2024 Worldwide Threat Assessment

DEFENSE INTELLIGENCE AGENCY



Armed Services Subcommittee on Intelligence and Special Operations
United States House of Representatives

Jeffrey Kruse, Lieutenant General, U.S. Air Force

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INTRODUCTION

Chairman Bergman, Ranking Member Gallego, and Members of the Subcommittee:

Thank you for the invitation to provide the Defense Intelligence Agency's (DIA's) assessment of the global security environment.

Global instability is intensifying, fueled by accelerating competition among large nations, increasing collusion between historically nonaligned actors, HAMAS's 7 October 2023 attack, a rapidly evolving information and technology environment, and nondemocratic transitions of power. When coupledp with the rapid military modernization efforts of our competitors and their drive to project hard power both regionally and around the globe, the world is growing more dangerous for the United States and our allies and partners. This dynamic environment is raising the risk of regional tensions and conflicts sparking broader vertical and horizontal escalation. It also amplifies the importance and advantages of the United States' robust alliances and partnerships across the world, which—measured in resolve, interoperability, and shared values are unmatched by our competitors.

- > The PRC remains our pacing security challenge. Beijing is employing various political, economic, military, and information levers to intimidate and coerce countries in its region and to expand its military's global footprint, potentially holding U.S. operations at risk during a conflict. Beijing also is building its partnership with Russia on the strength of a shared rivalry with the United States, and expanding military cooperation through activities such as combined bomber patrols over the Pacific Ocean. During the next year, China is poised to advance its military capabilities, including in domains most critical to military operations against Taiwan and the United States, while improving its proficiencies as a joint force. This past year, Beijing advanced its longer-range missile development, expanded its space capabilities, and grew its naval fleet. PRC nuclear modernization is vastly outpacing efforts from even five years ago in both scale and complexity. The People's Liberation Army (PLA) has more than 500 operational nuclear warheads and probably will have more than 1,000 by 2030.
- Russia faces a grinding war in Ukraine in which it continues to showcase its disregard for Ukrainian sovereignty and civilian infrastructure. With mounting casualties and costly equipment losses, Russia continues to look to suppliers, including Iran and North Korea, to enable capabilities such as attack unmanned aerial vehicles (UAVs). Moscow is playing for time as Russian President Vladimir Putin probably calculates that his forces can outlast the West's willingness to support Ukraine. Given the strain of the war, Russia's conventional military capabilities will remain diminished at least through 2024 as its defense industry focuses on refurbishing equipment and importing weapons to sustain its conflict in

Ukraine. However, Moscow will continue modernizing its nuclear deterrent capability and is expanding its nonstrategic nuclear weapons posture in Belarus.

- > The 7 October HAMAS attack in Israel has triggered regional instability that Iran sees as an opportunity to weaken Israel, threaten U.S. interests, and increase its own regional standing. Following the onset of the Israel-HAMAS conflict in October, Iran has amplified its support for militias in Iraq and Syria, which have conducted deadly UAV and rocket attacks against U.S. forces and are prepared to resume attacks with little to no warning. Iran is advancing its conventional military capabilities with increased range, accuracy, lethality, and reliability to improve Tehran's ability to strike U.S. and partner forces in the region; this is exemplified by recent Huthi attacks on maritime shipping vessels using Iransupplied weapons. Iran also proliferates these weapons to regional allies to extend its own deterrent capabilities. Tehran is deepening its cooperation with Moscow and Beijing to blunt its own isolation and to build leverage.
- > Pyongyang has used the past year to expand its ties to Moscow and Beijing to bolster Kim Jong Un's regime and gain access to more advanced capabilities. North Korea's missiles and conventional weapons continue to hold U.S. forces and our allies in northeast Asia at risk while the Kim regime simultaneously seeks to improve its capability to threaten the U.S. homeland. In 2023, Pyongyang continued to diversify its missile and nuclear programs, introducing several new systems. Pyongyang unveiled a ballistic missile submarine and tested an underwater drone that it claimed can be nuclear-armed. Pyongyang also is adopting a more bellicose approach to Seoul, including its reunification policies and calling out South Korea as a separate state for the first time.
- > Transnational terrorist organizations, such as ISIS, have exploited the HAMAS attacks to mobilize their affiliates and supporters. They seek to retaliate against U.S., Israeli, and Jewish interests in response to Israeli operations in the Gaza Strip. Meanwhile, al-Qa'ida has launched the most aggressive propaganda campaign against Israel that we have seen since 2019 and also is seeking to conduct attacks to show solidarity with Palestinians.
- > Our adversaries continue to seek ways to inflict costs within the U.S. homeland. Both China and Russia work to maintain a capability to attack our critical infrastructure during a conflict and probe for access to our systems and supply chains to degrade our military advantage. Despite leadership losses, some transnational terrorist organizations still aspire to attack within the United States, either directly or through inspired actors.

As these threats against the United States persist, and our strategic competitors are emboldened through their cooperation, DIA's resolve to conduct exceptional intelligence operations and analysis that provides decision advantage to our Nation only deepens. I am privileged to lead this organization, and I want to assure you that DIA officers, who serve in more than 140 nations around the world, are dedicated to providing you the soundest insight into the strategic, operational, and tactical security threats confronting the United States. My aim in this hearing is to crystalize these threats and to support this committee in its critical work of defending the Nation. Thank you for your continued confidence. We are grateful for your vital support to DIA.

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CHINA

Beijing continues to advance its global capabilities to confront the United States and its allies across the diplomatic, informational, military, and economic domains. In March 2023, PRC President Xi Jinping told delegates to the Chinese People's Political Consultative Conference that "Western countries, led by the United States, have implemented comprehensive containment, encirclement, and suppression against us, bringing unprecedented severe challenges to our country's development." Xi is overseeing a whole-of-government effort to better prepare China for competition and confrontation with the United States and its allies in East Asia and around the world, and the PRC seeks to undermine popular and political support for U.S. military alliances and security partnerships throughout the world. This includes casting doubt on U.S. security alliances and partnerships, particularly those in the Indo-Pacific region, and labeling them as destabilizing and irreconcilable with PRC security interests. In addition, the PLA is undertaking efforts to modernize its capabilities and improve its near-term proficiencies as a joint force across all warfare domains so that it can effectively conduct a full range of military and information operations, including against U.S. and partner military forces. The PLA also is incrementally improving its power-projection capabilities to achieve its long-term goal of becoming a "world class military." However, global attention in 2023 to sudden removals of PLA leaders, unsafe PLA operating practices, and the public loss of a surveillance balloon cast doubt on Xi's ability to maintain reliable command and control (C2) and accountability of the PLA during a period of rising international tension.

Military Modernization and Spending

China is rapidly advancing its military modernization and developing capabilities critical for potential, future military operations against Taiwan and the United States. These capabilities across land, sea, air, and emerging warfighting domains could enable Beijing to seize Taiwan by force and disrupt U.S. attempts to intervene. During his October 2022 speech at the opening ceremony of the 20th Chinese Communist Party (CCP) Congress, Xi reaffirmed his commitment to the PLA's 2027 modernization milestone to accelerate the technological development of the armed forces while modernizing the PLA's military theories, organizations, personnel, weapons, and equipment. In July 2023, Xi again emphasized this goal during a 2-day meeting with top military officials, noting the PLA aims to be a more efficient and combat-ready force by 2027.

> The PLA Army—which is responsible for conducting operations ranging from firepower strike and mobile assault to all-dimension defensive actions—continues to modernize equipment with a focus on combined arms and joint training. The Army demonstrated a new long-range fire capability during its military response to the August 2022 congressional delegation visit to Taiwan, signaling its availability for use during a conflict with Taiwan.

- > The PLA Navy, the world's largest in terms of personnel, has increased its inventory of ships and submarines by 9 percent since 2022 to an overall battle force of more than 370 vessels, including more than 140 major surface combatants. The Navy's third aircraft carrier, launched in 2022, is expected to be operational in late 2024. The PLA Navy also commissioned its third YUSHEN class amphibious assault ship and, as of early 2023, probably had begun construction on a fourth YUSHEN class ship. These ships are advancing the PLA's ability to sustain operations in the Western Pacific, Indian Ocean, and beyond. This includes the Navy's growing aircraft carrier force—which extends the PLA's air defense coverage—and its increasingly sophisticated anti-ship cruise missiles equipped aboard submarines and surface combatants, which expand the threat posed to U.S. and allied forces to beyond the Second Island Chain.
- The PLA Air Force—with more than 3,150 total aircraft—constitutes the region's largest aviation force and the third largest in the world, including approximately 2,400 combat aircraft, such as fighter jets, strategic and tactical bombers, multimission tactical aircraft, and attack aircraft. In 2023, the PLA Navy transferred many of its land-based aircraft to the Air Force, including 300 fighter jets, so the Navy could focus on improving its carrier-based air operations. The Air Force is evolving into a more technologically advanced, effective, and capable force that is proficient at conducting joint operations.
- The PLA Rocket Force organizes, staffs, trains, and equips China's expanding land-based nuclear and conventional missile forces. The Rocket Force also fields various conventional mobile, ground-launched short-, medium-, and intermediate-range ballistic missiles and ground-launched cruise missiles (GLCMs). As of 2023, the Rocket Force had fielded approximately 1,000 short-range (SRBMs), 1,000 medium-range (MRBMs), and 500 intermediate-range ballistic missiles (IRBMs) as well as 300 GLCMs, compared with more than 600 SRBMs, 500 MRBMs, 250 IRBMs, and 300 GLCMs identified in 2022. The Rocket Force's conventionally armed anti-ship ballistic missile variant enables the PLA to conduct long-range precision strikes against ships in the western Pacific from mainland China. The PLA also may be exploring conventionally armed intercontinental-range missile systems, which would enable the PRC to threaten conventional strikes against the continental United States, Alaska, and Hawaii.
- > In March 2024, the PRC announced a nominal 7.2 percent annual military budget increase to USD \$232 billion, representing approximately 1.2 percent of its gross domestic product. The published military budget does not include details of expenditure breakouts, such as research and development and foreign weapons procurement, which means China's actual military-related spending is significantly higher than its announced defense budget.

