders place upon the Army and the other services to meet national security–policy ends. Key questions and challenges for the Army include the following.

- What does the Army need from the nation to be ready to fight and win? To what extent is the industrial base ready to provide materiel in the event of a large-scale combat operation? What is the readiness level of the various entities the Army and the Joint Force might rely upon, such as the auxiliaries (for example, the Civil Reserve Air Fleet and US Merchant Marine), the Selective Service System, and civil defense apparatuses?
- How should we define war fighting in the current era? How should we understand the expertise, skills, competencies, organizations, and culture needed for war fighting that, most importantly, effectively contribute to war-winning outcomes?
- How do the contemporary demands of modern war fighting affect who can serve in the armed forces?
- How has combat changed? If violence primarily defines combat, how do gray-area activities related to cyber, space, and information fit into modern conceptions of war fighting and war winning?
- What are the formations (that is, the units, organizations, and teams) that deliver effective outcomes?

Given the many advanced capabilities the private sector develops, designs, and deploys (for example, business, industry, and academia), how clear or blurry are the lines between military and civilian capabilities and their national security contributions?

- How do we meet the imperative to transform continuously, commensurate with the tremendous dynamism throughout the strategic security environment highlighted in strategic estimates, such as the changing character of war, increasingly assertive strategic competitors, emerging societal norms, and an always-evolving ecosystem of national security–related professions?
- To what extent are the Army’s systems of professional education, certification, and use and talent management enhancing and sustaining the Army’s domains of expert knowledge and ensuring the individual readiness of its professionals?
- How effective and efficient are the Army’s systems of accountability and self-policing for establishing and enforcing standards, rewarding exemplary performance, and punishing or sanctioning unprofessional conduct and incompetence?

Our institutional focus on internal development and improvement should not take place in isolation from the Joint, interagency, and international partners without whom we can never deliver strategic success. We should continue to explore how to learn from and how to share our wisdom with like-minded partners nationally and internationally. Ultimately, effective professions must embrace the imperative to learn and adapt.

Theme 3: Institutional Challenges



The Force

The US Army is undergoing a significant force-structure transformation. Such transformation is consistent with historical patterns of adapting to incorporate new technologies, addressing rising threats, and pursuing changing strategic objectives. The Army's most recent transformation plan, announced in February 2024, is an important stride toward adaptation. The white paper "Army Force Structure Transformation" lays the groundwork for creating new capabilities, initiates new recruitment modernization efforts, and justifies challenging personnel reductions across the force.⁴⁰ Even as the Army and the other services adjust their force structures to meet anticipated future demands, questions remain open about whether such changes will be enough and whether an adjusted force must be ready to meet other challenges.

Sense, Strike, and Survive: Developing New Capabilities

Technological advancements in sensor and strike technologies have created a modern battlefield that places a premium priority on targeting and survivability. The Army's 2024

transformation plan accounts for the shift toward targeting and survivability, emphasizing growth in offensive capabilities through the Army developing and fielding five planned Multidomain Task Forces. Additionally, the Army's transformation effort acknowledges the growing threat of forces being observed and targeted. To increase survivability, the Army is developing indirect-fire protection capability battalions, counter-sUAS (small unmanned aerial systems) batteries, and increasing the number of maneuver short-range air defense battalions. Beyond acquiring equipment, these formations will require roughly 7,500 new personnel billets. Notably, many of these billets will be technical or will require clearances beyond those of average enlistees. The billet requirements create an additional challenge for Army leaders to overcome when addressing the current recruitment crisis.

Modernizing Recruiting Efforts

The Army's recruiting crisis is not new. Now is not the first time the all-volunteer force construct has struggled to reach the desired end strengths. Recruiting and retention were a focus area in the US Army War College's *2023 Annual Estimate of the Strategic Security Environment*. This year, though the Army's transformation efforts might exacerbate recruiting challenges,

Sidebar: US Army paratroopers assigned to the 82nd Airborne Division march in the All-American Week Division Review ceremony at Fort Liberty, North Carolina (US Army photo by Private First Class Aiden O'Marra).



the efforts also outline a plan to modernize the service's approach to recruiting. Modernization starts with an unambiguous appreciation for the importance of manning future billets: "The Army must solve its recruiting challenges to successfully transform for the future."⁴¹

The "Army Force Structure Transformation" white paper outlined a three-pronged recruitment modernization approach. First, the Army is determined to revitalize the recruiting workforce by creating a military recruiting warrant officer occupational specialty. Second, the service will expand the demographics from which it recruits. Rather than lowering standards to prioritize quantity over quality, the Army's efforts will focus on ensuring one-third of recruits are either college graduates or have completed some college, highlighting a desire to enlist more educated recruits capable of filling highly technical positions. Finally, recruiting command will gain authority, with the commander's rank rising from two stars to three. Furthermore, the commander will report "directly to the Secretary of the Army and the Chief of Staff of the Army in light of its critically important mission."⁴² Although recruiting challenges are likely to persist, the change in force structure also comes with a reduction of billets that may lighten the recruiting mission.

Reducing Billets: Hard Cuts, No Pink Slips

The Army needs to identify roughly 32,000 billets to remove in support of the outlined transformation. The white paper assures readers "These planned

reductions are to *authorizations (spaces)*, and not to *individual soldiers (faces)*. The Army is not asking current soldiers to leave."⁴³ The service is making numerous structural adjustments to reduce authorizations, including eliminating specialized engineer positions, inactivating certain United States-based cavalry squadrons, reducing weapons companies to weapons platoons in infantry brigade combat teams, and trimming some security force assistance brigade positions. Although the Army has set its path, some of the Army's decisions may be controversial in select and invested communities.

Conclusion

What force structure the Army will need for future strategic challenges is unclear. The Army has decided on a transformation path and openly shared its initiatives, prioritizing sense-strike-survive capabilities, modernizing recruiting efforts, and making difficult decisions regarding cuts. Moving forward, the white paper concludes, "The transformation of Army force structure and recruiting will not happen overnight, but changes in both areas are underway."⁴⁴ Still, students of the strategic environment who can provide a unique perspective on the Army's problems must add to the conversation. Similarly, the Army's institutional changes and its associated challenges must be accounted for when examining the broader strategic environment and the role of the US Armed Forces in that environment.

Theme 3: Institutional Challenges

The Strategy

To support the *National Defense Strategy*, the US Army must be prepared to posture forces to apply strategic Landpower across the globe to deter and, if necessary, defeat threats to the United States in a changing, complex, and unpredictable world. These efforts are underpinned by the force's ability to maintain forward basing, conduct global logistics, and work with partners and allies. Changes in the character of war in the past decade and shifting global relationships, however, have eroded many advantages of twenty-first-century Joint operations, putting into question long-standing warfare assumptions that may require the Army to prepare for greater flexibility in its responsiveness to partners, even as America's strategic competitors provoke destruction, unrest, and tension in Ukraine, Gaza, and the Indo-Pacific.

Emerging technologies, including drones, nonattributable cyber warfare, AI, and scalable disinformation operations, fill the gray zone and thicken the fog of war. Planning assumptions regarding force protection and power projection the Army only recently took for granted increasingly seem unreliable. Current conditions spur renewed consideration of American critical capabilities and critical vulnerabilities. Unrelenting demands on the American defense industrial base will force difficult



General Charles A. Flynn, US Army Pacific commanding general, presents opening remarks to the International Fellows during their visit to Fort Shafter, Hawaii (US Army photo by Specialist Taylor Gray); sidebar: US Army and Brazilian Army soldiers conduct a combined arms rehearsal (US Army photo by Specialist Taylor Gray).

decisions for the Army's institutional strategy regarding whether and how to balance investments in US Department of Defense capability and capacity with the readiness and lethality of strategic partners who face existential threats. Complex problems requiring transformations are not new to the Army, though the Army has not had to confront some complex problems for generations. The Army adapted to and won a global war characterized by emerging technologies over a century ago during World War I. Extended and contested logistics characterized global operations during World War II, which the Army also fought and won with allies. A defining difference between the two



world wars and today is the Joint Force's commitment to deterring or responding to war's outbreak rather than reacting as an undermanned, undertrained, and underequipped force.

