Global Operating Environment

Assessing the Global Operating Environment

Measuring the strength of a military force—defined as the extent to which that force can accomplish missions—requires examination of the environments in which the force operates. Aspects of one environment may facilitate military operations; aspects of another may work against them. A favorable operating environment presents the U.S. military with obvious advantages; an unfavorable operating environment may limit the effect of U.S. military power. The capabilities and assets of U.S. allies, the strength of foes, the willingness of friend or foe to use its military power, the region's geopolitical environment, and the availability of forward facilities and logistics infrastructure all factor into whether an operating environment can support U.S. military operations.

When assessing an operating environment, one must pay particular attention to any U.S. treaty obligations with countries in the region. A treaty defense obligation ensures that the legal framework is in place for the U.S. to maintain and operate a military presence in a particular country. In addition, a treaty partnership usually yields regular training exercises and interoperability as well as political and economic ties. It also obligates the U.S. to commit its military in support of an ally, which has the effect of focusing U.S. military leadership on some regions more than others.

Additional factors—including the military capabilities of allies that might be useful to U.S. military operations; the degree to which the U.S. and allied militaries in the region are interoperable and can use, for example, common means of command, communication, and other systems; and whether the U.S. maintains key bilateral alliances with nations in the region—also affect the operating environment. Similarly, nations where the U.S. has stationed assets or permanent bases and countries from which the U.S. has launched military operations in the past may provide needed support for future U.S. military operations. The relationships and knowledge gained through any of these factors would undoubtedly ease future U.S. military operations in a region and contribute greatly to a positive operating environment.

In addition to U.S. defense relations within a region, additional criteria—including the quality of the local infrastructure, the area's political stability, whether or not a country is embroiled in any conflicts, and the degree to which a nation is economically free—should also be considered.

Then there are low-likelihood, high-consequence events that occur infrequently but that, when they do happen, can radically alter conditions in ways that affect U.S. interests. Massive natural disasters like Typhoon Tip in 1979 or the explosion of Mount Tambora in 1816 can displace populations, upend regional power arrangements, or destroy critical infrastructure. The eruption of Mount Pinatubo did just that in 1991, causing so much damage to Clark Airbase and Subic Bay Naval Station that the cost, combined with diplomatic frictions between the U.S. and the Philippines, led the U.S. to abandon these strategic facilities. A massive solar flare could have a similar impact on a much larger scale because of the level of dependence on electrical power across our world. Scientists, analysts, planners, and officials in public and commercial ventures study such things but seldom take concrete action to mitigate their potential impact.

For the past two years, the world has been shaken by the COVID-19 pandemic, which has caused governments to spend extraordinary sums of money not only to manage the public health crisis, but also to mitigate the economic impact on their countries. The economic and societal stresses stemming from the pandemic have put terrific pressures on political establishments. They also have caused funding for such essential government functions as defense to

be reallocated to meet the more immediate demands of the pandemic and—given the threat of contagion—mitigation measures to be adopted at the expense of military exercises, training events, and deployments. As of mid-2022, most countries appear to have resolved many of the disruptions caused by the pandemic, adapting their economies and adjusting their policy approaches to deal with the public health crisis. So, too, have populations that have normalized their routines, mitigating many of the original fears stemming from the crisis. In similar fashion, military forces have found ways to return to training and exercises that are necessary to regain proficiency.

Most recently, Russia's invasion of Ukraine in early 2022 has affected national and public perspectives with regard to military power. Before Russia invaded its neighbor, many capitals acknowledged the importance of military power but often failed to follow their words with commensurate investments in operationally relevant military forces. Confronted with the reality of a war in Europe and the possibility of another one in Asia because of China's persistent saber rattling and heavy investment in its ability to project power, Poland, Germany, Great Britain, and Japan, to name but a few, have substantially increased their defense budgets and, among European allies, have contributed equipment, munitions, and a range of supplies to Ukraine to help it defend itself.

One consequence of this has been reinvigorated discussions among U.S. allies about the status of military power and the need to ensure that forces can work together effectively. But another has been the consumption of expensive military capabilities, which has led some countries to start hedging on their pledges to sustain support to Ukraine or, in some circumstances, to contribute national power to collective defense.

All of this to say that conditions evolve from one year to the next and from one security setting to the next in ways that affect the ease or difficulty of conducting U.S. military operations. The operating environment assessment is meant to add critical context to complement the threat environment and U.S. military assessments that are detailed in subsequent sections of the *2023 Index*.

A final note: This *Index* refers to all disputed territories by the names employed by the United States Department of State and should not be seen as reflecting a position on any of these disputes.

Europe

Daniel Kochis

The past year has seen significant and swift changes in U.S. force posture in Europe and the trajectory of allied capabilities because of Russia's second invasion of Ukraine in February.[1] The scale, scope, and intensity of conventional military power used by Russia led to a renewed appreciation for such power in many European capitals that had neglected their militaries since the end of the Cold War. In April, a U.S. Department of Defense (DOD) spokesperson stated that "[t]he European security environment has changed and will stay changed as a result of [Russian President Vladimir] Putin's willingness to conduct an unprovoked invasion of a neighboring state."[2]

The U.S. has reintroduced additional manpower and capabilities into Europe and is reevaluating its long-term basing posture. European NATO allies have deployed in support of alliance deterrence efforts in eastern Europe, and many have renewed their commitment to NATO spending benchmarks and rebuilding military capabilities that have atrophied over the past 30 years. In June, NATO invited Finland and Sweden to join the alliance. Also in June, the alliance adopted a new Strategic Concept at its Madrid summit. The first new concept since 2010, it takes into account the comprehensive changes in the transatlantic security environment that have taken place during the past 12 years. With respect to Russia, it states clearly that:

> The Russian Federation is the most significant and direct threat to Allies' security and to peace and stability in the Euro-Atlantic area. It seeks to establish spheres of influence and direct control through coercion, subversion, aggression and annexation. It uses conventional, cyber and hybrid means against us and our partners. Its coercive military posture, rhetoric and proven willingness to use force to pursue its political goals undermine the rules-based international order.[3]

Additionally, the new concept recognizes China as a major challenge: "The People's Republic of China's (PRC) stated ambitions and coercive policies challenge our interests, security and values," and "[t]he deepening strategic partnership between the People's Republic of China and the Russian Federation and their mutually reinforcing attempts to undercut the rules-based international order run counter to our values and interests."[4]

In addition to taking steps to bolster NATO's collective defense capability, the U.S. and its allies have made significant investments in arming and training the Ukrainian military. What began as individual nations supplying arms, ammunition, and supplies (often surplus) has evolved into a sustained flow of intelligence, weapons, matériel, and platforms upon which Ukrainian forces have become entirely reliant. Some nations have even begun to repair damaged Ukrainian equipment. In addition to military aid and intelligence, European nations in particular have accepted millions of Ukrainian refugees fleeing the war.

All of this illuminates the reality that war is still a feature of international relations that cannot be predicted or always deterred, that is costly both in preparation and undertaking, and that generates additional costs (such as support for refugees and disruption of economic activity) beyond the straightforward expense of equipment and training.

The 51 countries in the U.S. European Command (USEUCOM) area of responsibility (AOR) include approximately one-fifth of the world's population, 10.7 million square miles of land, and 13 million

square miles of ocean. Some of America's oldest (France) and closest (the United Kingdom) allies are found in Europe. The U.S. and Europe share a strong commitment to the rule of law, human rights, free markets, and democracy. During the 20th century, millions of Americans fought alongside European allies to defend these shared ideals—the foundations on which America was built.

America's economic ties to the region are likewise important. A stable, secure, and economically viable Europe is in America's economic interest. For more than 70 years, the U.S. military presence has contributed to regional security and stability, and both Europeans and Americans have benefited economically. The member states of the European Union (EU), along with the United States, account for approximately half of the global economy, and the U.S. and EU member countries are generally each other's principal trading partners.

Europe is also important to the U.S. because of its geographical proximity to some of the world's most dangerous and contested regions. From the eastern Atlantic Ocean to the Middle East, up to the Caucasus through Russia, and into the Arctic, Europe is enveloped by an arc of instability. The European region also has some of the world's most vital shipping lanes, energy resources, and trade choke points.

European basing allows U.S. forces to respond robustly and quickly to challenges to U.S. economic and security interests in and near the region. Russia's brutal effort to remake the borders of Europe by force has shocked many partners, upended the continent's strategic picture, and begun a war with implications that are far wider than the sovereignty of Ukraine itself. Admiral Robert Burke, Commander of U.S. Naval Forces Europe, U.S. Naval Forces Africa, and Allied Joint Forces Command Naples, for example, has described the European and African theaters as "the forefront of great power competition."[5]

Other external threats to European security include Russia's activity in the Arctic, growing presence in the Mediterranean theater, and efforts to destabilize Western cohesion in addition to the possibility that Russia might expand the scope of its aggression to include the eastern states of NATO. Added to this is the growing threat to the transatlantic alliance that is posed by Chinese investments, technology, and propaganda efforts. Russian naval activity in the North Atlantic and Arctic has necessitated a renewed focus on regional command and control and has led to increased operations by U.S. and allied air and naval assets in the Arctic, and Russia's strengthened position in Syria has led to a resurgence of Russian activity in the Mediterranean that has contributed to "congested" conditions.[6]

Speaking at an Atlantic Council meeting in March 2019, U.S. Joint Chiefs of Staff Chairman General Joseph Dunford explained that the U.S. has two key advantages over adversaries: "our network of allies and partners, and the ability to project power where and when necessary to advance our national interest."[7] Nowhere is the value of allies and U.S. basing more apparent than it is in the European operating environment.

U.S. Reinforcements in Europe. Russia's war against Ukraine greatly accelerated a trend of U.S. reinvestment in Europe that had begun following Russia's initial invasion of Ukraine in 2014. In April 2014, the U.S. launched Operation Atlantic Resolve (OAR), a series of actions meant to reassure U.S. allies in Europe, particularly those bordering Russia. Under Operation Atlantic Resolve and funded through the European Deterrence Initiative (EDI), the U.S. increased its forward presence in Europe; invested in European basing infrastructure and in prepositioned stocks, equipment, and supplies; engaged in enhanced multinational training exercises; and negotiated agreements for increased cooperation with NATO allies.

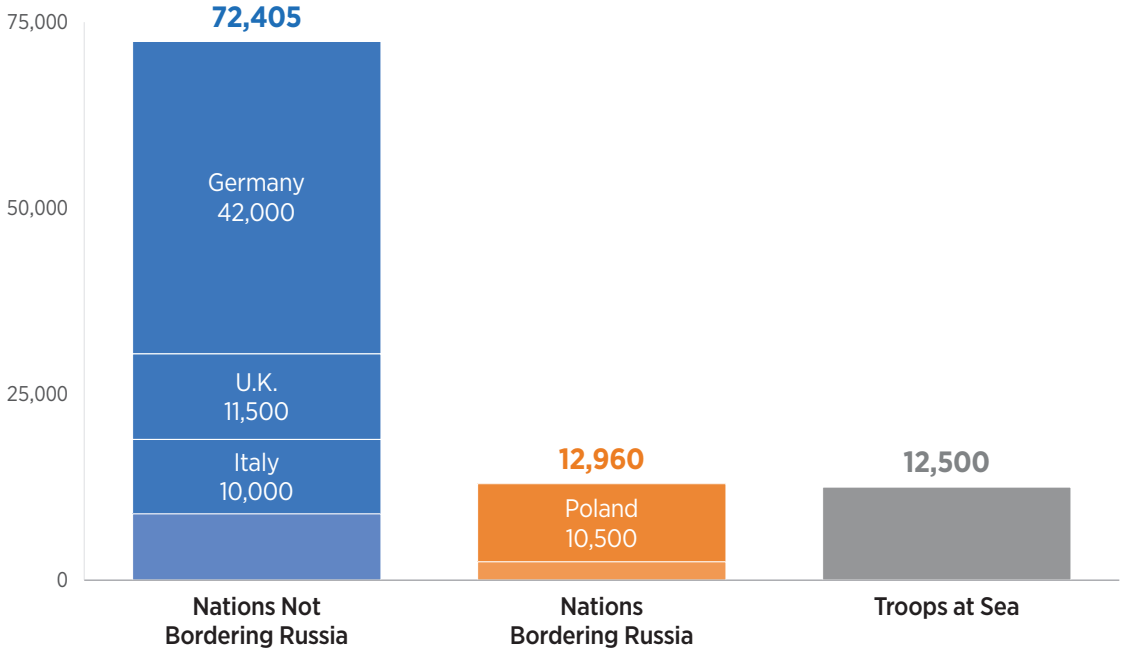
Russia's invasion of Ukraine spurred the U.S. to increase forces flowing to Europe and ignited a U.S. and NATO-wide reevaluation of long-term basing structures and force posture requirements to deter Russian aggression from spilling over to alliance member states, especially those like Poland, whose role as a staging ground for aid to Ukrainian forces has made it a Russian target.[8]

In January 2022, the U.S. had approximately 80,000 troops in Europe (permanent and rotational); that number grew to more than 100,000 by March.[9] A month after Russia's invasion,

> [T]he U.S. ha[d] activated about 11,600 troops for the mission: 4,700 from the 82nd Airborne Division to Poland; 300 from the XVIII Airborne Corps to Germany; 1,000 from the 2nd Cavalry Regiment to Romania; 800 from the 173rd Airborne Brigade Combat Team to Latvia; 100 F-35 Lightning II air crew to Estonia, Lithuania and Romania; 100 AH-64 Apache aircrew to

CHART 2

Few U.S. Troops in Europe Are Stationed Near Russia



SOURCE: U.S. European Command, written response to Heritage Foundation request for information on U.S. troop levels in Europe, July 7, 2022.

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Poland and the Baltic states; 3,800 from 1st Armored Brigade Combat Team, 3rd Infantry Division and its sustainment unit to Germany; 150 airmen from Fairchild Air Force Base, Washington; 40 members of an air support operations unit to Romania and Poland; 300 ordnance and maintenance soldiers to Germany; and 300 members of V Corps to Germany and Poland.[10]

The U.S. has brought additional air assets to Europe. The U.S. Air Force (USAF), for example, "has moved additional fighters, tankers, and intelligence, surveillance, and reconnaissance aircraft into the European theater over the past few months, as well as bombers on a rotational basis, all to reassure NATO allies who feel threatened by the invasion of Ukraine."[11] In March 2022, six U.S. Navy EA-18G Growlers and 240 troops deployed to Spangdahlem Air Base in Germany from Washington State to bolster alliance collective defense. According to the Pentagon, "These Growlers...are equipped for a variety of missions. But they do specialize in flying electronic warfare missions, using a suite of jamming sensors to confuse enemy radars, greatly aiding in the ability to conduct suppression of enemy air defense operations."[12] From February through April, three B-52 Stratofortress aircraft and 300 troops from North Dakota rotated to a base in the United Kingdom as part of the Bomber Task Force Mission, flying regularly over European airspace.[13]

The U.S. has also begun to consider new permanent basing in eastern European NATO member states. In April 2022, Joint Chiefs of Staff Chairman General Mark Milley voiced his support for permanent U.S. bases in eastern Europe but with troops deployed rotationally "'[s]o you get the effect of permanence' at a lesser cost because expenses such as family housing and schools are not involved." "I believe a lot of our allies, especially those such as the Baltics or Poland or Romania...are very willing to establish permanent bases," Milley noted. "They

will build them and pay for them."[14] In May, responding to advance questions as part of Senate Armed Services Committee hearings on his nomination to serve as Commander, U.S. European Command and Supreme Allied Commander, Europe, General Christopher Cavoli similarly stated that "permanently assigned forces are more operationally effective, as they remain fully oriented to the operational environment and can become interoperable with our Allies and Partners."[15]

European Deterrence Initiative. On top of renewed investments in Europe, the U.S. has continued with more established efforts to bolster collective defense in Europe. The Biden Administration has requested $4,176.9 billion for the European Deterrence Initiative in fiscal year (FY) 2023, which would be a $365.3 million increase from the enacted FY 2022 EDI budget of $3,811.6 billion.[16] EDI funding requests for FY 2023 include (among others):

- "[Continued support for] rotational force deployments, infrastructure investments, and [delivery of] the right capabilities in key locations throughout Europe (i.e., Air Force-European Contingency Air Operations Sets (ECAOS), Army Prepositioned Stocks (APS))."

- Exercises to "increase[] the overall readiness and interoperability of U.S. forces across all domain" and "improve[] the interoperability of U.S. forces with our NATO Allies and theater partners."

- Infrastructure improvements that include "purchasing new fixed undersea surveillance systems and refurbishment of older, existing systems already in place throughout the AOR" and improving "airfield infrastructure and prepositioned storage capability to support U.S. Air Forces in Europe operations, actions, and activities."

- "Providing our Allies and partners with the capability and capacity to better defend themselves and to enable or enhance their participation as full operational partners against threatening actors...."[17]

Testifying in March 2022, General Tod Wolters, Commander, U.S. European Command, and NATO's Supreme Allied Commander Europe (SACEUR), highlighted the importance of EDI funding in returning the United States to a posture of deterrence:

> EDI enhances our posture to deter adversaries and compete in a contested logistics environment alongside our European defense counterparts. Increases in forward stationed and rotational forces strengthen our contact, blunt, and surge layer capabilities, providing an ability to compete and win in a multi-domain crisis or conflict. EDI investments improve theater infrastructure and prepositioned stocks. Funding for exercises, training, and building partner capacity strengthens the readiness, architecture, and interoperability across the Euro-Atlantic area. These advances enable our deterrence and defense efforts through rapid deployment and sustainment of forces.[18]

The EDI has supported infrastructure improvements across the region. One major EDI-funded project is a replacement hospital at Landstuhl, Germany, to be named the Rhine Ordnance Barracks Medical Center. Originally slated to be completed in 2022, it is now expected that it will be completed in 2027. The new permanent facility will "provid[e] primary care, specialized consultative care, hospitalization and treatment for more than 200,000 U.S. military personnel, DoD and interagency civilians and dependents in Europe."[19] Landstuhl's importance is illustrated by the fact that in early March 2020, it was one of the first two overseas U.S. laboratories to be capable of testing for coronavirus.[20]

In addition to the EDI, as of the end of 2021, the U.S. Department of State had awarded nearly $300 million in grants since 2018 through its European Recapitalization Incentive Program (ERIP) and repurposed funds to help U.S. allies in Europe replace Russian equipment with U.S.-made equipment. This includes infantry fighting vehicles for Croatia, Greece, and North Macedonia; helicopters for Albania, Bosnia and Herzegovina, Lithuania, and Slovakia; and air surveillance radars and fixed-wing aircraft for Bulgaria. The program helps allies to "modernize their militaries by building NATO interoperable forces and removing Russian and Soviet-legacy equipment from their force structure."[21]

Forward Presence. In April 2022, the 3rd Armored Brigade Combat Team (ABCT) of the 4th Infantry

Division from Fort Carson, Colorado, replaced the outgoing BCT in the ninth armored rotation in support of Operation Atlantic Resolve.[22] The BCT consisted in part of 4,000 troops, 90 tanks, 15 Paladins, and 150 infantry fighting vehicles. Many analysts have noted the special importance of ground forces for deterrence. "Land forces provide traditional 'boots on the ground' and a visible presence among local populations," according to one recent analysis. "They can also enhance the credibility of deterrence through bringing to bear the heavy ground forces required to defend, seize, and hold territory in the event of conflict."[23]

In addition to back-to-back rotations of armor, the U.S. has maintained a rotational aviation brigade in Europe since February 2017.[24] The eighth such rotation, lasting from November 2021–July 2022, has been the 1st Air Cavalry Brigade, 1st Cavalry Division from Fort Hood, Texas, with 2,000 troops, 10 CH-47 Chinooks, 25 AH-64 Apaches, and 35 UH-60 and 15 HH-60 Black Hawk helicopters.[25]

In May 2018, the U.S. began to fly MQ-9 Reaper drones on unarmed reconnaissance flights out of Miroslawiec Air Base in Poland. The drones became fully operational in March 2019 when U.S. Air Force officials stated that Poland was chosen for the MQ-9s because of its "strategic location."[26] In June 2020, runway work at Miroslawiec caused drones to be moved temporarily to Ämari Air Base in Estonia, marking the first time that unmanned U.S. aircraft have operated out of Estonia.[27]

In January 2021, the U.S. announced that 90 USAF personnel and an unspecified number of MQ-9s would be based at Campia Turzii in Romania "to conduct intelligence, surveillance and reconnaissance missions in support of NATO operations."[28] According to General Jeffrey Harrigian, Commander of U.S. Air Forces in Europe, U.S. Air Forces Africa, and Allied Air Command, the new permanent base's location approximately 300 miles from the coast "really facilitates our ability to compete in the Black Sea."[29] In addition to Ämari, Miroslawiec, and Campia Turzii, the U.S. also operates MQ-9s out of Lask Air Base in Poland.[30]

In August 2020, the U.S. and Poland signed the Enhanced Defense Cooperation Agreement, which entered into force in November 2020. The agreement increased U.S. rotational forces in Poland by 1,000 people and provided for more exercises and infrastructure development to support a deployment of 20,000 U.S. troops if necessary.[31] In addition:

> [The agreement] covers matters such as the establishment of a forward division command in Poznan, stationing of a rotationally-present armoured brigade in Żagań-Świętoszów, deployment of Reaper UAVs squadron to Łask, the establishment of a Polish-US combat training centre (CTC) in Drawsko Pomorskie, the establishment of an airlift cargo hub for USAF in Wrocław-Starachowice, the establishment of the presence of an Army Aviation Brigade on a rotational basis, and a logistics battalion as well as special ops facility in Powidz, and another special ops facility in Lubliniec.[32]

The U.S. Army's V Corps, which had been deactivated in 2013, was reactivated on November 9, 2020, and became fully operational in November 2021.[33] In June 2022, President Joseph Biden announced that the U.S. would establish the permanent V Corps headquarters in Poland.[34] In March, the headquarters, then based in Kentucky, was largely deployed to Europe "to provide additional command and control of U.S. Army forces in Europe" and to "to build readiness, improve interoperability, reinforce allies and deter further Russian aggression."[35] By April, the U.S. had deployed more than 10,000 troops to Poland including forces helping to aid Ukrainian refugees and facilitate the flow of weapons and aid to Ukraine.[36] In March 2022, the U.S. Defense Department confirmed that U.S. troops were "liaising" with Ukrainian forces in Poland as weapons are handed over but not training "in the classic sense."[37] By the end of April, the Pentagon confirmed that the U.S. was training Ukrainian forces in Germany on systems that include armored vehicles, artillery, and radar.[38]

The U.S. has strengthened its presence in Norway as well. In April 2021, the two nations signed the Supplementary Defense Cooperation Agreement, which allows the U.S. to build additional infrastructure at Rygge and Sola Air Stations in southern Norway as well as Evenes Air Station and Ramsund Naval Station above the Arctic Circle.[39] Construction at Evenes will support the monitoring of Russian submarine activity by Norwegian and allied maritime patrol aircraft. According to former Norwegian Foreign Minister Ine Eriksen Soereide, "The agreement reaffirms Norway's close relationship with the U.S. and confirms Norway's key position on the northern flank of NATO."[40] In October 2021, the U.S. Navy

deployed a mobile "Expeditionary Medical Facility to a cave system near Bogen Bay in northern Norway, some 100 miles north of the Arctic Circle."[41] According to the operations director for the U.S. Navy Expeditionary Medical Support Command (NEMSCOM), "Expeditionary Medical Facilities are deployable on short notice and contain many capabilities of a modern hospital."[42]

In August 2020, the Marine Corps announced the end of heel-to-toe rotations of 700 Marines to Norway, which began in 2017, opting for shorter, more sporadic deployments.[43] The first new deployment in October 2020 consisted of 400 Marines, and in the second, 1,000 Marines were deployed to Setermoen, Norway, from January–March 2021 for Arctic warfare training.[44] Major General Patrick J. Hermesmann, former Commander of U.S. Marine Corps Forces Europe & Africa, has noted the growing relationship between Norway and the U.S. through "shared hardship of tough, realistic training in this austere environment."[45] From March–April 2022, Norway hosted NATO's Cold Response 2022, the largest Norwegian-led exercise since the Cold War. Among the participants were 3,000 American Marines.[46]

In addition to ground forces, in February and March 2021, four B-1 Lancers were based out of Ørland Air Station in southern Norway, marking the first time the aircraft have been based in Norway.[47] The Lancers conducted training exercises with allies Denmark, Germany, Italy, Norway, and Poland while also practicing landing and refueling at Bodø Air Base above the Arctic Circle.[48]

In October 2020, at the behest of the United States, Norway announced the reopening of Olavsvern bunker, a mountainside submarine base near Tromsø with "9,800ft of deep water underground docks that can house and refit nuclear submarines." The base, which had been closed in 2002, is now open to U.S. *Seawolf*-class nuclear submarines.[49]

The U.S. also continues to rotate a Sustainment Task Force "comprised of nearly 1,000 personnel and 200 pieces of equipment" from "11 active duty, U.S. Army Reserve and National Guard units." The units that make up the task force are varied and "include ammunition, fuel, movement control, transportation, maintenance, ordnance, supply, and postal services."[50]

During the June 2022 NATO Summit, the U.S. announced additional deployments to Europe including (among others) deployment of a new rotational Brigade Combat Team to Romania; enhanced rotational deployments of "armored, aviation, air defense, and special operations forces" to the Baltics; deployment of "two squadrons of F-35s at RAF Lakenheath"; the forward stationing of an "air defense artillery brigade headquarters, a short-range air defense battalion, a combat sustainment support battalion headquarters, and an engineer brigade headquarters" in Germany; and the forward stationing of "a short-range air defense battery" in Italy.[51]

Operation Atlantic Resolve's naval component has consisted partly of increased deployments of U.S. ships to the Baltic and Black Seas since 2014. In 2021, the U.S. spent 111 days in the Black Sea, significantly more than the 82 days it spent there in 2020.[52]

Russian undersea activity continues at an elevated level. The U.S. Navy reestablished the 2nd Fleet, which is "responsible for the northern Atlantic Ocean," in May 2018 nearly seven years after it had been disbanded in 2011.[53] The 2nd Fleet reached full operational capability at the end of 2019.[54] The fleet was reestablished because of Russian militarization of the Arctic.[55] "This is where the fight is...where the competition is," according to Vice Admiral Andrew Lewis, former Commander of the 2nd Fleet. "Specifically in the Atlantic [and] the undersea capability of the Russians."[56] In March 2021, in a statement exercise, three Russian ballistic missile submarines punched through ice in the Arctic near the North Pole.[57]

For Vice Admiral Lewis, "[a]nti-submarine warfare is a primary mission for everybody in the United States Navy, regardless of what you wear on your chest."[58] Admiral Burke has stated that the 6th Fleet keeps units operating "nearly continuously" in the Arctic and that U.S. submarines "really dominate that area."[59] The U.S. also has capable partners in patrolling Arctic waters including the "U.K. and France to name two extremely reliable [and] capable partners." In addition:

> Canada...Norway...all contribute significantly to the theater of undersea warfare fight. Denmark is expanding their capabilities. Now almost every one of those nations that I've mentioned now have significant airborne maritime patrol reconnaissance aircraft, if not the P-8A version, closely resembling the P-8 capabilities. Many have bought versions similar to the P-8.

> Their surface combatants today are incredibly capable too.[60]

In recent years, the U.S. has also made a point of publicly acknowledging the surfacing of nuclear-powered submarines in Arctic waters as a message of deterrence. One such example occurred in May 2021, when the *Virginia*-class submarine USS *New Mexico* docked in Tromsø, Norway.[61]

Outside the Arctic, as explained by General Wolters, "Rarely navigated by Russia since the 1990's, advances in its submarine fleet and expanding maritime strategic goals have reinvigorated Russia's access to the broader Atlantic Ocean."[62] These changes have led officials to state that the U.S. east coast is no longer "a safe haven."[63]

Russia has also increased its naval capabilities in the Mediterranean, utilizing its naval base in Tartus, Syria. In February 2022, the U.S. and its allies detected an unusual positioning of three Russian guided missile cruisers in the Mediterranean near U.S., French, and Italian Carrier Strike Groups operating in theater.[64] One analyst assessed that "Russia has reinforced its naval presence in the Mediterranean, much more than usual. This can be seen as an outer defense layer for naval operations in the Black Sea, off Ukraine. In particular, to deter NATO involvement, especially from the US and French aircraft carriers."[65]

Prepositioned Stocks. The U.S. continues to preposition equipment in Europe across all services. In February 2022, the U.S. activated its Army Prepositioned Stock-2 across six sites to outfit an armored brigade combat team deploying from the U.S.[66] The FY 2023 budget request includes $1,273.9 billion to support enhanced prepositioning for the U.S. Army, Air Force, and Special Forces.[67] With specific respect to the Army, DOD's FY 2023 budget request includes "funding to continue the build of a division-sized set of prepositioned equipment with corps-level enablers that is planned to contain two ABCTs (one of which is modernized), two Fires Brigades, air defense, engineer, movement control, sustainment and medical units."[68]

In March 2022, General Wolters testified that:

> In the ground domain, we expect to establish a U.S. division-sized capability through forward-stationed forces, rotational forces, and Army Prepositioned Stocks (APS). Continued investment in APS equipment facilitates increased agility and lethality by enabling rapid integration of rotational combat units into USEUCOM and NATO operations. During Exercise DEFENDER-Europe 21, U.S. Army Europe and 26 participating nations demonstrated readiness to command and control large-scale operations by exercising at the battalion and brigade levels while building interoperability. In Exercise DEFENDER-Europe 24, we plan to assemble a divisional formation on NATO's eastern flank for the first time since the end of the Cold War, conducting a multinational command post exercise with U.S. and multinational divisions and brigades operating under U.S. Army Europe leadership. These prepositioned stocks enabled us to respond swiftly in response to Russia's aggression in and around Ukraine.[69]

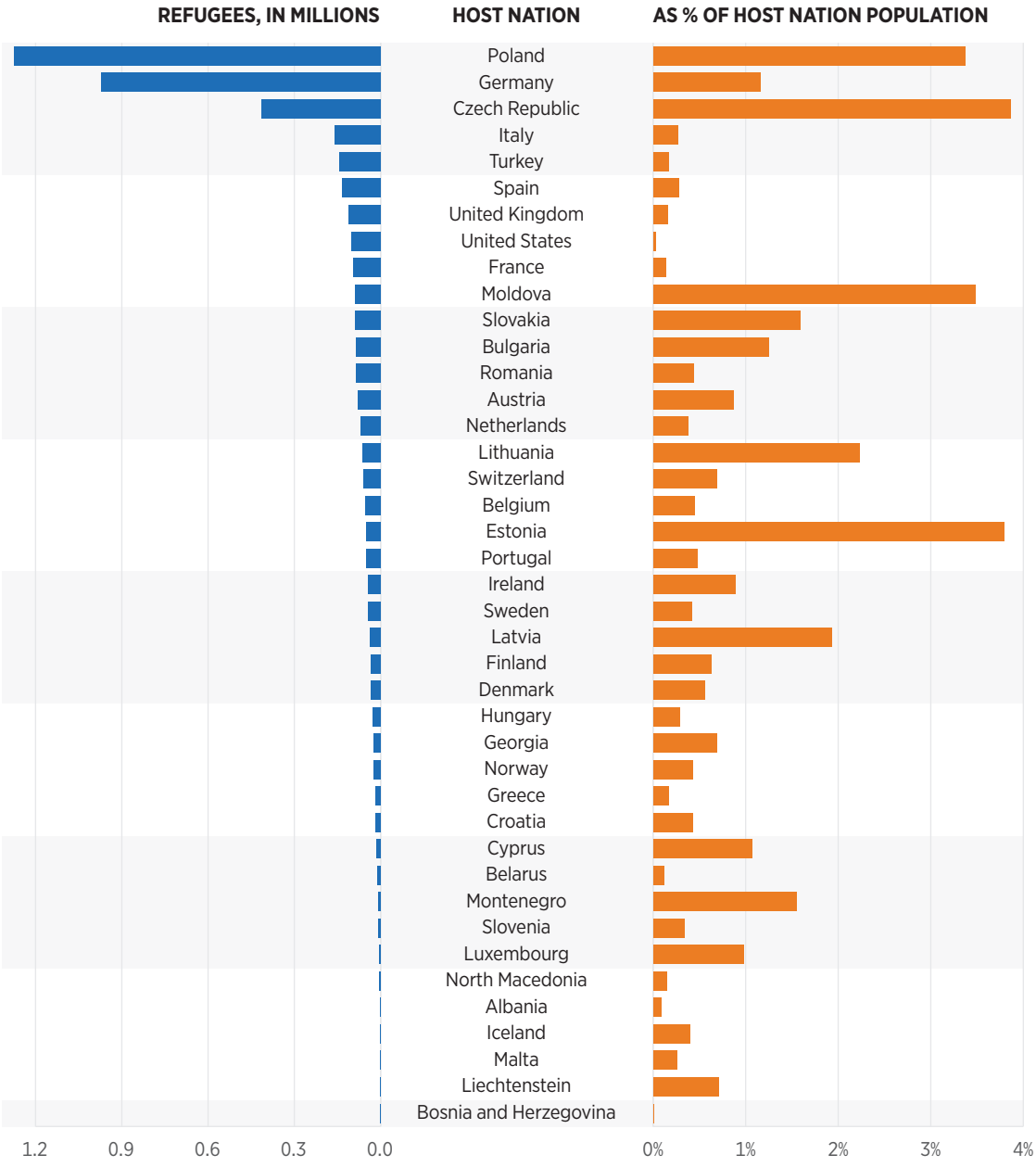
In March 2022, NATO opened its first Multinational Ammunition Warehousing Initiative (MAWI) in Estonia for allies to store munitions for EFP deployments. The alliance plans further MAWI sites to support EFP deployments and the Very High Readiness Joint Task Force (VJTF).[70] NATO Secretary General Jens Stoltenberg noted in June, "if there's any lesson to be learned from Ukraine [it] is the importance of heavy equipment in place, but also fuel, ammunition, supplies."[71] By April, the U.S. had deployed Joint Munitions Command experts to Germany and Poland to provide "expert technical ammunition and explosives assistance and support to units stationed in or deployed to Europe."[72]

Aid to Ukraine. The U.S. and its allies have provided significant military aid to Ukraine. By early May, the U.S. had provided Ukraine with $3.8 billion in security assistance since the beginning of Russia's second invasion.[73] In April, President Biden stated that "[t]he United States alone has provided 10 anti-armor systems for every one Russian tank that's in Ukraine—a 10-to-1 ratio," adding that "[w]e've sent thousands of anti-armor and anti-missile helicopters, drones, grenade launchers, machine guns, rifles, radar systems."[74] By mid-April, according to U.S. Secretary of Defense Lloyd Austin:

> [The U.S. had sent Ukraine] over 1,400 stingers, over 5,500 Javelins, over 14,000 other anti-armor weapons, over 700 switchblade tactical unmanned aerial systems, 18 155mm Howitzers,

CHART 3

Nations Hosting Ukrainian Refugees



NOTES: According to the UN High Commissioner for Refugees, these numbers reflect "the estimated number of individual refugees who have fled Ukraine since 24 February and are currently present in European countries." Border crossings are far higher. Russia has been excluded from the list due to the large number of Ukrainian deportations. Belarus is a belligerent alongside Russia in the war against Ukraine.
SOURCES: U.N. High Commissioner for Refugees, "Operational Data Portal: Ukraine Refugee Situation," July 6, 2022, https://data.unhcr.org/en/situations/ukraine (accessed September 8, 2022), and Camilo Montoya Galvez, "U.S. Admits 100,000 Ukrainians in 5 Months, Fulfilling Biden Pledge," CBS News, July 29, 2022, https://www.cbsnews.com/news/us-admits-100000-ukrainians-in-5-months-fulfilling-biden-pledge/ (accessed September 8, 2022).

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> 16 Mi-17 helicopters, 200 M113 Armored Personnel Carriers, 75,000 sets of body armor and helmets, two air surveillance radars, 14 counter artillery radars, 4 counter mortar radars, unmanned coastal defense vessels, tactical secure communications systems, over 7,000 small arms, and 50,000,000 rounds of ammunition.[75]

U.S. allies have also donated large amounts of military hardware. By April, the EU had funded €1.5 billion in military aid to Ukraine.[76] In May, it was reported that Estonia and Latvia had donated approximately a third of their military budgets to Ukraine, Poland had donated around 13 percent, and Slovakia had donated nearly 12 percent.[77] In April, France announced that it was sending Caesar self-propelled howitzers.[78] The French also have trained "Ukrainian soldiers in France on how to use the powerful guns."[79] Estonia, Germany, Latvia, Lithuania, the Netherlands, and the U.S. have donated U.S. Javelin and Stinger missiles, leaving holes in their own inventories that need to be backfilled.[80] The rate of system use in Ukraine, combined with "an aged and insecure production infrastructure, riddled with potential bottlenecks, vulnerabilities, and supply challenges," could make this difficult for the U.S.[81] By mid-April, for example, the U.S. reportedly had "provided one-third of its overall stockpile of Javelin anti-tank missiles. It cannot easily deliver more without leaving its own armories badly depleted—and it may take months or years to significantly ramp up production."[82]

Air defense is a particular problem for Ukrainian forces. In April, Slovakia announced that it was sending an S-300 air defense system to Ukraine, and the Netherlands deployed Patriot missile batteries to Slovakia "in order to reinforce the eastern flank of the NATO area." A Defence Ministry spokesman said that the Netherlands "will also send S-300 anti-aircraft systems to Ukraine at NATO's request."[83] The United Kingdom, a particular leader in aiding Ukraine, has announced its intention to supply Ukraine with anti-ship missiles.[84]

The U.S. has trained Ukrainian forces outside of Ukraine, including a group of around 50 Ukrainian soldiers that it trained to operate U.S. howitzers.[85] The United Kingdom has been training Ukrainians on the use of AS-90 howitzers and armored vehicles, principally in Poland but also smaller contingents of Ukrainian forces inside the U.K.[86] In April, the Czech Republic announced that its defense firms would begin repairing Ukrainian tanks and armored vehicles. Czech Defense Minister Jana Cernochova stated that "[t]he Czech Republic is the first partner country that the Ukrainian side has officially approached for cooperation in repairing ground weapons which need to be put into service or were damaged during combat."[87]

In addition to military training and aid, the transatlantic community has accepted large numbers of Ukrainian refugees fleeing the war. Poland has accepted more than 3,000,000—by far the largest total since the beginning of the war.[88] Other nations have accepted numbers that are far smaller but still significant in proportion to the receiving nation's population.

NATO Responses to Russia's War in Ukraine. On February 25, 2022, for the first time in its history, NATO activated approximately one-third of its 40,000-strong NATO Response Force (NRF).[89] In announcing the activation General Wolters stated that:

> This is an historic moment and the very first time the Alliance has employed these high readiness forces in a deterrence and defence role. They represent a flexible, combat credible force that can be employed in multiple ways, and we are utilizing fully their inherent agility.
>
> These deterrence measures are prudent and enhance our speed, responsiveness and capability to shield and protect the one billion citizens we swore to protect.[90]

In January 2022, the U.S. announced that 8,500 troops would be put on alert for possible deployment as part of the NRF.[91] In February, Canada announced that 3,400 troops would be placed on standby for the same purpose.[92] In addition to ground forces, NATO has 130 aircraft on alert and more than 200 ships operating in theater.[93]

In June, the alliance announced that the NRF would be increased in size from 40,000 to 300,000. Secretary General Stoltenberg noted that "for the first time since the Cold War, we will have pre-assigned forces to defend specific Allies" and will be able to "reinforce much faster if needed."[94] It should be noted, however, that Stoltenberg's announcement appeared to have caught some NATO members by surprise, leading an unnamed NATO official to say that "[t]he concept has not been fully worked

MAP 1

NATO Nations Collaborate on Russian Deterrence Measures

Since Russia's first invasion of Ukraine, NATO has put in place new measures in eastern Europe to deter Russia. In 2014, it established Enhanced Forward Presence Multinational Battalions in four member states in the Baltic Sea region. In 2022, additional battalions were added in four member states in central Europe and the Black Sea region. Most of those same nations also benefit from NATO air policing operations.