Nuclear, Space, and Cyberspace Capabilities

The PRC is rapidly diversifying and expanding its nuclear forces, vastly outpacing its modernization efforts of a decade ago in both scale and complexity. As of early 2023, the PLA possessed more than 500 operational nuclear warheads and probably will have more than 1,000 warheads by 2030. To support this stockpile growth, China probably will produce plutonium for its nuclear weapons program using its new fast-breeder reactors (CFR-600s) and reprocessing facilities, despite publicly maintaining that these technologies are intended for peaceful purposes.

- > The PRC probably has completed the construction of its three new solid-propellant silo fields, which comprises at least 300 new intercontinental ballistic missile (ICBM) silos, and has loaded at least some ICBMs into these silos. This project, and the expansion of China's liquid-propellant silo force, is meant to improve the readiness of China's nuclear arsenal by moving to a launch-on-warning posture—called "early warning counterstrike"—where warning of an incoming missile automatically initiates a counterstrike. Inexperience with this early warning counterstrike capability coupled with the system's more compressed reaction timelines increases the risk of unintentional nuclear escalation during a crisis with the United States during the next three to five years.
- The PRC also is updating its capability to deliver multimegaton warheads by fielding its new DF-5C silo-based, liquid-fueled ICBM. For the sea leg of its nuclear triad, in 2023, the PLA Navy continued to produce JIN class nuclear-powered ballistic missile submarines and fielded the longer-range JL-3 submarine-launched ballistic missile, rendering the JIN class capable of striking the continental United States from PRC littoral waters.

China's space and counterspace strategy is predicated on developing capabilities to offset a perceived U.S. over-reliance on space-based systems. China continues to dedicate significant resources to technologies, such as direct-ascent anti-satellite missiles, co-orbital satellites, electronic warfare, and directed-energy systems that can contest or deny an adversary's access to and operations in space during a conflict. During the past year, China cemented itself as a space launch leader, with only the United States conducting more launches. The PRC also added Azerbaijan, Belarus, Egypt, Pakistan, South Africa, UAE, and Venezuela to the International Lunar Research Station, a joint Chinese-Russian initiative to develop a lunar base for scientific research.

- > As of May 2023, China had 618 total satellites, including 347 remote-sensing/intelligence, surveillance, and reconnaissance (ISR) satellites, 73 communications satellites, and 49 navigation-related satellites.
- > China attempted 67 total space-related launches in 2023; 66 of its launches were successful. The United States conducted 114 launches in 2023. China's launch cadence was mostly on par with its 2022 performance of 64 launches, which resulted in 62 successful orbital launches.

PRC-based cyber intrusions continue to target information networks around the world, including U.S. Government systems, to steal intellectual property and data and develop access to sensitive networks. China uses its cyberspace capabilities to support intelligence collection against U.S. academic, economic, military, and political targets; to exfiltrate sensitive information from defense infrastructure and research institutes; and to lay the groundwork for malicious cyber activities and cyber attacks. The PLA has called for using space, cyber operations, and electronic warfare as weapons to paralyze adversary information systems during a conflict.

Risks of Unsteady C2 and Accountability

Beijing struggles to maintain reliable C2 and accountability of its military forces and ensure safe operations in international air and maritime domains, all of which pose a threat to U.S. forces and interests. In January 2023, a military-linked, high-altitude surveillance balloon flew off course and crossed into the continental United States until it was shot down by a U.S. fighter aircraft. Also in 2023, a PLA pilot flew within 10 feet of a U.S. Air Force B-52 in international airspace over the South China Sea (SCS) and may have been unaware how close they came to causing a midair collision. Since 2022, the PLA has conducted more than 180 instances of coercive and risky air intercepts against U.S. aircraft in the Indo-Pacific region—more than in the previous decade. During the same period, the PLA committed approximately 100 coercive and risky maneuvers against ally and partner aircraft.

Beyond operational control, PRC leaders have struggled to hold the PLA administratively accountable, despite decades of anticorruption efforts. In 2023, Xi abruptly removed the PRC defense minister and senior Rocket Force officers, reportedly because of corruption surrounding weapons procurement and nuclear modernization, which could undermine PLA capabilities and weapon safety.

Pressuring Taiwan

During the past year, PRC leaders have employed a range of pressure tactics against Taiwan and signaled its resolve to counter U.S.-Taiwan diplomatic and security cooperation. Beijing also continues to pressure Taiwan's diplomatic allies to cut ties with the island, with Nauru severing ties to Taiwan in January 2024. China has a range of military options to coerce Taiwan, including increasing the frequency and scope of its military presence operations, an air or maritime blockade, seizure of Taiwan's smaller outlying islands, joint firepower strikes, or a full-scale amphibious invasion of Taiwan. Beijing appears willing to defer the use of military force as long as it calculates that its unification with Taiwan ultimately can be negotiated, the costs of armed conflict would outweigh the benefits, and its stated redlines have not been crossed by Taiwan, the United States, or other countries.

> In April 2023, the PLA responded to former Taiwan President Tsai's transit of the United States and meeting with the then-U.S. House Speaker by sending at least 128 aircraft into the Taiwan Air Defense Identification Zone (ADIZ). PLA entries into the Taiwan ADIZ in 2023 slightly decreased to 1,641 events, compared with 1,733 in 2022. Concurrently, PLA aircraft Taiwan Strait centerline crossings increased to at least 712 events in 2023, compared with 552 in 2022, indicating a greater percentage of PLA ADIZ incursions included centerline crossings. Thus far in 2024, the PLA has conducted at least 332 Taiwan ADIZ entries and 111 centerline crossings, a slight reduction compared to the same time period in 2023.

Tension Along China's Periphery

In 2023, the PRC continued to employ its Navy to patrol disputed areas in the South and East China Seas and used its Coast Guard to harass fishing activities, resupply missions, and hydrocarbon exploration operations, resulting in unsafe maritime incidents and escalating tensions with its neighbors. In 2023, PRC maps reintroduced a "ten-dash line" claim—revised from Beijing's previously-claimed "nine-dash line"—which notably expanded the depiction of PRC claims over the Spratly and Paracel Islands and other land features in the SCS, including areas east of Taiwan.

- > Despite an international tribunal ruling in 2016 favoring the Philippines, China has continued efforts to disrupt the Philippines' presence in the SCS, including at Second Thomas Shoal. In 2023, China's efforts included Chinese Coast Guard and maritime militia boats using water cannons and conducting dangerous and aggressive maneuvering which resulted in collisions with Philippine counterparts.
- > Beijing continues to use Coast Guard vessels and aircraft to patrol near the Japanadministered Senkaku Islands to compel Tokyo to concede its claim to the territory and the accompanying exclusive economic zone.

Global Military Presence

Beijing is improving PLA systems to operate further from China for longer periods of time and establishing a more robust overseas logistic and basing infrastructure to sustain deployments at greater distances, which could potentially hold U.S. global operations or international commerce at risk during a conflict. Beijing is pursuing a mixture of military logistics models—including preferred access to commercial infrastructure abroad, exclusive PLA logistics facilities with prepositioned supplies colocated with commercial infrastructure, and bases with stationed forces to support China's overseas military logistic needs. Some of China's Belt and Road Initiative (BRI) projects have potential military advantages, such as providing PLA access to foreign ports to preposition the logistic support necessary to sustain more distant naval deployments in the Indian Ocean, Mediterranean Sea, and Atlantic Ocean.

- > In 2023, the PLA Navy more frequently operated worldwide, including a submarine deployment to the Indian Ocean, and continued its naval escort task force deployments to the Gulf of Aden. In October 2023, the 44th and 45th PRC naval task forces conducted missions in the Gulf of Aden.
- > Chinese officials attended Cambodia's Ream Naval Base groundbreaking ceremony in 2022, and a PRC official has since confirmed that the PLA will have access to parts of the base. Beijing also probably has considered establishing PLA military logistics facilities in Angola, Bangladesh, Burma, Equatorial Guinea, Gabon, Indonesia, Kenya, Mozambique, Namibia, Nigeria, Pakistan, Papua New Guinea, Seychelles, Sri Lanka, Solomon Islands, Tajikistan, Tanzania, Thailand, and the UAE.

> Beijing highlights the potential for these military logistics facilities to provide international public goods, such as humanitarian assistance and disaster relief, but its global military logistics network also provides the PLA new means to disrupt U.S. military operations and international commerce.

Cooperation With Russia

Driven by a common rivalry with Washington, Beijing and Moscow continue to demonstrate a close partnership through diplomatic, informational, military, and economic cooperation. These activities are intended to develop interoperable military capabilities, promote Beijing and Moscow as a political bloc against the West, and undermine security partnerships the United States maintains with regional countries, including the Australia, UK, and U.S. (AUKUS) agreement and the Quadrilateral dialogue with Australia, India, and Japan. Although Xi and Putin announced a "no limits partnership" ahead of the 2022 Winter Olympics in Beijing, Russia's war in Ukraine has challenged China as it has sought to maintain official "neutrality" while privately supporting Moscow. In 2023, Beijing was particularly sensitive to advancing select areas of its partnership with Moscow while avoiding actions, such as overtly providing material or lethal military assistance, that might incur reputational or economic costs for Beijing.