Multiple iterations of national strategy reinforce the importance of combined operations; accordingly, the Army conducts and plans nearly all major operations with a view toward allies and partners. Conflicts in Ukraine and Gaza, combined with tensions in the Indo-Pacific, now see many of the US allies and partners facing serious threats. Other partnerships are ceding influence, favoring malign actors instead. Conversely, the recent NATO expansion and the level of European support to Ukraine demonstrate unmistakable resolve to protect regional security that may have been unexpected only a few years ago. Assumptions about the role the US Army plays in global and regional security are, again, worth reviewing. The wars in Ukraine and Gaza and tensions in the Indo-Pacific have reinvigorated debate within American

politics that suggests the possibility US commitments to, and prioritization of, various partners may be subject to revision. While showing deference to American policymakers, the Army may need to consider how its methods of aiding partners and communicating strategic risk affect national security objectives. The Army may also consider how American domestic politics affects military relations with allies and partners across the globe, as US partners closely monitor and react to American politics.

Army strategy will be characterized in the foreseeable future by difficult trade-offs in transformation decisions, competing requirements for support to allies and partners, and expectations for responsive flexibility from policymakers. In a world where activities along the spectrum of conflict transpire daily, the Army can expect to be called upon to fill the various roles and missions the Army has filled since the nation's birth.



Fort Jackson officers including Colonel Mark Huhtanen, deputy commanding officer, and Colonel Timothy Hickman, garrison commander, listen to Lieutenant General Maria Barrett, commander of Army Cyber Command, speak during the Lieutenant General Timothy Maude Leadership Lecture Series at Fort Jackson, South Carolina (US Army photo by Robert Timmons).

Theme 4: Challenges to the US Strategic Advantage

The Polar Regions



The polar regions continue to grow in importance, driven primarily by climate change and shifting alliances due to the Russia-Ukraine War. The effects of climate change have rendered the Arctic more relevant in recent years with promises of additional access to the region. The Northwest Passage is expected to become reliably ice-free in the summer by 2035, offering expanded commercial opportunities to ship goods between Asia and Europe. Climate change, however, reveals more than just a sea-lane. As the polar regions warm, potential sources of oil, natural gas, fisheries, rare-earth elements, and other resources become more accessible in polar areas. According to the *Fifth National Climate Assessment*, the Alaskan Arctic is warming two-to-three times faster than the global average. Thinning sea ice, receding glaciers, thawing permafrost, and volatile weather patterns are becoming more common in the US Arctic and in other areas in the circumpolar north and south. Moreover, the thawing permafrost is causing structural damage to military infrastructure and buildings in the circumpolar north.

The Russia-Ukraine War and Russia's gray-zone activities, including placing military bases in the Arctic, have affected the geopolitical balance of the region. Sweden and Finland have joined NATO,

which places seven of the eight Arctic nations in an alliance against Russia. The People's Republic of China now views itself as a near-Arctic nation, working to gain regional influence through its relationship with Russia.

Gray-zone activities have become more common in the northern and southern polar regions. In the remote polar regions, adversaries increasingly use lawfare, information operations with critical stakeholders, questionable development efforts with local populations, and other activities to gain strategic advantages. For instance, Russia has placed several military bases in the Arctic.



US Army Specialist Orlando Saezrosario maintains a defense position during Joint Pacific Multinational Readiness Center 24-02 at Donnelly Training Area, Alaska (US Army photo by Private First Class Sar Paw); sidebar: Aviators from 1st Battalion, 52nd General Support Aviation Battalion (Sugar Bears), pilot a CH-47 Chinook above Kahiltna Glacier in Denali National Park, Alaska (US Army photo by Private First Class Brandon Vasquez).



A US soldier, attached to 1st Battalion, 5th Infantry Regiment, equips snow shoes during Joint Pacific Multinational Readiness Center 24-02 at Donnelly Training Area, Alaska (US Army photo by Private First Class Elijah Magaña).

Antarctica has long been an exemplar of peaceful scientific research. Still, gray-zone activities in Antarctica have escalated because of the growing potential access to resources due to polar warming.

Recent Army exercises and experiments have explored several critical aspects of polar and extreme-cold-weather operations. Army Arctic Dominance Wargame 2.0 identified Army capability and capacity gaps, areas affecting critical infrastructure and essential resources protection, and Army homeland-defense requirements as a part of a Joint Force supporting United States Northern Command. Joint Pacific Multinational Readiness Center rotation 24-02, in February 2024, tested the capability of a Joint and combined force to operate in an extreme cold-weather environment. The exercise included deploying units north of the Arctic Circle, interacting with indigenous populations,

and experimenting with Arctic-specific equipment under development.

In partnership with United States Northern Command, the Ted Stevens Center for Arctic Security Studies at Joint Base Elmendorf-Richardson, Alaska, continues to increase its capacity. The center's mission includes researching Arctic security to advance the region's Department of Defense security priorities. The center recently launched the School of Arctic and Climate Security Studies and the *Journal of Arctic and Climate Security Studies*. The center's efforts have increased the Department of Defense's educational engagement in the region. How the polar regions will impact relations among the great powers is unclear; still, increased access to the areas must be accounted for when assessing the strategic environment.

Theme 4: Challenges to the US Strategic Advantage

The Space Domain

The space domain has become an important focus for the Department of Defense. Satellites greatly enhance American, allied, and partner nations' military power, providing positioning, navigation, and timing (PNT); intelligence, surveillance, and reconnaissance (IRS); environmental monitoring; and communication. Satellites enable battlefield awareness, all-weather precision attacks, beyond line-of-sight targeting, global command and control (C2), early missile warning, over-the-horizon unmanned aircraft system operations, and more. Space products and services have become critical enablers of modern conventional military operations, nuclear command and control, and global power projection.

Satellite Vulnerabilities

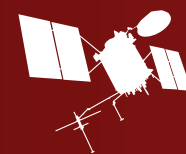
Still, American reliance on space systems creates vulnerabilities. Potential rivals have developed weapons to target space systems and prevent space systems use in conflict, crisis, and competition. The satellite, the ground stations, and the link between them are all part of the attack surface. China, India, Russia, and the United States have demonstrated the ability to destroy satellites using interceptors launched from Earth.



US Army Colonel Frank Rubio, a NASA astronaut, addresses the audience after receiving the Army Astronaut Device during a pinning ceremony at the Pentagon Press Briefing Room in Arlington, Virginia (US Army photo by Sergeant Deonte Rowell); sidebar: Space professionals at Joint Base Lewis-McChord, Washington, are joined by personnel from the Space and Missile Defense Center of Excellence to discuss Army space initiatives (courtesy photo).

China and Russia have tested on-orbit systems they could use to attack satellites physically. In a worst-case scenario, nuclear weapons could be used to damage or destroy large numbers of satellites.

Satellite systems (both on-orbit and terrestrial) are vulnerable to electronic and cyberattacks, which China and Russia consider integral to modern war. Satellite ground stations and the link between the satellite and the ground may be easier to attack than the satellite itself. Not just military satellites are at risk; increasingly, military forces across the world are using commercial service providers, putting companies at risk.



Disruptions to civilian service providers would not just impact the military but could affect the global economy.

Seeing how space services enhance nearly every aspect of America's military forces, China has been rapidly developing space capabilities to support its military operations. Since 2018, China has more than tripled its number of intelligence, surveillance, and reconnaissance satellites, leaving China second only to the United States in the quest to conquer outer space. China has developed a fully operational positioning, navigation, and timing constellation and operates more than 60 communication satellites. Space systems provide China with long-range strike capabilities and other capabilities the United States has long benefited from. Although Russia's military also uses satellites and Russia has a long history in space, its program is more narrowly focused due to economic constraints and technological setbacks.

In the face of challenges in the space domain, General B. Chance Saltzman, the chief of space operations, said the US Space Force will seek to achieve space superiority, ensuring the use of US space systems in war while denying adversaries the use of their space systems. Like superiority in other domains, space superiority will involve domain awareness, defensive operations, and offensive operations. The United States will apply space superiority in space, on Earth, and in cyberspace.