Enhanced Forward Presence Multinational Battalions

- Established 2014
- Established 2022
- Battalion location

Air Policing Operations

- Approximate patrol areas
- Air bases

SOURCE: Heritage Foundation research.

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up yet" and that "[w]e will have to do more to build up the model before we can work out what national commitments can be."[95]

In March 2022, the establishment of multinational battle groups in Bulgaria, Hungary, Romania, and Slovakia was announced at an extraordinary NATO summit.

The battle group in Bulgaria consists of "Up to 803" Bulgarian troops supplemented by 135 U.S. and 30 Albanian troops.[96]

The battle group in Hungary consists of 900 troops: 60 Croatian, 130 U.S., and 710 Hungarian.[97]

The Czech Republic (133 troops) will lead the NATO battle group in Slovakia with contributions from Germany (284); the Netherlands (125); and Slovenia (101). Both the Dutch and German deployments include air defense.[98]

France (550 troops) is leading the 1,148-strong NATO battalion in Romania, which also includes troops from Belgium (248); Poland (230); and the U.S. (120).[99] The French deployment includes armored vehicles and a naval air group for air defense and air surveillance.[100]

NATO also retains "multinational battalion-size battlegroups" in Estonia, Latvia, Lithuania, and Poland. Established as part of NATO's Enhanced Forward Presence in 2017, they are led, respectively, by the U.K., Canada, Germany, and the U.S.[101]

U.S. Nuclear Weapons in Europe. In his 2022 EUCOM posture statement, General Wolters reaffirmed that:

> As long as nuclear weapons exist, NATO must remain a nuclear Alliance. NATO's nuclear capability preserves peace, prevents coercion, deters aggression, and instills confidence in the transatlantic bond. The United States continues to make available its strategic nuclear forces to the defense of NATO and they are the supreme guarantee of the security of our Allies.[102]

It is believed that until the end of the Cold War, the U.S. maintained approximately 2,500 nuclear warheads in Europe. Unofficial estimates range between 150 and 200 warheads spread out across bases in Belgium, Italy, Germany, the Netherlands, and Turkey.[103]

In October 2019, reports surfaced that the U.S. was considering moving the approximately 50 tactical nuclear weapons stored at Incirlik Air Base in Turkey in light of ongoing tensions, but this has not happened. All of these weapons are free-fall gravity bombs designed for use with U.S. and allied dual-capable aircraft. Although tactical nuclear weapons are forward deployed to Incirlik, "there are no aircraft capable of delivering the B-61 gravity bombs co-located at Incirlik Airbase."[104] The U.S. has nuclear sharing agreements with Belgium, Italy, Germany, and the Netherlands that allow for delivery of U.S. tactical nuclear weapons by allied aircraft, but no such agreement is in force with Turkey: "The weapons at Incirlik Air Base in Turkey are solely for use on U.S. aircraft."[105]

The B61 nuclear gravity bomb that is "deployed from U.S. Air Force and North Atlantic Treaty Organization (NATO) bases" is undergoing a life extension program that is expected to add at least 20 years to its service life and "improve the B61's safety, security, and effectiveness."[106] The B61-12 bomb, according to U.S. officials, is "intended to be three times more accurate than its predecessors."[107] The first production unit was completed in February 2022, and the extension program is to be completed by 2026.[108] In October 2021, the Air Force completed a full weapons system demonstration that was "the flight test portion of the nuclear design certification process for the latest B61 series weapon," allowing the program to move "into the nuclear operational certification phase, essentially clearing the [F35-A] and weapon for frontline service."[109]

China. At NATO's 2019 leaders meeting in London, the alliance "recognize[d] that China's growing influence and international policies present both opportunities and challenges that we need to address together as an Alliance."[110] Issues of concern include Russian and Chinese military cooperation as well as Chinese technology, propaganda, offensive cyber capabilities, and control of critical infrastructure in Europe, all of which affect NATO's member states. "We are concerned," NATO noted in its Brussels statement, "by recent public comments by PRC officials and call on China to cease amplifying the Kremlin's false narratives, in particular on the [Russia-Ukraine] war and on NATO, and to promote a peaceful resolution to the conflict."[111]

In an interview, Admiral Burke, noting that Chinese warships and investments are "increasingly present" in the Mediterranean, highlighted the potential risk to U.S. and alliance interests from Chinese infrastructure acquisitions in Europe:

> Today, the Chinese have a controlling interest in 12 European ports. So, are NATO countries going to be able to count on those ports for Free Trade, and if NATO has to defend Europe, will they allow us into those ports to refuel, resupply, do repairs, rearm? We don't know if we can count on that. It's a troubling pattern and our European partners are increasingly aware and awakened to this potential threat.[112]

Important Alliances and Bilateral Relations in Europe

The United States has a number of important multilateral and bilateral relationships in Europe. First and foremost is the North Atlantic Treaty Organization, the world's most important and arguably most successful defense alliance.

North Atlantic Treaty Organization. NATO is an intergovernmental, multilateral security organization that was designed originally to defend Western Europe from the Soviet Union. It anchored the U.S. firmly in Europe, solidified Western resolve during the Cold War, and rallied European support following the 9/11 terrorist attacks. NATO has been the bedrock of transatlantic security cooperation ever since its creation in 1949 and is likely to remain so for the foreseeable future.

In April 2021, following a U.S. decision to withdraw forces from Afghanistan and "recognising that there is no military solution to the challenges Afghanistan faces," NATO ended Operation Resolute Support, a non-combat operation intended to provide "training, advice and assistance to Afghan security forces and institutions."[113] The withdrawal of alliance forces was completed in August 2021, and the mission was terminated in September 2021.

Two ongoing NATO operations are Kosovo Force (KFOR), which includes "approximately 3,500 Allied and partner troops," and Operation Sea Guardian, which maintains "maritime situational awareness, counter-terrorism at sea and support to capacity-building" in the Mediterranean. Additional operations include air policing "to meet Iceland's peacetime preparedness needs"; air policing over the Baltics, Albania, Montenegro, Slovenia, and the Benelux countries of Belgium, the Netherlands, and Luxembourg; and support for the African Union Mission in Somalia through occasional airlifts and sealifts while helping to train and build capacity in the African Standby Force.[114]

Finally, there is NATO Mission Iraq (NMI), a non-combat mission to train and build the capacity of Iraqi Security Forces. In February 2021, following an Iraqi government request in late 2020, NATO defense ministers agreed to increase the size of NMI and expand the scope of training activities beyond the Baghdad region. NATO Secretary General Jens Stoltenberg stated that an incremental increase could raise the number of NATO troops participating in NMI from 500 to around 4,000.[115]

In recent years, NATO has focused strongly on military mobility and logistics in line with its 2014 Readiness Action Plan (RAP). The RAP was designed to reassure nervous member states and put in motion "longer-term changes to NATO's forces and command structure so that the Alliance will be better able to react swiftly and decisively to sudden crises."[116]

In June 2018, NATO defense ministers agreed to the Four 30s plan to improve the movement of troops in Europe by 2020. "Four 30s" derives from the plan's objective that NATO should be able to respond to any aggression with "30 troop battalions, 30 squadrons of aircraft, and 30 warships within 30 days."[117] In 2019, according to Secretary General Stoltenberg, "Allies contributed all of the combat forces required for this initiative" and were "now working to build and maintain the level of readiness of these forces and organise them into larger formations."[118]

At the 2019 London summit, space was recognized as "the Alliance's 'fifth domain' of operations, alongside land, sea, air and cyberspace." Subsequently, in October 2020, "NATO Defence Ministers...agreed to the creation of a space centre at NATO's Allied Air Command in Ramstein, Germany." The center's mission "is to help coordinate Allied Space activities, support NATO activities and operations, and help protect Allied Space systems by sharing information about potential threats." To these ends, it "works closely with the Allies' national Space agencies and organisations and the NATO Command Structure to fuse data, products and services provided by nations, such as imagery, navigation and early warning."[119]

In May 2022, in a historic shift brought about by Russia's war against Ukraine, Finland and Sweden applied for NATO membership. Secretary General Stoltenberg stated that the alliance would fast-track their applications.[120] Each of the existing 30 NATO

TABLE 3

China's Ownership Stake in European Ports, Airports, and Railways

Country	Type	Site/Location	Unknown	Lease	Less than Half	Nearly Half	Majority	Own
Albania	Airport	Tirana Airport					●	
Belgium	Port	Zeebrugge (Bruges)					●	
	Port	Antwerp Gateway			●			
	Airport	Logistics hub Liège airport		●				
Bulgaria	Port	Port of Varna	●					
	Port	Port of Burgas	●					
Denmark	Port	Maersk Container Industry (Tinglev)						●
France	Port	Terminal des Flandres (Dunkirk)				●		
	Port	Terminal de France (Le Havre)			●			
	Port	Terminal du Grant Ouest (Nantes)			●			
	Port	Eurofos Terminal (Marseille)			●			
Germany	Port	Port of Hamburg			●			
	Port	Jade-Weser-Port Logistics Center (Wilhelmshaven)		●				
	Airport	Frankfurt-Hahn Airport					●	
	Airport	Schwerin-Parchim						●
	Railway	Port of Duisburg			●			
Greece	Port	Piraeus Container Terminal					●	
Hungary	Railway	BILK Kombiterminal (Budapest)			●			
Italy	Port	Vado Reefer Terminal (Genoa)				●		
Malta	Port	Malta Freeport Terminal (Marsaxlokk)			●			
Netherlands	Port	Euromax Terminal (Rotterdam)			●			
Poland	Port	Gdynia Container Terminal (Gdynia)					●	
Portugal	Port	Port of Sines	●					
Romania	Port	Port of Constanta	●					
Slovenia	Airport	Maribor Airport						●
	Airport	Ljubljana Airport					●	
Spain	Port	Noatum Container Terminal (Bilbao)					●	
	Port	Noatum Container Terminal (Valencia)					●	
Turkey	Port	Kumport Sea Terminal (Istanbul)					●	
U.K.	Airport	Heathrow Airport			●			

SOURCE: Heritage Foundation research.

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member states must ratify the accession protocols and are expected to do so. Finland and Sweden's inclusion in NATO would bring substantial capabilities to the alliance and enhance the security of the Baltic Sea region.

Enhanced Forward Presence. Historically, the centerpiece of NATO's renewed focus on collective defense has been the existing four multinational battalions stationed in Poland and the Baltic States as part of the alliance's Enhanced Forward Presence (EFP). Different countries serve as lead (framework) nations, providing overall coordination and the centerpiece force that is augmented by other contributing nations, for different supported countries.

- The U.S. serves as the framework nation in Orzysz, Poland, near the Suwalki Gap. The U.S.-led battle group consists of 780 American troops augmented by four troops from Croatia, "up to 120" from Romania, and 129 from the United Kingdom.[121]

- In Estonia, the United Kingdom serves as the framework nation, headquartered in Tapa with 993 troops in an armored infantry battalion with main battle tanks and armored fighting vehicles along with "self-propelled artillery and air defence assets, engineers, an intelligence, surveillance and reconnaissance group and logistic support elements," in addition to one Icelandic civilian strategic communications specialist, 219 French troops, and 217 Danish troops.[122]

- In Adazi, Latvia, Canada is the framework nation with "Up to 639" troops and armored fighting vehicles augmented by "Up to 21" troops from Albania; "Up to 81" from the Czech Republic; one civilian communications specialist from Iceland; "Up to 250" troops from Italy with short-range air defense and a chemical, biological, radiological and nuclear defense unit; 11 from Montenegro; nine from North Macedonia; "up to 177" from Poland with tanks; "up to 152" from Slovakia; 42 from Slovenia; and "Up to 504" from Spain with tanks and armored fighting vehicles.[123]

- In Rukla, Lithuania, Germany serves as the framework nation with 1,031 troops augmented by "Up to 135" from a Czech Republic air defense unit, 270 from the Netherlands, and "Up to 188" from Norway with main battle tanks and infantry fighting vehicles in addition to one public affairs official from Belgium, another from Iceland, and a six-person transportation team from Luxembourg.[124]

EFP troops are under NATO command and control; a Multinational Division Headquarters Northeast located in Elblag, Poland, which reached full operational capability in December 2018, coordinates the four battalions.[125] In February 2017, the Baltic States signed an agreement to facilitate the movement of NATO forces among the countries.[126] Some EFP host nations have called for additional assets—importantly, enablers to be added to the battalions. In April 2022, Lithuanian Minister of Foreign Affairs Gabrielius Landsbergis called for "more armored vehicles, air defense, sea defenses, and the securing of ports and infrastructure in the region."[127] Some contributing nations have begun to deploy new enablers to the region; in Lithuania, for example, Germany now deploys an Ocelot short-range air defense system.[128]

NATO also has established eight Force Integration Units located in Sofia, Bulgaria; Tallinn, Estonia; Riga, Latvia; Vilnius, Lithuania; Bydgoszcz, Poland; Bucharest, Romania; Szekesfehervar, Hungary; and Bratislava, Slovakia. These new units "will help facilitate the rapid deployment of Allied forces to the Eastern part of the Alliance, support collective defence planning and assist in coordinating training and exercises."[129]

At its July 2016 Warsaw summit, NATO agreed to "develop tailored forward presence in the southeast part of the Alliance territory." Specifically:

> Appropriate measures, tailored to the Black Sea region and including the Romanian initiative to establish a multinational framework brigade to help improve integrated training of Allied units under Headquarters Multinational Division Southeast, will contribute to the Alliance's strengthened deterrence and defence posture, situational awareness, and peacetime demonstration of NATO's intent to operate without constraint. It will also provide a strong signal of support to regional security. Options for a strengthened NATO air and maritime presence will be assessed.[130]

The U.S. and Romania jointly organize the biannual Saber Guardian exercise, which is designed to "improve the integration of multinational combat forces" stationed in the region.[131] In the 2021 iteration, which took place in Estonia, Bulgaria, and Romania, "more than 13,000 service members from 19 countries [conducted] live fire and air and missile defense operations, plus a large scale medical evacuation."[132] Saber Guardian 21 was one of several exercises linked with DEFENDER-Europe 21, which had a Black Sea regional focus. The purpose of DEFENDER Europe 2022, which was conducted in May, was to "demonstrate U.S. Army Europe

and Africa's ability to aggregate US-based combat power quickly in Eastern Europe" and to "increase the lethality of the NATO alliance through long-distance fires, build unit readiness in a complex joint, multinational environment and leverage host nation capabilities to increase the command's operational reach." The exercise included "3,437 U.S. and 5,193 multi-national service members from 11 Allied and Partner nations."[133]

NATO continues air policing missions over Bulgarian and Romanian airspace. In September and October of 2020, six U.S. F-16s took part in a four-week air policing mission over Bulgaria with Bulgarian air force units and Canadian F-18s flying from Romania.[134] In 2021, NATO jets were scrambled 370 times, and 290 of these incidents involved Russian military aircraft (down from 350 in 2020).[135]

In October 2019, addressing a NATO capability gap in aerial refueling, the Czech Republic, Belgium, Germany, Luxembourg, the Netherlands, and Norway jointly procured A330 air-to-air refueling aircraft, to be deployed from 2020–2024. The fifth of nine aircraft ordered was delivered in August 2021.[136] Five of the aircraft will operate out of Eindhoven air base in the Netherlands, and three will operate out of Germany's Cologne–Wahn air base.[137]

Additionally, in November 2019, NATO announced a $1 billion package to upgrade its Airborne Warning and Control System (AWACS) planes. The upgrades, which "will provide AWACS with sophisticated new communications and networking capabilities, including upgrades to the NE-3A's data link and voice communications capabilities, and enhanced Wide-Band Beyond Line-of-Sight airborne networking capability," will extend the aircrafts' service life to 2035.[138] NATO's Alliance Ground Surveillance force, which consists of five RQ-4D Phoenix remotely piloted aircraft based out of Sigonella, Italy, along with ground command and control stations, achieved initial operating capability in February 2021.[139]

In 2018, NATO established two new commands with a combined total of 1,500 personnel: a joint force command for the Atlantic based in Norfolk, Virginia, and a logistics and military mobility command headquartered in Ulm, Germany.[140] Logistics has been a significant alliance focus in recent years. An internal alliance assessment in 2017 reportedly concluded that NATO's "ability to logistically support rapid reinforcement in the much-expanded territory covering SACEUR's (Supreme Allied Commander Europe) area of operation has atrophied since the end of the Cold War."[141] Former U.S. Commander of European Command Lieutenant General Ben Hodges has described the importance of military mobility: "We need to think how fast the Russians are moving. We must be able to move as fast or faster than them so that they do not make the mistake of thinking that they could launch an attack of some sort in an area before we could respond."[142]

Continued shortfalls in the alliance's ability to move soldiers and equipment swiftly and efficiently include "limitations of road surface weight capacity, bridges capacity and railway traffic limits" as well as differences in rail gauges and continued legal, procedural, and regulatory slowdowns.[143] NATO has focused heavily on overcoming these barriers, working with the European Union, which retains competencies that are critical to improving military mobility, particularly with regard to overcoming legal and regulatory hurdles. In May 2021, NATO Deputy Secretary General Mircea Geoană underscored the importance of continued cooperation with the EU on military mobility, noting that continued improvements are needed in such areas as "regulations for swift border-crossing, close coordination between military forces and civil government bodies, access to necessary transport capabilities, and ensuring that national transport infrastructure is fit for purpose."[144]

In April 2022, the alliance established the Defence Innovation Accelerator of the North Atlantic (DIANA). With a $1.1 billion "innovation fund" that will invest in "deep-tech startups" over a 15-year period and working through "more than 10 accelerator sites and over 50 test centers," DIANA is "tasked to bring innovative civilian and military organizations closer together to develop cutting-edge solutions in the realms of emerging and disruptive technologies." Among these "emerging and disruptive technologies" are artificial intelligence, autonomy, big-data processing, biotechnology, hypersonic technology, new materials, propulsion, quantum-enabled technologies, and space-related systems.[145]

Cyber Capabilities. "A secure cyberspace is essential to everything the Alliance does," according to NATO's secretary general. "This is why cyber defence is part of NATO's core task of collective defence. NATO has made clear that a severe cyber attack could lead it to invoke Article 5 of the

MAP 2

Threat Proximity Largely Dictates Military Spending

In Europe, NATO members closer to Russia and the Middle East spend, in general, more on defense than those further away.

NOTE: Figures are estimates for 2022. Iceland is not listed because it has no military.
SOURCE: Graph 3, "Defence Expenditure as a Share of GDP (%)," and Graph 4, "Equipment Expenditure as a Share of Defence Expenditure (%,)," in press release, "Defence Expenditure of NATO Countries (2014–2022)," North Atlantic Treaty Organization, June 27, 2022, https://www.nato.int/nato_static_fl2014/assets/pdf/2022/6/pdf/220627-def-exp-2022-en.pdf (accessed August 3, 2022).

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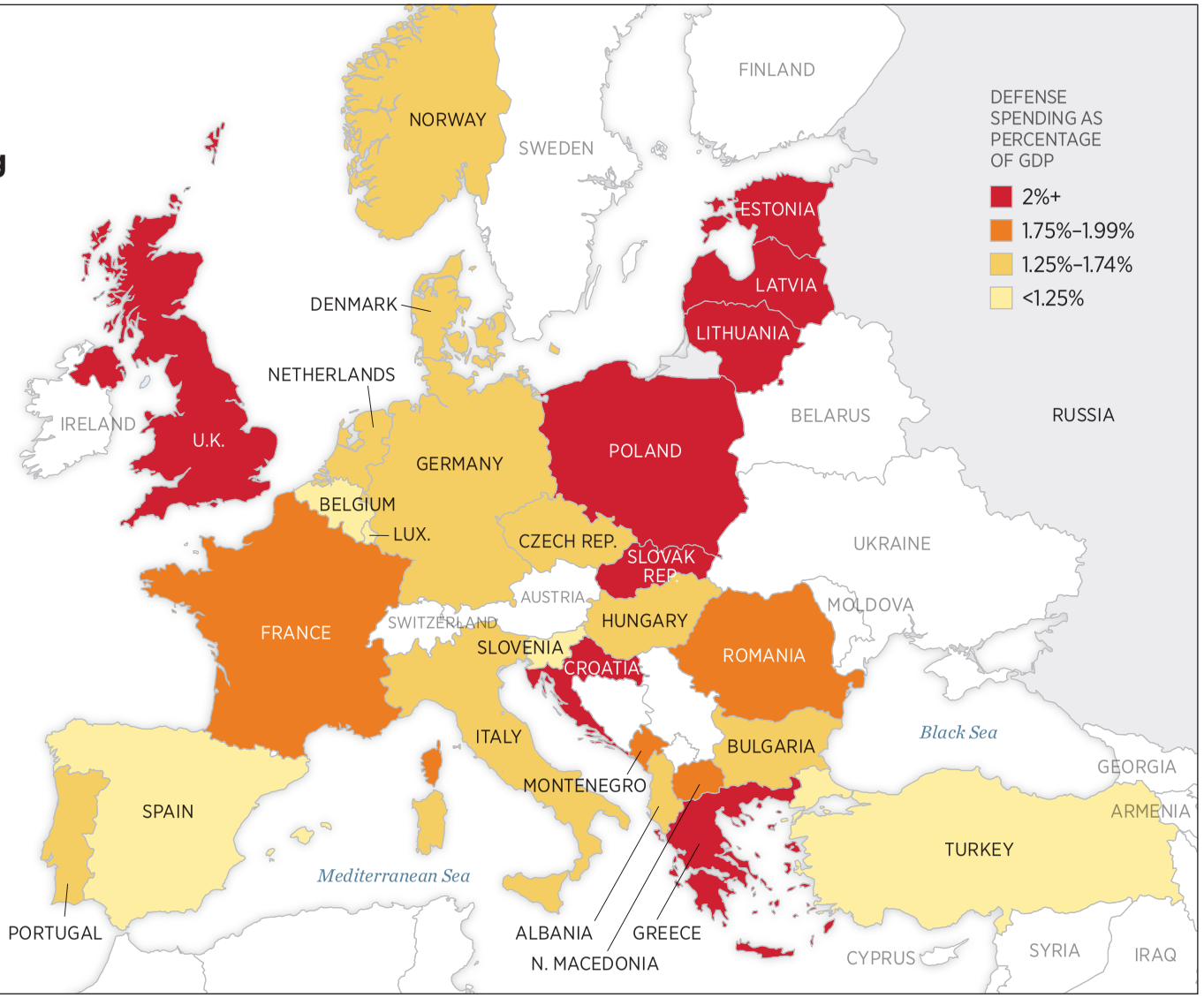


Washington Treaty."[146] Ultimately, the decision to invoke Article 5 will be a political decision.

As noted, NATO recognized cyberspace as a domain of operations at its 2016 Warsaw summit. Subsequently:

- On August 31, 2018, NATO established a Cyberspace Operations Centre (CYOC) in Mons, Belgium, that will include 70 cyber experts when it becomes fully operational in 2023. The CYOC "supports military commanders with situational awareness to inform the Alliance's operations and missions."[147]

- In 2020, NATO published its first cyber doctrine.[148]

- In 2021, at the NATO summit in Brussels, "Allies endorsed a new Comprehensive Cyber Defence Policy, which supports NATO's core tasks and overall deterrence and defence posture to enhance further the Alliance's resilience."[149]

Through the NATO Industry Cyber Partnership, NATO has also invested in a stronger relationship with industry. "This partnership," as described by NATO, "includes NATO entities, national Computer Emergency Response Teams (CERTs) and Allies' industry representatives. Information-sharing, exercises, and training and education are just a few examples of areas in which NATO and industry are working together."[150]

Cooperation within NATO is also facilitated by two other entities.

- The NATO Intelligence on Cyberspace Community of Interest was created "to more regularly exchange information, assessments and best practices—improving NATO's ability to prevent and respond to cyber threats."[151]

- The NATO Communications and Information Agency "is responsible for ensuring NATO has the secure networks, communications and software needed to guarantee peace and stability for one billion citizens" and "runs the NATO Cyber Security Centre, which defends NATO's networks around the clock from cyber attacks and malicious activity, monitoring, identifying and preventing potential threats." When requested to do so, "the Agency also helps Allies and partner countries boost their capabilities in areas such as cyber defence."[152] In November 2021, the Communication and Information Agency "organised a first NATO counter-drone exercise in the Netherlands...to ensure that commercial systems from different NATO nations can work together, interoperably, to counter threats posed by drones."[153]

With respect to the likely effects of Chinese 5G technology on the sharing of intelligence in Europe, U.S. officials have said that utilizing Chinese state-controlled companies for next-generation wireless networks would be "nothing short of madness."[154] A Chinese presence in European telecommunications networks could decisively compromise the communications integrity of both the military and the intelligence community. The Brussels Statement notes that "NATO and Allies, within their respective authority, will maintain and enhance the security of our critical infrastructure, key industries, supply chains, and communication information networks, including 5G."[155] In March 2022, General Wolters testified that:

> The PRC's efforts to expand 5G networks throughout Europe via state-backed firms, such as Huawei and ZTE, pose significant security risks to the interests and military forces if the U.S., Allies, and Partners. These networks place intellectual property, sensitive information, technology, and private personal information at heightened risk of acquisition and exploitation by the Chinese government.[156]

Many nations have taken decisions in recent years to restrict Chinese vendors from 5G networks, but these threat perceptions are not uniform, and implementation of these decisions will remain crucially important. The impact of the emerging patchwork approach toward Chinese 5G technology on the European operating environment should become clearer in the coming years.

At the June 2019 NATO summit:

> Allies reaffirmed that secure access to space services, products and capabilities is essential for the Alliance's operations, missions and activities. They agreed that attacks to, from or within space present a clear challenge to the

> security of the Alliance, could be as harmful to modern societies as a conventional attack and could lead to the invocation of the mutual defence clause (Article 5) of the North Atlantic Treaty.
>
> To implement space as an operational domain, the Alliance is enhancing its space domain awareness and common understanding of the space environment. To that end, NATO announced plans in 2021 to develop a Strategic Space Situational Awareness System at NATO Headquarters in Brussels. In addition, NATO's military authorities have accepted an offer from France to establish a NATO Centre of Excellence devoted to space in Toulouse. NATO also agreed on a roadmap for further implementation of NATO's Space Policy in the upcoming years to guide NATO's efforts in a number of areas, including science and technology, resilience and exercises. In 2021, space operational activities were integrated into several exercises, including Steadfast Jupiter, Ramstein Ambition and Steadfast Leda. These exercises involved the development and management of space effects and the integration of space products.[157]

Ballistic Missile Defense. NATO's ballistic missile defense (BMD) achieved initial operational capability in July 2016, offering a stronger capability to defend alliance populations, territory, and forces across the southern portion of Europe from a potential ballistic missile attack. For example:

- An Aegis Ashore site in Deveselu, Romania, became operational in May 2016, and upgrades were completed in August 2019.[158]

- An AN/TPY-2 forward-based early-warning BMD radar is located at Kürecik, Turkey, pursuant to the U.S. European Phased Adaptive Approach (EPAA).[159]

- BMD-capable U.S. Aegis-equipped ships are forward deployed at Rota, Spain.[160] General Wolters has characterized Rota's four current destroyers as the "workhorses of deterrence," adding that "[w]e currently have a set number of four and the request is for two additional and we have infrastructure in place to be able to house all six in Rota, Spain."[161] In June 2022, DOD announced that "the United States is working with the government to increase the number of destroyers stationed at Rota from four to six."[162]

- A second Aegis Ashore site in Redzikowo, Poland, that broke ground in May 2016 has faced delays but was commissioned in September 2020. It is supposedly nearing completion, but whether it will begin operations in 2022 remains unclear.[163]

- Ramstein Air Base in Germany hosts the command center.[164]

- The U.K. operates an early warning BMD radar at RAF Fylingdales in England. The U.K. also continues to consider upgrades to its Type 45 Destroyers with BMD-capable missiles.[165]

In May and June 2021, 10 nations—Belgium, Denmark, France, Germany, Italy, the Netherlands, Norway, Spain, the United Kingdom, and the United States—took part in the biannual BMD exercise Formidable Shield. Formidable Shield 21 featured 15 ships, 10 aircraft, and 3,300 participants and "[was] designed to improve allied interoperability in a live-fire joint IAMD [Integrated Air and Missile Defense] environment, using NATO command and control reporting structures."[166]

In January 2017, the Russian embassy in Norway threatened that if Norway contributed ships or radar to NATO BMD, Russia "[would] have to react to defend our security."[167] Norway operates four *Fridtjof Nansen*–class Aegis-equipped frigates that are not currently BMD-capable.[168] A fifth Aegis-equipped frigate, the *Helge Ingstad*, collided with an oil tanker and sustained so much damage that the government decided to scrap it.[169]

Denmark, which agreed in 2014 to equip at least one of its *Iver Huitfeldt*–class frigates with radar to contribute to NATO BMD, reaffirmed this commitment in the Defence Agreement 2018–2023.[170] Russia's ambassador in Copenhagen responded by publicly threatening Denmark: "I do not believe that Danish people fully understand the consequences of what may happen if Denmark joins the American-led missile defense system. If Denmark joins,

Danish warships become targets for Russian nuclear missiles."[171]

In March 2019, the first of four Dutch *De Zeven Provinciën*–class frigates received a SMART-L Multi-Mission/Naval (MM/N) D-band long-range radar upgrade that is "capable of BMD mission (surveillance and tracking of ballistic missiles) up to 2000 km while simultaneous[ly] maintaining the air defence capability."[172] All four Dutch frigates will receive the radar upgrade and carry SM-3 surface-to-air missiles.[173] In May 2021, as part of NATO's Formidable Shield exercise, radar aboard the HNLMS *De Zeven Provinciën* "was used to eliminate a ballistic missile, marking a first in Europe."[174] In December 2020, the Royal Netherlands and German navies signed an agreement to work jointly to develop a replacement for the Dutch *De Zeven Provinciën*–class frigate and Germany's three F124 *Sachsen*-class frigates.[175]

Belgian Admiral Jan de Beurme stated in April 2021 that "we are studying the feasibility of integrating ballistic missile defense shooter capabilities into the new frigates."[176] A contract to develop a weapons suite for a joint Belgian and Dutch procurement of two multipurpose frigates apiece was awarded in February 2019, and the vessels are expected to enter service beginning in 2024.[177]

Spain currently operates four Aegis-equipped F-100 *Alvaro de Bazan*–class frigates, but they are not yet BMD-capable.[178] In April 2019, Spain signed an agreement to procure five F-110 multi-mission frigates, the first of which will likely be deployed in 2026. The Aegis-equipped frigates "will host the first naval solid-state S-band radar for the Spanish Navy."[179]

The Italian Navy is procuring seven multi-role offshore patrol vessels (PPAs) that are to be delivered from 2021–2026. The first of two BMD-capable PPAs in full configuration is scheduled for delivery in 2024.[180]

Quality of Armed Forces in the Region

Article 3 of the 1949 North Atlantic Treaty, NATO's founding document, states that at a minimum, members "will maintain and develop their individual and collective capacity to resist armed attack."[181] Regrettably, only a handful of NATO members are living up to their Article 3 commitments.

In 2022, only nine countries will spend the required minimum of 2 percent of gross domestic product (GDP) on defense: Croatia (2.03 percent); Estonia (2.34 percent); Greece (3.76 percent); Latvia (2.10 percent); Lithuania (2.36 percent); Poland (2.42 percent); the Slovak Republic (2.00); the United Kingdom (2.12 percent); and the United States (3.47 percent). Romania is just below the threshold at 1.99 percent.[182] However, NATO defense spending is trending upward overall. According to the NATO Secretary General's annual report for 2021:

> In 2021, eight Allies met the guideline of spending 2% of their GDP on defence, up from just three Allies in 2014. The United States accounted for 51% of the Allies' combined GDP and 69% of combined defence expenditure. Total NATO military spending in 2021 was estimated to exceed USD 1 trillion.
>
> Allies also made progress on their pledge to invest 20% or more of defence expenditures in major new capabilities. In 2021, 21 Allies met the NATO-agreed 20% guideline, compared to only seven in 2014, and 20 Allies spent more in real terms on major equipment than they did in 2020.Allies also made progress on their pledge to invest 20% or more of defence expenditures in major new capabilities.[183]

In 2022, 24 Allies met the NATO-agreed 20 percent guideline, compared to only seven in 2014 and 21 in 2021.[184]

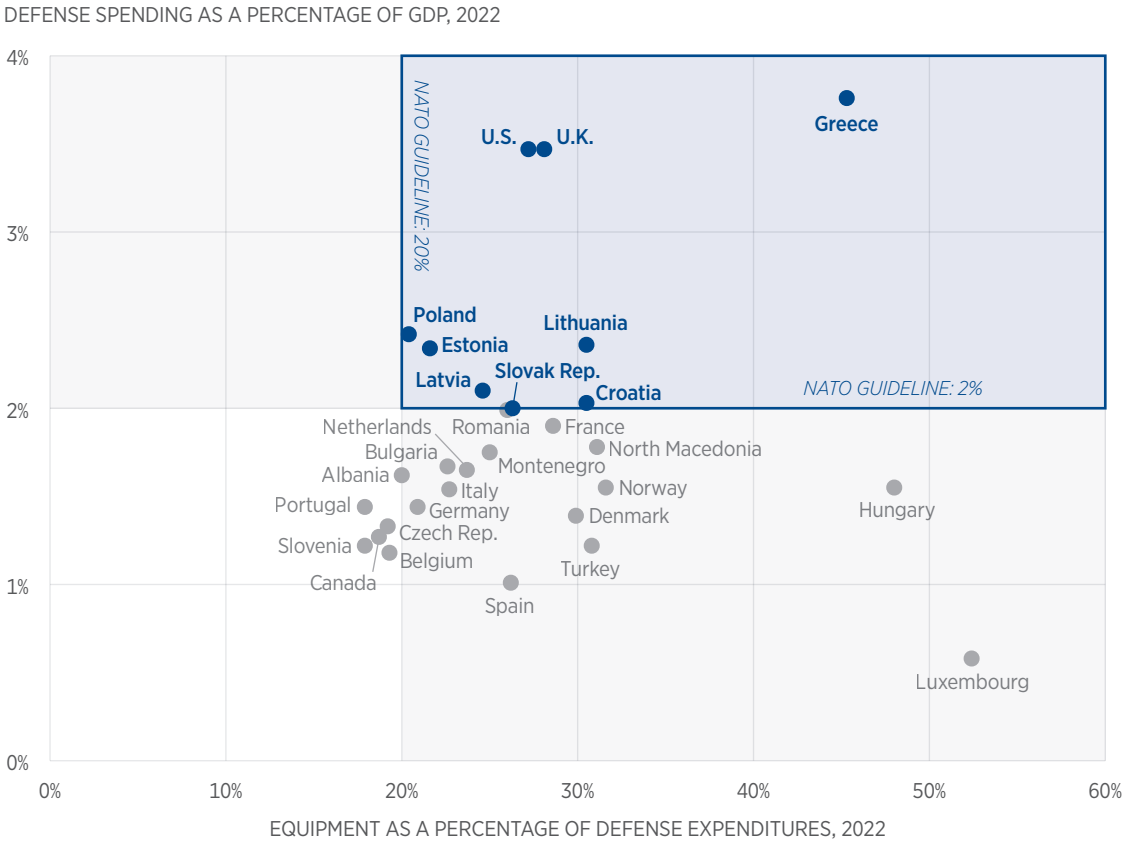
Germany. Germany has long been an economic powerhouse with mismatched military capabilities, but Russia's second invasion of Ukraine sparked major changes in the government's thinking about military power. In 2022, Germany will spend 1.44 percent of GDP on defense and 20.9 percent of its defense budget on equipment, meeting one of two benchmarks.[185] In February 2022, Chancellor Olaf Scholz "vow[ed] to anchor a 100 billion (US $113 billion) euro defense fund in the country's constitution and exceed a NATO-wide annual spending goal."[186] In announcing the policy change, Scholz stated that "[i]t's clear we need to invest significantly more in the security of our country in order to protect our freedom and our democracy."[187]

In February, Germany also sent an additional 380 troops, including "artillery soldiers, reconnaissance specialists, medics [and] nuclear and biological warfare specialists," to Lithuania where it serves as

CHART 4

Less than Half of NATO Members Follow Defense Spending Guidelines

NATO members are expected to spend at least 2 percent of their GDP on defense, and at least 20 percent of their defense spending is supposed to go to equipment. Only the U.S. and eight other nations do both.



NOTE: Figures are estimates for 2022. Iceland is not listed because it has no military.
SOURCE: Graph 3, "Defence Expenditure as a Share of GDP (%)," and Graph 4, "Equipment Expenditure as a Share of Defence Expenditure (%,)," in press release, "Defence Expenditure of NATO Countries (2014–2022)," North Atlantic Treaty Organization, June 27, 2022, p. 3, https://www.nato.int/nato_static_fl2014/assets/pdf/2022/6/pdf/220627-def-exp-2022-en.pdf (accessed August 3, 2022).