- > Beijing has parroted Russian narratives when they align with China's criticism of the United States and has refrained from condemning Russia's conduct or referring to Moscow's invasion as a "war." China also has legitimized Russia's role on the world stage by meeting with Russian leaders and continuing to work with Moscow in various multilateral fora, such as the United Nations (UN); Brazil, Russia, India, China and South Africa (BRICS); and Association of Southeast Asian Nations.
- > Russian assistance is helping to modernize China's nuclear program, particularly by supplying it highly enriched uranium that can help it produce weapons-grade plutonium. In March 2023, China and Russia signed an agreement to continue cooperation on fast reactor and reprocessing technology development.
- Despite Russia's war in Ukraine, China and Russia continued a steady tempo of bilateral military exercises in 2023. This included a combined bomber patrol, a new naval exercise called North Cooperation-23, and a combined naval patrol to the Bering Sea. Since 2022, Russian military activity with China has included nine bilateral exercises and naval and bomber patrols. Although these exercises probably only marginally improved their capabilities and interoperability, they served as important demonstrations of both countries' commitment to the partnership. In addition, China and Russia participated together in trilateral naval exercises with South Africa and Iran, both aimed at improving the participants' military cooperation and maritime security near two critical sea lines of communication.
- > The PRC almost certainly is applying lessons from Russia's war in Ukraine toward countering what it perceives as a U.S.-led containment strategy. Diplomatically, the Ukraine war probably reaffirmed to Beijing the importance of persuading countries that it

considers the "Global South" in Africa, Latin America, the Middle East, and the Indo-Pacific region to echo its narratives. The PLA also probably seeks to incorporate lessons from how Russia and Ukraine are employing influence operations in the conflict into its own doctrine. The effects of Western sanctions against Russia almost certainly have amplified China's push for defense and technological self-sufficiency and financial resilience.

Outlook

Xi's travel to San Francisco in November 2023 to meet with the U.S. President were part of Beijing's effort to stabilize tensions between the United States and China. However, it did not ultimately influence Beijing's efforts to rapidly advance military capabilities and improve China's multidomain approach to strategic competition with the United States. Across the Taiwan Strait, China is likely to put diplomatic, economic, and military pressure on Taiwan President-elect "William" Lai Chingte—who will be inaugurated in May—to advance Beijing's long-term objective of unification and deter any move by Taiwan toward independence. Along China's periphery, Beijing is likely to respond with shows of military resolve in the face of neighbors resisting PRC territorial claims. Globally, Beijing will seek opportunities to exploit narratives that criticize Washington's ability to manage global crisis and conflict. These efforts are aimed at presenting China as a responsible global leader, even as the substance of its global security role remains more rhetoric than action.

RUSSIA

Russian President Vladimir Putin remains committed to prosecuting his war in Ukraine despite taking heavy losses and facing fierce resistance from Ukrainian armed forces. He seeks to eventually gain additional territory and prevent Ukraine from fully integrating with the West. Russia probably is able to continue military operations through 2024 as it retains sufficient manpower while producing, refurbishing, and receiving munitions and equipment from willing suppliers. Despite a brief but acute challenge to senior Russian leadership authority during the failed June 2023 armed insurrection of private military company (PMC) Vagner owner Yevgeniy Prigozhin, Putin has consolidated domestic support for the war and silenced internal dissent through a mix of incentives, coercion, and domestic propaganda portraying Russia as being under siege by the West.

Trajectory of the War in Ukraine

Russia's February 2022 invasion has devolved into a war of attrition as both sides have experienced high casualties and strained their ammunition and equipment stockpiles. Despite Russia's high losses, Putin probably judges that his forces can outlast Western willingness to provide security and economic support. Throughout 2023, Russia conducted offensive operations in eastern Ukraine, demonstrating its intent to maintain military pressure on Ukrainian forces and to seize additional territory, even if only for small gains. Moscow probably will struggle to seize larger, strategically relevant swaths of additional territory in 2024 without a significant influx of additional personnel, which would risk straining the Russian economy and popular support.

- The war against Ukraine has proven costly to the Russian military, particularly to Russia's ground forces. Since the conflict's start, Russia has lost at least 7,400 ground combat vehicles, including at least 2,300 tanks and 19 naval vessels and approximately 200 aircraft. The significant amount of lost Russian conventional ground forces is likely to take years to reconstitute.
- > Russia has incurred heavy personnel losses in Ukraine since the conflict began. After experiencing significant casualties early in the war among its highest readiness airborne and naval infantry forces, Russian casualties in 2023 consisted primarily of poorly trained and ill-equipped mobilized and contract soldiers.
- Moscow probably will continue to meter its use of precision-guided munitions (PGMs) because its production capacity cannot yet simultaneously support extensive offensive operations and reconstitution of prewar stocks. To remedy this, Moscow probably will continue to negotiate for the purchase of Iranian- and North Korean-supplied munitions.

> Moscow also will continue to employ one-way attack UAVs to partially mitigate its PGM shortfall. To this end, Russia is boosting domestic UAV production, has imported UAVs directly from Iran, and also is assembling UAVs at an Iranian-equipped factory in Russia.

Following a period of heightened nuclear rhetoric from senior Russian leaders in late-2022, Putin has downplayed the possibility of a nuclear conflict in subsequent speeches and noted he saw no need to change Russia's nuclear doctrine, even though Russia has withdrawn its ratification of the Comprehensive Nuclear Test Ban Treaty. Nevertheless, an existential threat to the Russian state is cited in Russian doctrine and legal documents as justification for nuclear use, and the West cannot completely discount the possibility of Russia using nuclear weapons in Ukraine.

For at least the next year, Russia probably will continue to give priority to defending Russianoccupied areas in eastern and southern Ukraine and is likely to seek additional territorial gains, even if they are minimal and only incremental in nature. Putin probably is uninterested in a negotiated settlement that includes giving up Russian-occupied Ukrainian territory. Moscow also almost certainly would demand any settlement guaranteed Ukrainian neutrality or demilitarization.

Military Capabilities and Modernization

Russia's conventional military capabilities almost certainly will remain degraded through 2024 because of attrition from the Ukraine conflict. Moscow's defense industry is giving priority to refurbishing old equipment ahead of upgrading or producing new weapon systems, including aircraft, air defense networks, surface ships, and armored ground vehicles. The heavy losses to Russia's arsenal of modern equipment have forced Moscow to draw from Cold War-era equipment stocks, such as T-55 and T-62 tanks last produced in the 1970s, and obtain munitions from Iran and North Korea, including artillery shells and short-range missiles. Moscow's defense production remains strained by difficulty obtaining manufacturing components, inadequate repair facilities, and persistent underemployment in its defense sector.

- > The Russian Defense Ministry announced that it planned major reforms to military structures and capabilities through 2026 as a result of shortfalls identified during operations in Ukraine and in response to expansion of the North Atlantic Treaty Organization (NATO). In December 2022, Russian Defense Minister Sergey Shoygu announced a plan to expand Russia's military to 1.5 million troops by 2026, including 695,000 volunteer contract soldiers. However, Russia has a long history of failing to achieve its stated military reform and recruitment goals. In 2023, Russia's authorized troop strength was 1.3 million, but the fluid nature of Russian troop recruitment and casualty rates and Moscow's efforts to distort information about its war in Ukraine hinder our ability to accurately estimate Moscow's current military personnel figures.
- > Ongoing Russian Navy modernization efforts include outfitting older ships with modern KALIBR cruise missiles, continuing to build and field advanced submarines, and constructing new and upgraded basing infrastructure throughout the Arctic. In 2023, it

conducted a multifleet exercise, which included deploying a ship armed with hypersonic missiles near the United States. Despite losses incurred by its Black Sea fleet during the Ukraine war, Moscow will continue to use its navy to demonstrate commitment to its partners and showcase its global deterrent capability, and as a tool of global power projection during the next year.

- > Russia's Aerospace Forces have demonstrated poor proficiency during operations in Ukraine, resulting in substantial losses of equipment and veteran personnel that will take years to reconstitute. Overuse of aircraft, attrition, and poor force implementation probably will hamper aerospace operations inside Ukraine in 2024.
- > Russia is actively seeking to use ISR systems and electronic warfare to disrupt Ukraine's command, control, communications, and weapons guidance but has been unable to dominate the battlefield. Russia has employed its domestically produced Orlan UAVs and Iranian-provided Mohajer UAVs for this purpose.
- > Russian state and nonstate cyber actors have maintained a high volume of offensive cyber operations against Ukrainian networks and have achieved some disruptive effects. These actions indicate Moscow probably will continue to invest in modernizing its cyber capabilities.

Russia's space and counterspace strategy remains focused on maintaining access to space-based information assets while denying access to the adversary. Moscow has been hindered in its attempts to field more space capabilities because of international sanctions and export controls levied upon it in recent years. Given these limitations, Russia is focusing its available resources on developing counterspace capabilities, ranging from jamming to malicious cyber activities to direct-ascent and orbital antisatellite systems. In 2023, Russia unsuccessfully attempted to land a spacecraft on the moon as part of the International Lunar Research Station initiative.

Russia will continue to emphasize its military presence in the Arctic in 2024, maintaining its strategically defensive posture aimed at fortifying its Arctic territory against perceived threats from the United States and other nations. Since 2014, Russia has improved its posture in the Arctic across all military domains, enhancing its ability to defend the region against an attack and to respond to Western military operations along its periphery.

Modernizing its nuclear triad remains a long-term priority for Moscow. Russia also has expanded its nonstrategic nuclear weapons posture by placing weapons in Belarus. Putin claims warheads were delivered to Belarus in June; the new location does not extend the range of Russia's ability to deploy nonstrategic nuclear weapons. Russia also is developing the SS-X-29 and SS-27 Mod 2 ICBMs and DOLGORUKIY class ballistic missile submarine to maintain its nuclear deterrence capabilities. In addition to its nuclear arsenal, Russia maintains biological and chemical weapon programs and has used nerve agents in assassination attempts.

Global Military Activity

Russia's decision to allocate the vast majority of its ground forces to invade Ukraine has degraded its ability to project power globally. Russia has curtailed some of its military exercises with foreign partners because of the demands of the war in Ukraine. In addition, Russia's military production demands and the reputational costs of its invasion are forcing Moscow to rely more on information operations, diplomatic overtures, and the use of nonstate paramilitary forces to garner influence globally. In 2024, Russia more frequently will turn to partners—such as Belarus, China, Iran, and North Korea—to demonstrate that it is not internationally isolated and to supply critical weapon components and mitigate its weapon shortages. In 2024, Russia plans to spend USD \$117 billion on defense, marking a 56-percent increase from 2023.