Certain features specific to the space domain make achieving superiority especially difficult. The destruction of satellites can create debris that remains in orbit, threatening other satellites and potentially endangering the use of entire orbits. Because of the threat posed by debris, Saltzman has written, "domain control in space cannot rely on overwhelming destructive force." Other difficulties include satellites'



Russell Vela, chief of US Army Space and Missile Defense Command's Multi-Domain Technologies Division, briefs General Stephen N. Whiting, commander of US Space Command, on the US Army Space and Missile Defense Command SPECTRE (Space Emerging Commercial Technology Rapid Engagement) transportable distributed aperture research system (US Army photo by Jason B. Cutshaw).

Theme 4: Challenges to the US Strategic Advantage



Captain Noah Siegel, 1st Space Brigade, catches a drone following an Army Ranger raid during a large-scale combat scenario at the US Army Special Operations Command Capabilities Exercise 2024 at Fort Liberty, North Carolina (US Army photo by Brooke Nevins).

vulnerability to nuclear attack and the potential for escalation. The challenge is to achieve superiority without causing or provoking massive destruction in the domain.

Satellite Defense

Proliferation and disaggregation appear to be the US Space Force's primary approach to ensuring a constant flow of space services and products. By orbiting numerous relatively inexpensive satellites, including large constellations of networked satellites, the government and private firms can make defeating the system and denying services much more difficult and expensive for adversaries. Proliferation will not solve all problems. The United States still relies on legacy systems that are more vulnerable to attack. Certain types of attacks, like nuclear detonations, cyberattacks, or threats to the supply chain, can still affect many satellites at once. Budgets, and even the carrying capacity of certain orbits, also

limit proliferation. Other approaches, like satellite protection or rapid reconstitution, may also be necessary.

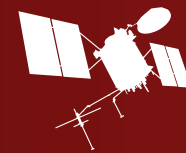
Nonkinetic offensive capabilities will also likely be part of the space-superiority campaign. The United States seeks to limit debris creation and has already pledged not to conduct debris-producing tests of anti-satellite weapons. The US emphasis suggests the US Space Force will prefer electronic and cyber capabilities for offensive operations. Currently, the only known offensive system in the US Space Force is for electronic warfare.

Space in the Russia-Ukraine War

The Russia-Ukraine War offers a window into the role of space on the modern battlefield: space services include persistent surveillance, communications, and positioning, navigation, and timing.



Colonel Mark Cobos, 1st Space Brigade commander, presents the keynote address at the Rocky Mountain Region Society of American Military Engineers and US Army Corps of Engineers Omaha District 2024 Industry Day conference (US Army photo by Brooke Nevins).



Colonel Mark Cobos, commander, 1st Space Brigade, US Army Space and Missile Defense Command, thanks General Chance Saltzman, chief of space operations for the US Space Force, and Chief Master Sergeant of the Space Force John F. Bentivegna for visiting the brigade headquarters at Fort Carson, Colorado (US Army photo by Dottie White).

In response to the reliance on space in the Russia-Ukraine War, military forces are using electronic and cyber warfare to deny access to space services. The possibility of escalation and the sheer number of satellites in orbit have likely deterred on-orbit kinetic attacks, apart from a debris-producing, anti-satellite missile test Russia conducted a few months before the war began.

Ukraine's use of commercial satellites for communication and imagery shows countries without their own space assets may use space capabilities. Space services are a way to project power by supporting allies and partners without entering into direct conflict with an adversary. Space services introduce complicated questions about the obligations companies

and governments have to each other. Of course, lessons about space power must be applied carefully. China is a far more capable space power than Russia, and other countries are growing more capable of using space.

Conclusion

The Department of Defense labels space a war-fighting domain. The Department of Defense's assessment focuses specifically on the military use of satellites along with satellites' vulnerabilities and the efforts to mitigate them. Other space-domain issues, including exploration, commerce, and governance, will also shape the strategic environment in years to come.

Theme 4: Challenges to the US Strategic Advantage

Emerging Technology

Emerging military technologies are constantly evolving, driven by advancements in science, engineering, and innovation. Various emerging technologies, from lethal autonomous weapons systems to directed-energy weapons to high-density storage systems, warrant detailed examinations. This section, inherently limited in scope, does not take a deep dive into every new technology. Instead, it selects a few key technologies and illustrates how they connect over time to have disruptive effects.

The battlefield impact of new military technologies hinges on three critical factors. First, the most disruptive technologies are not always the most advanced. Artificial intelligence (AI) and machine learning (ML) are good examples of this lesson, as relatively simple models have enabled the proliferation of cheap unmanned weapons systems and improvements in military decision making. Second, disruption depends on the alternatives a technology displaces. For all the concerns driven by Russia's use of hypersonic missiles in Ukraine, hypersonic missiles are not clearly a better alternative to already-existing missile technologies. Third, the aggregation of technologies can be more disruptive than the individual

technologies themselves. For instance, quantum computing's impact will be determined mostly by how it integrates with other technologies to amplify quantum computing's inherent disruptive qualities. The three-factor framework provides a lens through which to analyze the disruptive effects of a small sample of emerging technologies with battlefield implications.

Artificial Intelligence and Machine Learning

The integration of AI technologies significantly impacts military operations by enabling autonomous systems, predictive analytics, and enhanced decision-making capabilities. Autonomous systems are now playing a significant role in modern conflicts. Limitations in robotics technologies, however, will likely limit the technologies' use in ground-based operations in the near future. Still, robotics technologies are accelerating the proliferation of relatively inexpensive unmanned aerial and naval vehicles that can offset the advantage of larger legacy systems.⁴⁵ Although the role AI plays in many legacy systems is currently limited, as databases grow and models become better at targeting, the effectiveness of these systems will significantly increase.





Sergeant Elijah Tovar, part of a rotational unit under the 2nd Infantry Division/Combined ROK-US Division, prepares to launch a RQ-11 Raven drone to conduct surveillance in the training area to locate possible targets during Freedom Shield 24 in South Korea (Texas Army National Guard photo by Specialist Victoria Morgan); page 58 sidebar: A remotely controlled Micro Tactical Ground Robot is piloted through a dark subterranean passage ahead of special operation forces from partner nations during a training event for exercise African Lion 2024 (US Army photo by Staff Sergeant Nathaniel Free).

The Department of Defense continues to integrate generative AI into systems and processes with varying degrees of success. Because generative AI can sort through large amounts of data to reveal connections and patterns humans would struggle to discern at all, much less as quickly, generative AI has the potential to affect every facet of military decision making, from routine administrative tasks to operational planning to fully autonomous sensors, vehicles, and weapons systems.⁴⁶ Still, difficulties with ensuring the quality of output suggest applications will remain limited in at least the short term. In a recent test sponsored by the US Army Combat Capabilities Development Command, human subject-matter experts outperformed AI planning systems; but the results also suggested, when paired together,

human-AI teams will outperform humans and AI systems operating separately.⁴⁷

Thus, AI/ML technologies are currently more useful for improving the speed and quality of supporting functions that contribute to developing planning tools like a common operating picture, such as intelligence production, the creation of staff estimates, and the integration of staff estimates and predictions, rather than for creating the common operating picture itself. Moreover, because of the need for specialized models, enormous quantities of military-specific training data, processing-power requirements, and the changing environment inherent to combat operations, AI/ML is not yet able to develop courses of action or write operations orders without significant human interaction and oversight.