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the framework nation for NATO's EFP battalion.[188] These forces joined the 543 German troops already stationed in Rukla.[189] In early April, Germany deployed Ozelot short-range self-propelled air defense systems with Stinger missiles.[190] Germany also spent $110 million through 2021 to upgrade facilities in Lithuania that include barracks used by the multinational battalion.[191] The Luftwaffe has taken part in NATO's Baltic Air Policing 13 times—more than any other nation's armed forces—most recently out of Šiauliai air base in Lithuania in the summer of 2020 and Ämari Air Base in Estonia from September 2020 to May 2021.[192]

Germany also maintains 70 troops in Kosovo as part of NATO's Kosovo Force.[193] In March 2022, the Bundestag extended the mandate for Germany's

participation in NATO's Sea Guardian maritime security operation, for which 210 troops are currently deployed, and approved a one-year extension of Germany's participation in the United Nations Mission in South Sudan.[194] In May, Germany announced the end of its participation in the EU Training Mission Mali (EUTM), where 300 soldiers had served, but indicated a willingness to extend the mandate for the 1,000 German troops taking part in the U.N.'s Multidimensional Integrated Stabilization Mission in Mali (MINUSMA) if "the UN made sure the shortfalls created by the French withdrawal were filled to ensure the safety of German soldiers."[195]

In the Middle East, German forces participate in the United Nations Interim Force in Lebanon (UNIFIL) peacekeeping mission, the mandate for which extends through June 2022.[196] In January 2022, Germany extended its non-combat training mission in Iraq and its air-to-air refueling, air surveillance radar, and air transport missions in support of the counter-ISIS coalition through the end of October.[197]

In April 2017, the Bundeswehr established a new cyber command with a staff of approximately 14,500.[198] Germany also led NATO's VJTF in 2019 and will do so again in 2023 with "the earmarked units prioritised for modernisation and upgrades."[199] In June 2022, Germany announced that it would contribute "15,000 soldiers, 65 aeroplanes, 20 navy units, and other formations to the New Force Model," greatly increasing the size of the NRF.[200]

Although Germany's forces have taken on additional roles in recent years, its military continues to suffer serious equipment and readiness issues overall. The Bundeswehr was recently described as "more or less bare" by Chief of the Army Alfons Mais and in an "alarming" state by Defense Commissioner Eva Hoegl.[201] Major weapons systems have an operational readiness rate of 77 percent.[202] However, despite some improvements such as the 71 percent readiness rate for combat vehicles, less than half of Germany's Leopard 2 tanks are ready for action, only 35 of 400 Puma infantry fighting vehicles are "fit for war," less than 30 percent of the Navy's ships are "fully operational in the sense that all of the ship's major systems [are] functional and up to high-intensity operations," and the readiness rate for helicopters is only 40 percent.[203] Challenges to the rebuilding of Germany's military capabilities include a lack of domestic industry capacity, a need to rely on manufacturers for repair and upgrade of equipment, manpower shortages, and an outdated and slow procurement structure.[204]

In March 2022, Germany announced a deal to purchase 35 F-35A fighters "as replacement for the Tornado in the role of nuclear sharing." The Tornados are to be phased out between 2025 and 2030. The Luftwaffe also announced the purchase of 15 Eurofighter Typhoons "equipped for electronic warfare."[205] Germany has stated that these purchases do not change its commitment to take part in the Future Combat Air System (FCAS). The Luftwaffe is also reportedly moving toward procurement of an anti-ballistic missile system—either the Israeli-produced Arrow 3 system along with corresponding radar installed at three locations in Germany or the U.S.-produced THAAD system—to defend against attacks from Russian Iskander missiles.[206] In March 2021, the Ministry of Defence announced plans to upgrade its Patriot missiles to keep them in service until 2030 and to invest in drone technology rather than a next-generation air defense platform.[207]

Germany operates the largest fleet of heavy transport aircraft in Europe and has taken delivery of 37 of 53 A400M cargo aircraft ordered.[208] In May 2018, the U.S. approved the sale of six C-130J Hercules aircraft and three KC-130J tankers to France and Germany, which were planning to create a joint capability.[209] A new joint training center for both aircraft in Normandy broke ground in 2021 and is scheduled to begin operations in 2024.[210] The aircraft will be based at Évreux, France, where "this binational air transport squadron will have unrestricted exchange of aircraft, air crews, and maintainers, as well as technical and logistical support based on a common pool of spare parts and a common service support contract."[211]

Germany announced the end of its P-3C ORION maritime patrol aircraft (MPA) modernization program in June 2020. In July 2021, Germany's Defense Ministry signed a letter of offer and acceptance to procure five P-8 Poseidon maritime patrol aircraft under the U.S. government's Foreign Military Sales process.[212] In September, Boeing signed a contract with the U.S. Navy to produce the five planes at a "total price tag" of $1.6 billion with deliveries to begin in 2024.[213] Other planned air force procurements include replacement of the country's heavy transport helicopter fleet.[214]

In April 2022, an agreement was struck for the procurement of 140 missiles for Germany's five

Heron TP unmanned aerial vehicles.[215] Armed drones have been a contentious political issue for years in Germany, resisted in large part by the Social Democrats. That the decision has now been taken is a significant shift. Germany, France, Italy, and Spain plan to acquire a collective fleet of Eurodrones at an estimated total cost of $7.5 billion. Germany will have seven systems, each of which will include two ground stations and three aircraft.[216]

Germany continues to work with France on development of the Main Ground Combat System (MGCS), which will replace both nations' main battle tanks.[217] However, other funding priorities reportedly include "air transport capabilities, frigates and landing platform," along with €20 billion for munitions, and it is not expected that the project will be completed before 2035.[218]

Germany's troubled F-125 *Baden-Württemberg*–class frigate procurement has been completed. In December 2017, the frigate failed sea trials because of "software and hardware defects."[219] It reportedly had "problems with its radar, electronics and the flameproof coating on its fuel tanks," was "found to list to the starboard," and lacked sufficiently robust armaments as well as the ability to add them.[220] In addition, there are concerns about whether the frigate's ability to defend against aerial attack is so deficient that the ship is fit only for "stabilization operations," and the lack of sonar and torpedo tubes makes the ship vulnerable to attack by submarines.[221]

Germany returned the ship to the shipbuilder following delivery.[222] The redesigned *Baden-Württemberg* was belatedly commissioned in June 2019, and Germany took delivery of the fourth and final F-125 in January 2022.[223] In January 2020, Germany awarded a $6.7 billion contract to the Dutch Damen Shipyards for the next-generation F-126 frigate.[224] Damen is building the frigates "together with its [German] partners Blohm+Voss and Thales," and the first of four ordered (with the possibility of another two) is to be delivered in 2028.[225]

In July 2021, Germany and Norway signed an agreement for a joint program to construct six Type 212CD submarines (two for Germany and four for Norway), the first of which are to be delivered to the Norwegian Navy in 2029 with Germany taking delivery of its submarines in 2032 and 2034.[226] Germany's five K130 Corvettes are due to be delivered by 2025, and the first of the class is undergoing sea trials this year.[227]

In addition to procurements, Germany is seeking to improve readiness by having a combat-ready army division by 2025 rather than the originally planned target of 2027. Germany currently does not have a combat-ready division.[228]

Deployments often strain the military for years. In one example, "the concentration of all available resources in training, personnel, special tools and spare parts" during the 15-month deployment of TIGER combat helicopters to Mali in 2017 and 2018 "halted the process chain in domestic operations to such an extent that this continued to have a significant disruptive impact on materiel readiness in 2020." Even Germany's robust contribution to Baltic Air Policing "takes everything it has, often at the expense of training initiatives."[229]

The navy is not much better off. Problems with submarines include "long yard periods, difficulties with main batteries and the practice of 'controlled removal' from some submarines in order to keep others operational."[230] Reports surfaced in March 2021 that more than 100 German vessels including submarines rely on a Russian navigation system that does not meet NATO standards and that "[d]uring a worst-case cyberattack, navigation data could be hacked and the ship could fully lose operability."[231] And according to one analyst, the six-month deployment of the frigate *Bayern* to the Mediterranean, Indian Ocean, and Pacific theater beginning in August 2021 "came 'at the price of gutting the fleet,' with ship maintenance plans and training schedules altered to accommodate the *Bayern* mission."[232]

There is also a shortage of personnel. The number of personnel on active duty in Germany's army rose from 176,000 in 2016 to 183,695 by the end of 2021. However, "20,412 of the 116,974 military posts above the ranks of junior-ranking personnel were vacant [by the end of 2021]. This is the equivalent of 17.5 per cent." In addition, "at the end of 2019 the average age was 32.4 (32.9 for career soldiers and temporary-career volunteers, 20.1 for military service volunteers)" and "had risen to 33.1 by the first half of 2021 (33.8 for career soldiers and temporary-career volunteers, 20.7 for military service volunteers)."[233] In April 2021, Germany started a year-long "voluntary military service in homeland security" program that mixes combat training with specialist training to prepare 1,000 young Germans per year to deal with pandemics or natural disasters and protect critical infrastructure.[234]

France. France has one of NATO's most capable militaries and retains an independent nuclear deterrent capability. France rejoined NATO's Integrated Command Structure in 2009 but remains outside the alliance's nuclear planning group.

In 2022, France will spend 1.90 percent of GDP on defense and 28.6 percent of defense spending on equipment, narrowly missing meeting both NATO benchmarks.[235] France will spend at least $45.1 billion on defense in 2022, which is about $1.8 billion more than it spent in 2021. Incumbent President Emmanuel Macron has promised further increases, but the scale of those increases remains unclear.[236] France's defense budget for 2022, according to an Armed Forces Ministry spokesman, "reflects the nation's commitment to increase its defense funds by €1.7 billion year over year since 2019" and "represents a €9 billion increase over the 2017 budget." All told, the "French government has invested a cumulative €26 billion on defense over the past five years."[237]

Following the Cold War, France drew down the capabilities needed for peer-to-peer conflict. Between 1991 and 2021, "the number of battle tanks dropped from 1,349 to 222, the number of fighters from 686 to 254, the number of large surface ships from 41 to 19 and its active-duty manpower from 453,000 to 203,000." "Today, the French Army is beautiful," French General Eric Laval has said, "but in a high intensity conflict, would it be able to hold beyond 48 hours? High intensity would imply potentially very tough battles which could last between 72 to 96 hours and which we are not allowed to lose." Chief of the Army General Pierre Schill has described the current transformation process as the "most important modernization undergone since World War II."[238]

Air Force procurements include an upgrade to the aerial refueling and airlift fleet. In February 2020, France received the second of two KC-130J Super Hercules.[239] It also has been introducing new A330 MRTT (Multi-Role Tanker Transport) aircraft and as of April 19, 2022, had received six of a dozen ordered.[240] France received its 18th A400M Atlas military transport aircraft in April 2021 and plans to have 25 in service by 2025.[241] In October 2020, the government announced that the final 10 NH90 Tactical Troop Helicopters on order for delivery in 2025 and 2026 would be upgraded to meet special forces requirements.[242]

In January 2019, France signed a $2.3 billion agreement with Dassault Aviation for development of the F4 Standard upgrade to the Rafale fighter aircraft. The upgrade includes "a number of new features, the most important of which is an improvement in the aircraft's connectivity in both national and allied contexts, through software-defined radio, new links, and satellite communications."[243] The 28 Rafales to be delivered in 2025 "will include some F4 functionalities."[244] An additional 30 Rafales at full F4 configuration will be delivered by 2030. It is expected that "[t]he F4 version will significantly improve the 4.5-generation fighter's stealth capabilities, which although present in earlier versions to some extent failed to compete with fifth-generation combat aircraft."[245]

In February 2021, France signed a contract to procure an additional 12 Rafales at the F3R standard by 2025 to replace fighters that had recently been sold to Greece.[246] In May 2021, France, Germany, and Spain signed an agreement to develop a flying demonstrator aircraft for the Future Combat Air System, which is to begin entering service in 2040.[247] As of March 2022, because of ongoing disputes between defense companies on technology sharing, the program had yet to enter research and development.[248] Executives at Dassault, one of the main defense firms working on the program, stated that "development work on FCAS had in effect ground to a halt, with the company taking its engineers off the programme until it was able to agree [on] a way forward with Airbus."[249] Further complicating the picture, France now worries that Germany's plan to buy the F-35 places the two countries on diverging timelines for the new aircraft.[250] In March, France announced that it would upgrade 42 of 67 Tiger MkIII attack helicopters at a cost of $3.06 billion with delivery expected in 2029.[251]

France established a 220-person Space Command under the Air Force in September 2019 and has committed to investing $4.78 billion in its space capabilities by 2025.[252] In January 2021, NATO approved a Center of Excellence for Military Space to be located alongside French Space Command in Toulouse. The first researchers arrived in 2021, and the center is to be fully staffed by 2025.[253]

France intends to have a "fully capable" system to defend its space assets in place by 2030. "If our satellites are threatened," Armed Forces Minister Florence Parly has said, "we intend to blind those of our

adversaries. We reserve the right and the means to be able to respond: that could imply the use of powerful lasers deployed from our satellites or from patrolling nano-satellites."[254] In March 2021, with German and U.S. space forces also participating, France launched its first military exercise (AsterX) in space "to evaluate its ability to defend its satellites and other defense equipment from an attack."[255] AsterX 2022 took place in February and March with the U.S. participating.[256] In 2022, in addition to personnel and infrastructure, "[t]he Air and Space Force will receive a number of anti-drone jammer guns, and the service plans to deploy an experimental counter-UAS laser weapon aboard a warship at sea next year."[257]

Army procurements include Kochi HK416 Assault Rifles, more than 50 percent of which had been delivered as of March 2022; 300 ANAFI USA micro-drones; and 364 Serval Armored Vehicles, 108 of which are to be delivered by the end of 2022.[258] The Army will receive 50 upgraded Leclerc tanks in 2022 and plans to invest €58 million in the Main Ground Combat System, a next-generation tank that is being developed jointly with Germany.[259]

One major project is an upgrade to the French sea-based and air-based nuclear deterrent. The nation test-fired the M51.2, the current three-stage, sea-land strategic ballistic missile (without a warhead), in April 2021 as part of a development program for the M51.3, which is expected in 2025.[260]

France's sea-based deterrent is provided by four *Le Triomphant*–class ballistic missile submarines.[261] In March, in response to Russian aggression and threats, France reportedly had three of its four ballistic missile submarines at sea at the same time—something that has not happened in decades. Similar messaging was behind the successful test of the ASMP-A air-launched nuclear weapon in March 2022.[262] The government launched France's third-generation ballistic missile submarine program in February 2021. Delivery of the first submarine is planned for 2035 with three additional subs to be delivered every five years thereafter. Armed Forces Minister Parly has described the third-generation submarines in colorful terms as able to "hear better and defend themselves better whilst at the same time being more silent: They will not make more noise than a school of shrimp."[263]

Other major naval procurements include $1.09 billion through 2025 for the design phase of a new nuclear-powered aircraft carrier that will deploy 30 Future Combat Air Systems and is planned to enter service in 2038.[264] The carrier procurement will account for 20 percent of French naval vessel procurement spending during the next decade.[265] In December 2021, the U.S. Department of State's Defense Security Cooperation Agency (DSCA) cleared a potential $1.3 billion sale to France of an Electromagnetic Aircraft Launch System (EMALS), an Advanced Arresting Gear (AAG) system, and related equipment for its new carrier, which will incorporate two or three EMALs and relatively new electromagnetic catapult systems. According to the DSCA, "[t]he proposed sale will result in a continuation of interoperability between the United States and France."[266] The *Suffren*, the first of six new fifth-generation *Barracuda*-class nuclear-powered attack submarines, was commissioned in November 2020.[267] The second vessel, the *Duguay-Trouin* will be delivered by the end of the year.[268]

France is procuring five defense and intervention frigates, the first of which is due in 2024 and the second and third due in 2025.[269] The *Alsace*, a FREMM multi-mission frigate delivered in April 2021, and the *Lorraine*, which underwent sea trials in February and will be delivered by year's end, will have enhanced air defense capabilities in addition to the focus on anti-submarine warfare that characterizes the six FREMMs that were delivered between 2012 and 2019.[270]

In November 2020, Armed Forces Minister Parly announced the overhaul of the entire mine countermeasures systems by 2029.[271] In the same month, France and the U.K. signed a production contract for the joint Maritime Mine Counter Measure (MMCM) autonomous minehunting system.[272] Identical unmanned mine-hunting demonstrators were delivered to France and the U.K. in December 2021 and have begun capability development trials.[273]

In December 2016, France opened a cyber-operational command.[274] The French Military Programming Law for 2019–2025, enacted in the summer of 2018, added "an additional 1.6 billion euros for cyber operations along with 1,500 additional personnel for a total of 4,000 cyber combatants by 2025," and in January 2019, France issued its "first doctrine for offensive cyber operations."[275] This year, France will spend "€11 million to develop a sovereign combat cloud capability."[276]

France, which has NATO's third-largest number of active-duty personnel,[277] withdrew the last of its

troops from Afghanistan at the end of 2014, although all of its combat troops had left in 2012. France continues to remain engaged in the fight against the Islamic State, deploying 600 troops in Operation Chammal.[278] In February 2022, the *Charles de Gaulle* Carrier Strike Group undertook a three-month operational deployment to the Mediterranean that included support for Operation Chammal. During the deployment, the CSG took part in "'tri carrier operations' with the Italian Navy (Marina Militare)'s Cavour CSG and the U.S. Navy's Truman CSG" to maintain interoperability and train with new assets like F-35Bs and E-2D Advanced Hawkeye aircraft.[279]

France's contributions to NATO deterrence missions in Eastern Europe have included the deployment of approximately 337 soldiers to Estonia as part of NATO's Enhanced Forward Presence.[280] France also has deployed 500 troops to Romania "to further increase its contribution to reassurance for the Allies most exposed to Russia's threatening actions" in Ukraine and has taken part in Baltic Air Policing nine times, most recently flying out of Estonia from March 31 to August 1, 2022, with "four Mirage 2000-5 fighter aircraft and a 100-strong air force detachment."[281] In addition, four Rafale fighters along with air-to-air refuelers fly combat air patrol missions over Poland from bases in France as part of NATO's "enhanced Vigilance Activities."[282] France, which led NATO's VJTF in the first half of 2022,[283] is preparing for high-intensity warfare with a full-scale divisional exercise Orion for 2023 that could involve up to 10,000 troops in addition to air and naval units.[284]

On February 17, 2022, President Macron announced that "France will withdraw its [2,400] troops from Mali nine years after it first intervened to drive Islamic extremists from power but intends to maintain a military presence in neighboring West African nations." France also plans to reduce its Barkhane force in the Sahel region, which includes Burkina Faso, Chad, Mauritania, and Niger, from 4,300 to 2,500–3,000 troops.[285] The French military has more than 1,600 troops stationed in Djibouti, 900 in Côte d'Ivoire, 350 in Gabon, and 400 in Senegal.[286] France also has 650 troops stationed in the United Arab Emirates,[287] and a 15-year defense agreement between the two countries has been in effect since 2012.

In the Mediterranean, French Rear Admiral Jean J. de Muizon is Deputy Operation Commander of the EU-led Operation Irini, which has as its chief mission the enforcement of a U.N. arms embargo on Libya.[288] Operation Irini organized the April 2021 Le Pérouse naval exercise in the Bay of Bengal, which also included ships from Australia, Japan, India, and the U.S.[289] France also conducts occasional freedom-of-navigation operations in the Pacific. In 2021, for example, it sent a nuclear-propelled attack submarine and warship on an eight-month mission to the Indian and Pacific Oceans.[290]

France is keenly aware of and concerned about Chinese activity in the Pacific. In June 2021, French Admiral Pierre Vandier said that France faced "a logic of suffocation" in the region because of China's activities:

> We have a lot of evidence showing a change in posture. Our boats are systematically followed, sometimes forced to maneuver in front of Chinese ships to avoid a collision, in defiance of the rules of freedom of navigation that we defend. Some of our stopovers in countries in the region where we used to pass are canceled at the last moment, without clear explanations.[291]

The French-led, Abu Dhabi–based Awareness Strait of Hormuz initiative to help patrol the waters near Iran became operational on February 25, 2020. France continues to contribute to the initiative's military mission, Operation Agenor.[292]

Operation Sentinelle, launched in January 2015 to protect the country from terrorist attacks, is the largest operational commitment of French forces. Sentinelle and Operation Resilience, launched in March 2020 to help combat the coronavirus,[293] together represent a domestic commitment of 13,000 French forces.

Frequent deployments, especially in Operation Sentinelle, have placed significant strains on French forces and equipment. According to one analyst:

> Firstly, the conjunction of *Opération Sentinelle* and operations *Inherent Resolve* and *Barkhane* led to reduced training time for land forces and for pilots of combat aircraft, helicopters and especially transport aircraft, with the training shortfall amounting to nearly one-third of the intended flight hours. These personnel were on active duty and no longer receiving sufficient training.

> Secondly, the equipment was in intensive use and wearing out more quickly, but the budgets allocated for maintenance proved to be insufficient, which meant that equipment-readiness rates fell. Readiness rates were very low for transport and attack helicopters in particular—just over 50% in 2017—and for the armoured vehicles used in the Sahel, only three-quarters of which were serviceable during the same period.[294]

The United Kingdom. America's most important bilateral relationship in Europe is its Special Relationship with the United Kingdom. From the sharing of intelligence to the transfer of nuclear technology, a high degree of military cooperation has helped to make this relationship unique.

In 2022, the U.K. will spend 2.12 percent of GDP on defense and 28.1 percent of its defense budget on equipment.[295] In November 2020, the government announced plans to spend "a projected total of nearly $22 billion" on defense across the next four years "on top of a previous commitment to add $2 billion more to the country's defense budget, with the combined planned increase being approximately $24.1 billion through 2024." The new funding will be used in part for acquisitions, including frigates, Type 32 warships, and the U.K.'s Future Combat Air System. The U.K. is also standing up a Space Command and an Artificial Intelligence Center.[296]

In March 2021, the U.K. released its Integrated Review of Security, Defence, Development and Foreign Policy as well as a Defence Command Paper.[297] The Defence Ministry's Command Paper, which lays out a plan for military modernization, includes plans for "a new Multi-Role Ocean Surveillance capability to safeguard the critical undersea national infrastructure on which our prosperity depends" and a new special operations Army Ranger Regiment that "will be able to operate in complex, high-threat environments, taking on some tasks traditionally done by Special Forces."[298]

The paper also specifies significant cuts in capability, including retirement of Mine Counter Measures Vessels, and the early retirement of C-130J transport aircraft.[299] The army would be reduced "from the current Full Time Trade Trained strength of 76,000 to 72,500 by 2025"—the smallest it has been since 1714.[300] One analysis argues that the Army reduction "is less than might appear" because "the Army has been well below its planned personnel numbers for some years," but the loss of the C-130J will be felt as "[t]hese aircraft had been particularly favoured for Special Forces roles, which will now fall to the considerably larger A400M Atlas."[301] Additionally:

> [T]the Army will invest around £1.3bn in our armoured capability by upgrading 148 of our main battle tanks to ensure the Challenger III will become one of the most protected and most lethal in Europe. The remaining fleet will be retired. We will no longer upgrade Warrior but it will remain in service until replaced by Boxer, which we expect to happen by the middle of this decade.[302]

Russia's second invasion of Ukraine has raised questions about plans detailed in the Integrated Review: "Among the changes to be implemented was a pivot to the Asia–Pacific region and a transformation of the military towards hi-tech capabilities like space, cyber, and artificial intelligence, away from conventional weapons like main battle tanks."[303]

The U.K.'s Defence Equipment Plan 2021–2031 details spending of £238 billion (approximately $310 billion), across 10 years, an increase of 25 percent (£48 billion) from the previous year's plan.[304] Navy Command will receive £38.1 billion; Army Command, £41.3 billion; Air Command, £36.2 billion; Strategic Command, £35.0 billion; the Defence Nuclear Organisation, £58.1 billion; and the combined Strategic and Combat Air Programmes, £21.5 billion.[305] According to U.K. Secretary of State Ben Wallace MP:

> [W]e have also made the significant investments required to address new threats and to ensure that our armed forces remain capable and credible. This includes continuing to deliver the Dreadnought class of submarines to renew the nuclear deterrent, building new ships for the Royal Navy, a major modernisation and upgrade programme for the Army, developing the Future Combat Air System, and investing in space, cyber and digital.[306]

It remains unclear whether the Ministry of Defence will be able to cover the costs of the proposed equipment plan. The National Audit Office has warned that "in this year's Plan, risks remain

of over-optimistic assumptions about future budgets, costs and the likely achievement of savings targets." As a consequence, "[t]here is a real risk that, despite the additional funding it has received, the Department's ambition outstrips the resources available to it."[307]

Although the number of its active-duty servicemembers is small in comparison to the militaries of France and Germany, the U.K. maintains European NATO's most effective armed forces. Nevertheless, the Army admitted in October 2020 that it would miss targets set down in the 2015 Strategic Defence and Security Review (SDSR) and that "[a] fully capable division including a new Strike brigade will not be available for fielding until the early 2030s." By 2025, the Army will "only be able to deploy a combat division consisting of just a single armoured infantry brigade and an interim manoeuvre support brigade."[308] As explained by Ben Barry of the IISS:

> The Army was mandated [in the 2015 review] to deliver two armored infantry brigades, whereas they are now saying they can only generate one. They have enough vehicles for three infantry armored brigades, but my very strong suspicion is they haven't been spending money on spares. If they haven't got sufficient spare parts they will only risk sending one brigade on operations.[309]

In early 2021, the Defence Ministry announced that it had been granted observer status for the Franco-German Main Ground Combat System program, which is slated to replace French and German Main Battle Tanks "around 2035."[310] In April 2019, the U.K. reported that it was planning to upgrade only 148 of its 227 remaining Challenger II main battle tanks, cutting its fleet by one-third.[311] The 79 other tanks would be scavenged for spare parts.[312] Because Challenger tanks are not currently manufactured, sourcing spare parts is a continual problem.[313] The British Army had previously cut its tank forces by 40 percent in 2010.[314] The Defence Command Paper laid out plans to spend £1.3 billion on upgrades to "148 of our main battle tanks to ensure the Challenger III will become one of the most protected and most lethal in Europe."[315] One former U.K. tank officer recently wrote that the small number of available U.K. tanks means that "our armoured brigades can only play a bit part in someone else's military in alliance or coalition."[316] Production of the Challenger IIIs began in March, and initial operating capability is expected in 2027.[317]

In March 2021, the U.K. announced that it would no longer upgrade its Warrior armored vehicles but that they would remain in service through the mid-2020s.[318] In 2019, the U.K. signed a £2.8 billion deal to procure around 523 Boxer armored vehicles.[319] As a result of the decision to stop upgrading the heavier Warriors, the Army is "conducting an analysis on potential lethality enhancements of Boxer vehicles."[320] The Army announced a purchase of 100 additional Boxers (for a total of 623) in April 2022 with the first units expected to enter service next year.[321]

As of February 2022, the U.K. had taken delivery of 25 of 48 F-35Bs ordered with delivery of three more expected by the end of 2022.[322] Although the total number of F-35s that will be procured may not be known until "the 2025 time frame," the Defense Command Paper states an ambition to "grow the [F-35] Force, increasing the fleet size beyond the 48 aircraft that we have already ordered."[323] RAF F-35s based at Akrotiri, Cyprus, flew operational sorties for the first time in June 2019.[324]

In 2019, the U.K. took delivery of the last of 160 Typhoon aircraft, all of which were expected to stay in service until 2040.[325] However, in March 2021, the U.K. announced that 24 Tranche 1 Typhoons will be retired by 2025.[326] Project Centurion, a $515.83 million Typhoon upgrade to integrate additional Storm Shadow long-range cruise missiles and Brimstone precision attack missiles, was completed in 2018 and enabled the U.K. to retire its fleet of Tornado aircraft.[327] The U.K. recently detailed a £2 billion investment over the next four years to develop the Tempest, a sixth-generation fighter to be delivered in 2035, and is partnering with Italy, Japan, and Sweden on the project.[328]

The RAF operates the largest fleet of air-to-air refuelers in Europe, which is noteworthy because of the severe shortage of this capability on the continent.[329] Along with the U.K., the U.S. has produced and jointly operated an intelligence-gathering platform, the RC-135 Rivet Joint aircraft, which has seen service in Mali, Nigeria, and Iraq and is now part of the RAF fleet.[330]

The U.K. operates seven C-17 cargo planes and has started to bring the European A400M cargo aircraft into service after years of delays. Britain has taken delivery of 20 of 22 A400M heavy transport

aircraft ordered, with the final two set for delivery by the end of 2022, and appears to be planning to order additional A400Ms later in this decade.[331]

The Sentinel R1, an airborne battlefield and ground surveillance aircraft, flew its last operational flight in February 2021.[332] In January 2021, the U.K. took delivery of the last of nine P-8 Poseidon maritime patrol aircraft (MPA) that are to be based at RAF Lossiemouth in Scotland.[333] In 2018, retired Air Vice-Marshal Andrew Roberts testified to Parliament that "capable though the P-8 may be, the number of aircraft planned is undoubtedly inadequate to fulfil even the highest priority tasks likely to be assigned to the force in tension and hostilities."[334]

The U.K. also plans to procure approximately 45 medium helicopters to remain in service until the mid-2040s. This platform will replace four different helicopter platforms currently in service.[335]

The Royal Navy has lost 40 percent of its fleet since the end of the Cold War.[336] Of the 55 ships lost since the early 1980s, half are frigates, and the U.K. now operates only 12.[337] Overall:

> Budget cuts have delayed crucial procurement programmes. The Type 23 frigates and Trafalgar class submarines should have been replaced years ago, and it is becoming increasingly challenging and expensive to maintain aging vessels. The Navy has also taken too long to rectify major problems with vessels. One notable example is the issue with the Type 45 destroyers' propulsion system: the six vessels are not scheduled to be fixed until 2028, and there are already signs that this target may be slipping. As a result of these failures too many of our high-end warships spend too much of their time unavailable for operations.[338]

However, as construction of destroyers and frigates picks up steam, "the ambition is to rebuild to more than 20 by the end of the decade."[339]

The Royal Navy's surface fleet is based on the new Type-45 destroyer and the older Type-23 frigate. The latter will be replaced by eight Type-26 Global Combat Ships sometime in the 2020s.[340] The Type-26 Global Combat Ships are meant to handle a flexible range of tasks; weaponry will include "the Sea Ceptor missile defence system, a 5-inch medium calibre gun, flexible mission bay, Artisan 997 Medium Range Radar, and towed array sonars" as well as "the Future Cruise/Anti-Ship Weapon (FCASW) from 2028."[341] In September 2021, construction began on the first of five T31e frigates, which are scheduled to enter service in 2027.[342] One of the U.K.'s oldest Type-23 frigates, HMS *Monmouth*, was retired early at the end of 2021, and a second, HMS *Montrose*, is being retired this year. The projected savings of £100 million ($133 million) "will be invested into the development of the follow-on capabilities of the Type 26 anti-submarine warfare frigate and Type 31 general purpose frigate."[343]

From May 2021–December 2021, the HMS *Queen Elizabeth* conducted its first operational deployment that included time in the Mediterranean Sea and the Indian and Pacific Oceans, "working alongside ships from 17 countries and participating in 18 major exercises."[344] The Carrier Strike Group deployment included a U.S. destroyer and a Dutch frigate. The *Queen Elizabeth*'s embarked F-35s "undertook 1,278 sorties in total during the deployment, with more than 2,200 hours of flying, including 44 combat missions in support of Operation Inherent Resolve against the Islamic State (ISIS) in Iraq and Syria."[345] In November, the Carrier Strike Group took part in interoperability exercises with Italian F-35Bs. According to Commodore Steve Moorhouse, commander of the U.K. Carrier Strike Group, "The fact that US, Italian, and UK F-35Bs are able to fly to and from one another's decks offers tactical agility and strategic advantage to NATO."[346]

The U.K.'s *Queen Elizabeth*–class carriers are the largest operated in Europe. A second in this class, HMS *Prince of Wales*, will be the larger of the two carriers and was commissioned in December 2019.[347] However, the *Prince of Wales* has been beset by a series of leaks that have cost £3.3 million to correct and necessitated the cancellation of planned fixed-wing sea trials with F-35s off the U.S. east coast that were scheduled for January 2021.[348] The *Prince of Wales* returned to the sea in May 2021 after five months of repairs.[349] Each carrier is capable of supporting 36 F-35s, but the U.K. currently plans to procure only 48.[350] In March 2022, the *Prince of Wales* led NATO's Maritime High Readiness Force, serving as command ship for Exercise Cold Response, in which 35,000 troops from 28 nations converged in Norway and the surrounding seas through April for cold-weather exercises.[351]

The Royal Navy is also introducing seven *Astute*-class attack submarines as it phases out its older *Trafalgar*-class subs. The fifth *Astute*-class

submarine was launched in April 2021.[352] Crucially, the U.K. maintains a fleet of 13 Mine Counter Measure Vessels (MCMVs) that deliver world-leading capability. As a supplement, the U.K. began minehunting and survey operations using unmanned surface vessels (USVs) in March 2020.[353] In February 2022, the U.K. ordered a fifth ATLAS Remote Combined Influence Minesweeping System.[354]

Perhaps the Royal Navy's most important contribution is its continuous-at-sea, submarine-based nuclear deterrent based on the *Vanguard*-class ballistic missile submarine and the Trident missile. In July 2016, the House of Commons voted to renew Trident and approved the manufacture of four replacement submarines to carry the missile. The U.K.'s Integrated Review announced plans to raise the ceiling on the nation's nuclear-warhead stockpile because of "the developing range of technological and doctrinal threats."[355]

The U.K. plans to procure four new *Dreadnought*-class ballistic missile submarines, which are expected to have a 30-year life span, at a cost of £31 billion (plus an additional contingency funding stream of £10 billion for any potential cost overruns) with the first, HMS *Dreadnought*, to be completed in the early 2030s.[356] Construction on a second submarine, HMS *Valiant*, is ongoing, and construction on the third and fourth, HMS *Warspite* and HMS *King George VI*, is in its initial phases. In May 2021, the Ministry of Defence ordered a review of the program because of delays that continue to push back the date of completion.[357]

Despite these issues, the U.K. remains a leader in NATO, serving as the framework nation for NATO's EFP in Estonia and a contributing nation for the U.S.-led EFP in Poland with 150 troops.[358] In February 2022, the U.K. announced that it was doubling its troop presence in Estonia to more than 1,700 troops along with 48 Warrior Infantry Fighting Vehicles and 24 Challenger II Main Battle Tanks.[359] The U.K. also deployed 140 armed forces engineers to Poland in December 2021 "in response to the pressures from irregular migration at the Belarus border" and 350 Marines to Poland in February 2022 to assist "Polish Armed Forces with joint exercises, contingency planning and capacity building in the face of ongoing tensions on the Ukrainian border." Both deployments are on a bilateral basis.[360] In March 2022, the U.K. announced that more than 150 troops would be joining a new NATO multinational battalion in Bulgaria with 150 troops.[361]

The Royal Air Force has taken part in Baltic Air Policing six times since 2004, most recently in May–August 2020.[362] In March 2022, four RAF Typhoons were deployed to Romania to take part in NATO's enhanced Air Policing (eAP), the fourth time the RAF has participated in eAP since 2017.[363] That same month, the RAF announced that F-35s flying from RAF Marham were taking part in patrols of Polish and Romanian airspace as part of NATO's Enhanced Vigilance Activity.[364] From November–December 2019, four U.K. typhoons and 120 personnel took part in Icelandic Air Policing.[365]

Before its withdrawal early in 2021, the U.K. maintained a force of 895 troops in Afghanistan as part of NATO's Resolute Support Mission.[366] It also contributes to NATO's Kosovo Force;[367] the Standing NATO Mine Countermeasures Group One, Standing NATO Maritime Group One, and Standing NATO Maritime Group Two;[368] and, as an active part of the anti-ISIS coalition, Operation Shader.[369] In February 2021, the U.K. announced that it planned to increase the number of British troops (currently "about 100 soldiers") engaged in training Iraqi security forces.[370]

Italy. Italy hosts some of the U.S.'s most important bases in Europe, including the headquarters of the 6th Fleet. It also has NATO's fifth-largest military[371] and one of its more capable despite continued lackluster defense investment. In 2022, Italy will spend 1.54 percent of its GDP on defense and 22.7 percent of its defense budget on equipment, meeting the second NATO spending benchmark.[372] Spending in 2021 represented a 9.6 percent or $1.7 billion year-over-year increase from 2020.[373] In April, Prime Minister Mario Draghi announced that Italy would attain the 2 percent benchmark in 2028 rather than 2024, "a member of his ruling coalition, the Five Star party, [having] threatened to oppose a pending parliamentary vote on the matter over concerns the cash would be better used on social programs."[374] As indicated in the Defense Ministry's Multi-year Planning Document 2021–2023, released in August 2021, overall defense spending will decline "to about 1.23% [of GDP] by 2023 moving further away from the 2% that European NATO countries agreed to aim for at the 2014 NATO summit."[375] Italy spends the alliance's second-highest total on salaries (60.5 percent of its defense budget), "leaving proportionally less cash for military procurement, training, maintenance and infrastructure."[376]

Air Force procurements include (among others) T-345 and T-346 jet trainers; three MC-27J Praetorians "in the special operations configuration" and the EC-27J JEDI (Jamming and Electronic Defense Instrumentation) electronic warfare aircraft, both of which are variants of the C-27J Spartan; loitering munitions; and two KC-767 air-to-air refuelers.[377] Italy plans to purchase 60 F-35As for the Air Force and 30 F-35Bs, the F-35Bs to be divided equally between the Air Force and Navy.[378] A government-owned plant for final assembly of the F-35 is located in Cameri, Italy. Italy has thus far received 18 aircraft: 14 F-35As and one F-35B for the Air Force and three F-35Bs for the Navy.[379] The Air Force will continue funding development of the Eurodrone in conjunction with France, Germany, and Spain and is planning upgrades to its fleet of MQ-9 reaper drones, which Italy may be intending to arm.[380]

In December 2020, Italy signed the Future Combat Air System (FCAS) Cooperation agreement with Sweden and the U.K. The agreement covers "the cooperation for research, development, and 'joint-concepting'" of the sixth-generation Tempest fighter.[381] According to the planning document, Italy has allocated an initial €2 billion for the program.[382] In April 2021, Military Chief of Staff General Enzo Vecciarelli suggested that the Tempest might possibly employ directed energy weapons to defeat hypersonic missiles.[383]

Key Army procurements include the planned acquisition of 150 Centauro II tank destroyers, with delivery of the first tranche to be completed by the end of 2022; 650 Lince 2 light multi-role vehicles; 156 VBM Freccia 8x8 infantry combat vehicles; and upgrades to the Ariete Main Battle Tank (MBT). The Army plans to upgrade 125 Ariete MBTs, extending their operational timeline to 2040. However, analysts have noted that not enough money has been allocated to upgrade all 125, so either future allocations will be necessary or plans will be scaled down. Because of inadequate funding, other non-priority Army acquisition projects are not likely to come into service until the end of the decade.[384]

Key naval procurements include plans for four U212A submarines, the first of which is scheduled for delivery in May 2030; "a special operations & diving operations/Submarine Rescue Ship"; and the Teseo Mk2/E anti-ship missile, which is in development.[385] Italy launched the last of 10 new FREMM frigates in January 2020 and has funded "two-year feasibility and risk-reduction studies" with a view to replacing two aging destroyers with two 10,000-ton DDX destroyers by 2028.[386]

Italy's focus is the Mediterranean region where it participates in a number of stabilization missions including NATO's Sea Guardian, the EU's Operation Irini and Operation Atalanta, and the Italian Navy's own Operation Mare Sicuro (Safe Sea) off the Libyan coast.[387] Additionally, "Italy has 400 men, 142 land vehicles and 2 air vehicles in Libya" as part of the bilateral Mission of Assistance of Support in both Misrata and Tripoli.[388]

Despite a southern focus, Italy contributes to Standing NATO Mine Countermeasures Group Two, as well as the EFP battalion in Latvia (250 troops) and Operation Prima Parthica (600 troops, partly to help train Iraqi Security Forces), and is leading NATO Mission Iraq in 2022.[389] Italian air assets including Tornado jets operating out of the Ahmed Al Jaber air base in Kuwait are performing reconnaissance missions in support of the coalition to defeat the IS.[390] With 621 troops, Italy is the second-largest contributor to KFOR after the United States.[391] In March 2022, Italy announced that it was sending two mine countermeasures vessels to Romania.[392]

The Italian Air Force is a strong contributor to Baltic Air Policing and participated in a 15-month mission from September 2020–December 2021. Italian Typhoons first operated out of Lithuania from September 2020–April 2021.[393] In April 2021, Italy deployed four F-35As to Estonia, marking the first time the F-35 has taken part in Baltic Air Policing.[394] In September 2021, four Italian Typhoons took over flying out of Ämari air base in Estonia until December 1, 2021.[395] From December 2021–March 2022, the Air Force took part in NATO's enhanced Air Policing in Romania with four typhoons and 140 troops.[396] Italy previously participated in air policing out of Romania in 2019 and "a four-month enhanced Air Policing deployment to Bulgaria in 2017."[397] The Italian Air Force has deployed to Iceland to perform air patrols six times since 2013, most recently in June–July 2020 when six F-35As were deployed to Iceland.[398]

Poland. Situated in the center of Europe, Poland shares a border with four NATO allies, a long border with Belarus and Ukraine, and a 144-mile border with Russia's Kaliningrad Oblast, a Russian enclave between Poland and Lithuania on the Baltic

Sea. Poland also has a 65-mile border with Lithuania, making it the only NATO member state that borders any of the Baltic States. NATO's contingency plans for liberating the Baltic States in the event of a Russian invasion reportedly rely heavily on Polish troops and ports.[399]

Poland is ground zero for supplies and military equipment from Western allies reaching Ukraine. In early March 2022, it was reported that an average of 14 wide-bodied aircraft with matériel and weapons arrive at the Rzeszow airport each day.[400] The U.S. reportedly deployed two Patriot missile batteries at the airport, thereby underscoring its importance, in mid-March.[401]

Poland has an active military force of 114,050 that includes a 58,500-person army with 797 main battle tanks.[402] It also has a Territorial Defense Force (TDF) that is intended "to increase the strength of the armed forces and the defense capabilities of the country," according to former Minister of Defense Antoni Macierewicz, and "is also the best response to the dangers of a hybrid war like the one following Russia's aggression in Ukraine."[403] The TDF is mostly volunteer; "its personnel combine their civilian careers with limited military service of a minimum of two days twice a month and an annual two-week camp."[404] Its planned 17 brigades will be distributed across the country.[405] The force, which will number 53,000 by 2026,[406] constitutes the fifth branch of the Polish military, subordinate to the Minister of Defense.[407] National Defense Minister Mariusz Blaszczak has stated that the TDF's performance combating COVID-19 has "impeccably proved their importance and effectiveness."[408]

Poland is also investing in cyber capabilities. Its new Cyberspace Defense Force was established in February 2022 with a mission of "defense, reconnaissance and, if need be, offensive actions to protect Poland's Armed Forces from cyberattacks."[409] In November 2020, the U.S. and Poland signed an enhanced defense cooperation agreement that increased the number of U.S. forces stationed in Poland. The U.S. further expanded its footprint in Poland in 2022 following Russia's second invasion of Ukraine.