- Moscow is seeking to expand its cooperation with Pyongyang in the economic, diplomatic, and defense spheres, which probably has already paid some dividends as North Korea has started to provide weapons to Russia for use in Ukraine.
- Laden with heavy economic sanctions, Moscow is seeking to coordinate its energy production more closely with other energy-rich states in the Middle East. International isolation and resource shortfalls also have spurred Moscow to strengthen its relationship with Tehran. Iran has sent upwards of 1,000 one-way attack UAVs to Russia for use in Ukraine. The Russian military's physical presence in Syria and close partnership with the Bashar al-Asad regime provides Russia a power-projection tool in the Middle East and into the eastern Mediterranean. Putin uses his personal relationship with Turkish President Recep Tayyip Erdogan to manage tensions with Türkiye about Ukraine, to push back on U.S. presence in the region, and to coordinate security and diplomatic efforts in Syria.
- In the Western Hemisphere, Russia probably will continue to engage its traditional partners in Cuba, Nicaragua, and Venezuela for economic deals and security partnerships. Moscow also probably intends to demonstrate its presence in the region through out-ofarea, long-range aviation and naval deployments as a counter to U.S. presence near Russia's periphery. Russia's burgeoning outreach to Brazil, coupled with Foreign Minister Sergey Lavrov's visit to multiple Latin American countries in 2023, probably demonstrates its approach to leveraging its BRICS membership to improve partnerships in this region.
- > In Africa, Russia seeks to gain influence and advance its objectives through opportunistic arms sales, multilateral forums, military access agreements, resource extraction contracts, influence operations, and paramilitary group deployments. Following Prigozhin's 2023 armed insurrection, Moscow has attempted to replace PMC Vagner's presence in Africa with GRU-controlled paramilitary groups.

Outlook

Russia's conventional ground capabilities to deter, fight, or militarily compete with NATO probably will remain diminished for at least the next three years because the majority of combat-capable Russian maneuver units and other key conventional assets have been committed to the war in Ukraine. Moscow aims to avoid direct conflict with NATO but is able to employ asymmetric capabilities, such as cyber and information campaigns, against U.S. and other Western interests globally.

IRAN

Tehran remains committed to ensuring the survival of its Islamic republic and positioning itself as a dominant regional power. Iran continues to modernize its military capabilities, enhancing its ability to project power and also deter potential adversaries. The regime, through the Islamic Revolutionary Guards Corps-Qods Force (IRGC-QF), continues to fund and equip militias, which have increased targeting of U.S. and partner interests in the region since the October 2023 HAMAS attack on Israel. Although Iran probably has not resumed its pre-2004 nuclear weapons program, it has pursued activities that would shorten the time required to produce sufficient weaponsgrade uranium, should the regime make the decision to do so. Tehran's expanding ties to Moscow and Beijing have helped to reduce the regime's international isolation and counter the effect of sanctions.

Military Capabilities and Modernization

Iran's conventional military strategy aims to strengthen Tehran's ability to hold U.S. and partner forces at risk while deterring adversary attacks and to retaliate if deterrence fails. For more than a decade, Tehran has given priority to developing ballistic and cruise missiles, surface-to-air missiles, and unmanned systems with increased range, accuracy, lethality, and reliability. Iran also proliferates these weapons to regional allies to extend its own deterrent-strike capabilities, orchestrate plausibly deniable strikes, and test equipment in combat.

- Tehran's missile force is increasingly augmented by Iran's UAVs and serves as the regime's primary conventional deterrent against attacks on its personnel and territory. Iran has a substantial inventory of ballistic and cruise missiles capable of striking targets as far as 2,000 kilometers from its borders. In 2023, Tehran focused on fielding a new generation of long-range systems to counter Israel and complement its robust inventory of accurate close- and short-range missiles. Since early 2023, the regime publicly unveiled three new missiles able to strike Israel from the western part of Iran, including a land-attack cruise missile and a ballistic missile Tehran has touted as hypersonic.
- Iran's space and counterspace strategy is focused on developing a more reliable launch capability; however, its strategy overall is less defined than China's or Russia's. Russian assistance has played a role in the development of Iran's space launch vehicle booster technology. In 2022, Russia built and launched a more sophisticated Khayyam remotesensing satellite for Iran, and in October 2023, Moscow entered talks to launch additional Khayyam satellites and a communications satellite into geosynchronous Earth orbit.

Cyber Capabilities

Iran views cyber operations as a means to supplement its conventional capabilities and engage adversaries in a deniable, low-cost manner. The regime is capable of a range of cyber operations, from information operations to destructive attacks against government and commercial networks worldwide. Iran's cyber operations against regional and Western entities—such as targeting Albania for hosting the Mujahedin-e Khalq (MEK) dissident group in 2022 or against Israelimanufactured devices in the United States and Europe since the start of the conflict with HAMAS demonstrate Tehran's continued ability and willingness to use cyber capabilities to advance its goals and threaten U.S. and partner interests.

Nuclear, Chemical, and Biological Activities

Iran probably is not conducting the key activities necessary to produce a testable nuclear device, and Iran probably has not resumed its pre-2004 nuclear weapons program. However, in 2023, the regime continued to expand its stockpile of highly enriched uranium—which already is sufficient to produce several nuclear weapons—and to develop and operate advanced centrifuges. These activities have shortened the time required to produce sufficient weapons-grade uranium for a nuclear device from 10 to 15 days to probably less than one week—after a decision by Tehran to do so. This does not include the time necessary for Tehran to build a nuclear weapon.

> In 2023, Iran took some de-escalatory nuclear steps, such as delaying the installation of more advanced centrifuges, downblending some of its highly enriched uranium, and allowing the IAEA to reinstall some previously removed monitoring equipment. However, Tehran also has revoked some IAEA inspector accesses and not fully cooperated with the agency to resolve two outstanding safeguard issues, which impede previously agreed to IAEA supervision activities.

The United States has found Iran to be noncompliant with its obligations as a state party to the Chemical Weapons Convention and is concerned that Tehran is pursuing pharmaceutical-based offensive agents. Although Iran is a party to the Biological Weapons Convention, it probably has not abandoned its intention to conduct research and development of biological agents and toxins for offensive purposes.

Defense Budget and Arms Acquisitions

Iran increased its defense budget from \$6.7 billion in 2021 to \$11.2 billion in 2023, which probably was driven in part by a desire to modernize its military equipment. Tehran's creation of a specific defense modernization fund in 2022, derived from euro-denominated oil revenues, probably will support Iran's purchase of foreign-supplied advanced conventional weapons, including more advanced fighter aircraft. In 2023, Iran received Russian YAK-130 trainer aircraft and agreed to purchase Russian Su-35 fighter aircraft, which would be a multigenerational technological leap

compared with the regime's current fighter inventory. Funding issues have delayed the delivery timeline for these fighter aircraft.

Relations With Russia and China

Since 2022, Iran has provided more than 1,000 Shahed-136 UAVs, as well as Shahed-131 and Mohajer-6 UAVs, to support Russia's war against Ukraine. In May, Iran began assisting Russia in establishing a Shahed-136 UAV production facility in Russia. Regime officials have cited the October 2023 expiration of missile exporting restrictions under United Nations Security Council Resolution 2231 as an opportunity to generate revenue and advance bilateral defense diplomacy. In 2023, Tehran marketed missiles to Moscow during a defense conference in Russia and directly to Russian Defense Minister Sergey Shoygu during a visit to Iran.

During the past year, China and Iran have deepened their economic, political, and military ties, probably to mitigate diplomatic isolation, blunt sanctions' effects, and counteract perceived Western hegemony. China remains Iran's leading oil purchaser and trading partner; this revenue partially shields the regime from the effects of international sanctions. Beijing's successful efforts in brokering Iranian-Saudi rapprochement in March 2023 signify new levels of diplomatic cooperation with Tehran. That same month, China and Iran conducted combined naval drills to strengthen military cooperation. In July 2023, Iran joined the China-led Shanghai Cooperation Organization, and in August, Iran successfully lobbied the BRICS for membership.

Role in Israel-HAMAS Conflict

Since the start of the Israel-HAMAS conflict in October 2023, Tehran has supported militia attacks against U.S. and Israeli interests in the region but also has calibrated these attacks to avoid being drawn into a direct conflict. Tehran almost certainly perceives an opportunity to weaken Israel and increase its own regional standing, including by driving a wedge between Jerusalem and its Arab neighbors and disrupting Israel-Saudi Arabia normalization talks. Surrounding countries, including the Gulf states, have limited capability to mitigate an escalation in Iranian and partner attacks that might threaten U.S. interests in the region.

> The IRGC-QF provides guidance to the regime's partners and proxies in Iraq, Syria, Yemen, and Lebanon. Following the Israel-HAMAS conflict's onset, Iran-backed militias resumed UAV and rocket attacks targeting U.S. forces in Iraq, Jordan, and Syria. These attacks were suspended in February but could resume with little to no warning. Hizballah also has attacked Israel using artillery, rockets, and UAVs. In addition, Huthi forces in Yemen have conducted multiple attacks targeting Israel and maritime traffic in the Red Sea and Gulf of Aden with ballistic missiles, land-attack cruise missiles, and UAVs.

Outlook

During the next year, Iran will continue supporting its partners and proxies and probably is confident in its ability to use these groups to target U.S. and Israeli interests in a plausibly deniable manner. Separately, Iran almost certainly will continue assassination plotting against current and former U.S. officials in retaliation for the death of IRGC-QF Commander Qasem Soleimani and against Israeli and Jewish targets globally. Iran also will pursue advances to its conventional military capabilities—particularly its missiles and unmanned platforms—which probably will improve Tehran's ability to strike U.S. and partner forces in the region.