Assessing an Upgrade: Hypersonic Weapons

Hypersonic missiles and glide vehicles travel at speeds exceeding Mach 5, making them extremely difficult to intercept and significantly reducing response times. Major military powers' development of hypersonic weapons has sparked a new arms race and raised concerns about strategic stability and the effectiveness of existing missile defense systems. Russia, for example, has two types of hypersonic missiles and is developing a third that can be nuclear capable.⁴⁸ Russia has reportedly used hypersonic missiles in Ukraine, where the missiles got past air-defense systems and significantly damaged civilian targets.⁴⁹ China is also making substantial investments

Theme 4: Challenges to the US Strategic Advantage



Army Futures Command hosted US Army senior leaders, multinational partners, and allies to observe a human-machine integration demonstration including unmanned, eight-wheeled, all-electric, all-terrain transport vehicles (US Army photo by Sergeant Brahim Douglas).

in hypersonic technology and has reportedly successfully tested two missile types.⁵⁰ According to the Defense Intelligence Agency, China currently leads the world in supporting infrastructure as well as in numbers of hypersonic systems.⁵¹

Whether hypersonic missiles become truly disruptive will depend on managing the extreme heat caused by flying at high speeds in the atmosphere. As the technology currently stands, hypersonic missiles are not more survivable than ballistic missiles with maneuverable warheads that travel at high speeds outside the atmosphere, are equally accurate, and may cost a third less to employ.⁵² Current hypersonic missiles rely on rocket boosters to reach high speeds, so early-warning satellites easily see the missiles. Hypersonic missiles' heat signatures can also make them easily detectable.⁵³ Although hypersonic missiles' ability

to fly fast at low altitudes may make engaging them at range harder for ground-based radar defenses, existing technologies can intercept hypersonic missiles.

Quantum Technologies

Military applications of quantum technologies encompass various fields, leveraging the unique properties of quantum mechanics to enhance capabilities in communication, sensing, and computing. Quantum cryptography, for example, uses the principles of quantum mechanics to secure communication channels. Quantum key distribution enables the theoretically unhackable exchange of encryption keys between parties, as any attempt to eavesdrop on the quantum communication would disturb the quantum state, alerting the sender and receiver to the intrusion. Quantum technology offers the potential for highly secure and tamperproof communication networks for military command-and-control systems, intelligence sharing, and diplomatic communications.⁵⁴

Quantum communication networks use quantum entanglement and superposition to create secure, high-bandwidth communication links resistant to interception and tampering. Quantum communication networks could support real-time information exchange between military units, command centers, and allied forces, enabling secure voice, video, and data transmission over long distances.⁵⁵ Quantum communication satellites and ground stations could provide secure connectivity for deployed forces, enabling rapid responses to emerging threats and facilitating coordinated operations in contested environments.⁵⁶



Quantum sensors use quantum phenomena to achieve ultrahigh precision and sensitivity in detecting signals, measuring physical parameters, and imaging objects. Quantum sensors can detect stealth aircraft, submarines, and other concealed threats with greater accuracy and reliability than conventional sensors, enhancing situational awareness and early-warning capabilities. Quantum sensing technologies also have applications in navigation, geolocation, and environmental monitoring, supporting military operations in diverse operational environments.

Quantum computing will also accelerate improvements in AI and ML applications, potentially accelerating the abovementioned applications. By exponentially increasing computing power and solving complex problems that are beyond the capabilities of classical computers, quantum computers can rapidly process vast amounts of data, optimize logistics and supply chains, simulate battlefield scenarios, and develop advanced algorithms for cryptography, pattern recognition, and AI. Quantum computing could significantly enhance military decision making, situational awareness, and operational planning.

Although quantum computing's disruptive potential is immense, how soon anyone will feel its effects is hard to tell. Because quantum computers can handle simultaneous calculations, they can leverage more efficient algorithms, but quantum computers' processing speeds are slow. So, even though non-quantum computers take more steps to solve the same problem, non-quantum computers are still faster than quantum computers for almost all applications.⁵⁷


Conclusion

The trends and issues selected reflect the complex and dynamic nature of modern warfare, in which technological innovation plays a central role in shaping military strategies, capabilities, and doctrines. The aggregation of technological effects might be most acutely felt in the space domain, which is becoming increasingly militarized, with satellites playing critical roles in communication, navigation, reconnaissance, and surveillance. Space-based systems already provide data AI models can use for intelligence analysis and targeting. In the near future, AI and ML applied to space-based systems will enable better collection, making space-based systems even more lucrative targets.

Should quantum computing become available, it will improve sensor accuracy, communication speed, and navigational accuracy by enhancing the computational capabilities AI and ML use. Quantum computing will enable systems that could more easily detect and defeat hypersonic systems. In this way, advances in one technology can amplify or dampen the impact of others. Thus, maximizing the outcomes of technology acquisition for the future battlefield requires understanding how technologies interact in their applications. The convergence of quantum and other technologies suggests a future battlefield characterized by the complex interaction of technologies, which will prioritize the quality, integrity, and security of information as the center of gravity for successful operations.

Theme 4: Challenges to the US Strategic Advantage

Nuclear Deterrence



The leaders of five nuclear weapons states reaffirmed in 2022 their belief that “a nuclear war cannot be won and must never be fought.” As long as nuclear weapons exist and disarmament remains impractical, however, the United States has committed itself to maintaining an arsenal that deters strategic attack, reassures allies and partners, and can achieve objectives if deterrence fails. The United States faces four challenges in pursuing its nuclear weapons goals.

Deterring a Strategic Attack

The first challenge is deterring a strategic attack when facing two major nuclear powers. China appears to be in the middle of a significant buildup of its nuclear arsenal, and Russia has modernized its large nuclear force. Unlike during the Cold War, in which the United States and the Soviet Union maintained a rough parity with each other, any one country is now much less likely to have more nuclear weapons than the other two combined. Hopefully, three-way deterrence will improve stability, since, no single country could expect to achieve victory against the other two.

On the other hand, the current multipolar problem could complicate several US nuclear planning goals, such as striking all relevant military targets, limiting retaliatory damage,

ensuring the survivability of the US nuclear force, and sustaining deterrence against one adversary in the event of a war with the other. Other powers’ expansion of their nuclear arsenals, including adversaries like North Korea, and even allies like France, could further complicate American calculations. The United States may decide nuclear buildup is necessary to achieve its objectives, but a nuclear buildup could lead to a dangerous and expensive arms race. The United States may also seek to integrate more conventional forces into its nuclear planning and develop more tailored options.

The Nuclear Umbrella

The second challenge is maintaining credibility with allies. China’s nuclear buildup and Russia’s aggression in Europe have led to renewed questions about the credibility of America’s nuclear umbrella. American allies and adversaries may again ask the classic question of whether the United States would risk its own cities to protect its allies’ cities. Allies may demand extra reassurance or even seek their own deterrents. Poland, for instance, recently declared its willingness to host nuclear weapons on its soil, but the declaration elicited a strong protest from Russia. The United States must determine what combination of declarations and deployments can best achieve assurance, deterrence, and stability.



Limited Nuclear Strikes

The third challenge is preparing for the possibility an adversary will use limited nuclear strikes to end conventional conflicts. Nuclear-armed countries may be willing to engage in de-escalation strikes, using a small number of nuclear weapons to scare the United States or its allies into halting a military offensive. Russian statements during the Russia-Ukraine War have forced the US government to contemplate the possibility an adversary may use limited nuclear strikes. A limited nuclear attack would leave the United States with few good options: retaliating or continuing to fight would risk nuclear escalation, whereas suing for peace would require abandoning US military objectives. The United States must prepare to deter nuclear attacks and respond if the attacks occur, while also trying to avoid pushing adversaries into situations where they may conduct nuclear strikes in the first place.

Nonproliferation and Arms Control

The final challenge is the continued pursuit of nonproliferation and arms-control policies. Progress in negotiating arms-control agreements and strengthening nuclear nonproliferation appears to have halted. Instead, several countries seem to be expanding their nuclear arsenals. Furthermore, the risk of further nuclear proliferation has not gone away. The failure to manage the spread of nuclear weapons and the control of nuclear material could increase the possibility of nuclear war and terrorism. The renewed turmoil in the Middle East could increase the possibility of proliferation in that region.



Servicemembers train on chemical, biological, radiological, and nuclear scenarios to identify chemical threats with reconnaissance, decontaminating personnel, equipment, and casualties (Army National Guard photo by Private First Class Paris Hayes); page 62 sidebar: Alabama National Guardsmen from chemical, biological, radiological, and nuclear and high-yield explosive enhanced-response force package (CERFP) set up lines for the area in which they are working during Vigilant Guard 2024 in Mobile, Alabama (US Army photo by Sergeant Christopher Neu).

International cooperation on nuclear issues, however, has been difficult to achieve.