In 2022, Poland will spend 2.42 percent of GDP on defense and 20.4 percent of its defense budget on equipment, surpassing both NATO benchmarks.[410] Poland's 2020 National Security Strategy accelerated the timeline for spending 2.5 percent of GDP on defense from 2030 to 2024.[411] A law passed by the lower house of Parliament in March 2022 would increase defense spending to 3 percent of GDP in 2023 and increase the size of the armed forces to 300,000, 50,000 of whom would be members of territorial defense units).[412]

Poland is making major investments in military modernization and is planning to spend $133 billion on new capabilities by 2035 as envisioned in the Defense Ministry's Technical Modernization Plan for 2021–2035, which was signed in October 2019.[413] In addition, several major acquisitions have been announced in recent years. For example:

- In February 2018, Poland joined an eight-nation "coalition of NATO countries seeking to jointly buy a fleet of maritime surveillance aircraft."[414]
- In March 2018, in the largest procurement contract in its history, Poland signed a $4.75 billion deal for two Patriot missile batteries, which are scheduled for delivery between 2022 and 2025.[415]
- In February 2019, Poland signed a $414 million deal to purchase 20 high-mobility artillery rocket systems from the U.S. for delivery by 2023.[416]
- In April 2019, it signed a $430 million deal to buy four AW101 helicopters that will provide anti-submarine warfare and search-and-rescue capabilities and are to be delivered by the end of 2022.[417]
- In April 2020, it was announced that Poland had concluded negotiations for the purchase of 60 Javelin Command Launch Units (CLUs) and 180 Javelin anti-tank missiles and that "[a] formal agreement to this effect will be signed soon."[418]
- In January 2020, Poland signed a $4.6 billion deal to purchase 32 F-35As, with "deliveries from 2026," to be based at Poland's Lask Air Base. A group of 24 Polish pilots completed F-35 simulator training in Arizona early in 2021.[419]

- In April 2021, the U.S. and Poland signed an agreement for Poland to acquire five retrofitted C-130H Hercules transport aircraft (decommissioned by the U.S. in 2017) by 2024, with the first arriving in 2021.[420]

- In July 2021, Poland announced a deal to procure 250 M1A2 Abrams SEPv3 tanks with deliveries beginning by the end of 2022.[421]

- In April, Poland announced that it had "significantly accelerated the delivery of the Narew short-range air defense system" with the first of two fire modules to be delivered in September 2022 and the second to be delivered "on the turn of 2022 and 2023" rather than in 2027 as originally planned.[422]

Although Poland's focus is territorial defense, it had 290 troops deployed in Afghanistan as part of NATO's Resolute Support Mission.[423] Poland's Air Force has taken part in Baltic Air Policing 10 times since 2006, most recently operating four F-16s out of Šiauliai Air Base in Lithuania from December 2021–March 2022.[424] From August–October 2021, four Polish F-16s and 140 troops took part in Icelandic Air Policing, marking the first time that Poland has taken part in that mission.[425] In 2020, Poland was the lead for NATO's VJTF, and approximately half of the 6,000 troops in the VJTF's Spearhead Force were Polish.[426] Poland also is part of NATO's EFP in Latvia and has 247 troops in NATO's KFOR mission in Kosovo.[427]

In addition, 150 troops are deployed to Iraq, Jordan, Kuwait, and Qatar as part of Operation Inherent Resolve, and 30 are deployed as part of NATO Mission Iraq.[428] In April 2021, about 80 Polish soldiers deployed to Turkey as part of a NATO assurance mission to assist Turkey by providing additional maritime patrols over the Black Sea and the Mediterranean.[429] Poland also continues to take part in NATO's tailored forward presence in Bulgaria and Romania with 220 troops.[430] Finally, a tank company with 177 troops is deployed to Latvia as part of the NATO EFP battalion in that nation, and Poland reportedly is contributing 100 soldiers to a new NATO EFP battalion in Slovakia.[431]

Turkey. Turkey remains an important U.S. ally and NATO member. Autocratic President Recep Tayyip Erdogan's efforts to warm relations with Russia have strained U.S.–Turkish bilateral relations, but Russia's war in Ukraine and Turkey's support for Ukrainian forces are helping relations move forward on a more positive track. Turkey has been an important U.S. ally since the closing days of World War II. During the Korean War, it deployed 15,000 troops and suffered 721 killed in action and more than 2,000 wounded. Turkey joined NATO in 1952, one of only two NATO members (the other was Norway) that had a land border with the Soviet Union. Today, it continues to play an active role in the alliance, but not without difficulties.

Following an attempted coup in July 2016, thousands of academics, teachers, journalists, judges, prosecutors, bureaucrats, and soldiers were fired or arrested. Since 2016, 321,000 people have been detained in Turkey.[432] Opposition politicians and civil society leaders continue to be jailed. Turkey has built 131 new prisons since the attempted coup and is thinking of building another 100. In addition, Turkey's prison population reached 300,000 in 2020, up from 180,000 in 2016, and political dissidents have been barred from being released under COVID-19 amnesties.[433]

The post-coup crackdown has had an especially negative effect on the military. As of July 2021, 23,364 military personnel had been dismissed, and "[t]he effect on officer morale of these continuing purges," according to the IISS, has been "exacerbated by the widespread suspicion that promotions and appointments were increasingly politicised, with outspoken supporters of Erdogan fast-tracked for promotion."[434] In April 2021, Turkish authorities detained 10 former admirals who were part of a group of more than 100 retired naval officers that issued an open letter criticizing a government plan to construct a canal in Istanbul.[435]

Turkey's military is now suffering from a loss of experienced generals and admirals as well as an acute shortage of pilots. The dismissal of 680 of 1,350 pilots greatly exacerbated existing pilot shortages.[436] A third of the dismissed pilots were in the leadership echelon, commanding squadrons, fleets, or bases.[437] A request to the U.S. to send trainers was denied, as was a Turkish plan to utilize Pakistani trainers to fly the F-16.[438] Furthermore, as one analyst notes, "[t]he shortage of pilots was not the only problem. Many of the veteran staff members, especially at the operations and logistics centers that help pilots fly successful missions, were also removed, hampering

the close coordination between the air and land elements of the air force. Hundreds of engineers on the ground were also removed."[439]

The dilapidated condition of its air force is partly why Turkey has decided to acquire new ground-based air defense systems.[440] In December 2017, Turkey signed a $2.5 billion agreement with Russia to purchase two S-400 air defense systems. Delivery of the first system, consisting of two S-400 batteries and 120 missiles, was completed in September 2019, but delivery of a second system has been delayed by the inability of the two countries to agree on technology transfer and co-production.[441] "The decision to purchase two S-400 air-defence systems from Russia," reports the IISS, "was made by the president without detailed consultation with the armed forces about the possible technical and strategic repercussions."[442] U.S. officials have expressed grave concerns about this purchase and suspended Turkey from the F-35 program in July 2019, stating that "[t]he F-35 cannot coexist with a Russian intelligence collection platform that will be used to learn about its advanced capabilities."[443]

Turkey tested the system against its F-16s in November 2019 and further tested the system at Sinop near the Black Sea in October 2020.[444] In December, a U.S. official stated that "[w]e object to Turkey's purchase of the system and are deeply concerned with reports that Turkey is bringing it into operation."[445] That same month, in response to Turkey's purchase of the S-400 systems, the U.S. announced sanctions that took effect in April 2021.[446] Fearful of the effect of these sanctions, Turkey had been stockpiling spare F-16 parts since 2019.[447]

Turkish defense firms make "more than 800 components...for the F-35 as part of a nine-nation consortium," and Turkey's suspension from the program could cost Turkish defense industry as much as $10 billion.[448] (The U.S. Government Accountability Office has specified more precisely that 1,005 parts are produced by Turkish firms.[449]) As of April 2021, it was reported that "the Pentagon [had] hoped to remove all Turkish suppliers from the program by 2020, but it will take until 2022 for all contracts with Turkish companies to come to a close."[450] Both sides have floated proposals to end the dispute, with Turkey suggesting that it "not keep the S-400s operational at all times" and the U.S. suggesting that Turkey transfer its S-400s to Ukraine—a suggestion that Ankara rejected as "quite unrealistic."[451]

In his posture statement to Congress, General Wolters downplayed the lasting potential of the Turkish–Russian rapprochement:

> Turkey possesses the second largest military in NATO, borders a volatile region, and retains a pivotal role in countering Russia. The Turkish and Russian government's [sic] relationship remains competitive and transactional, with Turkish engagement often aimed at constraining Russian behavior. Both nations view the Black Sea region within their natural spheres of influence, and each continues to oppose the other in Ukraine, Libya, and Syria. Turkey can best counter Russia through close cooperation with the U.S. and NATO. We laud Turkey's strong support to Ukraine up to and during Russia's invasion, and we will continue to find ways to increase our cooperation with Turkey bilaterally and within NATO.[452]

Turkey has been a key supporter of Ukraine. In addition to $7.4 billion worth of trade with Kyiv in 2021, Turkish Bayraktar TB2 armed drones have proven particularly effective on the battlefield in Ukraine, and Turkey has continued to resupply Ukrainian forces "despite warnings from Moscow."[453] In February, Turkey closed the Bosphorus and Dardanelles straits to warships, blocking Russian warships operating in the Mediterranean from entering the Black Sea to join in the assault on Ukraine.[454]

Turkey remains reliant on Western companies, including for its drones. "While Turkish companies have assembled the drones," according to the Congressional Research Service, "they apparently rely on Western countries for some key components, including engines, optical sensors, and camera systems."[455]

Turkey is also seeking ways to modernize its manned aircraft. In October 2021, Turkey requested to purchase 40 F-16 fighters and 80 modernization kits for its older fleet of F-16s, and in a March 2022 letter to Congress, the State Department found "compelling long-term NATO alliance unity and capability interests, as well as U.S. national security, economic and commercial interests that are supported by appropriate U.S. defense trade ties with Turkey."[456] In May, the Biden Administration asked Congress to approve the sale of electronics, missiles, and radar to Turkey for F-16 upgrades. Following

Turkey's announcement in June that it was lifting its objections to Finland and Sweden joining NATO, the Administration reiterated its support both for the modernization kits and for the sale of new F-16s to Turkey: "The United States supports Turkey's modernization of its fighter fleet because that is a contribution to NATO security and therefore American security."[457]

Whether the equipment to modernize Turkey's fleet of F-16s or the purchase of new F-16s materializes remains to be seen, but the Administration's favorable position undoubtedly reflects a thawing trend because of Turkey's robust support for Ukraine and support for Finnish and Swedish membership. Absent modernization kits, however, Turkey will have to rely on its own domestic industry to modernize its aging fleet.[458]

In October 2019, Turkey launched a major offensive in Syria against the Kurdish-led Syrian Democratic Forces (SDF), partly to create a buffer zone near the Turkish border. The largest Kurdish armed faction within the SDF is the People's Protection Units (YPG), an offshoot of the Kurdistan Workers' Party (PKK), a U.S.-designated terrorist group that has waged war against Turkey off and on since 1984. The offensive led to the creation of a buffer zone jointly patrolled by Turkish and Russian forces following an agreement between Presidents Erdogan and Putin in Sochi.

In February 2020, Russian-backed Syrian regime forces launched an attack on Idlib, the last remaining stronghold of forces opposed to Bashar al-Assad. Turkish forces opposed the offensive and lost 36 soldiers before Turkey and Russia agreed to a cease-fire. The cease-fire was extended in February 2021 and, despite violations by the Syrian Army and rebel factions, has held because of a détente in Syria between Turkey and Russia.

Turkish threats to renege on a 2016 agreement with the EU under which the EU paid Turkey to stop the flow of migrants to Europe are a consistent and enduring source of friction (perhaps at least partly because Turkey did in fact renege on the agreement in 2020).[459] Turkey and Greece remain at odds over maritime boundaries and drilling rights between their two nations in the eastern Mediterranean in addition to drilling rights off the Cypriot coast and migration.[460] Maritime talks between Turkey and Greece are ongoing despite a flare-up of tensions in 2020.[461] Turkey is reportedly planning to build a naval base in the Turkish Republic of Northern Cyprus and began flying UAVs out of Geçitkale Airport in December 2019.[462] Recent upgrades to the base have further heightened tensions.[463] In March 2021, Turkey and Qatar signed a deal for Qatari pilots to train in Turkey, leading to speculation that Turkey had "decided to train its fighter pilots on Rafale jets of the Qatar Emiri Air Force (QeAF) so as to counter the Rafale fleet of its adversary, Greece."[464]

U.S. security interests in the region lend considerable importance to America's relationship with Turkey. Turkey is home to Incirlik Air Base, a major U.S. and NATO facility, but it was reported early in 2018 that U.S. combat operations at Incirlik had been significantly reduced and that the U.S. was considering permanent reductions. In January 2018, the U.S. relocated an A-10 squadron from Incirlik to Afghanistan to avoid operational disruptions; these aircraft have since returned to their home base in Missouri following the U.S. withdrawal. Restrictions on the use of Incirlik for operations in Syria have proven problematic. "[The] American operation to kill Islamic State leader Abu Bakr al-Baghdadi in Syria," for example, "saw U.S. forces use a base in Iraq instead of the much closer Incirlik, requiring a round trip of many hours."[465] The U.S. reportedly began reviewing plans to remove nuclear weapons from Incirlik in 2019, but no such decision has yet been taken.

Turkey's Konya Air Base continues to support NATO AWACS aircraft involved in counter-ISIS operations and Spain's operation of a Patriot system in the Turkish city of Adana under NATO auspices.[466] Turkey also hosts a crucial AN/TPY-2 radar at Kürecik, which is part of NATO's BMD system with a range of up to 1,800 miles.[467]

In 2021, Turkey commanded NATO's Very High Readiness Joint Task Force, making investments in their units assigned to the VJTF. "Turkey has made substantial investments into the unit—amongst the most mobile in NATO—particularly in its logistics and ammunition requirements planning," according to NATO. "The latest models of Turkish armed vehicles, anti-tank missiles and howitzers have been allocated to the force."[468]

Early in 2021, Turkey maintained "a 600-strong contingent" in Afghanistan as part of NATO's Resolute Support Mission.[469] The Turks also have contributed to a number of peacekeeping missions in the Balkans, still maintain 316 troops in Kosovo,[470]

and have participated in counterpiracy and counterterrorism missions off the Horn of Africa in addition to deploying planes, frigates, and submarines during the NATO-led operation in Libya. Turkey currently contributes to the Standing NATO Mine Countermeasures Group Two and Standing NATO Maritime Group Two.[471] It has taken part in Baltic Air Policing twice, most recently from May–September 2021 when four F-16s and 80 troops deployed to Malbork, Poland, for the mission.[472] In February 2022, Turkey closed the Bosphorus and Dardanelles Straits to warships—a decision that was made even more significant in April when Russia's Black Sea fleet flagship the *Moskva* was sunk by Ukrainian forces.[473] Turkey's closure of the Black Sea will prevent Russia from replacing this ship.

Turkey has a 355,200-strong active-duty military,[474] which is NATO's second largest after that of the United States. However, in June 2019:

> President Recep Tayyip Erdogan ratified a new law that reduced the length of compulsory military service from 12 to six months. On payment of a fee, compulsory service can be reduced further to one month of basic training. The changes were expected to reduce the overall size of the armed forces by around 35%, as part of Turkey's long-term plan to create compact and fully professional armed forces.[475]

Turkey, which in 2022 will spend 1.22 percent of GDP on defense and 30.8 percent of its defense budget on equipment,[476] has become increasingly self-reliant with respect to its defense capabilities. A particular success has been its Bayraktar drone program, and the nation is investing further in autonomous systems. Specifically:

> It has begun mass production of the Akıncı, a larger unmanned combat aircraft with a payload of 1.5 tons, and has started sea trials for the ULAQ, an unmanned surface vessel armed with six guided missiles. Four kinds of armed unmanned ground vehicles are competing for a Turkish government contract.
>
> Turkey also has plans for a "mobile naval mine" that can be used for surveillance and to attack ships, as well as for unmanned fighter jets and strike aircraft to be used on its amphibious assault ships, which officials say will be able to carry 30 to 50 drones.[477]

In June 2021, Turkey test-fired its "first domestically produced long-range anti-ship cruise missile." For many platforms, however, despite some successes, Turkey continues to rely on foreign components, including "US-made engines in the T129 ATAK attack helicopter, German guns for the Altay tank, and German air-independent propulsion systems for its new Reis-class submarines."[478]

Turkey's procurement of 250 new Altay main battle tanks has been delayed for years because of the need to acquire foreign components. The tank had relied on a German-made engine and transmission, as well as French armor, but the technology transfer was not approved. In March 2022, Turkey announced an agreement with two South Korean manufacturers to produce the engine and transmission for the tank.[479] Even the Bayraktar drone relies on "optical/infrared imaging and targeting sensor systems" from a Canadian company.[480]

In January 2022, Pakistan cancelled a $1.5 billion deal for 30 T129 ATAK helicopters, which had been signed in 2018, after years of delays.[481] The helicopter's engine is produced by American and British firms, and Turkey has yet to field a domestic replacement. In April 2021, the U.S. granted export licenses for the sale of six T129s to the Philippines; its refusal to issue export licenses for the sale to Pakistan led to the deal's cancellation.[482] In February 2022, Turkey announced that a Ukrainian-developed engine for its larger T929 helicopter gunship would be produced in Turkey. The helicopter is supposed to make its first flight equipped with the new engine in 2023, although the war could cause the flight to be delayed.[483]

Additionally, the French government has blocked development of anti-ballistic missiles because of Turkey's actions in Syria.[484] President Erdogan has personally lobbied French President Macron to allow Turkey to purchase the French–Italian EUROSAM consortium's SAMP/T missile-defense systems.[485] In March 2022, France and Italy reportedly agreed to "explore reviving the steps for the SAMP/T missile defense system."[486]

Having been removed from the F-35 program, Turkey is purportedly planning to produce a domestic fifth-generation jet, the TF-X National Combat Aircraft, with the goal of a prototype by 2023 and the first flight by 2025.[487]

Another major procurement is for six Type-214 submarines, the first of which was launched in May 2021 and will enter service in 2022 and the last of which is to be delivered in 2027.[488] In February 2019, Turkey announced upgrades of four *Preveze*-class submarines, to take place from 2023–2027.[489] According to reports in February 2022, "sea acceptance trials of the early delivered systems and the Critical Design Phase of the Preveze Mid-Life Modernisation Project have been successfully completed."[490]

In February 2019, Turkey launched an intelligence-gathering ship, the TCG *Ufuk*, which President Erdogan has described as the "eyes and ears of Turkey in the seas."[491] In December 2019, Turkey's Presidency of Defense Industries (SSB) released its Strategic Plan 2019–2023, which sets targets of 75 percent of Turkish military needs being supplied domestically by 2023 and defense exports being increased to $10.2 billion by 2023. Turkey is forecasted to fall short of its indigenous production target of 71 percent in 2023.[492] Turkish exports declined by 17 percent to $2.28 billion in 2020, down from $2.74 billion in 2019, but they rebounded in 2021 at more than $3 billion.[493]

The Baltic States. The U.S. has a long history of championing the sovereignty and territorial integrity of the Baltic States that dates back to the interwar period of the 1920s. Since regaining their independence from the Soviet Union in the early 1990s, the Baltic States have been staunch supporters of the transatlantic relationship. Although small in absolute terms, the three countries contribute significantly to NATO in relative terms.

Estonia. Estonia has been a leader in the Baltics in terms of defense spending. In 2022, it will spend 2.34 percent of GDP on defense and 21.6 percent of its defense budget on new equipment.[494] Estonia will increase defense spending by €476 million (US$523 million) in 2022 and plans to spend an estimated €350 million to acquire short-range and medium-range air defense systems by 2025.[495] In October 2021, Estonia signed a contract to purchase the Blue Spear 5G coastal shore-to-ship mobile defense system.[496]

Some of the planned investments in Estonia's Ministry of Defence Development Plan 2031, released in December 2021, details investments in ammunition stocks along with renovation of Ämari airfield, a modern War and Disaster Medicine Centre in Tartu, "mid-range anti-tank weapons for all infantry brigades," R-20 Rahe assault rifles, a mid-range air surveillance radar, CV-9035 armoured combat vehicle upgrades, and naval mines.[497] In February 2022, Estonia announced its largest defense procurement, a $794 million joint Estonia–Latvia purchase of such logistics vehicles as "cranes, loaders and aircraft loaders."[498]

Although the Estonian armed forces total only 7,200 active-duty personnel (including the army, navy, and air force),[499] they are held in high regard by their NATO partners and punch well above their weight inside the alliance. Between 2003 and 2011, 455 Estonians served in Iraq. Perhaps Estonia's most impressive deployment has been to Afghanistan: More than 2,000 Estonian troops were deployed between 2003 and 2014, and they sustained the second-highest number of deaths per capita among all 28 NATO members.

In 2015, Estonia reintroduced conscription for men ages 18–27, who must serve eight or 11 months before being added to the reserve rolls.[500] The number of Estonian conscripts will increase from 3,200 to 4,000 by 2025.[501]

Estonia has demonstrated that it takes defense and security policy seriously, focusing on improving defensive capabilities at home while maintaining the ability to be a strategic actor abroad. Estonia is acquiring a total of 18 South Korean–built K9 self-propelled howitzers at a total cost of €66 million.[502] It received the first units in October 2020, and the remaining units are scheduled to arrive by 2023.[503] Estonia has prioritized anti-tank weapons and has sent Ukraine significant numbers of Javelin anti-tank weapons from its own stocks.

In October 2020, Estonia withdrew from a joint armored vehicle development program with Latvia and Finland for financial reasons, deferring the acquisition of new armored vehicles until the end of the decade.[504] In 2019, it received two C-145A tactical transport aircraft donated by the U.S.[505] In July 2019, Estonia signed a $24 million deal to purchase 16,000 rifles from an American arms company, allowing it to phase out older Soviet and Israeli weapons.[506]

Estonia's cyber command became operational in August 2018 and is expected to include 300 people when it reaches full operational capability in 2023.[507] U.S. and Estonian cyber commands train together. In the fall of 2020, for example, they trained in Estonia to help search for and block incoming cyber threats from Russia.[508] Estonia also participated in

U.S. Cyber Command's CYBER FLAG 21-1 exercise in November 2021.[509]

In 2017, Estonia and the U.S. strengthened their bilateral relationship by signing a defense cooperation agreement that builds on the NATO–Estonia Status of Forces Agreement, further clarifying the legal framework for U.S. troops in Estonia.[510] Estonian forces have participated in a number of operations. These involvements include, for example, 45 soldiers in Resolute Support before its end, a vessel as part of the Standing NATO Mine Countermeasures Group One, and special forces as part of France's Task Force Takuba in the Sahel, which began in the latter half of 2020.[511] Estonian troops also take part in NATO Mission Iraq and the U.S.-led Operation Inherent Resolve in Iraq.[512] In February 2022, Estonia announced the withdrawal from Mali of 95 troops who had been taking part in the French-led Operation Barkhane.[513]

Latvia. Latvia's recent military experience has been centered on operations in Iraq and Afghanistan with NATO and U.S. forces. Latvia deployed more than 3,000 troops to Afghanistan and between 2003 and 2008 deployed 1,165 troops to Iraq. It also has contributed to a number of other international peacekeeping and military missions.

A recent IISS analysis notes that "Latvia has no requirement and therefore no capacity to independently deploy and sustain forces beyond its national boundaries, although the armed forces have taken part in a range of NATO and EU missions."[514] Nevertheless, despite a military that consists of only 8,750 full-time servicemembers, Latvia deployed troops to NATO's Resolute Support Mission until the mission's completion; participates in Operation Inherent Resolve in Iraq, where the mandate for the approximately 30 Latvian soldiers taking part was extended in March 2022 and now runs until February 2024; and has 136 troops deployed in NATO's KFOR mission.[515]

Latvia's State Defence Concept states that "the size of the National Guard must grow to 10,000 troops by 2024 and reach 12,000 troops by 2027."[516] Latvia "is investing $56 million annually through 2022 on military infrastructure, with two-thirds of this amount being spent to upgrade Ādaži military base, headquarters of the Canadian-led EFP battlegroup."[517]

In 2022, Latvia will spend 2.10 percent of GDP on defense and 24.6 percent of its defense budget on equipment, exceeding both NATO benchmarks.[518] It also plans to increase defense spending "in 2025 and subsequent years" to "not less than 2.5 percent of the forecasted GDP."[519]

In November 2018, Latvia signed a deal for four UH-60M Black Hawk helicopters, to be delivered in 2022. The Michigan National Guard began training Latvian maintainers on the helicopters in December.[520]

In 2018, Latvia signed a $133 million agreement to purchase Spike precision-guided tactical missiles from Israel, the first of which were delivered in February 2020.[521] A new team trainer for the missiles was installed in October 2020.[522] Latvia has also expressed interest in procuring a medium-range ground-based air defense system (GBADS). Joint procurements include (with Estonia) logistics vehicles and (with Finland) 200 armored vehicles for Latvian forces, the first two of which were delivered in March 2022 and all of which are to be delivered by 2029.[523] Latvia is looking to upgrade temporary fencing along its border with Belarus into permanent fencing to stem the flow of migrants "illegally pushed into Latvia from Belarus."[524] The U.S. continues to aid the Latvian border guard including through delivery of tactical vehicles.[525]

Lithuania. Lithuania is the largest of the three Baltic States, and its armed forces total 23,000 active-duty troops.[526] It reintroduced conscription in 2015 and lowered the age for compulsory service in December 2019.[527]

Lithuania has shown a steadfast commitment to international peacekeeping and military operations. Between 2003 and 2011, it sent 930 troops to Iraq. From 2002–2021, around 3,000 Lithuanian troops served in Afghanistan, and Lithuania continues to contribute to NATO's KFOR and NATO Mission Iraq.

In 2022, Lithuania will spend 2.36 percent of GDP on defense and 30.5 percent of its defense budget on equipment.[528] It also "plans to reach 2.5% [of GDP] by 2030."[529]

In April 2019, the U.S. and Lithuania signed a five-year "roadmap" defense agreement.[530] According to the Pentagon, the agreement will help "to strengthen training, exercises and exchanges" and help Lithuania "to deter and defend against malicious cyber intrusions and attacks." The two nations also pledged "to support regional integration and procurement of warfighting systems," including "integrated air and missile defense systems and capabilities to enhance

maritime domain awareness."[531] A Mobilisation and Host Nation Support law took effect in January 2021.[532] In December 2021, the U.S. and Lithuania signed a Reciprocal Defense Procurement Agreement that U.S. Secretary of Defense Austin stated "will improve conditions for the acquisition of defense items and increase military interoperability."[533]

In November 2020, Lithuania signed a $213 million deal to purchase four UH-60M Black Hawk helicopters beginning in late 2024; the U.S. is contributing approximately $30 million to help with the acquisition.[534] In October 2020, Lithuania received two Norwegian-made NASAMS mid-range air defense batteries armed with U.S.-made missiles.[535] In March 2022, Lithuania announced a $40 million purchase of additional Javelin anti-tank weapons.[536] In April 2021, the U.S. donated $10 million worth of M72 Light-Armor Weapons to Lithuania.[537] Additional procurements include Boxer Infantry Fighting Vehicles and €145 million for 200 U.S.-made Oshkosh Joint Light Tactical Vehicles (JLTV).[538] The first 50 JLTVs were delivered in October 2021 with 50 more to be delivered per year through 2024.[539] In January 2022, it was reported that Saab had recently "signed a framework agreement with the Lithuanian Ministry of Defence to provide the country with several Carl-Gustaf M4 recoilless weapons and ammunition" and that Lithuania's "Defence Materiel Agency has placed a $16.7 million ammunition order as part of the framework agreement."[540]

Current U.S. Military Presence in Europe

At its peak in 1953, because of the Soviet threat to Western Europe, the U.S. had approximately 450,000 troops in Europe operating across 1,200 sites. During the early 1990s, both in response to a perceived reduction in the threat from Russia and as part of the so-called peace dividend following the end of the Cold War, U.S. troop numbers in Europe were slashed. Today, the U.S. has fewer than 66,000 active-duty forces permanently stationed in Europe. However, increased rotational forces deployed to Europe to bolster deterrence in eastern NATO member states have increased total U.S. deployments to around 100,000.[541]

In response to Russia's second invasion of Ukraine, EUCOM created Control Center Ukraine (ECCU) to coordinate defense assistance to Ukraine. One official has described ECCU as "a combination of a call center, a watch floor, meeting rooms. They execute a battle rhythm to support decision-makers as well as 24/7 engagement and coordination around the globe with about 40 to 60 people at any given time."[542]

EUCOM "executes a full range of multi-domain operations in coordination with Allies and partners to support NATO, deter Russia, assist in the defense of Israel, enable global operations, and counter trans-national threats in order to defend the Homeland forward and fortify Euro-Atlantic security."[543] It is supported by four service component commands (U.S. Naval Forces Europe [NAVEUR]; U.S. Army Europe and Africa [USAREUR-AF]; U.S. Air Forces in Europe [USAFE]; and U.S. Marine Forces Europe [MARFOREUR]) and one subordinate unified command (U.S. Special Operations Command Europe [SOCEUR]).

U.S. Naval Forces Europe. NAVEUR is responsible for providing overall command, operational control, and coordination for maritime assets in the EUCOM and Africa Command (AFRICOM) areas of responsibility. This includes more than 20 million square nautical miles of ocean and more than 67 percent of the Earth's coastline.

This command is currently provided by the U.S. 6th Fleet, based in Naples, and brings critical U.S. maritime combat capability to an important region of the world. Some of the more notable U.S. naval bases in Europe include the Naval Air Station in Sigonella, Italy; the Naval Support Activity Base in Souda Bay, Greece; and the Naval Station at Rota, Spain.

The USS *Harry S. Truman* Carrier Strike Group deployed to the European theater in 2022 to demonstrate the U.S. commitment to NATO. In January, the CSG took part in NATO exercise Neptune Strike 22 under direct NATO operational control.[544] Examples of activities during the exercise include (among others) "airborne patrols with Allied aircraft through a series of missions spanning enhanced vigilance, training and NATO enhanced Air Policing (eAP), supporting the Alliance's cohesive defence and collective resolve," and the refueling of F/A-18E Super Hornets by German Air Force A400M Tankers in February and participation by HST squadrons in "a series of training missions with the Romanian Air Force" in March.[545]

U.S. Army Europe and Africa. In November 2020, U.S. Army Europe and U.S. Army Africa were consolidated into U.S. Army Europe and Africa

(USAREUR-AF), headquartered in Wiesbaden, Germany. According to the Army, "The consolidation of these two Army service component commands under one four-star commander will play a vital role in supporting missions across two interconnected theaters of operation" and will "enhance efficiency by streamlining the headquarters' ability to execute functions and improving global and regional contingency response efforts."[546]

The former USAREUR was established in 1952. Then, as today, the U.S. Army formed the largest portion of U.S. forces in Europe. USAREUR-AF includes "approximately 73,000 U.S. Army personnel assigned and deployed throughout Europe and Africa." Permanently deployed forces include the 2nd Cavalry Regiment, based in Vilseck, Germany; the 173rd Airborne Brigade in Italy; the 12th Combat Aviation Brigade out of Ansbach, Germany; and the 41st Field Artillery Brigade, with headquarters in Grafenwoehr, Germany. In addition:

> Operational and theater enablers such as the 21st Theater Sustainment Command, 10th Army Air and Missile Defense Command, 7th Army Training Command, 79th Theater Sustainment Command, 66th and 207th Military Intelligence Brigades, 2nd Theater Signal Brigade, U.S. Army NATO Brigade, Installation Management Command-Europe and Regional Health Command-Europe provide essential skills and services that support our entire force.[547]

Reactivated in September 2019, the 1st Battalion, 6th Field Artillery, 41st Field Artillery Brigade is currently the only U.S. rocket artillery brigade in Europe and represents the first time in 13 years that USAREUR has had the Multiple Launch Rocket System in its command; a second field artillery battalion was reactivated in the fall of 2020.[548] The 5th Battalion, 4th Air Defense Artillery Regiment, was activated in November 2018 and is now based in Ansbach.[549] The Army announced plans to outfit a complete battalion with the Maneuver-Short-Range Air Defense System (M-SHORAD) by the end of 2022; currently, only a platoon within the 5th Battalion, 4th Air Defense Artillery Regiment is equipped with M-SHORAD.[550] Finally, each year, USAREUR-AF takes part in more than 60 exercises with 80,000 multinational participants from 75 countries.[551]

U.S. Air Forces in Europe. USAFE provides a forward-based air capability that can support a wide range of contingency operations. It originated as the 8th Air Force in 1942 and flew strategic bombing missions over the European continent during World War II. USAFE describes itself as "direct[ing] air operations in a theater spanning three continents, covering more than 19 million square miles, containing 104 independent states, and possessing more than a quarter of the world's population and more than a quarter of the world's Gross Domestic Product."[552]

Headquartered at Ramstein Air Base, USAFE has seven main operating bases along with 114 geographically separated locations. The main operating bases include the RAF bases at Lakenheath and Mildenhall in the U.K., Ramstein and Spangdahlem Air Bases in Germany, Lajes Field in the Azores, Incirlik Air Base in Turkey, and Aviano Air Base in Italy.[553] Terrorist attacks against these installations remain a threat. In March and April 2020, five Tajik nationals who had come to Germany seeking refugee status were arrested for plotting terrorist attacks against U.S. Air Force bases and personnel on behalf of ISIS.[554]

Strategic bomber deployments continue periodically. In March 2021, U.S. B-1 and B-2 bombers flying from the U.S. deployed out of Orland Air Base in Norway and Lajes Field in Portugal, respectively.[555] According to the U.S. Air Force, "[s]trategic bomber deployments to Europe provide theater familiarization for aircrew members and demonstrate U.S. commitment to allies and partners."[556]

U.S. Marine Forces Europe. MARFOREUR was established in 1980. It was originally a "designate" component command (only a shell during peacetime but able to bolster its forces during wartime). Its initial staff was 40 personnel based in London. By 1989, it included more than 180 Marines in 45 separate locations in 19 countries throughout the European theater. Today, the command is based in Boeblingen, Germany, and approximately 300 of the more than 1,500 Marines based in Europe are assigned to MARFOREUR.[557] It was also dual-hatted as Marine Corps Forces, Africa (MARFORAF), under U.S. Africa Command in 2008.

MARFOREUR supports the Norway Air Landed Marine Air Ground Task Force, the Marine Corps' only land-based prepositioned stock. As of June 2017, the U.S. had enough prepositioned stock in Norway "to equip a fighting force of 4,600 Marines, led by a colonel, with everything but aircraft and desktop

computers."[558] The Norwegian government covers half of the costs of the prepositioned storage, and the stock's proximity to the Arctic region makes it particularly important geostrategically. In March–April 2022, these prepositioned stocks were a factor in the Cold Response 22 exercise, which included 30,000 troops from 27 countries including 3,000 U.S. Marines.[559]

In the fall of 2021, Special-Purpose Marine Air-Ground Task Force–Crisis Response–Africa (SPMAGTF–CR–AF), based in Moron, Spain, and created in the wake of the Benghazi embassy attack to respond to crises in the Middle East and North Africa, was shut down.[560] Subsequently, Marines have participated in training exercises conducted by AFRICOM's North and West Africa Response Force.[561]

U.S. Special Operations Command Europe. SOCEUR is the only subordinate unified command under EUCOM. Its origins are in the Support Operations Command Europe, and it was based initially in Paris. This headquarters provided peacetime planning and operational control of special operations forces during unconventional warfare in EUCOM's area of responsibility.

SOCEUR has been headquartered in Panzer Kaserne near Stuttgart, Germany, since 1967. It also operates out of RAF Mildenhall in the U.K. In 2018, it was announced that the U.S. was planning to relocate tactical United States special operations forces from Stuttgart to Baumholder. The move has yet to occur, but the Administration's FY 2022 Special Operations budget request included funding to support "three major renovation projects" as part of "the initiative to restation SOF to Baumholder in order to alleviate overcrowding in Stuttgart, Germany."[562]

Due to the sensitive nature of special operations, publicly available information is scarce. However, it has been documented that SOCEUR elements participated in various capacity-building missions and civilian evacuation operations in Africa and took an active role in the Balkans in the mid-1990s and in combat operations in the Iraq and Afghanistan wars.

SOCEUR also plays an important role in joint training with European allies and since June 2014 has maintained an almost continuous presence in the Baltic States and Poland in order to train special operations forces in those countries. A new special operations base in Latvia that opened in December 2020, for example, "includes a vehicle servicing facility, ammunition storage and two helipads for U.S. CV-22 aircraft from the United Kingdom-based 352nd Special Operations Wing," all of which "are designed to allow special operations forces to move rapidly in and out of the area and conduct maintenance."[563]

According to General Wolters:

> Our Special Operations Forces (SOF) work with European Allies and Partners to build capacity, counter malign activity, and improve resilience. These unique capabilities enable USEUCOM to identify, attribute, and counter Russian malign influence. Furthermore, our Special Operations personnel provide invaluable contributions in sensing the operational environment, enhancing our ability to deter through indications and warnings.[564]

The FY 2023 DOD EDI budget request includes $26,760,000 in declared special operations funding for "Increased SOF Partnership Activities in Central/Eastern Europe" ($491,000) and "SOF Staging Capabilities and Prepositioning" ($26,269,000).[565]

Key Infrastructure and Warfighting Capabilities

One of the major advantages of having U.S. forces in Europe is access to logistical infrastructure. EUCOM, for example, supports the U.S. Transportation Command (TRANSCOM) with its array of air bases and access to ports throughout Europe. One of these bases is Mihail Kogalniceanu Air Base in Romania, which "began as a major refueling and supply route for U.S. troops in support of Operation Iraqi Freedom, as well as a hub to neighboring countries in both EUCOM and CENTCOM," and from which "[n]ations, allies, and partners…leverage and promote an increasingly interoperable force and posture in coordination to deter further Russian aggression."[566]

Europe is a mature and advanced operating environment. Because of its decades-long presence in Europe, the U.S. benefits from tried and tested systems that involve moving large numbers of matériel and personnel into, within, and out of the continent. This offers an operating environment that is second to none in terms of logistical capability. There are more than 166,000 miles of rail line in Europe (not including Russia), an estimated 90 percent of the roads in Europe are paved, and the U.S. enjoys access to a wide array of airfields and ports across the continent.