NORTH KOREA

North Korea wields the missile and conventional capabilities to hold U.S. forces and allies in northeast Asia at risk and is maturing the capability to threaten the U.S. homeland with increasingly sophisticated weapons. These modernization efforts support North Korean leader Kim Jong Un's goal of building a military to credibly threaten and deter the United States and its allies. In line with that goal, this past year, North Korea launched a solid-propellant ICBM, developed more advanced unmanned systems, diversified missile launch platforms, and displayed what Pyongyang claimed is a new nuclear warhead design. Pyongyang also is reinvigorating its relationship with Moscow. In 2023, in his first trip abroad since 2019, Kim visited Putin in Russia to discuss security and space cooperation, and North Korea has since shipped at least a thousand shipping containers of equipment and munitions to Russia.

Military Capabilities and Modernization

The Korean People's Army (KPA) almost certainly is able to mount a prolonged defense of North Korea's territory while imposing severe damage on an adversary using conventional, biological, chemical, and nuclear weapons. North Korea remains one of the most militarized nations in the world and has more than 1 million active-duty personnel and 7 million reserve and paramilitary personnel. However, resource constraints are restricting Pyongyang's efforts to upgrade its aging conventional military systems beyond its missile and unmanned vehicle programs. North Korea's economy and logistics infrastructure support its national defense goals, but the country's industrial system is poorly constructed and deteriorating.

- The KPA Ground Forces is the military's largest element, and more than 70 percent of its forces are deployed near the demilitarized zone with South Korea. The KPA intends to modernize the Ground Forces with next-generation systems, but competing priorities have slowed production. The KPA Special Forces is highly trained, well equipped, and able to infiltrate several thousand personnel into South Korea to target critical U.S. and South Korean defense infrastructure in the event of a conflict.
- The KPA Air and Air Defense Force probably can threaten U.S. and allied aircraft entering North Korean airspace, despite its aging aircraft, minimal training, and resource shortfalls. In 2023, Pyongyang revealed two advanced UAVs, representing significant progress in its unmanned ISR and strike capabilities.
- The KPA Navy is an outdated, primarily littoral fleet that probably can defend North Korea's coastline to delay an amphibious invasion. In 2023, it tested its first unmanned underwater vehicle.

Missile Research and Development and Weapons of Mass Destruction

The KPA Strategic Forces is North Korea's nuclear-armed missile force operating ballistic and cruise missile systems that can threaten the U.S. homeland, U.S. forces stationed in the Indo-Pacific, and our allies. During the past year, North Korea successfully launched four ICBMs including a solid-propellant system—and also test-launched a submarine-launched strategic cruise missile, signaling progress toward Pyongyang's stated goals of improving its missile accuracy, range, and launch options. North Korea is diversifying its land- and sea-based launch systems, including launching a missile from a silo and revealing a ballistic missile submarine for the first time. Pyongyang continues to illicitly procure items for its missile program that it cannot produce domestically, often in cooperation with Chinese and Russian nationals. In March, Kim inspected what Pyongyang claimed was a tactical nuclear weapon, which is a development that would further diversify North Korea's nuclear delivery options.

Space and Cyberspace Capabilities

Similar to Iran, North Korea's overarching space and counterspace strategy is ill-defined. North Korea's primary goal throughout 2023 was to place a reconnaissance satellite in orbit. Using its indigenously designed Chollima-1 space launch vehicle, North Korea attempted three launches and succeeded with its final launch in November 2023, placing its Malligyong-1 military reconnaissance satellite into orbit. North Korea claims the satellite gives it the ability to collect and process imagery of U.S. and allied military installations.

North Korea maintains a sophisticated ability to conduct disruptive and destructive cyber activities. Pyongyang's cyber capabilities also support the regime's goals of generating revenue through complex cryptocurrency theft and ransomware campaigns. Pyongyang seeks to use cyber espionage globally, probably to gain insight into adversary capabilities and policies and acquire information to aid weapons development. North Korea's cyber capabilities almost certainly enable it to fund its priority military modernization efforts at current levels and steal technology critical to those efforts.

Outlook

Pyongyang's continued development of new military capabilities indicates that the regime probably will doggedly pursue its priority defense modernization goals through the next year. North Korea seeks to further entrench its nuclear program, advance its ability to threaten regional interests, and expand the reach and sophistication of its weapons that can strike the U.S. homeland. In support of these goals, North Korea almost certainly will continue conducting illicit activity to generate revenue and persist in its efforts to court cooperation with Moscow, using Russian ammunition shortages to gain favor toward expanding military cooperation.

TERRORISM

Decentralized ISIS and al-Qa'ida attack plotting against U.S. and ally interests continues globally. At the same time, counterterrorism operations have eroded the leadership ranks of transnational terrorist groups, probably leaving few ISIS and al-Qa'ida leaders capable of galvanizing supporters globally and further straining the groups' global networks. In response, ISIS has obscured the identities of its senior leaders, a departure from its past efforts to demonstrate resilience by highlighting its leaders in propaganda. Similarly, Al-Qa'ida has not publicly named a new leader since the 2022 death of Ayman al-Zawahiri; the group's presumed leader, Sayf al-Adl, is located in Iran.

- > Despite these setbacks, ISIS and al-Qa'ida groups are adjusting to changes in counterterrorism pressure. Most ISIS branches and al-Qa'ida affiliates are improving their ability to attack U.S. interests as well as local populations and security forces in 2024, which ISIS demonstrated through deadly attacks in Iran in January and Moscow in March.
- > At least two affiliates, al-Qa'ida in Yemen and ISIS in Afghanistan, probably will continue to seek to inspire, enable, and direct attacks against the U.S. homeland and other Western countries in 2024. Decentralized ISIS and al-Qa'ida affiliates also may seek to exploit perceived weaknesses in travel or border security measures to direct attacks in the U.S. homeland. After the October 7 HAMAS attack in Israel, both ISIS and al-Qa'ida have continued to call for attacks against U.S., Israeli, Jewish, and European interests worldwide.

ISIS

Since 2022, ISIS lost three self-proclaimed caliphs, with its leadership cadre in the Middle East now probably at its weakest point. ISIS also has lost key personnel across its global network, including a senior official in Somalia who was killed during a U.S. military raid in 2023. ISIS is adapting to the losses and probably will focus on expanding in Africa and strengthening the external attack capabilities of ISIS-Khorasan in Afghanistan.

- > In Somalia, ISIS personnel serve as a key hub for the organization's funding and operations globally. In the Sahel and West Africa, ISIS branches are expanding their attack capabilities, probably increasing the threat of collateral harm to U.S. persons in the region.
- > In Afghanistan, the Taliban regime is carrying out a counterterrorism campaign against ISIS-Khorasan, but this pressure is not preventing the group from developing capabilities to conduct attacks regionally and in the West.

Al-Qa'ida

Al-Qa'ida's failure to publicly name a new leader and to reinvigorate a centralized, transnational plotting approach probably will compel the group to sustain its focus on localized plotting against U.S. and partner interests through at least 2024. In the absence of strong central leaders, al-Qa'ida affiliates have focused on attacking local security forces and governments while messaging that al-Qa'ida maintains a global agenda.

- During the past year, al-Qa'ida affiliates—rather than the group's core leadership—have coordinated and issued strategic messages for al-Qa'ida's global network, including propaganda following the 7 October HAMAS attacks and after instances of Quran desecrations in Europe, to portray it as a cohesive, unified organization.
- > Al-Qa'ida affiliates in the Sahel and Somalia are gaining strength, with al-Shabaab posing the most direct threat to U.S. forces in Africa. Al-Qa'ida in the Arabian Peninsula (AQAP) probably continues to seek ways to enable lone-actor threats to the U.S. homeland, most recently enabling an attack that killed three U.S. servicemembers at Naval Air Station Pensacola in 2019.

SOUTH & SOUTHEAST ASIA

Afghanistan

The Taliban is firmly in control of Afghanistan and is effectively combating ISIS-Khorasan and anti-Taliban resistance groups, although these groups still conduct sporadic attacks inside the country. Some local Taliban fighters continue to kill or arrest former Afghan government and military personnel, but senior Taliban leaders probably are not directing this campaign. The Taliban is restricting al-Qa'ida's and its affiliates' activities in accordance with the organization's perception of its Doha Agreement obligations. Discontent about Taliban emir Haybatullah Akhundzada's leadership style and hardline social policies, including restricting the activities of women and girls, has exposed some fissures within the Taliban but is unlikely to fracture the organization. The focus on improving internal security and reducing violence has enabled some foreign investment and expanded trade. Nonetheless, the Taliban's failure to create an inclusive government and persistent regional concerns about armed militant activity and human rights issues in the country are likely to stymie its efforts to achieve international recognition.

- > Beijing is investing in mining and establishing trade and infrastructure links with the Taliban, but it has expressed concern about terrorist threats from a number of groups in Afghanistan, including ISIS-K and the East Turkestan Islamic Movement.
- Islamabad is frustrated with the Taliban's failure to curtail Tehreek-e Taliban Pakistan cross-border attacks targeting Pakistani interests. Pakistan's implementation of the Illegal Foreigners Repatriation Pan (IFRP), which instituted a late-October 2023 deadline for undocumented Afghans to leave Pakistan, was largely a response to these concerns. The IFRP's resumed implementation is likely to exacerbate persistent border-related tensions between the countries. Tehran similarly has expressed concern about border clashes and boundary resolutions and for Afghan migrants in Iran.
- The Taliban has received humanitarian aid and infrastructure assistance for highways and dams from India, but New Delhi remains concerned about the Taliban's connections with Pakistani intelligence, extremist safe havens in Afghanistan, and human rights abuses.

India

During the past year, India has showcased itself as a global leader by hosting the Group of 20 economic summit and demonstrated a greater willingness to counter PRC activity throughout the Indo-Pacific region. India has advanced partnerships in the Indo-Pacific with regional SCS claimants, such as the Philippines, through training and defense sales and deepened cooperation with the United States, Australia, France, and Japan. In 2023, India took steps to modernize its military to compete with China and reduce its dependency on Russian-origin equipment. India conducted sea trials for its first domestically produced aircraft carrier and also has negotiated with several Western countries on the transfer of key defense technologies. In 2024, New Delhi probably will focus on securing its national parliamentary elections, maintaining economic growth, and building on its "Make in India" initiative as part of its military modernization effort—which is aimed at countering Beijing.