Conclusion

Nuclear deterrence will remain an enduring and critical issue for US national security. The challenge of deterring two major nuclear adversaries, the credibility of the nuclear umbrella, the possibility of a limited use of nuclear weapons, and continued arms-control and nonproliferation efforts all highlight the complex challenge of maintaining nuclear deterrence in the age of great-power competition. Nuclear weapons and their associated challenges must be considered when assessing the shifting strategic environment.

Endnotes

1. Rend Al-Rahim, "Iraq's Sudani Runs the Risks of Sustained Relations with the United States," Arab Center Washington DC (website), May 7, 2024, <https://arabcenterdc.org/resource/iraqs-sudani-runs-the-risks-of-sustained-relations-with-the-united-states/>.
2. "Iraq's Prime Minister on Building a Stronger Relationship with the United States," *Atlantic Council* TV, April 19, 2024, <https://www.atlanticcouncil.tv/events/iraq-s-prime-minister-on-building-a-stronger-relationship-with-the-united-states>.
3. Muhammad Shiyaa Al-Sudani, *The National Strategy for Iraq Security Sector Reform (2024–2032)*, Government of Iraq, March 27, 2024.
4. Rabi' Al-Awwal, "Iraqi PM: Security Reforms Top Government Priorities," Asharq Al-Awsat (website), October 1, 2023, <https://english.aawsat.com/arab-world/4577926-iraqi-pm-security-reforms-top-government-priorities>.
5. Author attended a meeting with Prime Minister Mohammed al-Sudani at the Willard Hotel in Washington, DC, on April 19, 2024.
6. Christopher Caitlin, deputy director for security sector reform, Office of Security Cooperation-Iraq, interview with author, July 1, 2024.
7. John Lee, "IMF: Iraq Economic Growth to Continue amid Fiscal Expansion," *Iraq-Business News* (website), March 5, 2024, <https://www.iraq-businessnews.com/2024/03/05/imf-iraq-economic-growth-to-continue-amid-fiscal-expansion/>.
8. Elias Al Helou, "Iraq's Economic Growth to Decline in 2023, 2024 Due to Oil Production Cuts: IMF," *Middle East Economy* (website), December 20, 2023, <https://economymiddleeast.com/news/iraq-economic-growth-oil-imf/>.
9. "Iraq Country Page," World Bank Group (website), n.d., accessed July 1, 2024, <https://data.worldbank.org/country/iraq>.
10. "7 Key Findings from the *Global Terrorism Index 2024*," Vision of Humanity (website), n.d., <https://www.visionofhumanity.org/7-key-findings-from-the-global-terrorism-index-2024/>.
11. Fragile States Index, *Fragile States Index Annual Report 2023* (Washington, DC: Fund for Peace, 2023).
12. US Department of State (DOS), *Integrated Country Strategy: Mozambique* (Washington, DC: DOS, April 1, 2022), https://www.state.gov/wp-content/uploads/2022/04/ICS_AF_Mozambique_Public.pdf.
13. Joseph Siegle and Candace Cook, "Africa's 2024 Elections: Challenges and Opportunities to Regain Democratic Momentum," Africa Center for Strategic Studies (website), accessed January 17, 2024, updated on June 12, 2024, <https://africacenter.org/spotlight/2024-elections/>.
14. Mohamed Younis, "Confidence in U.S. Military Lowest in over Two Decades," *Gallup News*, July 31, 2023, <https://news.gallup.com/poll/509189/confidence-military-lowest-two-decades.aspx>.
15. Katherine Schaeffer, "The Changing Face of America's Veteran Population," Pew Research Center (website), November 8, 2023, <https://www.pewresearch.org/short-reads/2023/11/08/the-changing-face-of-americas-veteran-population/>.
16. Dave Philipps and Tim Arango, "Who Signs Up to Fight? Makeup of U.S. Recruits Shows Glaring Disparity," *New York Times* (website), last updated January 14, 2020, <https://www.nytimes.com/2020/01/10/us/military-enlistment.html>.
17. Jason K. Dempsey, *Our Army: Soldiers, Politics, and American Civil-Military Relations* (Princeton, NJ: Princeton University Press, 2010).
18. Risa Brooks, "The Creeping Politicization of the U.S. Military: How Republicans' Loyalty Tests Erode National Security," *Foreign Affairs* (website), March 20, 2024, <https://www.foreignaffairs.com/united-states/creeping-politicization-us-military>.
19. Chris Anderson et al., executive memorandum, "Results from the 2023 Annual Ronald Reagan Presidential Foundation & Institute National Defense Survey," November 20, 2023, Ronald Reagan Presidential Foundation and Institute, <https://www.reaganfoundation.org/media/361751/rndf-2023-executive-memo.pdf>.
20. Risa A. Brooks, Michael A. Robinson, and Heidi Urben, "Speaking Out: Why Retired Flag Officers Participate in Political Discourse," *Texas National Security Review* 7, no. 1 (Winter 2023/2024): 49–72, <https://tnsr.org/2023/11/speaking-out-why-retired-flag-officers-participate-in-political-discourse/>.
21. Carrie Lee and Max Margulies, "Rethinking Civil-Military Relations for Modern Strategy," *Modern War Institute* at West Point (website), August 14, 2023, <https://mwi.westpoint.edu/rethinking-civil-military-relations-for-modern-strategy/>.
22. "Assessing and Strengthening the Manufacturing and Defense Industrial Base and Supply Chain Resiliency of the United States," Exec. Order 13806, July 21, 2017, <https://www.govinfo.gov/content/pkg/FR-2017-07-26/pdf/2017-15860.pdf>.
23. "Addressing United States Investments in Certain National Security Technologies and Products in Countries of Concern," Exec. Order 14105, August 9, 2023, <https://www.govinfo.gov/content/pkg/FR-2023-08-11/pdf/2023-17449.pdf>.
24. US Army War College Strategic Studies Institute, *2023 Annual Estimate of the Strategic Security Environment* (Carlisle, PA: Strategic Studies Institute / US Army War College Press, 2023), <https://press.armywarcollege.edu/monographs/962/>.
25. National Defense Industrial Association (NDIA), *Vital Signs 2024: The Health and Readiness of the Defense Industrial Base* (Arlington, VA: NDIA, April 2024), 17, https://www.ndia.org/-/media/sites/ndia/policy/vital-signs/2024/2024_vital_signs_final.pdf.
26. Maiya Clark, "The US Defense Industrial Base: Past Strength, Current Challenges, and Needed Change," Heritage Foundation (website), January 24, 2024, <https://www.heritage.org/military-strength/topical-essays/the-us-defense-industrial-base-past-strength>.
27. See for example, DoD, *State of Competition within the Defense Industrial Base* (Washington, DC: DoD, February 2022), <https://www.defense.gov/News/Releases/Release/Article/2934955/state-of-competition-in-the-defense-industrial-base/>; and Luke A. Nicastro, *The US Defense Industrial Base: Background and Issues for Congress*, Congressional Research Service (CRS) Report R47751 (Washington, DC: CRS, October 12, 2023).
28. DoD, *National Defense Industrial Strategy* (Washington, DC: DoD, 2023), 1, <https://www.businessdefense.gov/NDIS.html>.
29. Seth G. Jones, *Empty Bins in a Wartime Environment: The Challenge to the US Defense Industrial Base* (Washington, DC: Center for Strategic and International Studies, January 2023), <https://www.csis.org/analysis/empty-bins-wartime-environment-challenge-us-defense-industrial-base>.
30. Jones, *Empty Bins*.
31. Directorate-General for Communication, "First-Ever European Defence Industrial Strategy to Enhance Europe's Readiness and Security," European Commission (website), March 5, 2024, https://commission.europa.eu/news/first-ever-european-defence-industrial-strategy-enhance-europes-readiness-and-security-2024-03-05_en.
32. For an analysis of the impact of People's Republic of China investments in the NATO defense industrial base, see Carol V. Evans, "Hybrid Threats to US and NATO Critical Infrastructure," in *Enabling NATO's Collective Defense: Critical Infrastructure Security and Resiliency (NATO COE-DAT Handbook 1)*, ed. Carol V. Evans (Carlisle, PA: US Army War College Press, 2022), 75–102, <https://press.armywarcollege.edu/monographs/955/>.
33. "Numbers Matter: Defense Acquisition, U.S. Production Capacity, and Detering China," Govini (website), n.d., <https://www.govini.com/insights/numbers-matter-defense-acquisition-u-s-production-capacity-and-detering-china>.
34. DoD, *National Defense Industrial Strategy*, 9.
35. DoD, *National Defense Industrial Strategy*, 33.
36. DoD, *National Defense Industrial Strategy*, 43.
37. Anthony J. Blinken, "The Administration's Approach to the People's Republic of China" (speech), George Washington University, Washington, DC, May 26, 2022, <https://www.state.gov/the-administrations-approach-to-the-peoples-republic-of-china/>.
38. NDIA, *Vital Signs 2024*, 9.
39. NDIA, *Vital Signs 2024*, 19.
40. US Army, "Army Force Structure Transformation" (white paper, US Army, February 27, 2024).
41. US Army, "Army Force Structure Transformation," 4.
42. US Army, "Army Force Structure Transformation," 4.
43. US Army, "Army Force Structure Transformation," 2.
44. US Army, "Army Force Structure Transformation," 4.
45. Jack Detsch, "Ukraine's Cheap Drones Are Decimating Russian Tanks," *Foreign Policy* (website), April 9, 2024, <https://foreignpolicy.com/2024/04/09/drones-russia-tanks-ukraine-war-fpv-artillery/>; and Thomas Mackintosh, "Ukraine War: Kyiv Says Seven Dead as Drone Attack Sinks Russian Ship," BBC (website), March 5, 2024, <https://www.bbc.com/news/world-europe-68477318>.