Conclusion

Overall, the European region remains a largely stable, mature, and friendly operating environment. Russia remains the preeminent military threat, both conventionally and unconventionally, but Chinese propaganda, influence operations, and investments in key sectors present an additional—and serious—threat. The past year has proven to be an inflection point for transatlantic security with many European allies reinvesting in defense and capabilities. The long-term capacity of allies to sustain a commitment to defense remains to be seen, as does the outcome of the Russia–Ukraine war, which is dramatically reshaping the threat perception in Europe and necessitating operational planning that takes into account what is transpiring on a daily basis.

America's closest and oldest allies are located in Europe, and the region is incredibly important to the U.S. for economic, military, and political reasons. Perhaps most important, the U.S. has treaty obligations through NATO to defend the European members of that alliance. If the U.S. needs to act in or near the European region, there is a history of interoperability with allies and access to key logistical infrastructure that makes the operating environment in Europe more favorable than the environment in other regions in which U.S. forces might have to operate.

The past year saw continued U.S. reengagement with the continent, both militarily and politically, along with continued increases in European allies' defense budgets and capability investments. The U.S. has increased its investment in Europe, and its military position on the continent is stronger than it has been for some time. Russia's second invasion of Ukraine served to underscore the importance both of continued U.S. reinvestment in Europe and of efforts (which in many cases were already underway) by the U.S. and its allies to improve their defense capabilities.

The military, economic, political, and societal impact of Russia's aggression in Ukraine, including China's support for and enablement of the regime in Moscow, will have to be reckoned with for years to come. Though Russia is experiencing significant battlefield losses, it will be prudent for defense planners to assume that Russia will replace those losses of old equipment with modern, improved items, thereby sustaining the challenge to U.S. and NATO-partner security interests.

NATO's renewed focus on collective defense has resulted in a focus on logistics, newly established commands that reflect a changed geopolitical reality, and a robust set of exercises. NATO's biggest challenges derive from potential spillover from Ukraine, the need to arm and assist Ukrainian forces while also swiftly backfilling stocks, continued capability and readiness gaps for many European nations, continuing improvements and exercises in the realm of logistics, and the need to establish the ability to mount a robust response to both linear and nonlinear forms of aggression.

Scoring the European Operating Environment

As noted at the beginning of this section, various considerations must be taken into account in assessing the regions within which the U.S. may have to conduct military operations to defend its vital national interests. Our assessment of the operating environment utilized a five-point scale, ranging from "very poor" to "excellent" conditions and covering four regional characteristics of greatest relevance to the conduct of military operations:

1. **Very Poor.** Significant hurdles exist for military operations. Physical infrastructure is insufficient or nonexistent, and the region is politically unstable. The U.S. military is poorly placed or absent, and alliances are nonexistent or diffuse.
2. **Unfavorable.** A challenging operating environment for military operations is marked by inadequate infrastructure, weak alliances, and recurring political instability. The U.S. military is inadequately placed in the region.
3. **Moderate.** A neutral to moderately favorable operating environment is characterized by adequate infrastructure, a moderate alliance structure, and acceptable levels of regional political stability. The U.S. military is adequately placed.
4. **Favorable.** A favorable operating environment includes good infrastructure, strong alliances, and a stable political environment. The U.S.

military is well placed in the region for future operations.

5. **Excellent.** An extremely favorable operating environment includes well-established and well-maintained infrastructure; strong, capable allies; and a stable political environment. The U.S. military is exceptionally well placed to defend U.S. interests.

The key regional characteristics consist of:

a. **Alliances.** Alliances are important for interoperability and collective defense, as allies are more likely to lend support to U.S. military operations. Various indicators provide insight into the strength or health of an alliance. These include whether the U.S. trains regularly with countries in the region, has good interoperability with the forces of an ally, and shares intelligence with nations in the region.

b. **Political Stability.** Political stability brings predictability for military planners when considering such things as transit, basing, and overflight rights for U.S. military operations. The overall degree of political stability indicates whether U.S. military actions would be hindered or enabled and considers such questions as whether transfers of power are generally peaceful and whether there have been any recent instances of political instability in the region.

c. **U.S. Military Positioning.** Having military forces based or equipment and supplies staged in a region greatly enhances the ability of the United States to respond to crises and (presumably) achieve successes in critical "first battles" more quickly. Being routinely present in a region also helps the U.S. to maintain familiarity with its characteristics and the various actors that might try to assist or thwart U.S. actions. With this in mind, we assessed whether or not the U.S. military was well positioned in the region. Again, indicators included bases, troop presence, prepositioned equipment, and recent examples of military operations (including training and humanitarian) launched from the region.

d. **Infrastructure.** Modern, reliable, and suitable infrastructure is essential to military operations. Airfields, ports, rail lines, canals, and paved roads enable the U.S. to stage, launch operations from, and logistically sustain combat operations. We combined expert knowledge of regions with publicly available information on critical infrastructure to arrive at our overall assessment of this metric.

For Europe, scores this year remained steady, with an increase in the Strength of Alliances spurred by the enhanced threat to common interests resulting from Russia's invasion of Ukraine.

- Alliances: **5—Excellent**
- Political Stability: **4—Favorable**
- U.S. Military Positioning: **4—Favorable**
- Infrastructure: **4—Favorable**

Leading to a regional score of: **Favorable**

Operating Environment: Europe

	VERY POOR	UNFAVORABLE	MODERATE	FAVORABLE	EXCELLENT
Alliances					✓
Political Stability				✓	
U.S. Military Posture				✓	
Infrastructure				✓	
OVERALL				✓	

Endnotes

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Middle East

Nicole Robinson

Strategically situated at the intersection of Europe, Asia, and Africa, the Middle East has long been an important focus of United States foreign policy. U.S. security relationships in the region are built on pragmatism, shared security concerns, and economic interests that include large sales of U.S. arms to help countries in the region to defend themselves. The U.S. also has a long-term interest that derives from the region's economic importance as the world's primary source of oil and gas.

The region is home to a wide array of cultures, religions, and ethnic groups, including Arabs, Jews, Kurds, Persians, and Turks among others. It also is home to the three Abrahamic religions of Judaism, Christianity, and Islam as well as many smaller religions like the Bahá'í, Druze, Yazidi, and Zoroastrian faiths. The region contains many predominantly Muslim countries as well as the world's only Jewish state.

The Middle East is deeply sectarian, and these long-standing divisions, exacerbated by religious extremists' constant vying for power, are central to many of its current challenges. In some cases, these sectarian divides have persisted for centuries. Contemporary conflicts, however, have less to do with these histories than they do with modern extremist ideologies and the fact that today's borders often do not reflect cultural, ethnic, or religious realities. Instead, they are often the results of decisions taken by the British, French, and other powers during and soon after World War I as they dismantled the Ottoman Empire.[1]

In a way that many in the West do not understand, religion remains a prominent fact of daily life in the modern Middle East, and the friction within Islam between Sunnis and Shias is at the heart of many of the region's conflicts. This friction dates back to the death of the Prophet Muhammad in 632 AD.[2] Sunni Muslims, who form the majority of the world's Muslim population, hold power in most of the region's Arab countries.

However, viewing the Middle East's current instability through the lens of a Sunni–Shia conflict does not reveal the full picture. The cultural and historical division between Arabs and Persians has reinforced the Sunni–Shia split. The mutual distrust between many Sunni Arab powers and Iran, the Persian Shia power, compounded by clashing national and ideological interests, has fueled instability in such countries as Iraq, Lebanon, Syria, and Yemen. Sunni extremist organizations like al-Qaeda and the Islamic State (IS) have exploited sectarian and ethnic tensions to gain support by posing as champions of Sunni Arabs against Syria's Alawite-dominated regime and other non-Sunni governments and movements.

Regional demographic trends also are destabilizing factors. The Middle East contains one of the world's youngest and fastest-growing populations. This would be viewed as an advantage in most of the West, but not in the Middle East. Known as "youth bulges," these demographic tsunamis have overwhelmed many countries' inadequate political, economic, and educational infrastructures, and the lack of access to education, jobs, and meaningful political participation fuels discontent. Because almost two-thirds of the region's inhabitants are less than 30 years old, this demographic bulge will continue to undermine political stability across the region.[3]

The Middle East has more than half of the world's oil reserves and is the world's chief oil-exporting region.[4] As the world's largest producer and consumer of oil,[5] the U.S., even though it actually imports relatively little of its oil from the Middle East, has

a vested interest in maintaining the free flow of oil and gas from the region. Oil is a fungible commodity, and the U.S. economy remains vulnerable to sudden spikes in world oil prices.

During the COVID-19 crisis, oil prices plunged to below zero in April 2020 after stay-at-home orders caused a severe imbalance between supply and demand. This unprecedented drop in demand sparked an oil price war between Saudi Arabia and Russia, both of which tried to maintain revenue by increasing the price of the reduced amount of oil sold. Although both countries eventually agreed to reduce production by 12 percent, the plummet in oil prices during 2020 caused significant shocks for both exporters and importers.[6]

U.S. energy policies during 2021 exacerbated the problem. The new Administration's decisions to shutter some existing energy production and refuse permission for new exploration made the U.S. more sensitive to energy market volatility originating from the Middle East. Then Russia's invasion of Ukraine made matters worse. The price of oil jumped to more than $139 a barrel while gas prices doubled—the highest levels for both in almost 14 years.[7] In November 2021 and February 2022, Saudi Arabia declined the U.S. request to increase oil production, choosing instead to abide by the April 2020 agreement between OPEC and Russia to cut production.[8]

Because many U.S. allies depend on Middle East oil and gas, there is also a second-order effect for the U.S. if supply from the Middle East is reduced or compromised. For example, Japan is the world's third-largest economy and largest importer of liquefied natural gas (LNG).[9] The U.S. might not have to depend on Middle East oil or LNG, but the economic consequences arising from a major disruption of supplies would ripple across the globe. Thus, tensions and instabilities continue to affect global energy markets and directly affect U.S. national security and economic interests.

Financial and logistics hubs are growing along some of the world's busiest transcontinental trade routes, and one of the region's economic bright spots in terms of trade and commerce is in the Persian Gulf. The emirates of Dubai and Abu Dhabi in the United Arab Emirates (UAE), along with Qatar, are competing to become the region's top financial center.

The region's economic situation is part of what drives its political environment. The lack of economic freedom helped to fuel the popular discontent that led ultimately to the Arab Spring uprisings, which began in early 2011 and disrupted economic activity, depressed foreign and domestic investment, and slowed economic growth. Sustained financial and economic growth could lead to greater opportunities for the region's people, but tensions will persist as countries compete for this added wealth.

The COVID-19 pandemic has had massive repercussions for the entire region, affecting economies and shaking political systems in the aftermath of the crisis. Regional gross domestic product (GDP) did rise by 3 percent last year after contracting 5 percent in 2020, but most Middle Eastern economies will not exceed their pre-pandemic GDP per capita in 2022 according to economic projections.[10] Countries that were already facing economic challenges before the pandemic are now facing a long road to recovery, increasing the likelihood of political instability in an already fragile region.

The political environment has a direct bearing on how easily the U.S. military can operate in the region. The political situation in many Middle Eastern countries remains fraught with uncertainty. The Arab Spring uprisings of 2010–2012 formed a sandstorm that eroded the foundations of many authoritarian regimes, erased borders, and destabilized many of the region's countries,[11] but the popular uprisings in Tunisia, Libya, Egypt, Bahrain, Syria, and Yemen did not usher in a new era of democracy and liberal rule as many in the West were hoping. At best, they made slow progress toward democratic reform; at worst, they added to political instability, exacerbated economic problems, and contributed to the rise of Islamist extremists.

Today, the region's economic and political outlooks remain bleak. In some cases, self-interested elites have prioritized regime survival over real investment in human capital, aggravating the material deprivation of youth as issues of endemic corruption, high unemployment, and the rising cost of living remain unresolved. Since 2019, large-scale protests have called attention to the region's lack of economic and political progress. COVID-19 lockdowns and curfews temporarily disrupted protests in Lebanon and Iraq, but demonstrations resumed in 2020. They failed to gain momentum, but more recently, the spike in food and gas prices caused in part by the Russian invasion of Ukraine has sparked demonstrations in both countries that, alongside

ongoing socioeconomic deterioration, will fuel further discontent.[12] If similar protests were to break out across the region, the operational environment for U.S. forces could well be affected.

There is no shortage of security challenges for the U.S. and its allies in this region. Using the breathing space and funding afforded by the July 14, 2015, Joint Comprehensive Plan of Action (JCPOA),[13] for example, Iran exploited Shia–Sunni tensions to increase its influence on embattled regimes and undermine adversaries in Sunni-led states. In May 2018, the Trump Administration left the JCPOA after European allies failed to address many of its serious flaws, including its sunset clauses, and imposed crippling economic sanctions in a "maximum pressure campaign."[14] The sanctions are meant to force changes in Iran's behavior, particularly with regard to its support for terrorist organizations and refusal to renounce a nascent nuclear weapons program.[15]

Many of America's European allies publicly denounced the Trump Administration's decision to withdraw from the JCPOA, but most officials agree privately that the agreement is flawed and needs to be fixed. America's allies in the Middle East, including Israel and most Gulf Arab states, supported the U.S. decision and welcomed a harder line against the Iranian regime.[16]

However, the Biden Administration's efforts to resurrect the JCPOA threaten to disrupt the gains made by the Trump Administration. Iran has been mounting its own maximum-pressure campaign to force President Joseph Biden to lift sanctions and return to the 2015 agreement without imposing conditions. Indirect talks brokered by the European Union between U.S. and Iranian diplomats in Vienna resumed in April 2021, but as this study was being prepared, talks had stalled and a deal had not been reached.[17] Despite Iran's insistence, the Biden Administration has rightly refused to lift the terrorist designations of the Islamic Revolutionary Guard Corps (IRGC).[18]

Tehran attempts to run an unconventional empire by exerting great influence on sub-state entities like Hamas in the Palestinian territories, Hezbollah in Lebanon, the Mahdi movement and other Shia militias in Iraq, and the Houthi insurgents in Yemen. The Iranian Quds Force, the special-operations wing of Iran's Islamic Revolutionary Guard Corps, has orchestrated the formation, arming, training, and operations of these sub-state entities as well as other surrogate militias. These Iran-backed militias have carried out terrorist campaigns against U.S. forces and allies in the region for many years. On January 2, 2020, President Donald Trump ordered an air strike that killed General Qassem Suleimani, leader of the Iranian Quds Force, and Abu Mahdi al-Muhandis, leader of an Iraqi Shia paramilitary group, both of whom had been responsible for carrying out attacks against U.S. personnel in Iraq. Suleimani's and Muhandis's deaths were a huge loss for Iran's regime and its Iraqi proxies. They also were a major operational and psychological victory for the United States.[19]

In Afghanistan, Tehran's influence on some Shiite groups is such that thousands have volunteered to fight for Bashar al-Assad in Syria.[20] Iran also provided arms to the Taliban after it was ousted from power by a U.S.-led coalition[21] and has long considered the Afghan city of Herat near the Afghan–Iranian border to be within its sphere of influence. The Biden Administration's disastrous withdrawal from Afghanistan paved the way for a Taliban takeover and may deepen ties between Tehran and Kabul, increasing Iran's growing alliances in the region.

Iran already looms large over its weak and divided Arab rivals. Iraq and Syria have been destabilized by insurgencies and civil war and may never fully recover; Egypt is distracted by its own internal problems, economic imbalances, and the Islamist extremist insurgency in the Sinai Peninsula; and Jordan has been inundated by a flood of Syrian refugees and is threatened by the spillover of Islamist extremist groups from Syria.[22] Meanwhile, Tehran has continued to build up its missile arsenal, now the largest in the Middle East; has intervened to prop up the Assad regime in Syria; and supports Shiite Islamist revolutionaries in Yemen and Bahrain.[23]

In Syria, the Assad regime's brutal repression of peaceful demonstrations early in 2011 ignited a fierce civil war that killed more than half a million people and created a major humanitarian crisis: according to the United Nations High Commissioner for Refugees, "13.4 million people in need of humanitarian and protection assistance in Syria"; "6.6 million Syrian refugees worldwide, of whom 5.6 million hosted in countries near Syria" like Turkey, Lebanon, and Jordan; and "6.7 million internally displaced persons" within Syria.[24] The large refugee populations created by this civil war could become a source of recruits for extremist groups. For example, both

the Islamist Hay'at Tahrir al-Sham, formerly known as the al-Qaeda–affiliated Jabhat Fateh al-Sham and before that as the al-Nusra Front, and the self-styled IS, formerly known as ISIS or ISIL and before that as al-Qaeda in Iraq, used the power vacuum created by the war to carve out extensive sanctuaries where they built proto-states and trained militants from a wide variety of other Arab countries, Central Asia, Russia, Europe, Australia, and the United States.[25]

At the height of its power, with a sophisticated Internet and social media presence and by capitalizing on the civil war in Syria and sectarian divisions in Iraq, the IS was able to recruit more than 25,000 fighters from outside the region to join its ranks in Iraq and Syria. These foreign fighters included thousands from Western countries, among them the United States. In 2014, the U.S. announced the formation of a broad international coalition to defeat the Islamic State. By early 2019, the territorial "caliphate" had been destroyed by a U.S.-led coalition of international partners. However, the socioeconomic meltdown of Lebanon and ongoing fighting in Syria present an environment that the IS can exploit to reconstitute itself. Multiple reports indicate that the IS is recruiting young men in Tripoli, Lebanon.[26] There is a real danger that IS or other Islamic extremists could capitalize on the security vacuum created by that country's ongoing deterioration.[27]

Arab–Israeli tensions are another source of regional instability. The repeated breakdown of Israeli–Palestinian peace negotiations has created an even more antagonistic situation. Hamas, the Palestinian branch of the Muslim Brotherhood that has controlled Gaza since 2007, seeks to transform the conflict from a national struggle over sovereignty and territory into a religious conflict in which compromise is denounced as blasphemy. Hamas invokes jihad in its struggle against Israel and seeks to destroy the Jewish state and replace it with an Islamic state.

The signing of the Abraham Accords in 2020 caused a brief spark of hope. These U.S.-brokered agreements normalizing relations between Israel and the UAE and between Israel and Bahrain have created new opportunities for trade, investment, and defense cooperation.[28] They are also important milestones in the diplomatic march toward a broader Arab–Israeli peace.[29]

However, Israeli–Palestinian tensions have only worsened over the past two years. In April 2022, tensions escalated after nearly a month of deadly violence and attacks in Jerusalem's old city. Hamas fired a barrage of rockets into Israel from Gaza, and Israel responded with air strikes.[30] This escalation is remarkably similar to the 11-day war that took place around the same time in 2021.[31] Increased violence threatens the unity of Israel's ideologically divided coalition government led by Naftali Bennett. Members of the coalition, including the country's Arab minority Ra'am party, have suspended their support as a result of violence at the Al-Aqsa Mosque, causing the coalition to lose its slim majority in parliament.[32] As this study was being prepared, the situation remained tense.

Important Alliances and Bilateral Relations in the Middle East

The U.S. has strong military, security, intelligence, and diplomatic ties with several Middle Eastern nations, including Israel, Egypt, Jordan, and the six members of the Gulf Cooperation Council (GCC): Bahrain, Kuwait, Oman, Qatar, Saudi Arabia, and the United Arab Emirates. Because the historical and political circumstances that led to the creation of NATO have been largely absent in the Middle East, the region lacks a similarly strong collective security organization.

When it came into office, the Trump Administration proposed the idea of a multilateral Middle East Strategic Alliance with its Arab partners.[33] The initial U.S. concept, which included security, economic cooperation, and conflict resolution and deconfliction, generated considerable enthusiasm, but the project has since been sidelined. Middle Eastern countries traditionally have preferred to maintain bilateral relationships with the U.S. and generally have shunned multilateral arrangements because of the lack of trust among Arab states.

This lack of trust manifested itself in June 2017 when the Kingdom of Saudi Arabia, the UAE, Bahrain, Egypt, and several other Muslim-majority countries cut or downgraded diplomatic ties with Qatar after Doha was accused of supporting terrorism in the region.[34] These nations severed all commercial land, air, and sea travel with Qatar and expelled Qatari diplomats and citizens. In January 2021, Saudi Arabia, the UAE, Bahrain, and Egypt agreed to restore ties with Qatar during the 41st Gulf Cooperation Council Summit. Per the agreement, Saudi Arabia and its GCC allies lifted the economic

and diplomatic blockade of Qatar, reopening their airspace, land, and sea borders. This diplomatic détente paves the way for full reconciliation in the GCC and, at least potentially, a more united front in the Gulf.[35]

Military training is an important part of these relationships. Exercises involving the United States are intended principally to ensure close and effective coordination with key regional partners, demonstrate an enduring U.S. security commitment to regional allies, and train Arab armed forces so that they can assume a larger share of responsibility for regional security.

Israel. America's most important bilateral relationship in the Middle East is with Israel. Both countries are democracies, value free-market economies, and believe in human rights at a time when many Middle Eastern countries reject those values. With support from the United States, Israel has developed one of the world's most sophisticated air and missile defense networks.[36] No significant progress on peace negotiations with the Palestinians or on stabilizing Israel's volatile neighborhood is possible without a strong and effective Israeli–American partnership.

Ties between the U.S. and Israel improved significantly during the Trump Administration, encouraged by the relocation of America's embassy from Tel Aviv to western Jerusalem in 2018 and the Administration's role in facilitating the Abraham Accords, which were signed in 2020, and so far have shown no signs of deteriorating under the Biden Administration.[37] However, beyond "floating the idea of a White House meeting between senior Israeli and Palestinian officials,"[38] the Biden Administration has shown little interest in taking an active role in Israeli–Palestinian peace negotiations. If the conflict between the two sides continues to escalate, President Biden may find himself pressured to become more involved.

Saudi Arabia. After Israel, the U.S. military relationship is deepest with the Gulf States, including Saudi Arabia, which serves as de facto leader of the Gulf Cooperation Council. America's relationship with Saudi Arabia is based on pragmatism and is important for both security and economic reasons, but it has come under intense strain since the murder of Saudi dissident journalist Jamal Ahmad Khashoggi by Saudi security services in Turkey in 2018.

The Saudis enjoy huge influence across the Muslim world, and approximately 2 million Muslims participate in the annual Hajj pilgrimage to the holy city of Mecca. Riyadh has been a key partner in efforts to counter the influence of Iran. The U.S. is also the largest provider of arms to Saudi Arabia and regularly, if not controversially, sells munitions needed to resupply stockpiles expended in the Saudi-led campaign against the Houthis in Yemen.

Under the Biden Administration, bilateral relations have shown signs of deterioration because the Administration has turned a blind eye to Houthi aggression. For example, the Biden Administration lifted the Trump Administration's designation of the Houthi Ansar Allah (Supporters of God) movement as a terrorist organization despite Houthi drone and ballistic missile attacks against military and civilian targets in Saudi Arabia and the UAE. Both Saudi Arabia and the UAE have called for a redesignation of the Houthis, but as this book was being prepared, no such designation had been imposed.[39]

Gulf Cooperation Council. The GCC's member countries are located in an oil-rich region close to the Arab–Persian fault line and are therefore strategically important to the U.S.[40] The root of Arab–Iranian tensions in the Gulf is Tehran's ideological drive to export its Islamist revolution and overthrow the traditional rulers of the Arab kingdoms. This ideological clash has further amplified long-standing sectarian tensions between Shia Islam and Sunni Islam. Tehran has sought to radicalize Shia Arab minority groups to undermine Sunni Arab regimes in Saudi Arabia, Kuwait, Yemen, and Bahrain. It also sought to incite revolts by the Shia majorities in Iraq against Saddam Hussein's regime and in Bahrain against the Sunni al-Khalifa dynasty. Culturally, many Iranians look down on the Gulf States, many of which they see as artificial entities carved out of the former Persian Empire and propped up by Western powers.

GCC member countries often have difficulty agreeing on a common policy with respect to matters of security. This reflects both the organization's intergovernmental nature and its members' desire to place national interests above those of the GCC. The 2017 dispute regarding Qatar illustrates this difficulty.

Another source of disagreement involves the question of how best to deal with Iran. The UAE and Saudi Arabia, states that once opposed the Iran nuclear deal, were courting Tehran through diplomatic engagements in 2021.[41] Bahrain still maintains

a hawkish view of the threat from Iran. Oman prides itself on its regional neutrality, and Qatar shares natural gas fields with Iran, so it is perhaps not surprising that both countries view Iran's activities in the region as less of a threat and maintain cordial relations with Tehran. Kuwait tends to fall somewhere in the middle. Intra-GCC relations also can be problematic.

Egypt. Egypt is another important U.S. military ally. As one of six Arab countries that maintain diplomatic relations with Israel (the others are Jordan, Bahrain, the UAE, Sudan, and Morocco), Egypt is closely enmeshed in the Israeli–Palestinian conflict and remains a leading political, diplomatic, and military power in the region.

Relations between the U.S. and Egypt have been difficult since the 2011 downfall of President Hosni Mubarak after 30 years of rule. The Muslim Brotherhood's Mohamed Morsi was elected president in 2012 and used the Islamist-dominated parliament to pass a constitution that advanced an Islamist agenda. Morsi's authoritarian rule, combined with rising popular dissatisfaction with falling living standards, rampant crime, and high unemployment, led to a massive wave of protests in June 2013 that prompted a military coup in July. The leader of the coup, Field Marshal Abdel Fattah el-Sisi, pledged to restore democracy and was elected president in 2014 and again in 2018 in elections that many considered to be neither free nor fair.

Sisi's government faces major political, economic, and security challenges. However, because of Egypt's ban on anti-government demonstrations and Sisi's tight control of internal security, there was only one outbreak of protests in 2018.[42] Internal security may deteriorate if bread prices continue to rise—a development that could trigger a new wave of anti-government protests—or if the Islamic State resurges inside Egypt.

Quality of Armed Forces in the Region

The quality and capabilities of the region's armed forces are mixed. Some countries spend billions of dollars each year on advanced Western military hardware; others spend very little. Saudi Arabia's military budget is by far the region's largest, but in 2020 (the most recent year for which data are available), Oman spent the region's highest percentage of GDP on defense at 11 percent, followed by Saudi Arabia at 8.4 percent.[43]

Historically, figures on Middle East defense spending have been very unreliable, and the lack of data has worsened. For 2020, according to the Stockholm International Peace Research Institute, there were no available data for Qatar, Syria, the United Arab Emirates, and Yemen.[44]

Different security factors drive the degree to which Middle Eastern countries fund, train, and arm their militaries. For Israel, which fought and defeated Arab coalitions in 1948, 1956, 1967, 1973, and 1982, the chief potential threat to its existence is now an Iranian regime that has called for Israel to be "wiped off the map."[45] States and non-state actors in the region have invested in asymmetric and unconventional capabilities to offset Israel's military superiority.[46] For the Gulf States, the main driver of defense policy is the Iranian military threat combined with internal security challenges; for Iraq, it is the internal threat posed by Iran-backed militias and Islamic State terrorists.

The Israel Defense Forces (IDF) are considered the most capable military forces in the Middle East. Iran and other Arab countries have spent billions of dollars in an effort to catch up with Israel, and the resulting "arms race," supplied in part by the U.S., could threaten Israel's qualitative military effectiveness (QME). Iran is steadily improving its missile capabilities and, due to the expiration of the U.N. conventional arms embargo in October 2020, now has access to the global arms trade.[47] In response, Arab countries are upgrading their weapons capabilities while establishing officer training programs to improve military effectiveness.[48]

Israel funds its military sector heavily and has a strong national industrial capacity that is supported by significant funding from the U.S. Combined, these factors give Israel a regional advantage despite limitations of manpower and size. In particular, the IDF has focused on maintaining its superiority in missile defense, intelligence collection, precision weapons, and cyber technologies.[49] The Israelis regard their cyber capabilities as especially important and use cyber technologies for a number of purposes, including defending Israeli cyberspace, gathering intelligence, and carrying out attacks.[50]

In 2010, Israel signed a $2.7 billion deal with the U.S. to acquire approximately 20 F-35I "Adir" Lightning fighter jets (the F-35I is a heavily modified version of the Lockheed Martin F-35 stealth fighter).[51] In the 2021 conflict with Hamas, these

jets were deployed in a major combat operation that targeted dozens of Hamas rocket launch tubes in northern Gaza.[52]

Israel maintains its qualitative superiority in medium-range and long-range missile capabilities and fields effective missile defense systems, including Iron Dome and Arrow, both of which the U.S. helped to finance. However, because Congress has yet to pass legislation to restock the interceptors for the Iron Dome, Israel is vulnerable to ongoing threats across its border.[53] Israel also has a nuclear weapons capability (which it does not publicly acknowledge) that increases its strength relative to other powers in the region and has helped to deter adversaries as the gap in conventional capabilities has been reduced.

After Israel, the most technologically advanced and best-equipped armed forces are found in the GCC countries. Previously, the export of oil and gas meant that there was no shortage of resources to devote to defense spending, but the collapse of crude oil prices has forced oil-exporting countries to adjust their defense spending patterns. Nevertheless, GCC nations still have the region's best-funded (even if not necessarily its most effective) Arab armed forces. All GCC members boast advanced defense hardware that reflects a preference for U.S., U.K., and French equipment.

Saudi Arabia maintains the GCC's most capable military force. It has an army of 75,000 soldiers and a National Guard of 130,000 personnel reporting directly to the king. The army operates 1,010 main battle tanks including 500 U.S.-made M1A2s. Its air force is built around American-built and British-built aircraft and consists of more than 456 combat-capable aircraft that include F-15s, Tornados, and Typhoons.[54]

In fact, air power is the strong suit of most GCC members. Oman, for example, operates F-16s and Typhoons. In 2018, the U.S. government awarded Lockheed Martin a $1.12 billion contract to produce 16 new F-16 Block 70 aircraft (Lockheed Martin's newest and most advanced F-16 production configuration) for the Royal Bahraini Air Force.[55] Qatar operates French-made Mirage fighters and is buying 24 Typhoons from the U.K.[56]

In November 2020, the U.S. Department of State notified Congress that it had approved the sale of a $23.4 billion defense package of F-35A Joint Strike Fighters, armed drones, munitions, and associated equipment to the UAE. After a temporary freeze on arm sales by the Biden Administration, the sale moved forward in April 2021.[57] The sale is somewhat controversial because of Israeli concerns about other regional powers also possessing the most modern combat aircraft, potentially challenging an important Israeli advantage.

Middle Eastern countries have shown a willingness to use their military capability under certain and limited circumstances. The navies of GCC member countries rarely deploy beyond their Exclusive Economic Zones, but Kuwait, Bahrain, the UAE, Saudi Arabia, and Qatar have participated in and in some cases have commanded Combined Task Force 152, formed in 2004 to maintain maritime security in the Persian Gulf.[58] The UAE and Qatar deployed fighters to participate in NATO-led operations over Libya in 2011, although they did not participate in strike operations. To varying degrees, all six GCC members also joined the U.S.-led anti-ISIS coalition with the UAE contributing the most in terms of air power.[59] Air strikes in Syria by members of the GCC ended in 2017.

With 438,500 active personnel and 479,000 reserve personnel, Egypt has the region's largest Arab military force.[60] It possesses a fully operational military with an army, air force, air defense, navy, and special operations forces. Until 1979, when the U.S. began to supply Egypt with military equipment, Cairo relied primarily on less capable Soviet military technology.[61] Since then, its army and air force have been significantly upgraded with U.S. military weapons, equipment, and warplanes. Egypt's naval capabilities have also grown with the opening of a naval base at Ras Gargoub and the commissioning of a fourth Type-209/1400 submarine and a second FREMM frigate.[62]

Egypt has struggled with increased terrorist activity in the Sinai Peninsula, including attacks on Egyptian soldiers, attacks on foreign tourists, and the October 2015 bombing of a Russian airliner departing from the Sinai. The Islamic State's "Sinai Province" terrorist group has claimed responsibility for all of these actions.[63] Although the Egyptian army regained control of two IS-controlled villages, militant attacks against army affiliates in different parts of North Sinai and the kidnapping of tribal leaders threaten the stability of the area.[64]

Jordan is a close U.S. ally and has small but effective military forces. The principal threats to its security include terrorism, turbulence spilling

over from Syria and Iraq, and the resulting flow of refugees. Although Jordan faces few conventional threats from its neighbors, its internal security is threatened by Islamist extremists returning from fighting in the region who have been emboldened by the growing influence of al-Qaeda and other Islamist militants. As a result, Jordan's highly professional armed forces have focused on border and internal security in recent years.

Considering Jordan's size, its conventional capability is significant. Jordan's ground forces total 86,000 soldiers and include 182 British-made Challenger 1 tanks and four French-made Leclerc tanks. Forty-seven F-16 Fighting Falcons form the backbone if its air force,[65] and its special operations forces are highly capable, having benefitted from extensive U.S. and U.K. training. Jordanian forces have served in Afghanistan and in numerous U.N.-led peacekeeping operations.

Iraq has fielded one of the region's most dysfunctional military forces. After the withdrawal of U.S. troops in 2011, Iraq's government selected and promoted military leaders according to political criteria.[66] Shiite army officers were favored over their Sunni, Christian, and Kurdish counterparts, and former Prime Minister Nouri al-Maliki chose top officers according to their political loyalties. Politicization of the armed forces also exacerbated corruption within many units with some commanders siphoning off funds allocated for "ghost soldiers" who never existed or had been separated from the army for various reasons.[67]

The promotion of incompetent military leaders, poor logistical support because of corruption and other problems, limited operational mobility, and weaknesses in intelligence, reconnaissance, medical support, and air force capabilities have combined to undermine the effectiveness of Iraq's armed forces. In June 2014, for example, the collapse of as many as four divisions that were routed by vastly smaller numbers of Islamic State fighters led to the fall of Mosul.[68] The U.S. and its allies responded with a massive training program for the Iraqi military that led to the liberation of Mosul on July 9, 2017.[69] Since 2017, the capabilities and morale of Iraq's armed forces have improved, but there is still concern about Baghdad's ability to sustain operational effectiveness in the face of the current U.S. drawdown and redeployment of forces. The continued presence of armed militias presents the biggest obstacle to force unity.[70]

Current U.S. Military Presence in the Middle East

Before 1980, the limited U.S. military presence in the Middle East consisted chiefly of a small naval force that had been based in Bahrain since 1958. The U.S. "twin pillar" strategy relied on prerevolutionary Iran and Saudi Arabia to take the lead in defending the Persian Gulf from the Soviet Union and its client regimes in Iraq, Syria, and South Yemen,[71] but the 1979 Iranian revolution demolished one pillar, and the December 1979 Soviet invasion of Afghanistan increased the Soviet threat to the Gulf.

In January 1980, President Jimmy Carter proclaimed in a commitment known as the Carter Doctrine that the United States would take military action to defend oil-rich Persian Gulf States from external aggression. In 1980, he ordered the creation of the Rapid Deployment Joint Task Force (RDJTF), the precursor to U.S. Central Command (USCENTCOM), which was established in January 1983.[72]

Until the late 1980s, according to USCENTCOM, America's "regional strategy still largely focused on the potential threat of a massive Soviet invasion of Iran."[73] After the collapse of the Soviet Union, Saddam Hussein's Iraqi regime became the chief threat to regional stability. Iraq invaded Kuwait in August 1990, and the United States responded in January 1991 by leading an international coalition of more than 30 nations to expel Saddam's forces from Kuwait. CENTCOM commanded the U.S. contribution of more than 532,000 military personnel to the coalition's armed forces, which totaled at least 737,000.[74] This marked the peak U.S. force deployment in the Middle East.