- > Bilateral relations between India and China remain tense following the 2020 Galwan clash that killed 20 Indian soldiers and at least five PLA soldiers. In October 2023, senior Indian and PLA Army officers failed to resolve disputes about the two remaining standoff locations in eastern Ladakh during their twentieth round of talks. Both sides maintain approximately 50,000-60,000 troops in the area and continue to improve their military infrastructure near the border.
- > India has maintained its neutral stance on Russia's invasion of Ukraine. Russia remains India's most substantial defense partner and New Delhi continues to acquire weapons from Moscow, such as the S-400 surface-to-air missile system, despite New Delhi's desire to diversify its defense acquisition partnerships.

Pakistan

Pakistan has sustained its nuclear modernization efforts despite its economic turmoil. Terrorist violence against Pakistani security forces and civilians also rose last year. In 2023, militants killed approximately 400 security forces, a 9-year high, and Pakistani security forces have conducted almost daily counterterrorism operations during the past year. Pakistan's contentious relationship with India continues to drive its defense policy. However, cross-border violence between the countries has decreased since their February 2021 recommitment to a cease-fire.

- > Islamabad is modernizing its nuclear arsenal and improving the security of its nuclear materials and nuclear C2. In October, Pakistan successfully tested its Ababeel mediumrange ballistic missile.
- > Pakistan consistently receives economic investment and defense support from China. In 2023, both countries continued to support the China-Pakistan Economic Corridor (CPEC), although Islamabad's economic challenges and militant threats to PRC personnel in Pakistan have hindered progress on the initiative. Islamabad conducted multiple joint military exercises with Beijing in 2023, including the third iteration of a joint naval exercise that aims to strengthen naval cooperation and security.
- Pakistan has sought international support, including from the UN Security Council, to resolve its dispute with India about Kashmir. Separately, Islamabad and New Delhi have maintained an uneasy ceasefire along the shared Line of Control since February 2021.

South China Sea

During the past year, the Southeast Asian SCS claimants Brunei, Malaysia, the Philippines, and Vietnam and nonclaimant Indonesia have taken measures to protect their territorial sovereignty and work with several partners to uphold international law. The Southeast Asian SCS nations prefer to use diplomatic means to manage territorial disputes, but regional governments also have signaled a resolve to improve their maritime security presence in response to perceived sovereignty violations by China.

- > The Philippines' military is attempting to shift its focus from internal security to external territorial defense in response to China's growing aggression in the SCS. During the past year, the Philippines has experienced repeated instances of PRC harassment and aggression at Scarborough Shoal. PRC Coast Guard ships also have interfered with routine Philippine resupply missions to its military detachment on the grounded naval ship—BRP Sierra Madre—at the Second Thomas Shoal, including the use of water cannons and dangerous maneuvers. In the past year, the Philippine defense forces conducted combined patrols in the SCS with several regional partners, including the United States, Australia, and Japan.
- > Most Southeast Asian countries are concerned that great power rivalries will fracture the region and undermine Association of Southeast Asian Nations centrality. In response to intensifying tensions, most regional governments are reinforcing nonaligned and "friends to all" foreign policies to avoid choosing sides and to benefit from maintaining relations with a range of regional and other partners.

MIDDLE EAST

The October 2023 HAMAS attack on Israel has marked an inflection point for the Middle East by ushering in broad regional instability, imperiling Israel, disrupting regional diplomatic advances, and intensifying threats against the United States. The ensuing conflict prompted a pause in Israel-Saudi Arabia normalization talks, the resumption of Shia militia attacks against Coalition forces in Iraq and Syria after a months-long hiatus, a deadly attack against U.S. forces in Jordan, Huthi attacks against commercial shipping vessels in the Red Sea and Gulf of Aden, and more frequent Hizballah cross-border attacks into Israel. The HAMAS attack and Israeli response also has triggered widespread public protests across the region, and governments with ties to Israel including Egypt, Jordan, and multiple Gulf states—have sought to contain internal dissent amid greater public scrutiny. Meanwhile, Moscow and Beijing are seeking to shape regional dynamics to their advantage.

- > Russia hosted HAMAS leaders in Moscow as recently as January 2024, highlighting its longstanding support for the terrorist group. Egypt's dependence on Russian grain imports is a major factor in the country's food security, and Egyptian and Russian officials are discussing avenues for bilateral defense cooperation. The Asad regime in Syria continues to depend on broad support from Russia and Iran.
- China seeks steady access to Middle Eastern oil and natural resources, which are vital to moving the PRC economy forward. Beijing also is advocating itself as an alternative to U.S. leadership in the Middle East by promoting trade and development through the Belt and Road Initiative, calling for international conferences on the Israeli-Palestinian dispute, and mediating diplomatic normalization efforts between Saudi Arabia and Iran.

Iraq

One year after its formation, the Iraqi government—backed by several Iran-aligned political parties—is seeking to balance its relationships with Washington and Tehran, to reward Iranianaligned Shia militias, and to address domestic problems, including economic instability, climate change, and drug trafficking. In August 2023, Washington and Baghdad reaffirmed Iraqi government support for the presence of U.S. and Coalition military advisers to assist in developing Iraqi security forces (ISF) capabilities and established a committee to plan the future of the Coalition's military mission. However, the Israel-HAMAS conflict spurred Iraqi elites to call for the expedited removal of U.S. forces from Iraq, citing U.S. support to Israel, which has put immense strain on Prime Minister Muhammad Shia al-Sudani's ability to constrain the Iran-backed militias in country. During the next year, the Iraqi government will contend with a myriad of domestic challenges, which will be exacerbated by regional tensions and will complicate U.S. advising to counter-ISIS operations.

- > During the past year, Shia militias have pressed the Iraqi government to force a withdrawal of U.S. troops from Iraq through political influence and public rhetoric. The militias also have conducted UAV, rocket, and missile attacks on U.S. facilities with little interference from the ISF, despite Sudani's public condemnation of the attacks.
- > ISIS in Iraq and neighboring Syria remain degraded despite the group's efforts to rebuild its capacity. The ISF's counterterrorism units have marginally improved their strike capabilities but still rely on Coalition forces for air, targeting, and intelligence support to conduct operations against ISIS.
- The ISF is able to conduct wide-area clearance operations to constrain ISIS but probably will be unable to unilaterally sustain targeted operations against the group within the next

Yemen

Huthi maritime attacks against targets in the Red Sea and Gulf of Aden almost certainly pose a direct or collateral threat to U.S. forces. Since October 2023, the Huthis have launched missile and UAV attacks against maritime vessels—including U.S. warships—and into Israeli territory. Some of the weapons used by the Huthis traversed Saudi, Jordanian, or Egyptian airspace or landed in those countries, or they were shot down by nearby U.S. and allied forces. The Huthis have sought to demonstrate support for Palestinians and Iran-aligned groups to their domestic constituents and the international community and have warned against any Saudi Arabian normalization with Israel. The Huthis probably judge that Israel will remain distracted from retaliating against attacks from Yemen for at least the duration of the Gaza conflict.

- > Iran-backed Huthis have engaged for more than a year in negotiations with Saudi Arabia to end the Yemen conflict. However, the Huthis are unwilling to make key concessions and remain prepared to restart major offensives within Yemen and cross-border attacks into Saudi Arabia to press the Saudi-led coalition (SLC) to concede to their demands. In addition, the Huthis remain capable of conducting—and poised to launch—maritime attacks on SLC infrastructure.
- > Separately, although AQAP has been displaced from some of its territory in southern Yemen, the group remains intent on targeting—and probably has some capability to threaten—U.S. and partner interests in the region.

Syria

Syrian President Bashar al-Asad's regime has consolidated control of approximately 70 percent of its pre-civil war territory. The remaining opposition has kept its strongholds in northern Syria, and the threat from a degraded ISIS presence persists in central Syria. More than a decade of conflict has diminished Syria's military, and in 2024, the Syrian Army—with Russian and Iranian backing probably will remain occupied with protecting the Asad regime from internal threats. Although the Asad regime probably intends to rehabilitate and modernize its forces, resource constraints

and competing security priorities probably will inhibit progress for at least the next year. The Asad regime, Russia, and Iran share intelligence and have fomented tribal violence against U.S. and partner forces in eastern Syria to press for a U.S. withdrawal from Syria.

- > Syria's normalization of relations with other Arab states and readmission into the Arab League in May 2023 ended Damascus's diplomatic isolation in the Middle East. President Asad probably judges this has improved his legitimacy and will accelerate the country's economic recovery, but Syria so far has failed to secure tangible economic benefits from the regional rapprochement.
- > Support from Russia and Iran remains critical to the Asad regime's stability; both countries provide military assistance against opposition elements, diplomatic backing, and economic aid. In 2024, their support probably will evolve to place a greater emphasis on rebuilding the Syrian military and economy.
- > In 2023, Asad made his first visit to China since the start of the civil war to secure investment and expand trade, although PRC investment is likely to remain minimal given Syria's poor infrastructure, persistent security concerns, and unstable economy.
- > As of late 2023, approximately 15.3 million people—about 70 percent of Syria's population—required some form of humanitarian assistance, a 5-percent increase from 2022. Syria hosts 6.8 million displaced persons, a number that is likely to increase, further straining international aid organizations' ability to provide adequate assistance to meet escalating needs.

Outlook

The outcome of the Israel-HAMAS crisis probably will be the largest driver of the region's trajectory during the next year. Israel almost certainly will focus on reemphasizing deterrence visa-vis its adversaries and normalizing relations with other regional actors. Egypt is seeking ways to prevent spillover effects from the crises in neighboring states and territories, including not only Gaza and Israel but also Libya and Sudan. Elsewhere, talks between Saudi Arabia and the Huthis are unlikely to resolve key differences between warring parties, and the Huthis' ability and willingness to threaten sea lanes in the Red Sea and Bab al-Mandeb Strait will be the primary enduring threat to U.S. interests from Yemen. Gulf states probably will continue to diversify their defense and security relationships and are likely to expand their economic and security ties to China.