46. Edward Moore Geist, "It's Already Too Late to Stop the AI Arms Race—We Must Manage It Instead," *Bulletin of the Atomic Scientists* 72, no. 5 (2016): 318, <https://thebulletin.org/2016/09/its-already-too-late-to-stop-the-ai-arms-race-we-must-manage-it-instead/>.

47. Nicholas Waytowich et al., "Learning to Guide Multiple Heterogeneous Actors from a Single Human Demonstration via Automatic Curriculum Learning in Starcraft II," *Proceedings* 12113 (2022): 5–6.

48. Donatas Palavenis, "The Use of Emerging Disruptive Technologies by the Russian Armed Forces in the Ukrainian War," Air Land Sea Space Application Center (website), October 1, 2022, <https://www.alsa.mil/News/Article/3170285/the-use-of-emerging-disruptive-technologies-by-the-russian-armed-forces-in-the->

49. Haley Ort, "Russia Hammers Ukraine's 2 Largest Cities with Hypersonic Missiles," *CBS News* (website), January 2, 2024, <https://www.cbsnews.com/news/russia-ukraine-war-kyiv-kharkiv-hypersonic-missiles/>; and Brad Lendon, "Russia Used an Advanced Hypersonic Missile for the First Time in Recent Strike, Ukraine Claims," *CNN* (website), February 13, 2024, <https://www.cnn.com/2024/02/13/europe/ukraine-russia-zircon-hypersonic-missile-intl-hnk-ml/index.html>.

50. Paul Bernstein and Dain Hancock, "China's Hypersonic Weapons," *Georgetown Journal of International Affairs* (website), January 27, 2021, <https://gjaia.georgetown.edu/2021/01/27/chinas-hypersonic-weapons/>.

51. Jeff Seldin, "US Defense Officials: China Is Leading in Hypersonic Weapons," *Voice of America* (website), March 10, 2023, <https://www.voanews.com/a/us-defense-officials-china-is-leading-in-hypersonic-weapons/7000160.html>.

52. "U.S. Hypersonic Weapons and Alternatives," Congressional Budget Office (website), January 2023, <https://www.cbo.gov/publication/58924>.

53. David Wright and Cameron Tracy, "Hypersonic Weapons Are Mediocre. It's Time to Stop Wasting Money on Them," *Bulletin of the Atomic Scientists* (website), March 12, 2024, <https://thebulletin.org/2024/03/hypersonic-weapons-are-mediocre-its-time-to-stop-wasting-money-on-them/>.

54. Kelley M. Saylor, *Defense Primer: Quantum Technology*, CRS Report IF11836 (Washington, DC: CRS, October 25, 2023), <https://crsreports.congress.gov/product/pdf/IF/IF11836>.

55. "DOE Explains . . . Quantum Networks," Department of Energy (website), n.d., <https://www.energy.gov/science/doe-explainsquantum-networks>; and Laurent de Forges de Parny et al., "Satellite-Based Quantum Information Networks: Use Cases, Architecture, and Roadmap," *Nature* 6 (2023).

56. Michal Krelina, "Quantum Technology for Military Applications," *EPJ Quantum Technology* 8, (2021), <https://epjquantumtechnology.springeropen.com/articles/10.1140/epjqt/s40507-021-00113-y>.

57. Beth Stackpole, "Quantum Computing: What Leaders Need to Know Now," MIT Sloan School of Management (website), January 11, 2024, <https://mitsloan.mit.edu/ideas-made-to-matter/quantum-computing-what-leaders-need-to-know-now>.

Photo Credits

Front Cover

US soldiers assigned to the 2nd Brigade Combat Team, 1st Cavalry Division, supporting the 4th Infantry Division utilize an M109A6 Paladin howitzer to fire upon designated targets during a platoon live-fire exercise at Bemowo Piskie, Poland (US Army National Guard photo by Sergeant Lianne M. Hirano).

Lianne Hirano, *Bulldogs Fire Up Paladins on the Range [Image 2 of 12]*, March 15, 2023, DVIDS, <https://www.dvidshub.net/image/7686200/bulldogs-fire-up-paladins-range>.

Title Page

Aiden O'Marra, *King of Battle Gets a Lift at Mihail Kogalniceanu Air Base [Image 1 of 9]*, January 4, 2024, DVIDS, <https://www.dvidshub.net/image/8188946/king-battle-gets-lift-mihail-kogalniceanu-air-base>.

Front Matter

Sidebar: Freepik, *Closeup Shot of the Waving Flag of the United States of America with Interesting Features*, Freepik (website), https://www.freepik.com/free-photo/closeup-shot-waving-flag-united-states-america-with-interesting-textures_10303067.htm.

Page 6

Abreanna Goodrich, *Salaknib 24 | 25th CAB Conducts Local Area Orientation Flights [Image 25 of 27]*, April 12, 2024, DVIDS, <https://www.dvidshub.net/image/8339265/salaknib-24-25th-cab-conducts-local-area-orientation-flights>.

Page 9

Alec Dionne, *HIMARS Range at Cobra Gold 2024 [Image 2 of 5]*, March 3, 2024, DVIDS, <https://www.dvidshub.net/image/8272480/himars-range-cobra-gold-2024>.

Page 10

Sidebar: Markus Rauchenberger, *I-91 CAV, 173rd AB Chinook Jump [Image 17 of 19]*, March 13, 2024, DVIDS, <https://www.dvidshub.net/image/8287368/i-91-cav-173rd-ab-chinook-jump>.

Trey Gonzales, *1st Bn., 187th IN Participates in Force on Force Exercise with NATO Allies [Image 8 of 9]*, April 13, 2024, DVIDS, <https://www.dvidshub.net/image/8349459/1st-bn-187th-participates-force-force-exercise-with-nato-allies>.

Page 11

Zackery Babcock, *1st Bn, 9th FAR Conducts Table XVIII in Lithuania [Image 4 of 10]*, March 26, 2024, DVIDS, <https://www.dvidshub.net/image/8311988/1st-bn-9th-far-conducts-table-xviii-lithuania>.

Page 12

Eugen Warkentin, *Saber Strike 24: Fox Troop Combined Arms Training Exercise [Image 13 of 17]*, April 15, 2024, DVIDS, <https://www.dvidshub.net/image/8351970/saber-strike-24-fox-troop-combined-arms-training-exercise>.

Page 13

Cesar Salazar Jr., *Task Force Marne Infantrymen Execute Anti-tank Weaponry Training in Latvia [Image 7 of 8]*, September 17, 2023, DVIDS, <https://www.dvidshub.net/image/8026695/task-force-marne-infantrymen-execute-anti-tank-weaponry-training-latvia>.