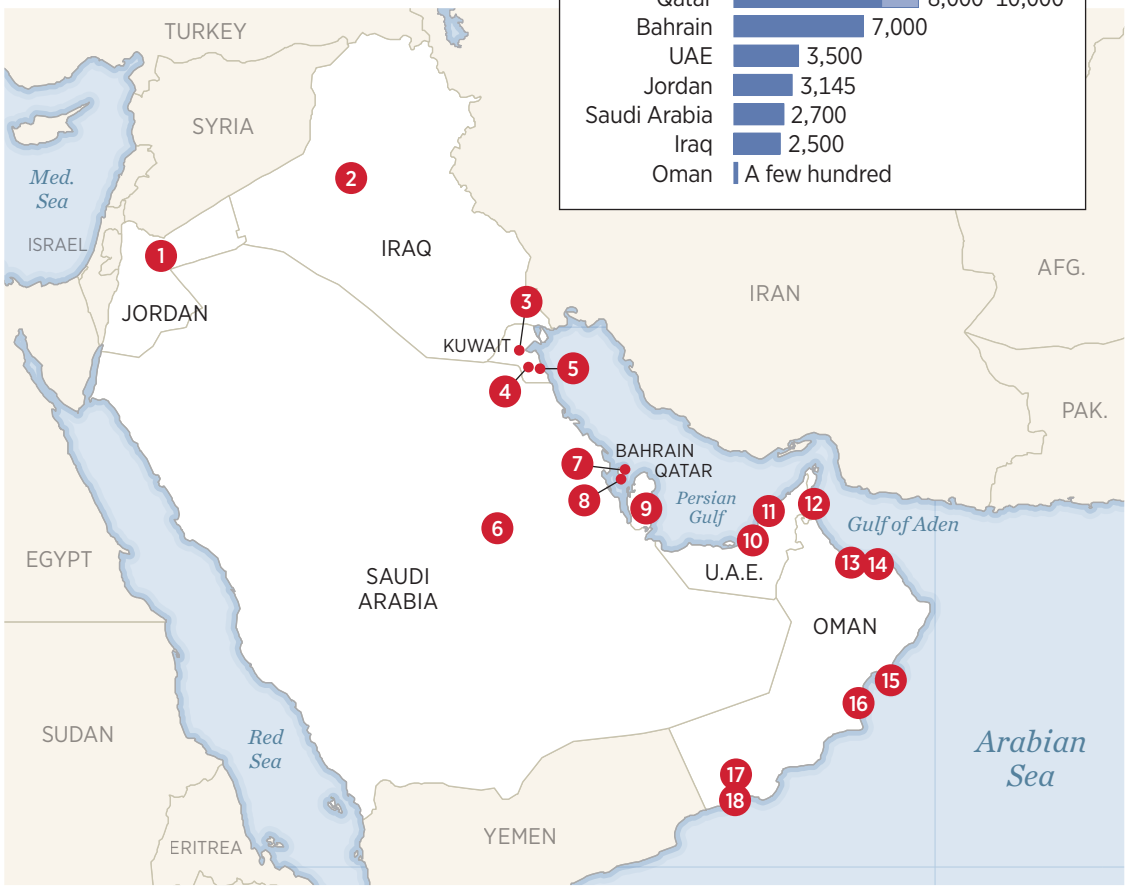
Confrontations with Iraq continued throughout the 1990s as Iraq continued to violate the 1991 Gulf War cease-fire. Baghdad's failure to cooperate with U.N. arms inspectors to verify the destruction of its weapons of mass destruction and its links to terrorism led to the U.S. invasion of Iraq in 2003. During the initial invasion, U.S. forces numbered nearly 192,000,[75] joined by military personnel from coalition forces. Apart from the "surge" in 2007, when President George W. Bush deployed an additional 30,000 personnel, the number of American combat forces in Iraq fluctuated between 100,000 and 150,000.[76]

In December 2011, the U.S. officially completed its withdrawal of troops, leaving only 150 personnel attached to the U.S. embassy in Iraq.[77] Later, in

MAP 3

U.S. Access to Bases and Facilities in the Middle East

COUNTRY	U.S. TROOPS
Kuwait	13,500
Qatar	8,000–10,000
Bahrain	7,000
UAE	3,500
Jordan	3,145
Saudi Arabia	2,700
Iraq	2,500
Oman	A few hundred



JORDAN
1. Muwaffaq Salti Airbase

IRAQ
2. al-Asad Air Base

KUWAIT
3. Ali al-Salem Air Base
4. Ahmad al-Jabir Air Base
5. Camp Arifjan

SAUDI ARABIA
6. Eskan Village Air Base

BAHRAIN
7. Khalifa bin Salman Port
8. Shaykh Isa Air Base

QATAR
9. Al Udeid Air Base

UNITED ARAB EMIRATES
10. Al-Dhafra Air Base
11. Jebel Ali Port
12. Fujairah Naval Base

OMAN
13. Musnanah Air Base
14. Muscat International Airport
15. RAFO Masirah
16. Al Duqm Port
17. RAFO Thumrait
18. Salalah Port

SOURCE: Heritage Foundation research.

heritage.org

the aftermath of IS territorial gains in Iraq, the U.S. redeployed thousands of troops to the country to assist Iraqi forces against IS and help to build Iraqi capabilities. In July 2021, the Biden Administration announced that America's combat mission in Iraq would come to a close by the end of the year and that the remaining U.S. forces would transition to an advisory role. U.S. force levels in Iraq declined from 5,200 in 2020 to 2,500 in January 2021.[78]

The U.S. also continues to maintain a limited number of forces in other locations in the Middle East, primarily in GCC countries. Rising naval tensions in the Persian Gulf prompted the additional deployments of troops, Patriot missile batteries, and combat aircraft to the Gulf in late 2019 to deter Iran, but most were later withdrawn.[79]

By January 2022, CENTCOM deployed an estimated 40,000 to 60,000 U.S. troops in 21 countries within its area of responsibility.[80] Although the exact disposition of U.S. forces is hard to triangulate because of the fluctuating nature of U.S. military operations in the region,[81] information gleaned from open sources reveals the following:

- **Kuwait.** More than 13,500 U.S. personnel are based in Kuwait and spread among Camp Arifjan, Ahmad al-Jabir Air Base, and Ali al-Salem Air Base. A large depot of prepositioned equipment and a squadron of fighters and Patriot missile systems are also deployed to Kuwait.[82]

- **UAE.** About 3,500 U.S. personnel are deployed at Jebel Ali port, Al Dhafra Air Base, and naval facilities at Fujairah. Jebel Ali port is the U.S. Navy's busiest port of call for aircraft carriers. U.S. Air Force personnel who are stationed in the UAE use Al Dhafra Air Base to operate fighters, unmanned aerial vehicles (UAVs), refueling aircraft, and surveillance aircraft. In addition, the United States has regularly deployed F-22 Raptor combat aircraft to Al Dhafra and in April 2021 deployed the F-35 combat aircraft because of escalating tensions with Iran. Patriot and Terminal High Altitude Area Defense (THAAD) missile systems are deployed for air and missile defense.[83]

- **Oman.** In 1980, Oman became the first Gulf State to welcome a U.S. military base. Today, it provides important access in the form of over 5,000 aircraft overflights, 600 aircraft landings, and 80 port calls annually. The number of U.S. military personnel in Oman has fallen to a few hundred, mostly from the U.S. Air Force. According to the Congressional Research Service, "the United States reportedly has access to Oman's military airfields in Muscat (the capital), Thumrait, Masirah Island, and Musnanah" as well as (pursuant to a March 2019 Strategic Framework Agreement) the ports of Al Duqm and Salalah.[84]

- **Bahrain.** Approximately 7,000 U.S. military personnel are based in Bahrain. Because Bahrain is home to Naval Support Activity Bahrain and the U.S. Fifth Fleet, most U.S. military personnel there belong to the U.S. Navy. A significant number of U.S. Air Force personnel operate out of Shaykh Isa Air Base, where F-16s, F/A-18s, and P-8 surveillance aircraft are stationed. U.S. Patriot missile systems also are deployed to Bahrain. The deep-water port of Khalifa bin Salman is one of the few facilities in the Gulf that can accommodate U.S. aircraft carriers.[85]

- **Saudi Arabia.** In June 2021, President Biden reported to Congress that approximately 2,700 U.S. military personnel were deployed in Saudi Arabia "to protect United States forces and interests in the region against hostile action by Iran or Iran-backed groups." The President confirmed that these troops, "operating in coordination with the Government of the Kingdom of Saudi Arabia, provide air and missile defense capabilities and support the operation of United States fighter aircraft."[86] The six-decade-old United States Military Training Mission to the Kingdom of Saudi Arabia, the four-decade-old Office of the Program Manager of the Saudi Arabian National Guard Modernization Program, and the Office of the Program Manager–Facilities Security Force are based in Eskan Village Air Base approximately 13 miles south of the capital city of Riyadh.[87]

- **Qatar.** The number of U.S. personnel, mainly from the U.S. Air Force, deployed in Qatar "has ranged from about 8,000 to over 10,000."[88] The U.S. operates its Combined Air Operations

Center at Al Udeid Air Base, which is one of the world's most important U.S. air bases. It is also the base from which the anti-ISIS campaign was headquartered. Heavy bombers, tankers, transports, and ISR (intelligence, surveillance, and reconnaissance) aircraft operate from Al Udeid Air Base, which also serves as the forward headquarters of CENTCOM. The base houses prepositioned U.S. military equipment and is defended by U.S. Patriot missile systems. The recent tensions between Qatar and other Arab states have not affected the United States' relationship with Qatar.

- **Jordan.** According to CENTCOM, Jordan "is one of [America's] strongest and most reliable partners in the Levant sub-region."[89] Although there are no U.S. military bases in Jordan, the U.S. has a long history of conducting training exercises out of Jordanian air bases. Due to recent events in neighboring Syria, in addition to other military assets like fighter jets and air defense systems, "approximately 3,147 U.S. military personnel are deployed to Jordan to 'counter-ISIS operations, enhance Jordan's security, and promote regional stability.'"[90]

CENTCOM "directs and enables military operations and activities with allies and partners to increase regional security and stability in support of enduring U.S. interests."[91] Execution of this mission is supported by four service component commands (U.S. Naval Forces Middle East [USNAVCENT]; U.S. Army Forces Middle East [USARCENT]; U.S. Air Forces Middle East [USAFCENT]; and U.S. Marine Forces Middle East [MARCENT]) and one subordinate unified command (U.S. Special Operations Command Middle East [SOCCENT]).

- **U.S. Naval Forces Central Command.** USNAVCENT is USCENTCOM's maritime component. With its forward headquarters in Bahrain, it is responsible for commanding the afloat units that rotationally deploy or surge from the United States in addition to other ships that are based in the Gulf for longer periods. USNAVCENT conducts persistent maritime operations to advance U.S. interests, deter and counter disruptive countries, defeat violent extremism, and strengthen partner nations' maritime capabilities in order to promote a secure maritime environment in an area that encompasses approximately 2.5 million square miles of water.

- **U.S. Army Forces Central Command.** USARCENT is USCENTCOM's land component. Based in Kuwait, it is responsible for land operations in an area that totals 4.6 million square miles (1.5 times larger than the continental United States).

- **U.S. Air Forces Central Command.** USAFCENT is USCENTCOM's air component. Based in Qatar, it is responsible for air operations and for working with the air forces of partner countries in the region. It also manages an extensive supply and equipment prepositioning program at several regional sites.

- **U.S. Marine Forces Central Command.** MARCENT is USCENTCOM's designated Marine Corps service component. Based in Bahrain, it is responsible for all Marine Corps forces in the region.

- **U.S. Special Operations Command Central.** SOCCENT is a subordinate unified command under USCENTCOM. Based in Qatar, it is responsible for planning special operations throughout the USCENTCOM region, planning and conducting peacetime joint/combined special operations training exercises, and orchestrating command and control of peacetime and wartime special operations.

In addition to the American military presence in the region, two NATO allies—the United Kingdom and France—play an important role.

The U.K.'s presence in the Middle East is a legacy of British imperial rule. The U.K. has maintained close ties with many countries that it once ruled and has conducted military operations in the region for decades. As of 2020, approximately 1,350 British service personnel were based throughout the region. This number fluctuates with the arrival of visiting warships.[92]

The British presence in the region is dominated by the Royal Navy. Permanently based naval assets include four mine hunters and one Royal Fleet Auxiliary supply ship. In addition, there generally

are frigates or destroyers in the Gulf or Arabian Sea performing maritime security duties,[93] and (although such matters are not the subject of public discussion) U.K. attack submarines also operate in the area. In April 2018, as a sign of its long-term maritime presence in the region, the U.K. opened a base in Bahrain—its first overseas military base in the Middle East in more than four decades.[94] The U.K. has made a multimillion-dollar investment in modernization of the Duqm Port complex in Oman to accommodate its new *Queen Elizabeth*–class aircraft carriers.[95]

The U.K. also has a sizeable Royal Air Force (RAF) presence in the region, mainly in the UAE and Oman. A short drive from Dubai, Al-Minhad Air Base is home to a small contingent of U.K. personnel, and small RAF detachments in Oman support U.K. and coalition operations in the region. Although considered to be in Europe, the U.K.'s Sovereign Base Areas of Akrotiri and Dhekelia in Cyprus have supported U.S. military and intelligence operations in the past and are expected to continue to do so.

The British presence in the region extends beyond soldiers, ships, and planes. A British-run staff college operates in Qatar, and Kuwait chose the U.K. to help run its own equivalent of the Royal Military Academy at Sandhurst.[96] The U.K. also plays a very active role in training the Saudi Arabian and Jordanian militaries.

The French presence in the Gulf is smaller than the U.K.'s but still significant. France opened its first military base in the Gulf in 2009. Located in the emirate of Abu Dhabi, it was the first foreign military installation built by the French in 50 years.[97] The French have 650 personnel based in the UAE, along with seven Rafale jets and an armored battlegroup, as well as military operations in Kuwait and Qatar.[98] French ships have access to the Zayed Port in Abu Dhabi, which is big enough to handle every ship in the French Navy except the aircraft carrier *Charles De Gaulle*.

Military support from the U.K. and France has been particularly important in Operation Inherent Resolve, a U.S.-led joint task force that was formed to combat the Islamic State in Iraq and Syria. As of May 2021, France had between 600 and 650 troops stationed in the UAE, 600 stationed in Syria and Iraq, and 700 stationed in Lebanon.[99] The U.K. temporarily redeployed troops back to the U.K. because of COVID-19 but announced in February 2021 that the 500 troops would be sent back along with an additional 3,500 troops to boost its counterterrorism training mission in Iraq.[100] The additional troops will help both to prevent the IS from returning and to manage threats from Iran-backed militias more effectively.

Another important actor in Middle East security is the small East African country of Djibouti. Djibouti sits on the Bab el-Mandeb Strait, through which an estimated 6.2 million barrels of oil a day transited in 2018 (the most recent year for which U.S. Energy Administration data are available) and which is a choke point on the route to the Suez Canal.[101] An increasing number of countries recognize Djibouti's value as a base from which to project maritime power and launch counterterrorism operations. The country is home to Camp Lemonnier, which can hold as many as 4,000 personnel and is the only permanent U.S. military base in Africa.[102]

China is also involved in Djibouti and has established its first permanent overseas base there. This base can house 10,000 troops, and Chinese marines have used it to stage live-fire exercises featuring armored combat vehicles and artillery. France, Italy, and Japan also have presences of varying strength in Djibouti.[103]

Key Infrastructure and Warfighting Capabilities

The Middle East is critically situated geographically. Two-thirds of the world's population lives within an eight-hour flight from the Gulf region, making it accessible from most other regions of the globe. The Middle East also contains some of the world's most critical maritime choke points, including the Suez Canal and the Strait of Hormuz.

Although infrastructure is not as developed in the Middle East as it is in North America or Europe, during a decades-long presence, the U.S. has developed systems that enable it to move large numbers of matériel and personnel into and out of the region. According to the Department of Defense, at the height of U.S. combat operations in Iraq during the Second Gulf War, the U.S. presence included 165,000 servicemembers and 505 bases. Moving personnel and equipment out of the country was "the largest logistical drawdown since World War II" and included redeployment of "the 60,000 troops who remained in Iraq at the time and more than 1 million pieces of equipment ahead of their deadline."[104]

The condition of the region's roads varies from country to country. The most recent available data

reflect that 100 percent of the roads in Israel, Jordan, and the UAE are paved. Other nations—for example, Oman (49.3 percent); Saudi Arabia (21.5 percent); and Yemen (8.7 percent)—have poor paved road coverage.[105] Rail coverage is also poor. China's Belt and Road Initiative has targeted ports, roads, and railway development in Syria, Iraq, Egypt, and many other countries, and the result could be improved transportation conditions across the region at the expense of U.S. interests.[106]

The U.S. has access to several airfields in the region. The primary air hub for U.S. forces is Al Udeid Air Base in Qatar. Other airfields include Ali Al Salem Air Base, Kuwait; Al Dhafra, UAE; Al Minhad, UAE; Isa, Bahrain; Eskan Village Air Base, Saudi Arabia; Muscat, Oman; Thumrait, Oman; and Masirah Island, Oman, in addition to the commercial airport at Seeb, Oman. In the past, the U.S. has used major airfields in Iraq, including Baghdad International Airport and Balad Air Base, as well as Prince Sultan Air Base in Saudi Arabia.

The fact that a particular air base is available to the U.S. today, however, does not necessarily mean that it will be available for a particular operation in the future. For example, because of their more cordial relations with Iran, Qatar and Oman probably would not allow the U.S. to use air bases in their territory for strikes against Iran unless they were first attacked themselves.

The U.S. also has access to ports in the region, perhaps the most important being the deep-water port of Khalifa bin Salman in Bahrain and naval facilities at Fujairah in the UAE.[107] The UAE's commercial port of Jebel Ali is open for visits from U.S. warships and the prepositioning of equipment for operations in theater.[108] In March 2019, "Oman and the United States signed a 'Strategic Framework Agreement' that expands the U.S.–Oman facilities access agreements by allowing U.S. forces to use the ports of Al Duqm and Salalah."[109] The location of these ports outside the Strait of Hormuz makes them particularly useful. Approximately 90 percent of the world's trade travels by sea, and some of the busiest and most important shipping lanes are located in the Middle East. Tens of thousands of cargo ships travel through the Strait of Hormuz and the Bab el-Mandeb Strait each year.

Given the high volume of maritime traffic in the region, no U.S. military operation can be undertaken without consideration of the opportunity and risk that these shipping lanes offer to America and her allies. The major shipping routes include:

- **The Suez Canal.** In 2021, more than 20,000 ships transited the Suez Canal—an average of 55 ships per day.[110] Considering that the canal itself is 120 miles long but only 670 feet wide, this is an impressive amount of traffic. The Suez Canal is important to Europe because it provides access to oil from the Middle East. It also serves as an important strategic asset, as it is used routinely by the U.S. Navy to move surface combatants between the Mediterranean Sea and the Red Sea. Thanks to a bilateral arrangement between Egypt and the United States, the U.S. Navy enjoys priority access to the canal.[111]

  The journey through the narrow waterway is no easy task for large surface combatants. The canal was not constructed with the aim of accommodating 100,000-ton aircraft carriers and therefore exposes a larger ship to attack. For this reason, different types of security protocols are followed, including the provision of air support by the Egyptian military.[112] These security protocols, however, are not foolproof. In April 2021, the Suez Canal was closed for more than 11 days after a container ship blocked the waterway, creating a 360-ship traffic jam that disrupted almost 13 percent of global maritime traffic. This crisis proves that ever-larger container ships transiting strategic choke points are prone to accidents that can lead to massive disruptions of both global maritime trade and U.S. maritime security.[113]

- **Strait of Hormuz.** According to the U.S. Energy Information Administration, the Strait of Hormuz, which links the Persian Gulf with the Arabian Sea and the Gulf of Oman, "is the world's most important oil chokepoint because of the large volumes of oil that flow through the strait."[114] In 2020, its daily oil flow averaged "around 18 million barrels" per day, or the equivalent of about "[o]ne fifth of global oil supply."[115] Given the extreme narrowness of the passage and its proximity to Iran, shipping routes through the Strait of Hormuz are particularly vulnerable to disruption. Iran attacked oil tankers repeatedly in April and May 2021 and continues to harass U.S. naval ships.[116]

- **Bab el-Mandeb Strait.** The Bab el-Mandeb Strait is a strategic waterway located between the Horn of Africa and Yemen that links the Red Sea to the Indian Ocean. Exports from the Persian Gulf and Asia destined for Western markets must pass through the strait en route to the Suez Canal. Because the Bab el-Mandeb Strait is 18 miles wide at its narrowest point, passage is limited to two channels for inbound and outbound shipments.[117]

Maritime Prepositioning of Equipment and Supplies. The U.S. military has deployed noncombatant maritime prepositioning ships (MPS) containing large amounts of military equipment and supplies in strategic locations from which they can reach areas of conflict relatively quickly as associated U.S. Army or Marine Corps units located elsewhere arrive in the area. The British Indian Ocean Territory of Diego Garcia, an island atoll, hosts the U.S. Naval Support Facility Diego Garcia, which supports prepositioning ships that can supply Army or Marine Corps units deployed for contingency operations in the Middle East.

Conclusion

For the foreseeable future, the Middle East region will remain a key focus for U.S. military planners. Once considered relatively stable, mainly because of the ironfisted rule of authoritarian regimes, the area is now highly unstable and a breeding ground for terrorism.

Overall, regional security has deteriorated in recent years. Even though the Islamic State (or at least its physical presence) appears to have been defeated, the nature of its successor is unclear. Iraq has restored its territorial integrity since the defeat of ISIS, but the political situation and future relations between Baghdad and the U.S. will remain difficult as long as Iran retains control of powerful Shia militias that it uses to intimidate Iraqi political leaders.[118] Although the regional dispute with Qatar has been resolved, U.S. relations in the region will remain complex and difficult to manage. U.S. military operations, however, continue uninterrupted.

Many of the borders created after World War I are under significant stress. In countries like Iraq, Lebanon, Libya, Syria, and Yemen, the supremacy of the nation-state is being challenged by non-state actors that wield influence, power, and resources comparable to those of small states. The region's principal security and political challenges are linked to the unrealized aspirations of the Arab Spring, surging transnational terrorism, and meddling by Iran, which seeks to extend its influence in the Islamic world. These challenges are made more difficult by the Arab–Israeli conflict, Sunni–Shia sectarian divides, the rise of Iran's Islamist revolutionary nationalism, and the proliferation of Sunni Islamist revolutionary groups.

Thanks to its decades of military operations in the Middle East, the U.S. has developed tried-and-tested procedures for operating in the region. Bases and infrastructure are well established, and the logistical processes for maintaining a large force forward deployed thousands of miles away from the homeland are well in place. Moreover, unlike in Europe, all of these processes have been tested recently in combat. The personal links between allied armed forces are also present. Joint training exercises improve interoperability, and U.S. military educational courses that are regularly attended by officers (and often royals) from the Middle East give the U.S. an opportunity to influence some of the region's future leaders.

America's relationships in the region are based pragmatically on shared security and economic concerns. As long as these issues remain relevant to both sides, the U.S. is likely to have an open door to operate in the Middle East when its national interests require that it do so.

Scoring the Middle East Operating Environment

As noted at the beginning of this section, various aspects of the region facilitate or inhibit the ability of the U.S. to conduct military operations to defend its vital national interests against threats. Our assessment of the operating environment uses a five-point scale that ranges from "very poor" to "excellent" conditions and covers four regional characteristics of greatest relevance to the conduct of military operations:

1. **Very Poor.** Significant hurdles exist for military operations. Physical infrastructure is insufficient or nonexistent, and the region is politically unstable. In addition, the U.S. military is poorly placed or absent, and alliances are nonexistent or diffuse.

2. **Unfavorable.** A challenging operating environment for military operations is marked by inadequate infrastructure, weak alliances, and recurring political instability. The U.S. military is inadequately placed in the region.

3. **Moderate.** A neutral to moderately favorable operating environment is characterized by adequate infrastructure, a moderate alliance structure, and acceptable levels of regional political stability. The U.S. military is adequately placed.

4. **Favorable.** A favorable operating environment includes good infrastructure, strong alliances, and a stable political environment. The U.S. military is well placed for future operations.

5. **Excellent.** An extremely favorable operating environment includes well-established and well-maintained infrastructure, strong and capable allies, and a stable political environment. The U.S. military is exceptionally well placed to defend U.S. interests.

The key regional characteristics consist of:

a. **Alliances.** Alliances are important for interoperability and collective defense, as allies are more likely to lend support to U.S. military operations. Indicators that provide insight into the strength or health of an alliance include whether the U.S. trains regularly with countries in the region, has good interoperability with the forces of an ally, and shares intelligence with nations in the region.

b. **Political Stability.** Political stability brings predictability for military planners when considering such things as transit, basing, and overflight rights for U.S. military operations. The overall degree of political stability indicates whether U.S. military actions would be hindered or enabled and reflects, for example, whether transfers of power are generally peaceful and whether there have been any recent instances of political instability in the region.

c. **U.S. Military Positioning.** Having military forces based or equipment and supplies staged in a region greatly facilitates the ability of the United States to respond to crises and, presumably, achieve success in critical "first battles" more quickly. Being routinely present in a region also helps the U.S. to remain familiar with its characteristics and the various actors that might either support or try to thwart U.S. actions. With this in mind, we assessed whether or not the U.S. military was well positioned in the region. Again, indicators included bases, troop presence, prepositioned equipment, and recent examples of military operations (including training and humanitarian) launched from the region.

d. **Infrastructure.** Modern, reliable, and suitable infrastructure is essential to military operations. Airfields, ports, rail lines, canals, and paved roads enable the U.S. to stage, launch, and logistically sustain combat operations. We combined expert knowledge of regions with publicly available information on critical infrastructure to arrive at our overall assessment of this metric.[119]

The U.S. has developed an extensive network of bases in the Middle East region and has acquired substantial operational experience in combatting regional threats. At the same time, however, many of America's allies are hobbled by political instability, economic problems, internal security threats, and mushrooming transnational threats. Although the region's overall score remains "moderate," as it was last year, it is in danger of falling to "poor" because of political instability and growing bilateral tensions with allies over the security implications of the proposed nuclear agreement with Iran and how best to fight the Islamic State.

With this in mind, we arrived at these average scores for the Middle East (rounded to the nearest whole number):

- Alliances: **3—Moderate**
- Political Stability: **2—Unfavorable**

- U.S. Military Positioning: **3—Moderate**
- Infrastructure: **3—Moderate**

Leading to a regional score of: **Moderate**

Operating Environment: Middle East

	VERY POOR	UNFAVORABLE	MODERATE	FAVORABLE	EXCELLENT
Alliances			✓		
Political Stability		✓			
U.S. Military Posture			✓		
Infrastructure			✓		
OVERALL			✓		

Endnotes

1. For example, during a 1916 meeting in Downing Street, Sir Mark Sykes, Britain's lead negotiator with the French on carving up the Ottoman Empire in the Middle East, pointed to the map and told the Prime Minister that for Britain's sphere of influence in the Middle East, "I should like to draw a line from the *e* in Acre [modern-day Israel] to the last *k* in Kirkuk [modern-day Iraq]." See James Barr, *A Line in the Sand: Britain, France, and the Struggle That Shaped the Middle East* (London: Simon & Schuster U.K., 2011), pp. 7–20. See also Margaret McMillan, *Paris 1919: Six Months That Changed the World* (New York: Random House, 2003).
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Asia

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Ever since the founding of the American Republic, Asia has been a key U.S. area of interest for both economic and security reasons. One of the first ships to sail under an American flag was the aptly named *Empress of China*, which inaugurated America's participation in the lucrative China trade in 1784. In the more than 235 years since then, the United States has held to the strategic assumption that allowing any single nation to dominate Asia would be inimical to American interests. Asia is too important a market and too great a source of key resources for the United States to be denied access. Thus, beginning with U.S. Secretary of State John Hay's "Open Door" policy toward China in the 19th century, the United States has worked to prevent the rise of a regional hegemon in Asia, whether it was imperial Japan or the Soviet Union.

In the 21st century, Asia's importance to the United States will continue to grow. Asia is a key source of vital natural resources and a crucial part of the global value chain in areas like electronic components. Through 2021, six of America's top 10 trading partners were found in Asia:[1]

- China (third);
- Japan (fourth);
- South Korea (sixth);
- Taiwan (eighth);
- India (ninth); and
- Vietnam (10th).

America's economic connections with these countries and others in the region and beyond contribute to a closely integrated global economy characterized by ties in production, finance, services, information, and investment. When one part of the system sneezes, other parts of the economic body get sick—as demonstrated recently and most starkly by the COVID-19 pandemic. The impact of that crisis on both supply and demand, especially with respect to technology, continues to affect defense planning, budgeting, and production in the United States and across the region. Tensions in the U.S.–China economic relationship have had a similar impact.

Economics is central to understanding political dynamics in Asia, but that is not the only important consideration. Several of the world's largest militaries are there, including those of China, India, North and South Korea, Pakistan, Russia, and Vietnam. The United States also maintains a network of treaty alliances and security partnerships, as well as a significant military presence, in Asia, and five Asian states (China, North Korea, India, Pakistan, and Russia) possess nuclear weapons.

The region is a focus of American security concerns both because of its substantial military forces and because of its legacy of conflict. Both of the two major "hot" wars fought by the United States during the Cold War (Korea and Vietnam) were fought in Asia. Moreover, the Asian security environment is unstable. For one thing, the Cold War has not ended in Asia. Of the four states divided between Communism and democracy by the Cold War, three (China, Korea, and Vietnam) are in Asia. Neither the Korean situation nor the China–Taiwan situation has been

resolved despite the fall of the Berlin Wall and the collapse of the Soviet Union.

The Cold War itself was an ideological conflict layered atop long-standing—and still lingering—historical animosities. Asia is home to several major territorial disputes, among them disputes between or among:

- Japan and Russia (Northern Territories/Southern Kurils);
- Japan, China, and Taiwan (Senkakus/Diaoyutai/Diaoyu Dao);
- Korea and Japan (Dok-do/Takeshima);
- Vietnam, China, and Taiwan (Paracels/Xisha Islands);
- China, Taiwan, Vietnam, Brunei, Malaysia, and the Philippines (Spratlys/Nansha Islands);
- India and Pakistan (Kashmir); and
- India and China (Aksai Chin and parts of the Indian state of Arunachal Pradesh).

Several of these unresolved differences could devolve into war. Chinese air and sea incursions around Taiwan—especially since Russia's invasion of Ukraine—have generated increased concern about Taiwan's survival as an independent nation. The situation on the Korean Peninsula is perpetually tense. And China's increasingly aggressive presence at sea is bringing Beijing ever closer to conflict with the U.S. military and the forces of its treaty allies and security partners. On the China–India border, the two sides have come to blows in recent years.

It is in light of this instability and the reluctance of many states in the region to align with great powers that one should weigh the region's lack of a political–security architecture. There is no Asian equivalent of NATO despite an ultimately failed mid-20th century effort to forge a parallel multilateral security architecture through the Southeast Asia Treaty Organization (SEATO). Regional security entities like the Five Power Defense Arrangement (involving the United Kingdom, Australia, New Zealand, Malaysia, and Singapore in a peacetime "arrangement" rather than an alliance) or discussion forums like the ASEAN Regional Forum (ARF) and groupings like the ASEAN Defence Ministers Meeting-Plus (ADMM-Plus) have been far weaker. There also is no Asian equivalent of the Warsaw Pact.

Instead, Asian security has been marked by a combination of bilateral alliances, mostly centered on the United States, and individual nations' efforts to maintain their own security. In recent years, these core aspects of the regional security architecture have been supplemented by "minilateral" consultations like the U.S.–Japan–Australia and India–Japan–Australia trilaterals and the U.S.–Japan–Australia–India quadrilateral dialogue (popularly known as "the Quad").

Nor is Asia undergirded by any significant economic architecture. Despite substantial trade and expanding value chains among the various Asian states, as well as with the rest of the world, formal economic integration is limited. There are many trade agreements among the nations of the region and among these nations and countries outside of Asia, most prominently the 15-nation Regional Comprehensive Economic Partnership (RCEP) and 11-nation Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP), but there is no counterpart to the European Union or even to the European Economic Community or the European Coal and Steel Community, the precursor to European economic integration.

The Association of Southeast Asian Nations (ASEAN) is a far looser agglomeration of disparate states, although they have succeeded in expanding economic linkages among themselves over the past 50 years through a range of economic agreements like the ASEAN Free Trade Area (AFTA). The South Asia Association of Regional Cooperation (SAARC), which includes Afghanistan, Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan, and Sri Lanka, has been less important to regional stability. It is largely ineffective, both because of the lack of regional economic integration and because of the historical rivalry between India and Pakistan.

Important Alliances and Bilateral Relations in Asia

The keys to America's position in the Western Pacific are its alliances with Japan, the Republic of Korea (ROK), the Philippines, Thailand, and Australia, supplemented by very close security relationships with New Zealand and Singapore, an emerging

strategic partnership with India, and evolving relationships with Southeast Asian partners like Vietnam, Malaysia, and Indonesia. The U.S. also has a robust unofficial relationship with Taiwan.

The United States also benefits from the interoperability gained from sharing common weapons and systems with many of its allies. Many nations, for example, have equipped their ground forces with M-16/M-4–based infantry weapons and share the same 5.56 mm ammunition; they also field F-15 and F-16 combat aircraft and employ LINK-16 data links among their naval forces. Australia, Japan, and South Korea are partners in production of the F-35 Joint Strike Fighter, and all three countries have taken delivery of the aircraft. Partners like India and Australia operate American-made P-8 maritime surveillance aircraft and C-17 transport aircraft.

Consequently, in the event of conflict, the region's various air, naval, and even land forces would be able to share information in such key areas as air defense and maritime domain awareness. This advantage is enhanced by the constant ongoing range of both bilateral and multilateral exercises, which acclimate various forces to operating together and familiarize both American and local commanders with each other's standard operating procedures (SOPs), as well as training, tactics, and (in some cases) war plans. In addition, "enabling" military agreements allow the United States and several of its regional partners to access each other's military facilities, share intelligence and encrypted communications and equipment, and refuel each other's warships at sea.

While it does not constitute a formal alliance, in November 2017, Australia, Japan, India, and the U.S. reconstituted the Quad. Officials from the four countries agreed to meet in the quadrilateral format twice a year to discuss ways to strengthen strategic cooperation and combat common threats. In 2019, the group held its first meeting at the ministerial level and added a counterterrorism tabletop exercise to its agenda. In 2020, officials from the four countries participated in a series of conference calls to discuss responses to the COVID-19 pandemic that also included government representatives from New Zealand, South Korea, and Vietnam. In March 2021, the leaders of the four nations held their first virtual summit, marking a new level of interaction. In September 2021, the four leaders held the first in-person Quad summit; it is expected that a second will be held in Japan during 2022.

Japan. The U.S.–Japan defense relationship is the linchpin of America's network of relations in the Western Pacific. The U.S.–Japan Treaty of Mutual Cooperation and Security, signed in 1960, provides for a deep alliance between two of the world's largest economies and most sophisticated military establishments. Changes in Japanese defense policies are now enabling an even greater level of cooperation on security issues, both between the two allies and with other countries in the region.

Since the end of World War II, Japan's defense policy has been distinguished by Article 9 of the Japanese constitution, which states in part that "the Japanese people forever renounce war as a sovereign right of the nation and the threat or use of force as means of settling international disputes."[2] In effect, this article prohibits the use of force by Japan's governments as an instrument of national policy. It also has led to several other associated policies.

One such policy was a prohibition against "collective self-defense." Japan recognized that nations have a right to employ their armed forces to help other states defend themselves (in other words, to engage in collective defensive operations) but rejected that policy for itself: Japan would employ its forces only in defense of Japan. This changed in 2015. Japan passed legislation that enabled its military to exercise limited collective self-defense in certain cases involving threats to both the U.S. and Japan as well as in multilateral peacekeeping operations.

In recent years, Japan has increased its security cooperation with other Indo-Pacific democracies. This cooperation has included enhancing security agreements, participating in more multilateral military exercises, and providing ships to Southeast Asian coast guard forces.

Tokyo relies heavily on the United States—and Washington's extended deterrence guarantee of nuclear, conventional, and missile defense forces—for its security. Japan has developed a formidable military by implementing significant changes in security legislation and procuring an impressive array of sophisticated weapons. Yet because of its pacifist constitution and the devastation wrought by its quest for regional dominance in World War II, progress in altering Japan's security posture has always lagged behind faster-moving regional threats. The Japanese people remain deeply suspicious of any use of the military as a policy instrument—and fearful that any easing of constraints will lead Japan

into military conflict. Each incremental step in expanding the role of Japan's Self-Defense Forces has therefore been immensely controversial.

As part of its relationship with Japan, the United States maintains some 54,000 military personnel and another 8,000 Department of Defense (DOD) civilian employees in Japan under the rubric of U.S. Forces Japan (USFJ).[3] These forces include, among other things, a forward-deployed carrier battle group centered on the USS *Ronald Reagan*; an amphibious ready group at Sasebo centered on the LHA-6 *America*, an aviation-optimized amphibious assault ship; and the bulk of the Third Marine Expeditionary Force (III MEF) on Okinawa. U.S. forces exercise regularly with their Japanese counterparts, and this collaboration has expanded in recent years to include joint amphibious exercises in addition to air and naval exercises.

The American presence is supported by a substantial American defense infrastructure throughout Japan, including Okinawa. These major bases provide key logistical and communications support for U.S. operations throughout the Western Pacific, cutting travel time substantially compared with deployments from Hawaii or the West Coast of the United States. They also provide key listening posts for the monitoring of Russian, Chinese, and North Korean military operations. This capability is supplemented by Japan's growing array of space systems, including new reconnaissance satellites.

The Japanese government "pays roughly $2 billion per year to defray the cost of stationing U.S. military personnel in Japan."[4] These funds cover approximately 75 percent of the cost of deployed U.S. forces,[5] including the costs of utility and labor at U.S. bases, improvements in U.S. facilities in Japan, and relocation of training exercises away from populated areas in Japan. Japan paid nearly all of the cost of new U.S. military facilities at Futenma and Iwakuni as well as a third of the cost of new facilities in Guam. It also purchases 90 percent of its weapons and defense systems from the United States.[6]

During bilateral Special Measures Agreement negotiations, the Trump Administration sought a 400 percent increase in Japanese contributions for remuneration above the cost of stationing U.S. troops in Japan. In January 2022, the Biden Administration reached an agreement with Japan on a new five-year cost-sharing agreement that includes incremental increases in Japanese funding, thereby resolving a major irritant in the bilateral relationship.[7]

The United States has long sought to expand Japanese participation in international security affairs. Japan's political system, grounded in the country's constitution, legal decisions, and popular attitudes, has generally resisted this effort. However, in recent years, Tokyo has become increasingly alarmed by China's surging defense expenditures, rapidly expanding and modernizing military capabilities, and escalating aerial and maritime incursions into Japan's territorial waters and contiguous areas. In response, Japan has reoriented its forces so that they can better counter the Chinese threat to its remote southwest islands. It also has acquired new capabilities, built new facilities, deployed new units and augmented others, improved its amphibious warfare capabilities, increased its air and sea mobility, and enhanced its command-and-control capabilities for joint and integrated operations.

Recently, the growing potential for a Taiwan crisis has led senior Japanese officials to issue increasingly bold public statements of support for Taipei and more directly align Japan's national interests with the protection of Taiwan's security. As yet, however, there have been no declared Japanese policy changes and no pledge to intervene directly in a military conflict to defend Taiwan or even to allow U.S. defense of Taiwan from bases in Japan.

Similarly, heightened Japanese concern about the growing North Korean missile and nuclear threats has triggered a resurgence of debate about whether the country should augment its defenses by acquiring strike capabilities, which would enable Japan to conduct an attack against targets in an opponent's country. Japan's legal interpretation of what is allowed under its peace constitution is not static. It has evolved in response to increasing regional threats, Japan's improving military capabilities, and Tokyo's perception of the strength of its alliance with Washington.

Prime Minister Fumio Kishida has stated that Japan should consider building a missile-strike capability as a "viable option" against China and North Korea, to be implemented in response to initial attacks.[8] Pursuing strike capabilities would be the subject of great controversy—both among the Japanese people and among the people of neighboring countries—and would require deft public diplomacy to overcome strong resistance to such a significant

shift in Japan's post–World War II security posture. Although this is now being discussed more openly by politicians, Japanese strike capability is still only at the theoretical debate stage. Tokyo has yet to articulate strike policy, strategy, a doctrine of employment, triggering events, procurement, deployment, or how offensive systems would train in Japan.

Contentious historical issues from Japan's brutal 1910–1945 occupation of the Korean Peninsula have been serious enough to torpedo efforts to improve defense cooperation between Seoul and Tokyo. South Korean–Japanese relations took a major downturn in 2018 when the South Korean Supreme Court ruled that Japanese companies could be forced to pay occupation reparations. In December 2018, an incident between a South Korean naval ship and a Japanese air force plane further exacerbated tensions. Japan responded in July 2019 by imposing restrictions on exports to South Korea of three chemicals that are critical to the production of semiconductors and smartphones.[9] Seoul then threatened to withdraw from the bilateral General Security of Military Information Agreement (GSOMIA), which enables the sharing of classified intelligence and military information on the North Korean nuclear and missile threat. The Moon Jae-in administration relented and maintained the agreement, but there was public criticism of U.S. pressure.

The election of new leaders in South Korea and Japan has raised hopes that it might be possible to reduce tensions by separating difficult historic issues from the necessity of addressing present-day security threats. Prime Minister Kishida was responsible for two Japanese–South Korean agreements[10] while he served as foreign minister, and South Korean President Yoon Seok-youl, elected in March 2022, has vowed to build a "future-oriented relationship" with Japan.[11]

Republic of Korea. The United States and the Republic of Korea signed their Mutual Defense Treaty in 1953. That treaty codified the relationship that had grown from the Korean War, when the United States dispatched troops to help South Korea defend itself against invasion by Communist North Korea. Since then, the two states have forged an enduring alliance supplemented by a substantial trade and economic relationship that includes a free trade agreement.

The U.S. is committed to maintaining 28,500 troops on the Korean Peninsula. This presence is centered mainly on the U.S. 2nd Infantry Division, rotating brigade combat teams, and a significant number of combat aircraft.