AFRICA

In 2024, enduring instability that foments additional violence is likely to pose the most pressing security threat to U.S. interests in Africa. Against this backdrop, many African countries almost certainly will grapple with political and economic instability and humanitarian crises that grew in scope and complexity during 2023. Weak or predatory security forces, popular disenfranchisement, and feeble political institutions in many states probably will compel continued outreach to foreign countries to meet security and infrastructure needs. Parts of Africa continue to contend with terrorist activity as ISIS and al-Qa'ida branches conducted more than 5,000 attacks across the continent in 2023, which is on par with the 2022 attack figures. In 2023, these attacks represented approximately 85 percent of ISIS and al-Qa'ida's attacks worldwide, underscoring their capabilities in Africa and the inability of regional militaries to combat the groups effectively. Poor governance continues to create the conditions for destabilizing conflicts to metastasize and spread to neighboring countries in 2024.

- > Many African countries see China as an important economic partner, and several African countries attended the third BRI Summit in Beijing in October 2023. African countries also are deepening military and security ties to China, including infrastructure development that may benefit Beijing's military goals. In February, South Africa hosted the second iteration of a trilateral naval exercise with China and Russia. Some African countries also see Russia as an important security partner including, the Central African Republic and Mali, which continue to partner with Russian PMCs for security.
- > Amid the continent's security problems, some countries will continue to support international efforts to address challenges in Africa and beyond. Morocco and Tunisia, which have provided hundreds of troops to Africa-based UN peacekeeping operations, are poised to sustain their contributions in 2024. Kenya is poised to serve as a key U.S. security partner in and beyond East Africa, and it has pledged to send police to Haiti by 2024.

North Africa

Moroccan-Algerian diplomatic ties remain severed with no sign of near-term rapprochement, and the low-intensity conflict between Morocco and the Algeria-backed Polisario Front continued unabated in 2023. North Africa remains a hub for immigration to Europe, with migrants transiting Tunisia and Libya to access dangerous routes across the Mediterranean Sea. The leader of al-Qa'ida in the Lands of the Islamic Maghreb (AQIM) remains in Algeria where the group's efforts primarily focus on serving as a financial and communications facilitation hub for al-Qa'ida senior leadership and its subordinate Sahel-located affiliates. Despite al-Qa'ida leadership's regular communiques urging action, AQIM attacks remain primarily defensive in nature and target local security forces.

In Libya, distrust lingers among rival militias despite some instances of cooperation, especially in response to flooding in September 2023. Senior officials in the self-described Libyan National Army (LNA) are engaging more frequently with Russian leaders, including with Putin, following the death of PMC Vagner owner Yevgeniy Prigozhin.

West Africa

West Africa continues its democratic backsliding trend, with military coups in Niger and Gabon in the past year and election irregularities that probably will exacerbate public discontent. The coup in Niger is detracting from counterterrorism operations in the Sahel and the ruling junta's focus on consolidating power, combined with the withdrawal of UN forces from Mali and conflict between the Vagner-supported Malian military and armed groups in the country's north, almost certainly will perpetuate a permissive operating environment for violent extremist organizations in 2024. Planned presidential elections this year in Chad, Ghana, Mali, and Mauritania, amid ongoing internal security and economic crises, probably will exacerbate pressure on governments that are already poorly postured to effectively respond to turmoil.

East Africa

In 2023, East Africa experienced multiple security crises that complicated humanitarian assistance efforts. Counterterrorism operations in central Somalia have slowed amid international concerns that Somali forces are not ready to assume duties from the African Union Transition Mission that are schedule to hand off responsibilities in December 2024. In Sudan, fighting between military and paramilitary forces has spread to new areas since the outbreak of hostilities in April 2023, exacerbating a humanitarian crisis that the United Nations has called one of the worst in recent history. The Ethiopian government's Cessation of Hostilities Agreement with Tigray is holding, but its government is now contending with ethnic insurgent groups in the Amhara and Oromia regions.

Central and Southern Africa

During the past year, central Africa has faced heightened violence, jeopardizing already fragile humanitarian and economic situations. Tensions between the Democratic Republic of the Congo and Rwanda—as well as their use of armed proxies against one another—have escalated, creating conditions for direct conflict. The Central African Republic's reliance on PMC Vagner to maintain security has resulted in regular reports of human rights violations. Zimbabwe's August elections were rife with instances of fraud and the regime's intimidation of opposition and civil society In 2023, Mozambique's military and partner forces made gains against ISIS-Mozambique and claimed to have killed the group's leader, however, ISIS-Mozambique has resurged as some partner forces plan to withdraw beginning in June.

LATIN AMERICA

Latin America continues to be a region where socioeconomic conditions make it attractive for our competitors trying to secure greater political, economic, or security influence, and transnational crime fosters insecurity and migration. The region's powerful transnational criminal organizations (TCOs)—which are responsible for most of the illicit fentanyl and other illegal drugs entering the United States—drive regional crime and perpetuate insecurity through drug trafficking, migrant smuggling, money laundering, arms trafficking, and corrupting security forces and public institutions.

- > South America's recent trend of electing left-leaning presidents was upended in 2023 when a right-leaning candidate defeated the incumbent economy minister in Argentina; Paraguay elected a conservative committed to maintaining strong ties to the United States and Taiwan; and Ecuador elected U.S.-friendly president Daniel Noboa.
- > Since January, Brazilian President Luiz Inacio Lula da Silva has focused on elevating Brazil as an influential regional and global leader by hosting a regional summit, meeting more than 50 leaders, and visiting 21 countries, including trips to Russia and China.
- Haiti continues to experience worsening gang violence resulting in social and economic disruption. Kenya has committed to lead a UN-backed multinational security support mission and deploy 1,000 of its security forces to Haiti in 2024.
- Mexico is scheduled to hold national elections in June 2024. As of early December 2023, both presidential frontrunners had met with the U.S. ambassador to Mexico and discussed maintaining positive bilateral relations through the next 6-year administration.

Chinese, Russian, and Iranian Activity

Latin America is an important arena for China to cultivate influence and relationships and compete for favor in proximity to the United States as the region includes seven of the remaining 13 states that diplomatically recognize Taiwan. Economic engagement is a critical component of this strategy, and Beijing uses this engagement to access markets from which to source critical resources, such as lithium, and advance its BRI. Twenty-two Latin American countries are BRI signatories, including Honduras as recently as June 2023.

> China's trade with Latin America increased by 70 percent during the past decade, and a majority of countries count China either as their largest or second-largest trade partner. China holds large market shares in strategic sectors, such as infrastructure development, public utilities, and telecommunications, and it has donated military equipment to Latin American countries.

- > Chinese state-owned enterprises control stakes in energy transmission and distribution infrastructure in a number of countries in the region. Similarly, the presence of PRC technology companies in Latin America—specifically within the region's existing 4G infrastructure—and their academic ties to some regional universities has ensured the PRC plays a prominent role in Latin America's 5G development. China also has increased its ground-based space facilities to 10 sites across 5 countries in the region to improve spacedomain awareness of U.S. assets and counterspace capabilities.
- > Iran increased military activities in Latin America during 2023, deploying a Jamaran class guided-missile corvette to the region, signing a defense cooperation memorandum of understanding with Bolivia, and delivering fast-attack patrol vessels, typically equipped with anti-ship cruise missiles, to Venezuela.

Russia enjoys security engagement and influence with its historical strategic partners—Cuba, Nicaragua, and Venezuela—and is trying to maintain broader regional outreach through bilateral relationships and international fora. However, Moscow's war in Ukraine has drawn condemnation from the majority of countries in Latin America and the Caribbean, and Russia's military engagement with other partners in the region consists mainly of maintenance support for previously purchased Russian equipment.

Nicaragua seeks to deepen bilateral cooperation and military interoperability with Russia. Nicaragua is the only Latin American country that voted against the UN resolution condemning Russia's invasion of Ukraine; Bolivia, Cuba, and El Salvador abstained from voting.

Venezuela

The regime of disputed Venezuelan President Nicolas Maduro continues to control all domestic institutions despite holding an approval rating under 20 percent and having an economy that has contracted 75 percent since he took office in 2013. The leading opposition candidate remains barred from running in the July 2024 presidential election.

- > In 2023, Maduro retained his two top military officers, citing their loyalty and contributions to the country. Security forces have focused on tackling domestic gangs rather than operations against a Revolutionary Armed Forces of Colombia dissident faction active in the country.
- > As of November 2023, more than 7.7 million Venezuelan migrants and refugees had been displaced globally, 85 percent of whom are dispersed throughout Latin America and the Caribbean. Colombia and Peru have the largest Venezuelan diaspora populations with nearly 2.9 million and more than 1.5 million migrants, respectively.
- > In 2023, Venezuela renewed its claim to the oil rich Essequibo region of Guyana; that claim dates to the 1890s and has been rejected in international arbitration. In April 2024, Maduro signed a law creating a new notional state that includes the entire region.

Cuba

During the past year, socioeconomic conditions have deteriorated significantly, with worsening food and medical shortages and power outages that have amplified concerns about resulting civil unrest. Nonetheless, Cuban security forces and their affiliated cyber components are postured to suppress this growing domestic dissent and ensure the regime's survival for the next year.

- > Cuba relies on foreign partners—particularly China, Iran, Russia, and Venezuela—for military and economic support. Russia remains Cuba's preferred security partner and Havana receives assistance from Moscow to maintain its Soviet-era military inventory. During the past year, Cuba also has received fuel shipments from Mexico to help address its energy shortfalls.
- > Havana very likely is receptive to increased political, economic, energy, defense, and security cooperation with Beijing, Moscow, and Tehran because of concerns about domestic instability and perceived internal threats to the government of Miguel Diaz-Canel.