Page 14

Sidebar: Michael Needham, *BrightStar23: Sahara Maneuvers [Image 4 of 10]*, September 11, 2023, DVIDS, <https://www.dvidshub.net/image/8019621/brightstar23-sahara-maneuvers>.

Page 15

U.S. Army Central, *U.S. Army Central Soldiers Participate in Rappel Master Course [Image 16 of 17]*, February 28, 2024, DVIDS, <https://www.dvidshub.net/image/8364646/us-army-central-soldiers-participate-rappel-master-course>.

Page 16

Joshua Brandenburg, *USARPAC Units Establish Ammunition Supply Activity during Salaknib and Balikpapan 24 [Image 4 of 5]*, April 17, 2024, <https://www.dvidshub.net/image/8407577/usarpac-units-establish-ammunition-supply-activity-during-salaknib-and-balikatan-24>.

Page 17

Catessa Palone, *Flight on an 82nd CAB CH-47 [Image 12 of 20]*, March 12, 2024, DVIDS, <https://www.dvidshub.net/image/8296179/flight-82nd-cab-ch-47>.

Page 18

Matthew Shields, *Eager Lion 2024 CALFEX [Image 5 of 20]*, May 23, 2024, <https://www.dvidshub.net/image/8445791/eager-lion-2024-calfex>.

Page 19

Nataja Ford, *Eager Lion 2024 Tank Range [Image 3 of 4]*, May 15, 2024, DVIDS, <https://www.dvidshub.net/image/8419310/eager-lion-2024-tank-range>.

Page 20

Sidebar: Griffin Payne, *82nd Airborne Division Paratroopers Support Experimentation during Project Convergence Capstone 4 [Image 5 of 8]*, March 13, 2024, DVIDS, <https://www.dvidshub.net/image/8289082/82nd-airborne-division-paratroopers-support-experimentation-during-project-convergence-capstone-4>.

Page 21

Daniel Marble, *Operation Thunderstrike* [Image 2 of 7], April 27, 2024, DVIDS, <https://www.dvidshub.net/image/8367451/operation-thunderstrike>.

Page 23

Trey Woodard, *Dogface Soldiers Launch into Marne Focus 2024* [Image 2 of 13], April 7, 2024, DVIDS, <https://www.dvidshub.net/image/8327196/dogface-soldiers-launch-into-marne-focus-2024>.

Page 24

Justin Yarborough, *Yudh Abhyas 2023* [Image 6 of 9], October 3, 2023, <https://www.dvidshub.net/image/8057910/yudh-abhyas-2023>.

Page 25

Zachery Blevins, *Operation Lethal Eagle Force on Force* [Image 2 of 7], April 25, 2024, <https://www.dvidshub.net/image/8365487/operation-lethal-eagle-force-force>.

Page 26

Sidebar: Joseph Liggio, *U.S. and Brazilian Soldiers Conduct Final Movements and Assault of SV24* [Image 26 of 38], November 15, 2023, DVIDS, <https://www.dvidshub.net/image/8128808/us-and-brazilian-soldiers-conduct-final-movements-and-assault-sv24>.

Page 29

Joshua Taeckens, *U.S., Brazilian Soldiers Conduct River and Jungle Movement to Conduct Mock-Reconnaissance* [Image 9 of 38], November 13, 2023, DVIDS, <https://www.dvidshub.net/image/8126165/us-brazilian-soldiers-conduct-river-and-jungle-movement-conduct-mock-reconnaissance>.

Page 30

Sidebar: Nicholas J. De La Pena, *US, Netherlands Conduct Dry-Fire Exercise with Senegal* [Image 7 of 17], May 22, 2024, DVIDS, <https://www.dvidshub.net/image/8430616/us-netherlands-conduct-dry-fire-exercise-with-senegal>.

Leron Richards, *The Tanzania Peoples Defence Forces Conduct React to Contact Training at Justified Accord 2024* [Image 21 of 22], March 4, 2024, DVIDS, <https://www.dvidshub.net/image/8272419/tanzania-peoples-defence-forces-conduct-react-contact-training-justified-accord-2024>.

Page 31

Nathaniel Free, *Paratroopers and the Moroccan Royal Armed Forces Conduct Airborne Training during African Lion 2024* [Image 4 of 7], May 20, 2024, DVIDS, <https://www.dvidshub.net/image/8429090/paratroopers-and-moroccan-royal-armed-forces-conduct-airborne-training-during-african-lion-2024>.

Page 32

Leron Richards, *Justified Accord 2024 Participants Conduct Close Air Support and Technical Rescue Operations* [Image 7 of 20], February 29, 2024, DVIDS, <https://www.dvidshub.net/image/8268572/justified-accord-2024-participants-conduct-close-air-support-and-technical-rescue-operations>.

Carter Acton, *Kenya Defence Forces Soldiers Conduct Counter Improvised Explosive Device Training* [Image 1 of 6], February 26, 2024, DVIDS, <https://www.dvidshub.net/image/8259139/kenya-defence-forces-soldiers-conduct-counter-improvised-explosive-device-training>.

Page 33

Nicholas J. De La Pena, *2nd Security Force Assistance Brigade Assembles Satellite Communications Equipment* [Image 4 of 4], May 27, 2024, DVIDS, <https://www.dvidshub.net/image/8433633/2nd-security-force-assistance-brigade-assembles-satellite-communications-equipment>.

Page 34

Sidebar: Richard Brown, *USACE Director of Contingency Operations Meets with Hawaii's Wildfires Team Members* [Image 3 of 18], October 24, 2023, DVIDS, <https://www.dvidshub.net/image/8091680/usace-director-contingency-operations-meets-with-hawaii-wildfires-team-members>.

Bei Simmons, *12th Civil Support Team Joint Training with Nashua Fire Department* [Image 1 of 10], March 28, 2024, DVIDS, <https://www.dvidshub.net/image/8314408/12th-civil-support-team-joint-training-with-nashua-fire-department>.

Page 35

Dylan Burnell, *U.S. Secretary of the Army and USACE Commanding General Visit Wreckage of the Francis Scott Key Bridge* [Image 6 of 12], April 24, 2024, DVIDS, <https://www.dvidshub.net/image/8362735/us-secretary-army-and-usace-commanding-general-visit-wreckage-francis-scott-key-bridge>.

Page 36

Brandon Hernandez, *SoCal Students Meet Local Army Recruiters* [Image 1 of 8], April 22, 2024, DVIDS, <https://www.dvidshub.net/image/8361343/socal-students-meet-local-army-recruiters>.

Page 37

Caitlin Belcher, *352nd Civil Affairs Hosts Medical Civic Action Program Event in Damongo, Ghana* [Image 1 of 10], May 17, 2024, <https://www.dvidshub.net/image/8416732/352nd-civil-affairs-hosts-medical-civic-action-program-event-damongo-ghana>.

Page 38

Sidebar: Darrell Ames, *Army Announces First Precision Strike Missiles Delivery* [Image 1 of 2], December 1, 2023, DVIDS, <https://www.dvidshub.net/image/8158607/army-announces-first-precision-strike-missiles-delivery>.

Page 39

John Carkeet IV, *Small but Mighty* [Image 7 of 8], March 6, 2024, DVIDS, <https://www.dvidshub.net/image/8312367/small-but-mighty>.

Page 41

Duy Nguyen, *Lt. Gen. Frank Battlefield Circulation* [Image 5 of 8], December 12, 2023, DVIDS, <https://www.dvidshub.net/image/8213722/lt-gen-frank-battlefield-circulation>.

Page 42

Scott Sturkol, *32nd Infantry Brigade Combat Team Soldiers Complete "Largest Rail Movement with Civilian Linehaul Wisconsin National Guard Has Ever Done"* [Image 32 of 33], May 21, 2024, DVIDS, <https://www.dvidshub.net/image/8440541/32nd-infantry-brigade-combat-team-soldiers-complete-largest-rail-movement-with-civilian-linehaul-wisconsin-national-guard-has-ever-done>.