The U.S.–ROK defense relationship involves one of the more integrated and complex command-and-control structures. A United Nations Command (UNC) established in 1950 was the basis for the American intervention and remained in place after the armistice was signed in 1953. UNC has access to seven bases in Japan to support U.N. forces in Korea. In concrete terms, however, it oversaw only South Korean and American forces as other nations' contributions were gradually withdrawn or reduced to token elements.

Although the 1953 armistice ended the Korean War, UNC retained operational control (OPCON) of South Korean forces until 1978, when it was transferred to the newly established Combined Forces Command (CFC). Headed by the American Commander of U.S. Forces Korea, who is also Commander, U.N. Command, CFC reflects an unparalleled degree of U.S.–South Korean military integration. CFC returned peacetime OPCON of South Korean forces to Seoul in 1994. If war became imminent, South Korean forces would become subordinate to the CFC commander, who in turn remains subordinate to both countries' national command authorities.

In 2007, then-President Roh Moo-hyun requested that the United States return wartime OPCON of South Korean forces to Seoul. This decision engendered significant opposition within South Korea and raised serious military questions about the transfer's impact on unity of command. Faced with various North Korean provocations, including a spate of missile tests as well as attacks on South Korean military forces and territory in 2010, Washington and Seoul agreed in late 2014 to postpone wartime OPCON transfer and adopt a conditions-based rather than timeline-based policy. After wartime OPCON transfer, the CFC commander would be a South Korean general with a U.S. general as deputy commander. The U.S. general would continue to serve as commander of UNC and U.S. Forces Korea (USFK). The CFC commander, regardless of nationality, would always remain under the direction and guidance of U.S. and South Korean political and military national command authorities.

President Moon Jae-in advocated for an expedited OPCON transition during his administration, but critical conditions, including improvement in South

Korean forces and a decrease in North Korea's nuclear program, have yet to be met.[12] President Yoon Seok-youl, elected in March 2009, criticized Moon's push for a premature return of wartime OPCON from United Nations Command before Seoul had fulfilled the agreed-upon conditions.

The domestic political constraints under which South Korea's military operates are less stringent than those that govern the operations of the Japanese military. South Korea has fought alongside the United States in every conflict since the Korean War. Seoul sent 300,000 troops to the Vietnam War, and 5,000 of them were killed. At one point, it fielded the third-largest troop contingent in Iraq after the United States and Britain. It also has conducted anti-piracy operations off the coast of Somalia and has participated in peacekeeping operations in Afghanistan, East Timor, and elsewhere.

South Korean defense planning remains focused on North Korea, especially as Pyongyang has deployed its forces in ways that optimize a southward advance and has carried out several penetrations of ROK territory by ship, submarine, commandos, and drones. The sinking of the South Korean frigate *Cheonan* and shelling of Yongpyeong-do in 2010, which together killed 48 military personnel, wounded 16, and killed two civilians, have only heightened concerns about North Korea.

In response to Pyongyang's expanding nuclear strike force, South Korea created a "3K" tiered defense strategy comprised of Kill Chain (preemptive attack); the Korea Air and Missile Defense (KAMD) system; and the Korea Massive Punishment and Retaliation (KMPR) system. The South Korean military is a sizeable force with advanced weapons and innovative military education and training. South Korean military spending has increased, and Seoul appears to be procuring the right mix of capabilities. U.S.–South Korean interoperability has improved, partly because of continued purchases of U.S. weapons systems.

Over the past several decades, the American presence on the peninsula has slowly declined. In the early 1970s, President Richard Nixon withdrew the 7th Infantry Division, leaving only the 2nd Infantry Division on the peninsula. Those forces have been positioned farther back so that few Americans are now deployed on the Demilitarized Zone (DMZ).

Traditionally, U.S. military forces have engaged regularly in major exercises with their ROK counterparts, including the Key Resolve and Foal Eagle series, both of which involved the deployment of substantial numbers of forces and were intended partly to deter Pyongyang as well as to give U.S. and ROK forces a chance to practice operating together. However, after the 2018 U.S.–North Korean Summit, President Donald Trump announced unilaterally that he was cancelling major bilateral military exercises because he thought they were provocative and expensive.[13] The President made this decision without consulting the DOD, U.S. Forces Korea, or allies South Korea and Japan. During the next four years, the U.S. and South Korea cancelled numerous exercises and imposed constraints on additional exercises.

North Korea did not reciprocate with any diplomatic gesture or military constraints in response to this unilateral U.S. concession. The outbreak of COVID-19 in South Korea in 2020 led to the additional curtailment of training activity, raising the possibility that allied deterrence and defense capabilities could be further degraded. In March 2022, the U.S. conducted its first aircraft carrier exercise near Korea since 2018, and the Biden Administration appears likely to resume large-scale allied military exercises in South Korea.[14]

The ROK government provides substantial resources to defray the costs of U.S. Forces Korea. The bilateral, cost-sharing Special Measures Agreement has offset the non-personnel costs of stationing U.S. forces in South Korea since 1991 and is renegotiated every five years. In February 2019, South Korea agreed to increase its share of the cost by approximately 8 percent to $924 million. Later in 2019, President Trump demanded a fivefold increase of $5 billion a year and threatened to reduce or remove U.S. forces from South Korea. In April 2021, the Biden Administration signed an agreement accepting an incremental increase in Seoul's contribution in line with previous agreements, thereby defusing tensions within the alliance.

South Korea spends 2.6 percent of its gross domestic product (GDP) on defense—more than is spent by any European ally. Seoul absorbs costs not covered in the cost-sharing agreement, including $10 billion, or 93 percent, of the cost of constructing Camp Humphreys, the largest U.S. base on foreign soil. During the past four years, South Korea has purchased $13 billion in arms from the United States.[15]

The Philippines. America's oldest defense relationship in Asia is with the Philippines. The

United States seized the Philippines from the Spanish more than a century ago as a result of the Spanish–American War and a subsequent conflict with indigenous Philippine nationalist forces. Unlike other colonial powers, however, the U.S. put in place a mechanism by which the Philippines could transition through a period as a commonwealth until receiving full independence in 1946. Just as important, substantial numbers of Filipinos fought alongside the United States against Japan in World War II, establishing a bond between the two peoples. Following World War II and after assisting the newly independent Filipino government against the Communist Hukbalahap movement in the 1940s, the United States and the Philippines signed a mutual defense treaty (MDT).

For much of the period between 1898 and the end of the Cold War, the largest American bases in the Pacific were in the Philippines, centered on the U.S. Navy base in Subic Bay and the complex of airfields that developed around Clark Field (later Clark Air Base). While the Philippines have never had the ability to provide substantial financial support for the American presence, the unparalleled base infrastructure provided replenishment and repair facilities and substantially extended deployment periods throughout the East Asian littoral.

These bases, being reminders of the colonial era, were often centers of controversy. In 1991, a successor to the Military Bases Agreement between the U.S. and the Philippines was submitted to the Philippine Senate for ratification. After a lengthy debate, the Philippines rejected the treaty, thereby compelling American withdrawal from Philippine bases. Given the effects of the 1991 eruption of Mount Pinatubo, which devastated Clark Air Base and damaged many Subic Bay facilities, and the end of the Cold War, it was not felt that closure of the bases would fundamentally damage America's posture in the region.

Moreover, despite the closing of the American bases and consequent slashing of American military assistance, U.S.–Philippine military relations remained close, and assistance began to increase again after 9/11 as U.S. forces supported Philippine efforts to counter Islamic terrorist groups, including the Abu Sayyaf Group (ASG), in the South of the archipelago. From 2002–2015, the U.S. rotated 500–600 special operations forces regularly through the Philippines to assist in counterterrorism operations. That operation, Joint Special Operations Task Force–Philippines (JSOTF–P), ended during the first part of 2015.

The U.S. presence in Mindanao continued at a reduced level until the Trump Administration, alarmed by the terrorist threat there, began Operation Pacific Eagle–Philippines (OPE–P). The presence of 200–300 American advisers proved very valuable to the Philippines in its 2017 battle against Islamist insurgents in Marawi.[16]

Continued on-the-ground military assistance for the counterterrorism challenge in Mindanao and other security cooperation in the Philippines received a boost in July 2021 when the Philippines, during a visit by American Secretary of Defense Lloyd Austin, retracted its intention to abrogate the 1998 U.S.–Philippines Visiting Forces Agreement (VFA). Since February 2020, the VFA has operated on serial six-month extensions offered by the Philippine President. An instrument of the MDT, the VFA specifies the procedures governing the deployment of U.S. forces and equipment to the Philippines. It also governs the application of domestic Philippine law to U.S. personnel, which is the most substantive part of the VFA and historically its most controversial.

The VFA undergirds approximately 280 U.S.–Philippine annual exercises—more than are conducted with any other military in Southeast Asia. Its abrogation would have slowed the rate of these interactions, conditioned their composition, and exposed each element of them to political pressures in the Philippines. Its preservation, on the other hand, not only sheds these constraints, but also enables the expansion of cooperation. The most recent example was the conduct of annual Balikatan exercises, billed by both sides as the largest ever held.[17] The U.S. embassy reported deployment of "nearly 9,000" troops, "more than 50 aircraft, four ships, 10 amphibious craft, four HIMARS rocket system launchers, and four Patriot missile systems" as well as "approximately 40 personnel from the Australian Defense Force."[18] The U.S. and the Philippines have also resumed plans for base improvement and sharing arrangements under the 2014 U.S.–Philippine Enhanced Defense Cooperation Agreement (EDCA).[19]

The U.S. government has long made it clear that any attack on Philippine government ships or aircraft or on the Philippine armed forces—for example, by China—would be covered under the U.S.–Philippine mutual defense treaty.[20] This makes

it incumbent on the U.S., consistent with its constitutional procedures, to come to the defense of the Philippines. U.S. Secretary of State Antony Blinken reiterated this commitment in two separate calls with the Philippine Secretary of Foreign Affairs in January and April 2021.[21] Secretary of Defense Austin made a similar statement in September, also reiterating the treaty's application to the South China Sea, an issue that was once subject to some doubt.[22]

Thailand. The U.S.–Thai security relationship is built on the 1954 Manila Pact, which established the now-defunct SEATO, and the 1962 Thanat–Rusk agreement.[23] These were supplemented by the Joint Vision Statements for the Thai–U.S. Defense Alliance of 2012 and 2020.[24] In addition, Thailand gained improved access to American arms sales in 2003 when it was designated a "major, non-NATO ally."

Thailand's central location has made it an important part of the network of U.S. alliances in Asia. During the Vietnam War, American aircraft based in Thailand ranged from fighter-bombers and B-52s to reconnaissance aircraft. In the first Gulf War and again in the Iraq War, some of those same air bases were essential for the rapid deployment of American forces to the Persian Gulf. Access to these bases remains critical to U.S. global operations.

U.S. and Thai forces exercise together regularly, most notably in the annual Cobra Gold exercises, which were initiated in 1982. This builds on a partnership that began with the dispatch of Thai forces to the Korean War, during which Thailand lost more than 1,200 of the approximately 6,000 troops it had deployed. The Cobra Gold exercise is the world's longest-running international military exercise[25] and one of its largest. The most recent, in 2022, although again scaled back because of concern for the COVID pandemic, involved 1,200 American troops and 2,000 Thai troops[26] as well as participants from a range of other countries, including India, Indonesia, Japan, South Korea, and Australia.[27] For many years, a small number of Chinese personnel have also participated. Because of pandemic concerns, "[a]ctivities like live fire drills, amphibious landings and evacuation operations" were excluded.[28]

In contrast to the close relations between their militaries, U.S.–Thailand political relations have been strained since 2006. A coup that year and another in 2014 limited military-to-military relations for more than 10 years. This was due partly to standing U.S. law prohibiting assistance to governments that result from coups against democratically elected governments and partly to policy choices by the U.S. government.

The U.S. and Thailand, however, have managed to salvage much of their military-to-military cooperation and now look to normalize relations. This has been made possible by two developments: elections in 2019, which led to a new civilian government, and Washington's new strategic focus on great-power competition with China. As a result, the U.S. accepted the flawed Thai electoral model as an opportunity to encourage the relationship. This encompassed high-level engagement and arms transfers to the Thai military of major systems like Stryker armored vehicles and Black Hawk helicopters. Under the Biden Administration, this trend may lead to the sale of the F-35.[29]

Over several decades, amid uncertainty in the U.S. commitment to the relationship, Thailand has been drifting geopolitically away from the U.S. and toward China. This process has been accelerating partly because of expanding economic relations between the two states and partly because of complications in U.S.–Thai relations arising from the political situation in Thailand and a general difference in threat perception concerning China. The U.S. considers China its greatest long-term security challenge; Thailand has no such concern.

Relations between the Thai and Chinese militaries have improved steadily over the years. Intelligence officers began formal meetings in 1988. Thai and Chinese military forces have engaged in joint naval exercises since 2005, joint counterterrorism exercises since 2007, and joint marine exercises since 2010 and conducted their first joint air force exercises in 2015.[30] The Thais conduct more bilateral exercises with the Chinese than are conducted by any other military in Southeast Asia.[31]

The Thais also have been buying Chinese military equipment for many years. Purchases in recent years have included significant buys of battle tanks and armored personnel carriers.[32] According to the Stockholm International Peace Research Institute (SIPRI), from 2006–2021, China has been a significantly bigger supplier than the U.S.[33] These deals, however, have not been without difficulty. Thailand's 2017 acquisition of submarines, for example, has been stalled first by a combination of budget restraints, the priority of COVID-19 response, and public protest[34] and more recently by Germany's

refusal to allow export of the engines the boats require.[35] Submarines could be particularly critical to Sino–Thai relations because their attendant training and maintenance will require a greater Chinese military presence at Thai military facilities.

Australia. Australia is one of America's most important allies in the Indo-Pacific. U.S.–Australia security ties date back to World War I when U.S. forces fought under Australian command on the Western Front in Europe, and they deepened during World War II when, after Japan commenced hostilities in the Western Pacific (and despite British promises), Australian forces committed to the North Africa campaign were not returned to defend the continent. As Japanese forces attacked the East Indies and secured Singapore, Australia turned to the United States to bolster its defenses, and American and Australian forces cooperated closely in the Pacific War. Those ties and America's role as the main external supporter of Australian security were codified in the Australia–New Zealand–U.S. (ANZUS) pact of 1951.

Today, the two nations' chief defense and foreign policy officials meet annually (most recently in August 2020) in the Australia–United States Ministerial (AUSMIN) process to address such issues of mutual concern as security developments in the Asia–Pacific region, global security and development, and bilateral security cooperation.[36] Australia also has long granted the United States access to a number of joint facilities, including space surveillance facilities at Pine Gap, which has been characterized as "arguably the most significant American intelligence-gathering facility outside the United States,"[37] and naval communications facilities on the North West Cape of Australia.[38]

In 2011, cooperation and U.S. access were expanded with the U.S. Force Posture Initiatives (USFPI), which included Marine Rotational Force–Darwin and Enhanced Air Cooperation. The rotation of up to 2,500 U.S. Marines for a set of six-month exercises near Darwin, Australia, began in 2012. The current rotation is comprised of 2,200 Marines[39] and an Army detachment.[40] In the past, these forces have deployed with assets including a tilt-rotor MV-22 Osprey squadron, UH-1Y Venom utility and AH-1Z Viper attack helicopters, and RQ-21A Blackjack drones.

The USFPI's Enhanced Air Cooperation component began in 2017 building on preexisting schedules of activity. New activities under the initiative include "fifth generation integration, aircraft maintenance integration, aeromedical evacuation (AME) integration, refuelling certification, and combined technical skills and logistics training."[41] It has been accompanied by the buildout of related infrastructure at Australian bases and, of note most recently, a massive fuel storage facility in Darwin.[42] Other improvements are underway at training areas and ranges in Australia's Northern Territories.[43]

In 2021, the U.S., Australia, and the U.K., which already enjoyed close security cooperation, moved bilaterally and in the context of the Five Eyes intelligence-sharing arrangement to formalize and deepen these ties through the Australia–United Kingdom–United States partnership (AUKUS). This trilateral partnership is focused on current defense-related technology. Central to and most immediate among its stated priorities is support for Australia's acquisition of "a conventionally armed, nuclear powered submarine capability at the earliest possible date, while upholding the highest nonproliferation standards."[44] The White House has reported either "strong progress" or "recently initiated work" in several areas beyond submarine technology, which is already underway. These areas include (among others) undersea robotic autonomous systems, quantum technologies, artificial intelligence, and hypersonic capabilities.[45]

This new, cutting-edge cooperation under the USFPI and AUKUS comes on top of long-standing joint U.S.–Australia training, the most prominent example of which is Talisman Saber. These biannual exercises involve U.S. Army, Navy, Air Force, and Marines as well as almost two-dozen ships, multiple civilian agencies, and participants embedded from other partner countries.[46] COVID forced the 2021 iteration to downsize, but the 2019 version included more than 34,000 personnel from the U.S. and Australia.

Singapore. Singapore is America's closest non-ally partner in the Western Pacific. The agreements that support this security relationship are the 2015 U.S.–Singapore Defense Cooperation Agreement (DCA), which is an update of a similar 2005 agreement, and the 1990 Memorandum of Understanding Regarding United States Use of Facilities in Singapore, which was renewed in 2019 for another 15 years. Pursuant to these agreements and other understandings, Singapore hosts U.S. naval ships and aircraft as well as the principal logistics support node for the U.S. Seventh Fleet.

Singapore trains approximately 1,000 military personnel in the United States each year on such American-produced equipment as F-15SG and F-16C/D fighter aircraft and CH-47 Chinook and AH-64 Apache helicopters.[47] Along with American allies Australia, Japan, and South Korea, Singapore also has ordered and been approved to buy the F-35.[48] Like others of its assets, the F-35s will be housed at training facilities in the U.S.[49] and perhaps on Guam under an agreement reached in 2019.[50]

New Zealand. For much of the Cold War, U.S. defense ties with New Zealand were similar to those between America and Australia. In 1986, however, as a result of controversies over U.S. Navy employment of nuclear power and the possible deployment of U.S. naval vessels with nuclear weapons, the U.S. suspended its obligations to New Zealand under the 1951 ANZUS Treaty.

Defense relations improved in the early 21st century as New Zealand committed forces to Afghanistan and dispatched an engineering detachment to Iraq. The 2010 Wellington Declaration and 2012 Washington Declaration, while not restoring full security ties, allowed the two nations to resume high-level defense dialogues.[51] As part of this warming of relations, New Zealand rejoined the multinational U.S.-led RIMPAC (Rim of the Pacific) naval exercise in 2012 and has participated in each iteration since then.

In 2013, U.S. Secretary of Defense Chuck Hagel and New Zealand Defense Minister Jonathan Coleman announced the resumption of military-to-military cooperation, and in July 2016, the U.S. accepted an invitation from New Zealand to make a single port call, reportedly with no change in U.S. policy to confirm or deny the presence of nuclear weapons on the ship.[52] At the time of the visit in November 2016, both sides claimed to have satisfied their respective legal requirements.[53] The prime minister expressed confidence that the vessel was not nuclear-powered and did not possess nuclear armaments, and the U.S. neither confirmed nor denied this.

The November 2016 visit occurred in a unique context, including an international naval review and a relief response to the Kaikoura earthquake. Since then, there have been several other ship visits by the U.S. Coast Guard, and in 2017, New Zealand lent the services of one its naval frigates to the U.S. Seventh Fleet following a deadly collision between the destroyer USS *Fitzgerald* and a Philippine container ship that killed seven American sailors. Another U.S. naval warship did not visit New Zealand until November 2021, when the guided-missile destroyer USS *Howard* made a port call.[54]

New Zealand is a member of the elite Five Eyes intelligence alliance with the U.S., Canada, Australia, and the U.K.[55]

Taiwan. When the United States shifted its recognition of the government of China from the Republic of China (on Taiwan) to the People's Republic of China (PRC, the mainland), it also declared certain commitments concerning the security of Taiwan. These commitments are embodied in the Taiwan Relations Act (TRA) and the subsequent "Six Assurances."

The TRA is an American law, not a treaty. Under the TRA, the United States maintains programs, transactions, and other relations with Taiwan through the American Institute in Taiwan (AIT). Except for the Sino–U.S. Mutual Defense Treaty, which had governed U.S. security relations with Taiwan and was terminated by President Jimmy Carter following the shift in recognition to the PRC, all other treaties and international agreements made between the Republic of China and the United States remain in force.

Under the TRA, it is U.S. policy "to provide Taiwan with arms of a defensive character."[56] The TRA also states that the U.S. "will make available to Taiwan such defense articles and services in such quantity as may be necessary to enable Taiwan to maintain a sufficient self-defense capability."[57] The U.S. has implemented these provisions of the act through sales of weapons to Taiwan.

The TRA states that it is also U.S. policy "to consider any effort to determine the future of Taiwan by other than peaceful means, including by boycotts or embargoes, a threat to the peace and security of the Western Pacific area and of grave concern to the United States" and "to maintain the capacity of the United States to resist any resort to force or other forms of coercion that would jeopardize the security, or the social or economic system, of the people on Taiwan."[58] To this end:

> The President is directed to inform the Congress promptly of any threat to the security or the social or economic system of the people on Taiwan and any danger to the interests of the United States arising therefrom. The President

> and the Congress shall determine, in accordance with constitutional processes, appropriate action by the United States in response to any such danger.[59]

Supplementing the TRA are the "Six Assurances" issued by President Ronald Reagan in a secret July 1982 memo, later publicly released and the subject of hearings held by the Senate Committee on Foreign Relations and the House Committee on Foreign Affairs in August 1982.[60] These assurances were intended to moderate the third Sino–American communiqué, itself generally seen as one of the "Three Communiqués" that form the foundation of U.S.–PRC relations. These assurances of July 14, 1982, were that:

> In negotiating the third Joint Communiqué with the PRC, the United States:
>
> 1. *has not agreed to set a date for ending arms sales to Taiwan;*
> 2. *has not agreed to hold prior consultations with the PRC on arms sales to Taiwan;*
> 3. *will not play any mediation role between Taipei and Beijing;*
> 4. *has not agreed to revise the Taiwan Relations Act;*
> 5. *has not altered its position regarding sovereignty over Taiwan;*
> 6. *will not exert pressure on Taiwan to negotiate with the PRC.*[61]

Although the United States sells Taiwan a variety of military equipment and sends observers to its major annual exercises, it does not engage in joint exercises with Taiwan's armed forces. Some Taiwan military officers, however, attend professional military education institutions in the United States. There also are regular high-level meetings between senior U.S. and Taiwan defense officials, both uniformed and civilian.

The United States does not maintain any bases in Taiwan. However, in late 2021, after reports of an uptick in the number of U.S. military advisers in Taiwan, Taiwan's President acknowledged their presence,[62] going back at least to 2008.[63] The numbers involved are in the dozens[64] with most of these advisers involved in the provision of training on U.S.-sourced military equipment.

Vietnam, Malaysia, and Indonesia. On a region-wide basis, the U.S. has two major ongoing defense-related initiatives to expand its relationships and diversify the geographical spread of its forces. The Maritime Security Initiative is intended to improve the security capacity of U.S. partners, and the Pacific Deterrence Initiative (PDI) bolsters America's military presence and makes it more accountable. Among the most important of the bilateral partnerships in this effort, beyond those listed above, are Vietnam, Malaysia, and Indonesia. None of these relationships is as extensive and formal as America's relationship with Singapore, India, and U.S. treaty allies, but all are of growing significance.

Since shortly after the normalization of diplomatic relations between the two countries in 1995, the U.S. and Vietnam also have gradually normalized their defense relationship. The relationship was codified in 2011 with a Memorandum of Understanding Advancing Bilateral Defense Cooperation. In 2015, the MOU was updated with the Joint Vision Statement on Defense Cooperation, which includes references to such issues as "defense technology exchange,"[65] and was implemented under a three-year 2018–2020 Plan of Action for United States–Viet Nam Defense Cooperation that was agreed upon in 2017.[66] According to USINDOPACOM's 2022 command posture statement, the U.S. and Vietnam "are expected to issue a new Defense Cooperation Plan of Action for 2022–2024 and an updated Defense MOU Annex codifying new cooperation areas, including defense trade, pilot training, cyber, and personnel accounting (POW/MIA)."[67]

The most significant development with respect to security ties over the past several years has been relaxation of the ban on sales of arms to Vietnam. The U.S. lifted the embargo on maritime security–related equipment in the fall of 2014 and then ended the embargo on arms sales completely in 2016. The embargo had long served as a psychological obstacle to Vietnamese cooperation on security issues; lifting it, however, has not changed the nature of the articles that are likely to be sold.

Transfers to date have been to the Vietnamese Coast Guard. These include provision under the Excess Defense Articles (EDA) program of two decommissioned *Hamilton*-class cutters, with a possible third on the way,[68] and 24 Metal Shark patrol boats as well as infrastructure support.[69] Vietnam is scheduled to take delivery of six unmanned Boeing-made

Scan Eagle aerial vehicles (UAVs) for its Coast Guard.[70] The U.S. is also providing T-6 turboprop trainer aircraft.[71] Agreement has yet to be reached with respect to sales of bigger-ticket items like refurbished P-3 maritime patrol aircraft, although they have been discussed.

The U.S.–Vietnam Cooperative Humanitarian and Medical Storage Initiative (CHAMSI) is designed to enhance cooperation on humanitarian assistance and disaster relief by, among other things, prepositioning related American equipment in Da Nang, Vietnam.[72] This is a sensitive issue for Vietnam and is not often referenced publicly, but it was emphasized during Vietnamese Prime Minister Nguyen Xuan Phuc's visit to Washington in 2017 and again during Secretary of Defense James Mattis's visit to Vietnam in 2018. In the same year, Vietnam participated in RIMPAC for the first time. It did not participate in the exercise in 2020, when it was scaled down because of COVID-19,[73] or in 2022.

There have been two high-profile port calls to Vietnam since 2018. Early that year, the USS *Carl Vinson* visited Da Nang with its escort ships in the first port call by a U.S. aircraft carrier since the Vietnam War, and another carrier, USS *Theodore Roosevelt*, visited Da Nang in March 2020. These are significant signals from Vietnam about its receptivity to partnership with the U.S. military—messages underscored very subtly in Vietnam's *2019 Viet Nam National Defence* white paper.[74]

Nevertheless, significant limits on the U.S.–Vietnam security relationship persist, including a Vietnamese defense establishment that is very cautious in its selection of defense partners, party-to-party ties between the Communist Parties of Vietnam and China, and a Vietnamese foreign policy that seeks to balance relationships with all major powers. The U.S., like others among Vietnam's security partners, remains officially restricted to one port call a year with an additional one to two calls on Vietnamese bases being negotiable.

The U.S. and Malaysia, despite occasional political differences, "have maintained steady defense cooperation since the 1990s." Examples of this cooperation include Malaysian assistance in the reconstruction of Afghanistan and involvement in anti-piracy operations "near the Malacca Strait and...off the Horn of Africa" as well as "jungle warfare training at a Malaysian facility, bilateral exercises like Kris Strike, and multilateral exercises like Cobra Gold, which is held in Thailand and involves thousands of personnel from several Asian countries plus the United States."[75] The U.S. has occasionally flown P-3 and/or P-8 patrol aircraft out of Malaysian bases in Borneo.

The U.S. relationship with Malaysia was strengthened under President Barack Obama and continued on a positive trajectory under the Trump Administration. In addition to cooperation on counterterrorism, the U.S. is focused on helping Malaysia to ensure maritime domain awareness. In 2020, then-Deputy Assistant Secretary of Defense for South and Southeast Asia Reed B. Werner summarized recent U.S. assistance in this area:

> [M]aritime domain awareness is important for Malaysia, given where it sits geographically. Since 2017, we have provided nearly US$200 million (RM853 million) in grant assistance to the Malaysian Armed Forces to enhance maritime domain awareness, and that includes ScanEagle unmanned aerial vehicles (UAV), maritime surveillance upgrades, and long-range air defence radar.[76]

The upgrading of its F-18 fleet is the most significant U.S. defense program currently underway with Malaysia.[77] Malaysia reportedly also "is hoping to buy Kuwait's entire fleet of Boeing F/A-18 Hornet multi-role fighter jets, although discussions between both governments over the sale have yet to begin."[78]

The U.S.–Indonesia defense relationship was revived in 2005 following a period of estrangement caused by American concerns about human rights. It now includes regular joint exercises, port calls, and sales of weaponry. Because of their impact on the operating environment in and around Indonesia, as well as the setting of priorities in the U.S.–Indonesia relationship, the U.S. has also worked closely with Indonesia's defense establishment to reform Indonesia's strategic defense planning processes.

U.S.–Indonesia military cooperation is governed by the 2010 Framework Arrangement on Cooperative Activities in the Field of Defense and the 2015 Joint Statement on Comprehensive Defense Cooperation[79] as well as the 2010 Comprehensive Partnership. These agreements have encompassed "more than 200 bilateral military engagements a year" and cooperation in six areas: "maritime security and domain awareness; defense procurement

and joint research and development; peacekeeping operations and training; professionalization; HA/DR [High Availability/Disaster Recovery]; and countering transnational threats such as terrorism and piracy."[80]

In 2021, the agreements framed new progress in the relationship that included breaking ground on a new coast guard training base,[81] inauguration of a new Strategic Dialogue,[82] and the largest-ever U.S.–Indonesia army exercise.[83] This exercise, Garuda Shield, involved a combined 4,500 troops. In a major 2022 development, the U.S. agreed to sell Indonesia up to 36 F-15s and related equipment and munitions worth $14 billion.[84] As of March 2021, the U.S. "ha[d] $1.88 billion in active government-to-government sales cases with Indonesia under the Foreign Military Sales (FMS) system."[85]

The U.S. and Indonesia also have signed two of the four foundational information-sharing agreements that the U.S. maintains with its closest partners: the General Security of Military Information Agreement (GSOMIA) and Communications Interoperability and Security Memorandum of Agreement (CISMOA).

Afghanistan. On October 7, 2001, U.S. forces invaded Afghanistan in response to the September 11, 2001, terrorist attacks on the United States. This marked the beginning of Operation Enduring Freedom to combat al-Qaeda and its Taliban supporters. The U.S., in alliance with the U.K. and the anti-Taliban Afghan Northern Alliance forces, ousted the Taliban from power in December 2001. Most Taliban and al-Qaeda leaders fled across the border into Pakistan's Federally Administered Tribal Areas where they regrouped and initiated an insurgency in Afghanistan in 2003.

In August 2003, NATO joined the war in Afghanistan and assumed control of the International Security Assistance Force (ISAF). In 2011, at the height of the war, there were 50 troop-contributing nations and nearly 150,000 NATO and U.S. forces on the ground in Afghanistan. On December 28, 2014, NATO formally ended combat operations and relinquished responsibility to the Afghan security forces, which numbered around 352,000 (including army and police).[86]

In 2018, U.S. Special Envoy Zalmay Khalilzad initiated talks with the Taliban in Doha, Qatar, in an attempt to find a political solution to the conflict and encourage the group to negotiate with the Afghan government. In February 2020, Ambassador Khalilzad and Taliban co-founder and chief negotiator Abdul Ghani Baradar signed a tentative peace agreement in which the Taliban agreed that it would not allow al-Qaeda or any other transnational terrorist group to use Afghan soil. It also agreed not to attack U.S. forces as long as they provided and remained committed to a withdrawal timeline, eventually set at May 2021.

In April 2021, President Joseph Biden announced that the U.S. would be withdrawing its remaining 2,500 soldiers from Afghanistan by September 11, 2021, remarking that America's "reasons for remaining in Afghanistan are becoming increasingly unclear."[87] As the final contingent of U.S. forces was leaving Afghanistan in August 2021, the Taliban launched a rapid offensive across the country, seizing provincial capitals and eventually the national capital, Kabul, in a matter of weeks. During the Taliban offensive, President Ghani fled the country for the United Arab Emirates (UAE), and the Afghan security forces largely abandoned their posts.[88]

Having left the air force base at Bagram in July, the U.S. and other countries were left trying to evacuate their citizens and allies from the Kabul International Airport as the Taliban assumed control of the capital. Amid the chaos, a suicide bombing attack on the airport perimeter on August 26 killed 13 U.S. military personnel and nearly 200 Afghans. IS-K, the local branch of ISIS, claimed responsibility for the attack, and the Biden Administration subsequently launched drone strikes on two IS-K targets.[89] The last U.S. forces were withdrawn on August 30, 2021.

Early in September, the Taliban formed a new government comprised almost entirely of hardline elements of the Taliban and Haqqani Network, including several individuals on the U.S. government's Specially Designated Global Terrorists list.[90] Sirajuddin Haqqani, arguably the most powerful figure in the new Afghan government, carries a $10 million U.S. bounty. Since seizing power, the Taliban government has hunted down and executed hundreds of former government officials and members of the Afghan security forces. It also has cracked down on Afghanistan's free press, banned education for girls beyond sixth grade while the daughters of several Taliban leaders attend school in Pakistan and the UAE, and curtailed the rights of women and minorities.

Like most of the world's other governments, the U.S. government has refused to offer the new Taliban government diplomatic recognition. In October 2021, Under Secretary of Defense for Policy Colin Kahl admitted that both al-Qaeda and ISIS-K were operating in Afghanistan with the intent to conduct terrorist attacks abroad, including against the U.S. Specifically, Kahl estimated that "[w]e could see ISIS-K generate that capability in somewhere between 6 or 12 months" and that "Al Qaeda would take a year or two to reconstitute that capability."[91]

Pakistan. During the early stages of the war in Afghanistan, the U.S. and NATO relied heavily on logistical supply lines running through Pakistan to resupply anti-Taliban coalition forces. Supplies and fuel were carried on transportation routes from the port at Karachi to Afghan–Pakistani border crossing points at Torkham in the Khyber Pass and Chaman in Baluchistan province. For roughly the first decade of the war, approximately 80 percent of U.S. and NATO supplies traveled through Pakistani territory. Those amounts progressively decreased as the U.S. and allied troop presence shrank.

By the late 2000s, tensions emerged in the relationship over accusations by U.S. analysts and officials that Pakistan was providing a safe haven to the Taliban and its allies as they intensified their insurgency in Afghanistan. The Taliban's leadership council or "shura" was located in Quetta, the capital of Pakistan's Baluchistan province. With relations already tense, U.S.–Pakistan relations suffered an acrimonious rupture in 2011 when U.S. special forces conducted a raid on Osama bin Laden's hideout in Abbottabad less than a mile from a prominent Pakistani military academy. Relations deteriorated further in 2017 when President Donald Trump suspended billions of dollars of U.S. military assistance to Pakistan and declared that "[w]e can no longer be silent about Pakistan's safe havens for terrorist organizations, the Taliban, and other groups that pose a threat to the region and beyond."[92]

Between 2001 and 2016, Pakistan received approximately $30 billion in aid and "reimbursements" from the U.S. in the form of coalition support funds (CSF) for its military deployments and operations along the border with Afghanistan. In 2016, reflecting the growing congressional resistance to military assistance for Pakistan, Congress blocked funds for the provision of eight F-16s. According to the Congressional Research Service, U.S. aid appropriations and military reimbursements have fallen continuously since fiscal year (FY) 2013; CSF reimbursements fell to zero in FY 2017 and remained at that level through FY 2020.[93]

Since 2015, U.S. Administrations have refused to certify that Pakistan has met requirements to crack down on the Haqqani Network, an Afghan terrorist group with known links to Pakistan's Inter-Services Intelligence Agency.[94] In addition to suspending aid, the Trump Administration supported the addition of Pakistan to the Financial Action Task Force (FATF) "grey list" for failing to fulfill its obligations to prevent the financing of terrorism and its designation as a "Countr[y] of Particular Concern under the International Religious Freedom Act of 1998 for having engaged in or tolerated 'systematic, ongoing, [and] egregious violations of religious freedom."[95] Pakistan remains on the grey list in 2022.

Despite harboring and supporting a variety of known terrorist groups that operate in Afghanistan and Kashmir, Pakistan has also been the victim of terrorism from anti-state extremist groups, including the Pakistani Taliban or TTP. In the late 2000s and early 2010s, the TTP engaged in a bloody campaign of terrorism against the Pakistani state; from 2008–2013, approximately 2,000 civilians were killed in terrorist attacks each year.[96] The Pakistan military launched a series of operations against these groups in 2014 and succeeded in progressively reducing terrorist violence in the years that followed.[97]

However, since the Afghan Taliban assumed power in Kabul, the number of attacks on Pakistan civilian and military targets has spiked dramatically[98] with the TTP and the local affiliate of the Islamic State taking credit for most of these attacks. Islamabad has repeatedly accused the Taliban government in Kabul of harboring these groups or failing to rein in their activities. Tensions reached a tipping point in April 2022 when the Taliban accused Pakistan of launching cross-border raids into Afghanistan to target these militant groups, causing dozens of civilian casualties in the process.[99]

Pakistan–U.S. relations improved modestly from 2018–2021 as Pakistan involved itself as a key player in bringing the Afghan Taliban to the negotiating table with the U.S. government. However, relations remained generally frosty and have improved little under the Biden Administration, with President Biden reportedly refusing to engage in direct

communications with Prime Minister Imran Khan and Pakistan declining an invitation to attend President Biden's December 2021 Summit for Democracy. Deputy Secretary of State Wendy Sherman visited Pakistan in October 2021 to discuss "the importance of holding the Taliban accountable to the commitments they have made." Days earlier, she noted: "We don't see ourselves building a broad relationship with Pakistan. And we have no interest in returning to the days of hyphenated India–Pakistan."[100]

Pakistan's Nuclear Weapons Stockpile. In September 2021, the *Bulletin of the Atomic Scientists* estimated that Pakistan "now has a nuclear weapons stockpile of approximately 165 warheads." The report added that "[w]ith several new delivery systems in development, four plutonium production reactors, and an expanding uranium enrichment infrastructure, however, Pakistan's stockpile...could grow to around 200 warheads by 2025, if the current trend continues."[101]

The possibility that terrorists could gain effective access to Pakistani nuclear weapons is contingent on a complex chain of circumstances. Concern about the safety and security of Pakistan's nuclear weapons increases when India–Pakistan tensions increase. If Pakistan were to move its nuclear assets or (worse) take steps to mate weapons with delivery systems, the likelihood of theft or infiltration by terrorists could increase.

Increased reliance on tactical nuclear weapons (TNWs) is of particular concern because launch authorities for TNWs are typically delegated to lower-tier field commanders far from the central authority in Islamabad. Another concern is the possibility that miscalculations could lead to regional nuclear war if India's leaders were to lose confidence that nuclear weapons in Pakistan are under government control or, conversely, were to assume that they were under Pakistani government control after they ceased to be.

There are additional concerns that Islamist extremist groups with links to the Pakistan security establishment could exploit those links to gain access to nuclear weapons technology, facilities, and/or materials. The realization that Osama bin Laden stayed for six years within a mile of Pakistan's premier defense academy has fueled concern that al-Qaeda can operate relatively freely in parts of Pakistan. Pakistan's weapons-grade materials were ranked the 19th least secure by the Nuclear Threat Initiative (NTI) in 2018, with only Iran's and North Korea's ranking less secure at 21st and 22nd, respectively.[102] In its 2020 report, the NTI assessed that the "[m]ost improved among countries with materials in 2020 is Pakistan, which was credited with adopting new on-site physical protection and cybersecurity regulations, improving insider threat prevention measures, and more."[103]

There is the additional (though less likely) scenario of extremists gaining access through a collapse of the state. While Pakistan remains unstable because of its weak economy, regular terrorist attacks, sectarian violence, civil–military tensions, and the growing influence of religious extremist groups, a total collapse of the Pakistani state is highly unlikely. The country's most powerful institution, the 550,000-strong army that has ruled Pakistan for almost half of its existence, would almost certainly intervene and assume control once again if the political situation began to unravel. The potential breakup of the Pakistani state would have to be preceded by the disintegration of the army, which currently is not plausible.