Drug Trafficking

Mexican TCOs are the primary producers and traffickers of synthetic drugs—including fentanyl and methamphetamine—to the United States; they also traffic cocaine and heroin, contributing to historic numbers of drug-related deaths of U.S. citizens. Mexican TCOs also facilitate illegal migration over the United States' southwest border and contribute to high levels of violence and corruption in Mexico, affecting U.S. individual and commercial interests and the efficacy of Mexico's institutions. In 2024, Mexican TCOs probably will seek expansion into new global markets, primarily to European markets, to offset some decline in revenue from the saturated U.S. cocaine and synthetic drug market. Mexico's government remains a key partner to counter these violent TCOs and their illicit activities.

- The amount of fentanyl seized at the U.S. southwest border increased by 85 percent in 2023. Fentanyl seizures have increased every year since 2019, with seizures at the southwest border surpassing heroin for the first time in 2021. Fentanyl production remains elevated in Mexico despite Mexican TCOs announcing a ban on production in October 2023, probably hoping to alleviate Mexican government enforcement and extradition efforts.
- > According to the most recent statistics of the Centers for Disease Control and Prevention (CDC), reported U.S. drug overdose deaths remained elevated at 105,303 for the 12-month period ending in October 2023, but dipped slightly from 107,785 from the same time period ending in October 2022. The majority of these overdose deaths were related to fentanyl.

Refugee Flows and Migration

Fragile economic, security, political, and environmental conditions throughout the Western Hemisphere will remain the enduring factors driving migration within the region. Additional factors—including heightened xenophobia and misperceptions of U.S. immigration policies—also have contributed to persistently high migration levels.

- > In fiscal year 2023, more than 2.47 million irregular migrants were encountered at the U.S. southwest border, breaking the previous record of 2.37 million migrants in fiscal year 2022, according to U.S. Government data. Migrant flows through Panama serve as an early indicator of flows to the southwest border and surpassed 520,000 in 2023, breaking the 2022 record of 240,000 and demonstrating Panama's significance as a Western Hemisphere transit country toward the United States.
- > Before 2022, the majority of migrants were from Mexico and the Northern Central American countries of El Salvador, Guatemala, and Honduras. The past two years brought notable increases in migrants from countries such as Colombia, Cuba, Ecuador, Nicaragua and Venezuela, a trend that probably will continue through 2024.
- Citizens from El Salvador, Guatemala, and Honduras experience severe poverty, worsening food security, and some of the highest homicide and violent crime rates in the world, which continue to drive emigration from these countries.
- > Higher levels of Haitians and Cubans have continued to migrate through maritime routes to the United States because of deteriorating socioeconomic conditions and U.S. immigration policies that are perceived as more favorable, and these trends probably will persist at elevated levels for at least the next year.

OTHER GLOBAL THREATS

Foreign Intelligence Service Activity

Adversary use of Ubiquitous Technical Surveillance (UTS) capabilities presents one of the most acute and generalized threats to DoD and U.S. Government personnel traveling or operating worldwide. UTS is the widespread collection, processing, and analysis of aggregated data captured from various sources that can identify patterns of activity that link persons to things, events, or locations. An increased interest in understanding consumer preferences paired with the capabilities of smart devices (phones, fitness trackers, video doorbells, etc.) have created a market based around data collection that incentivizes and enables companies to compile data on people, places, and organizations, which can adversely affect U.S. national security interests. Adversaries can collect financial transactions, communications, technology employed, or presence near a place of interest or sensitive location to compromise costly investments in our defense and intelligence capabilities. Increasing adversary use and proliferation of these capabilities will have profound implications for the mission, structure, and resources of the Defense Counterintelligence Enterprise for the foreseeable future.

Targeting Defense Critical Infrastructure

Both Russia and the PRC have developed military doctrines to target U.S. critical infrastructure during a conflict with the United States. During the next 12 months, cyber threats from China will continue to pose a significant threat to U.S. defense critical infrastructure, which is consistent with trends we have observed since at least 2008. If a conflict were to occur, China probably would use cyber forces to disrupt, degrade, or destroy U.S. defense critical infrastructure. During a direct conflict, Russia also almost certainly would conduct malicious cyber activities on U.S. energy infrastructure and military sites, and if the conflict escalated, it would target critical infrastructure with precision-guided missiles. Along with the increasing threat from Chinese cyber operations, other foreign adversaries and domestic violent extremists also are able to pose a threat to DoD readiness by targeting defense critical infrastructure.

- As of September 2023, Chinese cyber operations were more frequently attempting to collect against the U.S. defense-industrial base and other critical infrastructure. Russian cyber actors have gained operational experience conducting attacks against Ukraine's infrastructure, which probably will be used to inform cyber operation planning targeting United States interests during a conflict.
- Since at least 2019, PRC nationals have attempted to gain access to U.S. military installations containing defense critical infrastructure. Although the vast majority of these attempts are deemed benign, a small percentage require further investigation. As of

- September, PRC businesses and other entities had acquired more than 300,000 acres of agricultural land near U.S. military bases.
- > The proliferation of small, nonattributable unmanned aircraft systems (UASs) probably poses a threat to DoD facilities in the homeland. An increasing number of unidentified UASs have been detected at military training grounds, bases, and during exercises, suggesting adversaries probably use them for covert intelligence collection.

Advanced Technology

Global advancements in artificial intelligence (AI), biotechnology, quantum sciences, and microelectronics pose a significant threat to U.S. technological advantage. Key adversaries recognize the potential for advanced technologies to enhance military processes, equipment, and forces, and dual-use breakthroughs in the commercial sector can enable even less capable states and nonstate actors to benefit. The PRC continues its state-led drive to dominate critical advanced technology fields, and the PLA is striving to integrate advanced technologies to enhance its forces and field disruptive military capabilities. The PRC also sponsors researchers and scientists who licitly and illicitly acquire intellectual property innovated by DoD-funded research programs. Russia maintains its strategic ambition to develop advanced technologies for military capabilities, but ongoing international sanctions and export controls will constrain its progress.

- > States are developing AI to improve decisionmaking support, enable quicker and more accurate ISR and targeting, tailor influence operations, advance cyber capabilities, and develop unmanned vehicles with higher levels of autonomy. Developing or acquiring software, hardware, and data that are optimized for military systems and processes will be key to any country's effectiveness in fielding these capabilities.
- > Researchers worldwide are pursuing dual-use biotechnologies that can support military applications, including human performance enhancements and human-machine integration for improved C2.
- > Quantum technologies—including computing, communications, and sensing—probably will provide militaries with advanced capabilities in decryption; positioning, navigation, and timing; and ISR. Although select research areas, such as sensing, are advancing more rapidly, non-governmental experts indicate that development of a quantum computer capable of decryption is unlikely in this decade.

Microelectronics continue to be the linchpin of technology competition and represent a critical chokepoint in adversary development and acquisition efforts. Access to high-end microelectronics underpins a state's ability to develop computing-intensive advanced technologies, such as Al and quantum. Although the United States and its allies maintain a technological advantage in manufacturing and design processes, ongoing adversary efforts to reduce foreign dependency constrain our opportunities to protect these critical technologies. The PRC continues to pour resources into securing its supply chain and developing domestic high-end microelectronics manufacturing capabilities. Export controls limit PRC access to U.S. and allied technologies and

are slowing its efforts, but Beijing has used less efficient techniques with legacy equipment and exploited policy loopholes to close the technology gap.

Global Health and Biodefense Trends

Biological threats to national and economic security come not only from biological weapons but also from major disease outbreaks, continued increases in antimicrobial resistance, or the release of a deadly pathogen associated with a dual-use research of concern. To this end, the ongoing cholera outbreak in Haiti almost certainly has complicated the internal security situation, and outbreaks of African swine fever and avian influenza are straining world food supplies. Similarly, the potential use of biological weapons by state or nonstate actors remains a persistent threat to U.S. interests worldwide. The COVID-19 pandemic and ongoing conflicts have exacerbated many nations' medical infrastructure and their ability to respond to health threats.

The risk of laboratory accidents may be increasing with the rise in the number of laboratories around the world conducting high-risk life sciences research and research with potential pandemic pathogens without appropriate oversight. In a number of countries around the world, pathogens are stored in laboratories that lack appropriate biosecurity measures to prevent diversion by actors that wish to do harm. Beijing is expanding its network of high-containment laboratories both within China and helping to construct laboratories around the globe.

- > Advances in biotechnology, including synthetic biology, could make it easier to develop and use biological agents as weapons. New technologies, such as Al and genomic modification, have the potential to create more effective, resilient, and cost-efficient military and civilian applications while also creating new threat vectors for state and nonstate actors to exploit. For example, the same biological and chemical science advancements created to develop lifesaving medical countermeasures could also be used by adversaries to develop new or enhanced agents.
- > Russia's war against Ukraine has highlighted the strain that prolonged conflict can have on military medical capabilities to provide combat casualty care. In Ukraine, hospitals and medical facilities have been targeted, and medical evacuations by ground forces routinely come under attack by Russian forces. Forward medical teams need the capability to provide prolonged field care, more advanced resuscitation methods, and emergency stabilization surgeries on a larger number of patients before they can be moved away from the frontline area.

Climate and Environmental Change

During the next decade, defense forces globally will need to expand planning efforts to address climate-linked effects on military readiness and operations, including for infrastructure, equipment, supply chains, logistics capacity, and the health and wellness of military personnel. Climate change also very likely will intensify natural disasters, regional instability, conflict, and geopolitical competition—increasing the scope of situations to which some militaries may have to respond. This will strain resources as militaries are forced to address humanitarian and crisis situations, shifting focus away from conventional threats, training, and readiness.

- > Climate change is expected to alter storm and drought seasons, decrease freshwater availability, and increase water pollution—resulting in more widespread water insecurity. Water scarcity, shifting precipitation cycles, and climate shocks will hinder agricultural productivity and worsen food insecurity, very likely provoking conflict in some areas.
- > Natural disasters are the largest cause of internal displacements globally. Deteriorating environmental conditions will be a driver of migration, and remaining populations will be either unable or unwilling to move out of increasingly uninhabitable locations. Climate change disproportionately affects more vulnerable populations and poorer countries by compounding existing humanitarian crises.