John Carkeet IV, *UAS: The Next Generation* [Image 5 of 8], March 6, 2024, DVIDS, <https://www.dvidshub.net/image/8312365/uas-next-generation>.

Page 44

David Rincon, *U.S., Dutch Units Take Part in Joint Live-Fire Training Exercise* [Image 1 of 3], May 11, 2024, DVIDS, <https://www.dvidshub.net/image/8424428/us-dutch-units-take-part-joint-live-fire-training-exercise>.

Page 45

Nataja Ford, *Eager Lion 2024 Tank Range* [Image 2 of 4], May 15, 2024, DVIDS, <https://www.dvidshub.net/image/8419309/eager-lion-2024-tank-range>.

Page 46

Sidebar: Joshua Maxie, *V Corps Participates in a Warfighting Symposium in Sibiu* [Image 4 of 6], April 17, 2024, DVIDS, <https://www.dvidshub.net/image/8352942/v-corps-participates-warfighting-symposium-sibiu>.

Page 48

Sidebar: Aiden O'Marra, *82nd Airborne Divisio* [sic] *Review 2024* [Image 4 of 5], May 23, 2024, DVIDS, <https://www.dvidshub.net/image/8433963/82nd-airborne-divisio-review-2024>.

Page 50

Sidebar: ShaTyra Reed-Cox, *Combined Arms Rehearsal During SV24* [Image 12 of 17], November 7, 2023, DVIDS, <https://www.dvidshub.net/image/8116988/combined-arms-rehearsal-during-sv24>.



Taylor Gray, *International Fellows Gain a Greater Understanding of Landpower within the Indo-Pacific* [Image 3 of 4], February 21, 2024, DVIDS, <https://www.dvidshub.net/image/8250792/international-fellows-gain-greater-understanding-landpower-within-indo-pacific>.

Page 51

Robert Timmons, *240430-A-ZN169-1085* [Image 6 of 7], April 30, 2024, DVIDS, <https://www.dvidshub.net/image/8376362/240430-zn169-1085>.

Page 52

Sidebar: Brandon Vasquez, *Supplies through the Sky: Arctic Sugar Bears Deliver Caches to Denali National Park Service*, April 20, 2024, DVIDS, <https://www.dvidshub.net/image/8361297/supplies-through-sky-arctic-sugar-bears-deliver-caches-denali-national-park-service>.

Sar Paw, *Joint Pacific Multinational Readiness Center (JPMRC 02-24)* [Image 2 of 2], February 16, 2024, DVIDS, <https://www.dvidshub.net/image/8261201/joint-pacific-multinational-readiness-center-jpmrc-02-24>.

Page 53

Elijah Magaña, *JPMRC 24-02 - Troop Movement Preparation* [Image 4 of 10], February 15, 2024, DVIDS, <https://www.dvidshub.net/image/8247726/jpmrc-24-02-troop-movement-preparation>.

Page 54

Sidebar: Courtesy photo from US Army Space and Missile Defense Command, *Redstone Arsenal, CoE Visits Soldiers at JBLM*, March 15, 2024, DVIDS, <https://www.dvidshub.net/image/8291624/coe-visits-soldiers-jblm>.

Deonte Rowell, *Astronaut COL Frank Rubio Media Engagement* [Image 13 of 14], February 22, 2024, DVIDS, <https://www.dvidshub.net/image/8250225/astronaut-col-frank-rubio-media-engagement>.

Page 55

Jason Cutshaw, *SPACECOM Commander Visits Army Space Command*, February 12, 2024, DVIDS, <https://www.dvidshub.net/image/8238752/spacecom-commander-visits-army-space-command>.

Page 56

Brooke Nevins, *CAPEX24_0447* [Image 15 of 15], DVIDS, April 9, 2024, <https://www.dvidshub.net/image/8360674/capex24-0447>.

Brooke Nevins, *1st Space Brigade Commander Addresses Military Engineer Group* [Image 2 of 3], DVIDS, January 23, 2024, <https://www.dvidshub.net/image/8211985/1st-space-brigade-commander-addresses-military-engineer-group>.

Page 57

Dottie White, *Army Space* [Image 1 of 3], April 10, 2024, DVIDS, <https://www.dvidshub.net/image/8341119/army-space>.

Page 58

Sidebar: Nathaniel Free, *19th Special Forces Group Conducts Tactical Robot Training with Partners in Morocco during African Lion 2024* [Image 4 of 5], May 24, 2024, DVIDS, <https://www.dvidshub.net/image/8431495/19th-special-forces-group-conducts-tactical-robot-training-with-partners-morocco-during-african-lion-2024>.

Page 59

Victoria Morgan, *Freedom Shield 24, Combined Joint Live Fire Exercise* [Image 7 of 7], March 13, 2024, DVIDS, <https://www.dvidshub.net/image/8287709/freedom-shield-24-combined-joint-live-fire-exercise>.

Page 60

Brahim Douglas, *Human Machine Integration Experimentation during Project Convergence Capstone 4* [Image 10 of 17], March 18, 2024, DVIDS, <https://www.dvidshub.net/image/8298206/human-machine-integration-experimentation-during-project-convergence-capstone-4>.

Page 62

Sidebar: Christopher Neu, *Chemical, Biological, Radiological, and Nuclear Defense (CBRN) Scenario-Based Decontamination Training* [Image 1 of 4], February 23, 2024, DVIDS, <https://www.dvidshub.net/image/8298753/chemical-biological-radiological-and-nuclear-defense-cbrn-scenario-based-decontamination-training>.

Page 63

Paris Hayes, *Vigilant Guard 2024* [Image 3 of 13], April 30, 2024, DVIDS, <https://www.dvidshub.net/image/8374561/vigilant-guard-2024>.

Disclaimers

The views expressed in this publication are those of the authors and do not necessarily reflect the official policy or position of the Department of the Army, the Department of Defense, or the US government. Authors of Strategic Studies Institute and US Army War College Press publications enjoy full academic freedom, provided they do not disclose classified information, jeopardize operations security, or misrepresent official US policy. Such academic freedom empowers them to offer new and sometimes controversial perspectives in the interest of furthering debate on key issues. This publication is cleared for public release; distribution is unlimited.

The appearance of US Department of Defense (DoD) visual information does not apply or constitute DoD endorsement.

This publication is subject to Title 17 United States Code § 101 and 105. It is in the public domain and may not be copyrighted by any entity other than the covered authors.

This publication can be downloaded free of charge from the Strategic Studies Institute website at <https://ssi.armywarcollege.edu/>. The publication may be quoted or reprinted in part or in full with permission and appropriate credit given to the US Army Strategic Studies Institute, US Army War College, Carlisle, PA.

Comments pertaining to this publication are invited and should be forwarded to: Director, Strategic Studies Institute and US Army War College Press, US Army War College, 47 Ashburn Drive, Carlisle, PA 17013-5244.

US ARMY WAR COLLEGE

Major General David C. Hill
Commandant

STRATEGIC STUDIES INSTITUTE

Dr. C. Anthony Pfaff
Director, SSI and the US Army War College Press

Colonel Eric Hartunian
Director, Strategic Research and Analysis Department

CONTRIBUTORS

Dr. Brian Carlson
Research Professor of Indo-Pacific Security Studies

Dr. John R. Deni
Research Professor of JIIM Security Studies

Major Brennan Deveraux
National Security Researcher

Dr. R. Evan Ellis
Research Professor of Latin American Studies

Dr. Carol V. Evans
Former Director, SSI and the US Army War College Press

Dr. Ron Gurantz
Research Professor of National Security Affairs

Dr. Robert E. Hamilton
Research Professor of Eurasian Studies

Dr. Richard A. Lacquement Jr.
Research Professor of National Security Affairs

Dr. Carrie Lee
Director, US Army War College Civil-Military Relations Center

Dr. Michael E. Lynch
Research Associate Professor of the Institutional Army

Lieutenant Colonel Paul Milas
Director of African Affairs

Dr. C. Anthony Pfaff
Research Professor for Strategy, the Military Profession, and Ethics

Dr. James D. Scudieri
Senior Research Historian



U.S. ARMY

<https://press.armywarcollege.edu>