Pakistan–India Conflict. India and Pakistan have fought four wars since partition in 1947, including conflicts in 1947, 1965, 1971, and 1999. Deadly border skirmishes across the Line of Control (LoC) in Kashmir, a disputed territory claimed in full by both India and Pakistan, are commonplace.

With terrorist groups operating relatively freely in Pakistan and maintaining links to its military and intelligence services, there is a moderate risk that the two countries might eventually engage in all-out conflict. Pakistan's recent focus on incorporating tactical nuclear weapons into its warfighting doctrine has also raised concern that conflict now involves a higher risk of nuclear exchange. In early 2019, Pakistan conducted several tests of its nuclear-capable, short-range NASR ballistic missiles.[104]

The military and strategic dynamic between India and Pakistan has grown more volatile since the May 2014 election of Bharatiya Janata Party (BJP) leader Narendra Modi as India's prime minister. Modi invited Pakistani Prime Minister Nawaz Sharif to his swearing-in ceremony, but in August 2014, the two sides engaged in intense firing and shelling along their international border and the Line of Control that divides Kashmir. A similar escalation in border tensions occurred again in October 2014 when a series of firing incidents claimed

more than a dozen casualties with several dozen more injured.[105]

On December 25, 2015, Modi made an impromptu visit to Lahore—the first visit to Pakistan by an Indian leader in 12 years—to meet with Sharif. The visit created enormous goodwill between the two countries and raised hope that official dialogue would soon resume. Again, however, violence marred the new opening. One week after the meeting, militants attacked an Indian airbase at Pathankot, killing seven Indian security personnel.[106]

A comprehensive India–Pakistan dialogue has remained frozen ever since, although the two governments still regularly communicate with one another. New Delhi has insisted that Pakistan take concrete verifiable steps to crack down on terrorist groups before a comprehensive dialogue covering all outstanding issues—including the Kashmir dispute—can resume. Unfortunately, the past few years have been marred by additional terrorist attacks and cross-border shelling.

The Pakistan-based Jaish-e-Mohammed (JeM) terrorist group was responsible for a January 2, 2016, attack on the Indian airbase at Pathankot, a February 2018 attack on an Indian army camp in Kashmir, and a February 2019 attack on Indian security forces in Kashmir—the deadliest single terrorist attack in the disputed region since the eruption of an insurgency in 1989.[107]

Following a deadly attack on Indian security forces in Pulwama, Kashmir, in February 2019, India launched an even more daring cross-border raid. For the first time since the Third India–Pakistan War of 1971, the Indian air force crossed the LoC and dropped ordnance inside Pakistan proper (as opposed to disputed Kashmir), targeting several JeM training camps in Khyber Pakhtunkhwa province.[108] Delhi stressed that the "non-military" operation was designed to avoid civilian casualties and was preemptive in nature because India had credible intelligence that JeM was attempting other suicide attacks in the country.

In response, Pakistan launched fighter jets to conduct their own strike on targets located on India's side of the LoC in Kashmir, prompting a dogfight that resulted in the downing of an Indian MiG-21. Pakistan released the captured MiG-21 pilot days later, ending the brief but dangerous crisis. Nevertheless, both militaries continued to engage in artillery attacks along the disputed border throughout 2019. Pakistan reported more than 45 casualties, including 14 soldiers, from Indian shelling between January 2019 and October 2019. India reported 21 casualties and over 2,000 cease-fire violations during the same period.[109]

Skirmishes at the LoC continued and even accelerated in 2020 with India's Home Ministry registering "5,133 instances of ceasefire violations along the Line of Control (LoC) with Pakistan last year, which resulted in 46 fatalities."[110] In early 2021, however, India and Pakistan experienced at least a partial diplomatic thaw as both countries combated the COVID-19 global pandemic. In February, both countries agreed to observe a strict cease-fire along the LOC,[111] and in March, Pakistan's Chief of Army Staff, General Qamar Javed Bajwa, declared in a speech that "it is time to bury the past and move forward."[112]

In March 2022, India accidentally fired a cruise missile into Pakistan. The unarmed missile flew roughly 100 kilometers into Pakistan and crashed harmlessly without casualties. The Indian government blamed a "technical malfunction" during "routine maintenance."[113] Pakistan called the launch irresponsible and demanded a "joint probe to accurately establish the facts" in a response that one correspondent characterized as "measured."[114]

India. During the Cold War, U.S.–Indian military cooperation was minimal except for a brief period during and after the China–India border war in 1962 when the U.S. provided India with supplies, arms, and ammunition. The rapprochement was short-lived, and the U.S. suspended arms and aid to India following the Second Indo–Pakistan War of 1965. The relationship was largely characterized by mistrust in the 1970s under the Nixon Administration. America's ties with India hit a nadir during the Third Indo–Pakistan war of 1971 when the U.S. deployed the aircraft carrier USS *Enterprise* toward the Bay of Bengal in a show of support for Pakistani forces. Months earlier, India had signed a major defense treaty with Moscow. India's close defense ties to Russia and America's close defense ties to Pakistan left the two countries estranged for the duration of the Cold War.

Military ties between the U.S. and India have improved significantly over the past two decades (particularly since the signing of a 10-year defense partnership and civil nuclear deal in 2005) as the two sides have established a robust strategic partnership based on mutual concerns about China's increasingly belligerent behavior and converging

interests in countering regional terrorism and promoting a "free and open Indo-Pacific."[115] The U.S. has supplied India more than $25 billion worth of U.S. military equipment since 2008, including C-130J and C-17 transport aircraft, P-8 maritime surveillance aircraft, Chinook airlift helicopters, Apache attack helicopters, artillery batteries, and Firefinder radar. The two countries also have several information-sharing and intelligence-sharing agreements in place, including one that covers "white" or commercial shipping in the Indian Ocean.

Defense ties have advanced at an accelerated rate since the election of Prime Minister Modi in 2014. In 2015, the U.S. and India agreed to renew and upgrade their 10-year Defense Framework Agreement. In 2016, the two governments finalized the text of the Logistics Exchange Memorandum of Agreement (LEMOA), which allows each country to access the other's military supplies and refueling capabilities through ports and military bases, and the U.S. designated India a "major defense partner," a designation unique to India that is intended to facilitate its access to American defense technology. Since then, Indian and U.S. warships have begun to offer each other refueling and resupply services at sea.[116] In October 2020, U.S. P-8 maritime surveillance aircraft were refueled for the first time at an Indian military base in the Andaman and Nicobar Islands.

America's strategic and defense ties with India advanced in several important ways during the Trump Administration. In 2018, India was granted STA-1 status, easing controls on exports of advanced defense technology. India is only the third Asian country after Japan and South Korea to be granted STA-1 status. In the same year, India established a permanent naval attaché representative to U.S. Central Command in Bahrain, fulfilling a long-standing request from New Delhi.

In 2018, the two countries also signed the Communications Compatibility and Security Agreement (COMCASA), which will allow the U.S. to sell India encrypted communications equipment and create secure channels for communication between the Indian and U.S. militaries. In 2020, the U.S. and India signed the Basic Exchange Cooperation Agreement (BECA), which creates a framework for the sharing of geospatial intelligence.

Beyond these "foundational" or "enabling" military agreements, in recent years, the two countries have also signed an agreement on Helicopter Operations from Ships Other Than Aircraft Carriers (HOSTAC) and an Industrial Security Annex (ISA) that allows the U.S. to share classified information with private Indian defense firms. During the Trump Administration, the two countries also initiated a new 2+2 defense and foreign ministers dialogue while reviving the Quad grouping (which joins India and the U.S. with Australia and Japan) in 2017.[117] In 2020, the four countries held the first Quad naval exercise since 2007. When a deadly crisis erupted at the China–India border in 2020, the Trump Administration provided India with two advanced surveillance drones and cold-weather gear for Indian soldiers.

In recent years, India has made additional purchases of U.S. military hardware, including C-17 transport aircraft, Apache attack helicopters, MH-60R Seahawk multi-mission helicopters, Sig Sauer assault rifles, and M777 ultralight howitzer artillery guns. It also is reportedly considering the purchase of 30 armed MQ-9 reaper drones (10 each for the three branches of its military) for $3 billion and a half-dozen highly capable P-8I maritime aircraft (to supplement the dozen currently in operation) for nearly $2 billion.

New Delhi and Washington regularly hold joint annual military exercises across all services. They include the Yudh Abhyas army exercises, Red Flag air force exercises, and Malabar naval exercise, which added Japan and Australia as permanent participants in 2012 and 2020, respectively. In late 2019, India and the U.S. held their first-ever tri-service military exercise, nicknamed "Tiger Triumph."

At the April 2022 2+2 defense and foreign policy dialogue, which was held in Washington, the two sides signed "a Space Situational Awareness arrangement" and "agreed to launch an inaugural Defense Artificial Intelligence Dialogue." They also committed to exploring the coproduction of Air-Launched Unmanned Aerial Vehicles under the Defense Trade and Technology Initiative (DTTI). In addition, India agreed "to join the Combined Maritime Forces Task Force…to expand multilateral cooperation in the Indian Ocean," and the two sides agreed to "explore possibilities of utilizing Indian shipyards for repair and maintenance of ships of the U.S. Maritime Sealift Command to support mid-voyage repair of U.S. Naval ships."[118] The U.S. Department of Defense assessed that these initiatives "will allow the U.S. and Indian militaries to work more seamlessly together

across all domains of potential conflict" and "jointly meet the challenges of this century."[119]

Quality of Key Allied or Partner Armed Forces in Asia

Because Asia lacks an integrated, regional security architecture along the lines of NATO, the United States partners with most of the region's nations on a bilateral basis. This means that there is no single standard to which all local militaries aspire; instead, the region is characterized by a wide range of capabilities that are influenced by local threat perceptions, institutional interests, physical conditions, historical factors, and budgetary considerations.

Moreover, most Asian militaries have limited combat experience, particularly in high-intensity air or naval combat. Some, like Malaysia, have never fought an external war since gaining independence in the mid-20th century. The Indochina wars, the most recent high-intensity conflicts, are now more than 50 years in the past. It is therefore unclear how well Asia's militaries have trained for future warfare and whether their doctrine will meet the exigencies of wartime realities.

Based on examinations of equipment, however, we assess that several Asian allies and friends have substantial potential military capabilities that are supported by robust defense industries and significant defense spending. The defense budgets of Japan, South Korea, and Australia are estimated to be among the world's 15 largest, and the three countries' military forces field some of the world's most advanced weapons, including F-15s in the Japan Air Self Defense Force and ROK Air Force; airborne early warning (AEW) platforms; Aegis-capable surface combatants and modern diesel-electric submarines; and third-generation main battle tanks. As noted, all three nations are also involved in the production and purchase of F-35 fighters.

At this point, both the Japanese and Korean militaries arguably are more capable than most European militaries, at least in terms of conventional forces. Japan's Self Defense Forces, for example, field more tanks, principal surface combatants, and combat-capable aircraft than their British counterparts field. Similarly, South Korea fields more tanks, principal surface combatants, and combat-capable aircraft than Germany fields.

Both the ROK and Japan are also increasingly interested in developing missile defense capabilities, including joint development and coproduction in the case of Japan. After much negotiation and indecision, South Korea deployed America's Terminal High Altitude Area Defense (THAAD) missile defense system on the peninsula in 2017. It is also pursuing an indigenous missile defense capability.

As for Japan, its Aegis-class destroyers are equipped with SM-3 missiles, and it decided in 2017 to install the Aegis Ashore missile defense system to supplement its Patriot missile batteries.[120] In June 2020, Tokyo unexpectedly cancelled plans to build two Aegis Ashore missile defense sites, citing the potential for the interceptor missile's first-stage booster to fall onto populated areas. Other likely factors in the decision include the overall cost of the program, inept handling of the site-selection process, and government unwillingness to press national objectives over local resistance.[121] Currently, Tokyo plans to build an additional two Aegis-capable ships to compensate for the cancellation of the Aegis Ashore project.

Australia also has very capable armed forces. They are smaller than NATO militaries but have major operational experience, having deployed to Iraq and Afghanistan as well as to help the Philippines with its Southern insurgency. Australia's military has several operations underway in the region from the Southwest Pacific islands, which are so critically important to it, to its partnership with Malaysia in the North Indian Ocean and South China Sea, to the Korean Peninsula.[122]

Singapore's small population and physical borders limit the size of its military, but in terms of equipment and training, it has Southeast Asia's largest defense budget[123] and fields some of the region's highest-quality forces. Singapore's ground forces can deploy third-generation Leopard II main battle tanks, and its fleet includes four conventional submarines (to be replaced by four new, more capable submarines from Germany)[124] and six frigates and eight missile-armed corvettes. Its air force has F-15E Strike Eagles and F-16s as well as one of Southeast Asia's largest fleets of airborne early warning and control aircraft (G550-AEW aircraft) and a squadron of KC-130 tankers that can help to extend range or time on station.[125] In January 2020, the U.S. Department of State cleared Singapore to purchase "four short-takeoff-and-vertical-landing F-35 variants with an option for eight more of the 'B' models." Delivery is scheduled to begin in 2026.[126]

At the other extreme, the Armed Forces of the Philippines are among the region's weakest military forces. Having long focused on waging counterinsurgency campaigns while relying on the United States for its external security, the Philippines spent only 1.0 percent of GDP on its military in 2020.[127] The most modern ships in the Philippine navy are three former U.S. *Hamilton*-class Coast Guard cutters. It has also taken delivery of new South Korean–built frigates and is set to buy two more smaller South Korean naval vessels.[128] The Philippines also has purchased 12 light attack fighter aircraft from South Korea[129] and has been cleared to acquire 12 new American F-16s.[130]

The armed forces of American allies from outside the region, particularly those of France and the United Kingdom, should also be mentioned. France has overseas bases in New Caledonia and the South Pacific, locally based assets, and 2,900 personnel in the region.[131] It also conducts multiple naval deployments each year out of Metropolitan France. The U.K. is likewise very active in the region and, given its unparalleled integration with U.S. forces, can employ its capability directly in pursuit of shared objectives. It has a naval logistics facility in Singapore and Royal Gurkhas stationed in Brunei and has been an integral part of a U.S.-led mission to monitor seaborne evasions.

Current U.S. Presence in Asia

U.S. Indo-Pacific Command. Established in 1947 as U.S. Pacific Command (PACOM), USINDOPACOM is the oldest and largest of America's unified commands. According to its website:

> USINDOPACOM protects and defends, in concert with other U.S. Government agencies, the territory of the United States, its people, and its interests. With allies and partners, USINDOPACOM is committed to enhancing stability in the Asia–Pacific region by promoting security cooperation, encouraging peaceful development, responding to contingencies, deterring aggression, and, when necessary, fighting to win. This approach is based on partnership, presence, and military readiness.[132]

USINDOPACOM's area of responsibility (AOR) includes not only the expanses of the Pacific, but also Alaska and portions of the Arctic, South Asia, and the Indian Ocean. Its 36 nations represent more than 50 percent of the world's population and include two of the three largest economies and nine of the 10 smallest; the most populous nation (China); the largest democracy (India); the largest Muslim-majority nation (Indonesia); and the world's smallest republic (Nauru). The region is a vital driver of the global economy and includes the world's busiest international sea-lanes and nine of its 10 largest ports. By any meaningful measure, the Indo-Pacific is also the world's most militarized region, with "seven of the world's ten largest standing militaries and five of the world's declared nuclear nations."[133]

INDOPACOM has several "component and sub-unified commands"[134] that include:

- **U.S. Army Pacific.** USARPAC is the Army's component command in the Pacific. Headquartered in Hawaii and with approximately 80,000 soldiers, it supplies Army forces as necessary for various global contingencies and "has sent peacekeeping forces to the Sinai Peninsula, Haiti, East Timor and Bosnia."[135] Among its 12 subordinate commands are U.S. Army Japan, the 500th Military Intelligence Brigade, and U.S. Army Alaska.

- **U.S. Pacific Air Force.** PACAF is responsible for planning and conducting defensive and offensive air operations in the Asia–Pacific region. It has three numbered air forces under its command: 5th Air Force in Japan; 7th Air Force in Korea; and 11th Air Force, headquartered in Alaska. These air forces field two squadrons of F-15s, two squadrons of F-22s, five squadrons of F-16s, and a single squadron of A-10 ground attack aircraft as well as two squadrons of E-3 early-warning aircraft, tankers, and transports. Other forces that regularly come under PACAF command include B-52, B-1, and B-2 bombers. In 2020, PACAF activated two F-35A squadrons at Eielson Air Force Base in Alaska. It completed the integration of 54 "combat-coded" F-35A aircraft in April 2022, increasing the number of squadrons to four.[136]

- **U.S. Pacific Fleet.** PACFLT normally controls all U.S. naval forces committed to the Pacific, which usually represents 60 percent of the Navy's fleet. It is organized into Seventh Fleet, headquartered in Japan, and Third Fleet,

headquartered in California. Seventh Fleet comprises the forward-deployed element of PACFLT and includes the only American carrier strike group (CTF-70, ported at Yokosuka, Japan) and amphibious group (CTF-76, ported at Sasebo, Japan) that are home-ported abroad. The Third Fleet's AOR spans the West Coast of the United States to the International Date Line and includes the Alaskan coastline and parts of the Arctic. In recent years, the involvement of the Third Fleet's five carrier strike groups in the Western Pacific has been eased by the blurring of this boundary between the two fleets' areas of operation under a concept called "Third Fleet Forward." Beginning in 2015, the conduct of Freedom of Navigation Operations (FONOPS) that challenge excessive maritime claims (a part of the Navy's mission since 1979) has assumed a higher profile as a result of several well-publicized operations in the South China Sea. Under the Trump Administration, the frequency of these operations increased significantly.

- **U.S. Marine Forces Pacific.** With its headquarters in Hawaii, MARFORPAC controls elements of the U.S. Marine Corps operating in the Asia–Pacific region. Because of its extensive responsibilities and physical span, MARFORPAC controls two-thirds of Marine Corps forces: the I Marine Expeditionary Force (MEF), centered on the 1st Marine Division, 3rd Marine Air Wing, and 1st Marine Logistics Group, and the III Marine Expeditionary Force, centered on the 3rd Marine Division, 1st Marine Air Wing, and 3rd Marine Logistics Group. The I MEF is headquartered at Camp Pendleton, California, and the III MEF is headquartered on Okinawa, although each has various subordinate elements deployed at any time throughout the Pacific on exercises, to maintain presence, or engaged in other activities. MARFORPAC is responsible for supporting three different commands: It is the U.S. Marine Corps component of USINDOPACOM, provides the Fleet Marine Forces to PACFLT, and provides Marine forces for U.S. Forces Korea (USFK).

- **U.S. Special Operations Command Pacific.** SOCPAC has operational control of various special operations forces, including Navy SEALs; Naval Special Warfare units; Army Special Forces (Green Berets); and Special Operations Aviation units in the Pacific region, including elements in Japan and South Korea. It supports the Pacific Command's Theater Security Cooperation Program as well as other plans and contingency responses. SOCPAC forces also support various operations in the region other than warfighting, such as counterdrug operations, counterterrorism training, humanitarian assistance, and demining activities.

- **U.S. Forces Korea and U.S. Eighth Army.** Because of the unique situation on the Korean Peninsula, two subcomponents of USINDOPACOM—U.S. Forces Korea (USFK) and U.S. Eighth Army—are based in Korea. USFK, a joint headquarters led by a four-star U.S. general, is in charge of the various U.S. military elements on the peninsula. U.S. Eighth Army operates in conjunction with USFK as well as with the United Nations presence in the form of United Nations Command.

Other forces, including space capabilities, cyber capabilities, air and sealift assets, and additional combat forces, may be made available to USINDOPACOM depending on requirements and availability.

Key Infrastructure That Enables Expeditionary Warfighting Capabilities

Any planning for operations in the Pacific will be dominated by the "tyranny of distance." Because of the extensive distances that must be traversed in order to deploy forces, even Air Force units will take one or more days to deploy, and ships measure steaming time in weeks. For instance, a ship sailing at 20 knots requires nearly five days to get from San Diego to Hawaii. From there, it takes seven more days to get to Guam; seven days to Yokosuka, Japan; and eight days to Okinawa—if ships encounter no interference along the journey.[137]

China's growing anti-access/area denial (A2/AD) capabilities, ranging from an expanding fleet of modern submarines to anti-ship ballistic and cruise missiles, increase the operational risk for deployment of U.S. forces in the event of conflict. China's capabilities not only jeopardize American combat forces

that would flow into the theater for initial combat, but also would continue to threaten the logistical support needed to sustain American combat power during the subsequent days, weeks, and months.

American basing structure in the Indo-Pacific region, including access to key allied facilities, is therefore both necessary and increasingly at risk.

American Facilities

Hawaii. Much as it was in the 20th century, Hawaii remains the linchpin of America's ability to support its position in the Western Pacific. If the United States cannot preserve its facilities in Hawaii, both combat power and sustainability become moot. The United States maintains air and naval bases, communications infrastructure, and logistical support on Oahu and elsewhere in the Hawaiian Islands. Hawaii is also a key site for undersea cables that carry much of the world's communications and data, as well as for satellite ground stations.

Guam. The American territory of Guam is located 4,600 miles farther west. Obtained from Spain as a result of the Spanish–American War, Guam became a key coaling station for U.S. Navy ships. It was seized by Japan in World War II, was liberated by U.S. forces in 1944, and after the war became an unincorporated, organized territory of the United States. Key U.S. military facilities on Guam include U.S. Naval Base Guam, which houses several attack submarines and possibly a new aircraft carrier berth, and Andersen Air Force Base, one of a handful of facilities that can house B-2 bombers. U.S. task forces can stage out of Apra Harbor, drawing weapons from the Ordnance Annex in the island's South Central Highlands. The Marine Corps is working to expand a major facility, Marine Corps Base Camp Blaz, activated on October 1, 2020.[138] Upon completion in 2025, the base will host 5,000 Marines comprising various aviation and ground combat, combat support, logistics, and headquarters units.[139] There is also a communications and data relay facility on the island.

Guam's facilities have improved steadily over the past 20 years. B-2 bombers, for example, began to operate from Andersen Air Force Base in March 2005.[140] These improvements have been accelerated and expanded even as China's A2/AD capabilities have raised doubts about the ability of the U.S. to sustain operations in the Asian littoral. The concentration of air and naval assets as well as logistical infrastructure, however, makes the island an attractive potential target in the event of conflict. The increasing reach of Chinese and North Korean ballistic missiles reflects this growing vulnerability.

Guam and Saipan. The U.S. military has noncombatant maritime prepositioning ships (MPS), which contain large amounts of military equipment and supplies, in strategic locations from which they can reach areas of conflict relatively quickly as associated U.S. Army or Marine Corps units located elsewhere arrive in the areas. U.S. Navy units on Guam and in Saipan, Commonwealth of the Northern Marianas, support prepositioning ships that can supply Army or Marine Corps units deployed for contingency operations in Asia.

Allied and Other Friendly Facilities

For the United States, access to bases in Asia has long been a vital part of its ability to support military operations in the region. Even with the extensive aerial refueling and replenishment skills of the U.S. Air Force and U.S. Navy, it is still essential that the United States retain access to resupply and replenishment facilities, at least in peacetime. The ability of those facilities to survive and function will directly influence the course of any conflict in the Western Pacific region. Moreover, a variety of support functions, including communications, intelligence, and space support, cannot be accomplished without facilities in the region.

Today, maintaining maritime domain awareness or space situational awareness would be extraordinarily difficult without access to facilities in the Asia–Pacific region. The American alliance network is therefore a matter both of political partnership and of access to key facilities on allied soil.

Japan. In Japan, the United States has access to more than 100 different facilities, including communications stations, military and dependent housing, fuel and ammunition depots, and weapons and training ranges in addition to such major bases as the air bases at Misawa, Yokota, and Kadena and naval facilities at Yokosuka, Atsugi, and Sasebo. The naval facilities support the USS *Ronald Reagan* carrier strike group (CSG), which is home-ported in Yokosuka, and a Navy-Marine Expeditionary Strike Group (ESG) centered on the USS *America*, home-ported at Sasebo. The skilled workforce at places like Yokosuka is needed to maintain American forces and repair equipment in time of conflict. Replacing them would take years if not decades.

This combination of facilities and workforce, in addition to physical location and political support, makes Japan an essential part of any American military response to contingencies in the Western Pacific. Japanese financial support for the American presence also makes these facilities some of the most cost-effective in the world.

The status of one critical U.S. base has been a matter of public debate in Japan for many years. The U.S. Marine Corps' Third Marine Expeditionary Force, based on Okinawa, is the U.S. rapid reaction force in the Pacific. The Marine Air-Ground Task Force, comprised of air, ground, and logistics elements, enables quick and effective response to crises or humanitarian disasters. To improve the political sustainability of U.S. forces by reducing the impact on the local population in that densely populated area, the Marines are relocating some units to Guam and less-populated areas of Okinawa. The latter includes moving a helicopter unit from Futenma to a new facility in a more remote location in northeastern Okinawa. Because of local resistance, construction of the Futenma Replacement Facility at Camp Schwab will not be complete until at least 2025, but the U.S. and Japanese governments have affirmed their support for the project.

South Korea. The United States also maintains an array of facilities in South Korea. The Army's footprint in South Korea is larger than its footprint in Japan because the United States and South Korea remain focused on deterring North Korean aggression and preparing for any possible North Korean contingencies. The Army maintains four major facilities (which in turn control a number of smaller sites) at Daegu, Yongsan in Seoul, and Camps Red Cloud/Casey and Humphreys. These facilities support the U.S. 2nd Infantry Division, which is based in South Korea. Other key facilities include air bases at Osan and Kunsan and a naval facility at Chinhae near Pusan.

The Philippines. In 1992, the United States ended a nearly century-long presence in the Philippines when it withdrew from its base in Subic Bay as the base's lease ended. The eruption of Mount Pinatubo had already forced the closure of Clark Air Base; the costs of repairing the facility were deemed too high to be worthwhile. In 2014, however, spurred by China's growing assertiveness in the South China Sea, including against Philippine claims such as Mischief Reef (seized in 1995) and Scarborough Shoal (2012), the U.S. and the Philippines negotiated the Enhanced Defense Cooperation Agreement, which allowed for the rotation of American forces through Philippine military bases.

In 2016, the two sides agreed on an initial list of five bases to be used in the Philippines. Geographically distributed across the country, they are Antonio Bautista Air Base in Palawaan, closest to the Spratlys; Basa Air Base, located on the main Philippine island of Luzon and closest to the hotly contested Scarborough Shoal; Fort Magsaysay, also on Luzon and the only facility on the list that is not an air base; Lumbia Air Base in Mindanao, where Manila remains engaged in low-intensity combat with Islamist insurgents; and Mactan-Benito Ebuen Air Base in the central Philippines.[141] In 2018, construction was completed on a humanitarian assistance and disaster relief warehouse located at Basa Air Base.[142] American F-16s based in South Korea deployed there for a 12-day exercise with Philippine fighter jets in 2019[143] and exercised there again in 2020.[144] With the resolution of disputes over the status of America's Visiting Forces Agreement with the Philippines, it is expected that building out of the other EDCA sites will begin as well.

It remains unclear precisely which additional forces would be rotated through the Philippines as a part of this agreement, which in turn affects the kinds of facilities that would be most needed. The base upgrades and deployments pursuant to the EDCA are part of a broader expansion of U.S.–Philippine defense ties begun under the Aquino government and continued under President Duterte with some adjustments.

Singapore. The United States does not have bases in Singapore, but it is allowed access to several key facilities that provide essential support for American forward presence. Since the closure of its facilities at Subic Bay, the United States has been allowed to operate the principal logistics command for the Seventh Fleet out of the Port of Singapore Authority's Sembawang Terminal. The U.S. Navy also has access to Changi Naval Base, one of the few docks in the world that can handle a 100,000-ton American aircraft carrier. A small U.S. Air Force contingent operates out of Paya Lebar Air Base to support U.S. Air Force combat units visiting Singapore and Southeast Asia, and Singapore hosts Littoral Combat Ships (LCS) and rotating P-8 aircraft.[145]

Australia. The most prominent element of the U.S. presence in Australia is the deployment of U.S.

Marines to Darwin in northern Australia. In keeping with Australian sensitivities about permanent American bases on Australian soil, however, the Marines do not maintain a permanent presence in the country.[146] Similarly, the United States jointly staffs the Joint Defence Facility Pine Gap and the Joint Geological and Geophysical Research Station at Alice Springs and has access to the Harold E. Holt Naval Communication Station, including its space surveillance radar system, in the western part of the country.[147]

Finally, the United States is granted access to a number of facilities in Asian states on a contingency or crisis basis. Thus, U.S. Air Force units transited Thailand's U-Tapao Air Base and Sattahip Naval Base during the first Gulf War and during the Iraq War, but they do not maintain a permanent presence there. Additionally, the U.S. Navy conducts hundreds of port calls throughout the region.

Diego Garcia. The American facilities on the British territory of Diego Garcia are vital to U.S. operations in the Indian Ocean and Afghanistan and provide essential support for operations in the Middle East and East Asia. The island is home to the Military Sealift Command's Maritime Prepositioning Squadron-2 (MPSRON-2), which works with Maritime Prepositioning Squadron-3 (MPSRON-3) "to deliver a strategic power-projection capability for the Marine Corps, Army and Air Force, known as the Maritime Prepositioning Force (MPF)."[148] Specifically, "MPF ships deliver a forward presence and rapid crisis response capability by pre-positioning equipment and supplies to various locations at sea."[149] Several elements of the U.S. global space surveillance and communications infrastructure, as well as basing facilities for the B-2 bomber, are also located on the island.

Conclusion

The Asian strategic environment is extremely expansive. It includes half the globe and is characterized by a variety of political relationships among states that possess wildly varying capabilities. The region includes long-standing American allies with relationships dating back to the beginning of the Cold War as well as recently established states and some long-standing adversaries such as North Korea.

American conceptions of the region must therefore recognize the physical limitations imposed by the tyranny of distance. Moving forces within the region (never mind to it) will take time and require extensive strategic lift assets as well as sufficient infrastructure (such as sea and aerial ports of debarkation that can handle American strategic lift assets) and political support. At the same time, the complicated nature of intra-Asian relations, especially unresolved historical and territorial issues, means that the United States, unlike Europe, cannot necessarily count on support from all of its regional allies in responding to any given contingency.

Scoring the Asia Operating Environment

As with the operating environments of Europe and the Middle East, we assessed the characteristics of Asia as they could be expected to facilitate or inhibit America's ability to conduct military operations to defend its vital national interests against threats. Our assessment of the operating environment utilized a five-point scale that ranges from "very poor" to "excellent" conditions and covers four regional characteristics of greatest relevance to the conduct of military operations:

1. **Very Poor.** Significant hurdles exist for military operations. Physical infrastructure is insufficient or nonexistent, and the region is politically unstable. The U.S. military is poorly placed or absent, and alliances are nonexistent or diffuse.
2. **Unfavorable.** A challenging operating environment for military operations is marked by inadequate infrastructure, weak alliances, and recurring political instability. The U.S. military is inadequately placed in the region.
3. **Moderate.** A neutral to moderately favorable operating environment is characterized by adequate infrastructure, a moderate alliance structure, and acceptable levels of regional political stability. The U.S. military is adequately placed.
4. **Favorable.** A favorable operating environment includes good infrastructure, strong alliances, and a stable political environment. The U.S. military is well placed for future operations.

5. **Excellent.** An extremely favorable operating environment includes well-established and well-maintained infrastructure, strong and capable allies, and a stable political environment. The U.S. military is exceptionally well placed to defend U.S. interests.

The key regional characteristics consist of:

a. **Alliances.** Alliances are important for interoperability and collective defense, as allies would be more likely to lend support to U.S. military operations. Indicators that provide insight into the strength or health of an alliance include whether the U.S. trains regularly with countries in the region, has good interoperability with the forces of an ally, and shares intelligence with nations in the region.

b. **Political Stability.** Political stability brings predictability for military planners when considering such things as transit, basing, and overflight rights for U.S. military operations. The overall degree of political stability indicates whether U.S. military actions would be hindered or enabled and reflects, for example, whether transfers of power in the region are generally peaceful and whether there have been any recent instances of political instability in the region.

c. **U.S. Military Positioning.** Having military forces based or equipment and supplies staged in a region greatly facilitates the ability of the United States to respond to crises and, presumably, achieve successes in critical "first battles" more quickly. Being routinely present also helps the United States to maintain familiarity with a region's characteristics and the various actors that might act to assist or thwart U.S. actions. With this in mind, we assessed whether or not the U.S. military was well positioned in the region. Again, indicators included bases, troop presence, prepositioned equipment, and recent examples of military operations (including training and humanitarian) launched from the region.

d. **Infrastructure.** Modern, reliable, and suitable infrastructure is essential to military operations. Airfields, ports, rail lines, canals, and paved roads enable the U.S. to stage, launch operations from, and logistically sustain combat operations. We combined expert knowledge of regions with publicly available information on critical infrastructure to arrive at our overall assessment of this metric.[150]

For Asia, we arrived at these average scores (rounded to the nearest whole number):

- Alliances: **4—Favorable**
- Political Stability: **3—Moderate**
- U.S. Military Positioning: **4—Favorable**
- Infrastructure: **4—Favorable**

Aggregating to a regional score of: **Favorable**

Operating Environment: Asia

	VERY POOR	UNFAVORABLE	MODERATE	FAVORABLE	EXCELLENT
Alliances				✓	
Political Stability			✓		
U.S. Military Posture				✓	
Infrastructure				✓	
OVERALL				✓	

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Conclusion: Scoring the Global Operating Environment

The United States is a global power with global security interests, and threats to those interests can emerge from any region. Consequently, the U.S. military must be ready to operate in any region when called upon to do so and must account for the range of conditions that it might encounter when planning for potential military operations. These considerations necessarily inform its decisions about the type and amount of equipment it purchases (especially to transport and sustain the force); the location or locations from which it might operate; and how easily it can or cannot project and sustain combat power when engaged with the enemy.

Aggregating the three regional scores provides a global operating environment score of **FAVORABLE** in the *2023 Index*.

Europe. Overall, the European region remains a stable, mature, and friendly operating environment. Russia remains the preeminent military threat to the region, both conventionally and unconventionally, and its invasion of Ukraine marks a serious escalation of its efforts to exert influence on its periphery. China continues to have a significant presence in Europe through its propaganda, influence operations, and investments in key sectors. By mitigating the effect of sanctions, it also has been a key enabler of the Russian government's ability to conduct the war in Ukraine. Both NATO and many non-NATO European countries have reason to be increasingly concerned about the behavior and ambitions of both Russia and China, although agreement on a collective response to these challenges remains elusive.

The past year saw continued U.S. military and political reengagement with the continent along with increases in European allies' defense budgets and capability investment. Additional deployments to Europe following the invasion of Ukraine have made the U.S. military presence in Europe the strongest it has been for several years. The economic, political, and societal impacts of the invasion are only beginning to be felt and will undoubtedly have to be reckoned with for years to come. However, NATO has maintained its collective defense posture throughout despite the draining of its material resources as the alliance sends equipment and munitions into Ukraine to strengthen that country's ability to defend itself.

It is difficult to predict whether NATO's renewed emphasis on collective defense and its reinvigorated defense spending will continue over the long term or is merely a short-term response to Russia's invasion. Given the potential for Russia to replace its

Global Operating Environment

	VERY POOR	UNFAVORABLE	MODERATE	FAVORABLE	EXCELLENT
Europe				✓	
Middle East			✓		
Asia				✓	
OVERALL				✓	

Global Operating Environment: Summary

battlefield losses with newer, more modern equipment, NATO defense spending on capability will be an important issue in the medium to long terms.

Scores for Europe remained steady this year as they did in 2021 (assessed in the *2022 Index*), with no substantial changes in any individual categories or average scores. The *2023 Index* again assesses the European operating environment as "favorable."

The Middle East. The Middle East region is now highly unstable, in large measure because of the erosion of authoritarian regimes and the fact that the region remains a breeding ground for terrorism. Overall, regional security has continued to deteriorate. Although Iraq has restored its territorial integrity since the defeat of ISIS, the political situation and future relations between Baghdad and the United States will remain difficult as long as a government that is sympathetic to Iran is in power. U.S. relations in the region will remain complex, but this has not stopped the U.S. military from operating as needed.

The supremacy of the nation-state is being challenged in many countries by non-state actors that wield influence and power comparable to those of small states. The region's primary challenges—continued meddling by Iran and surging transnational terrorism—are made more difficult by Sunni–Shia sectarian divides, the more aggressive nature of Iran's Islamist revolutionary nationalism, and the proliferation of Sunni Islamist revolutionary groups. COVID-19 exacerbated these economic, political, and regional crises during 2020 and 2021 and continued to do so throughout 2022. The result could well be further destabilization of the post-pandemic operational environment for U.S. forces.

In the Middle East, the U.S. benefits from operationally proven procedures that leverage bases, infrastructure, and the logistical processes needed to maintain a large force that is forward deployed thousands of miles away from the homeland. The personal links between allied armed forces are also present, and joint training exercises improve interoperability and provide an opportunity for the U.S. to influence some of the region's future leaders.

America's relationships in the region are based pragmatically on shared security and economic concerns. As long as these issues remain relevant to both sides, the U.S. is likely to have an open door to operate in the Middle East when its national interests require that it do so.

Although circumstances in all measured areas vary throughout the year, in general terms, the *2023 Index* assesses the Middle East operating environment as "moderate," but the region's political stability continues to be "unfavorable" and will remain a dark cloud over everything else.

Asia. The Asian strategic environment includes half of the globe and is characterized by a variety of political relationships among states with wildly varying capabilities. This makes Asia far different from Europe, which in turn makes America's relations with the region different from its relations with Europe. American conceptions of Asia must recognize the physical limitations imposed by the tyranny of distance and the need to move forces as necessary to respond to challenges from China and North Korea.

The complicated nature of intra-Asian relations and the lack of an integrated, regional security architecture along the lines of NATO make defense of U.S. security interests in Asia more challenging than many Americans appreciate. However, the U.S. has strong relations with allies in the region, and their willingness to host bases helps to offset the vast distances that must be covered.

The militaries of Japan and the Republic of Korea are larger and more capable than European militaries, and both countries are becoming more interested in developing missile defense capabilities that will be essential in combatting the regional threat posed by North Korea. In Japan, there is a growing public awareness of the need to adopt a more "normal" military posture in response to China's increasingly aggressive actions. This indicates a break with the pacifist tradition among the Japanese that has lasted since the end of World War II and could lead to improved military capabilities and the prospect of joining the U.S. in defense measures beyond the immediate vicinity of Japan.

We continue to assess the Asia region as "favorable" to U.S. interests in terms of alliances, overall political stability, militarily relevant infrastructure, and the presence of U.S. military forces.

Summarizing the condition of each region enables us to get a sense of how they compare in terms of the difficulty that would be involved in projecting U.S. military power and sustaining combat operations in each one. As a whole, the global operating environment maintains a score of "favorable," which means that the United States should be able to project military power anywhere in the world to defend its interests without substantial opposition or high levels of risk.