

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.

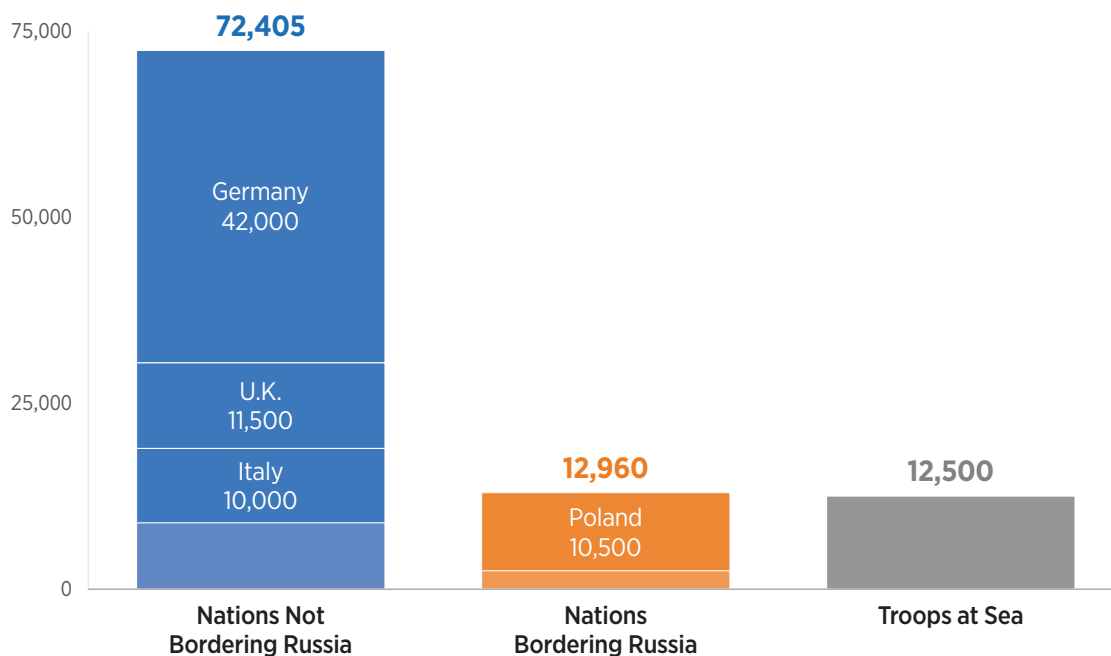
Russia's invasion of Ukraine spurred the U.S. to increase forces flowing to Europe and ignited a U.S. and NATO-wide reevaluation of long-term basing structures and force posture requirements to deter Russian aggression from spilling over to alliance member states, especially those like Poland, whose 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.

heritage.org

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 “provide[] 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 Mirosławiec 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 Mirosławiec 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, Mirosławiec, and Campia Turzii, the U.S. also operates MQ-9s out of Łask 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 Poznań, 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

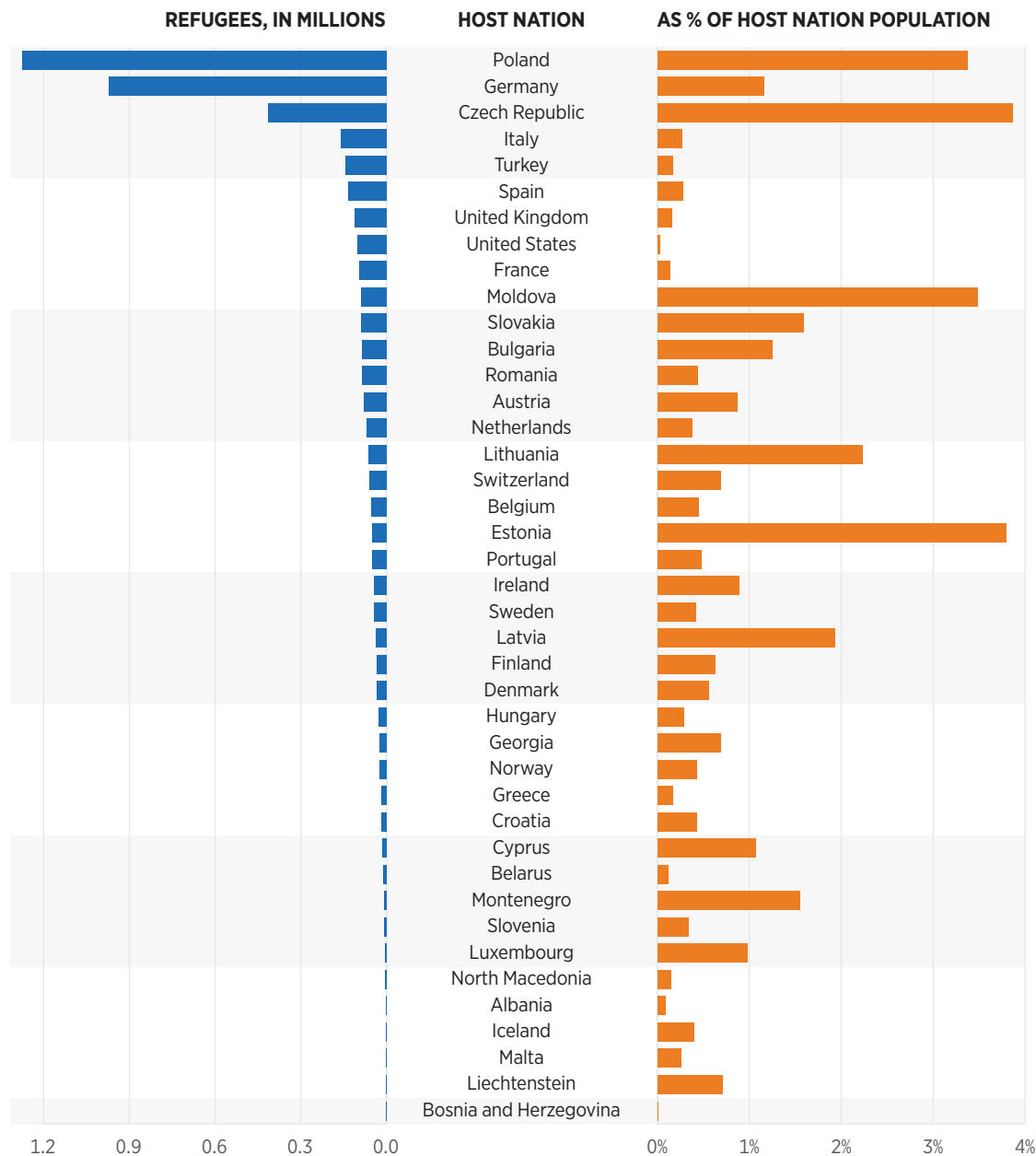
In March 2022, NATO opened its first Multinational Ammunition Warehousing Initiative (MAWI) in Estonia for allies to store munitions for EFP deployments. The alliance plans further MAWI sites to support EFP deployments and the Very High Readiness Joint Task Force (VJTF).⁷⁰ NATO Secretary General Jens 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).

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 Černochová 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

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.

heritage.org

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.

 heritage.org

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 North-east 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

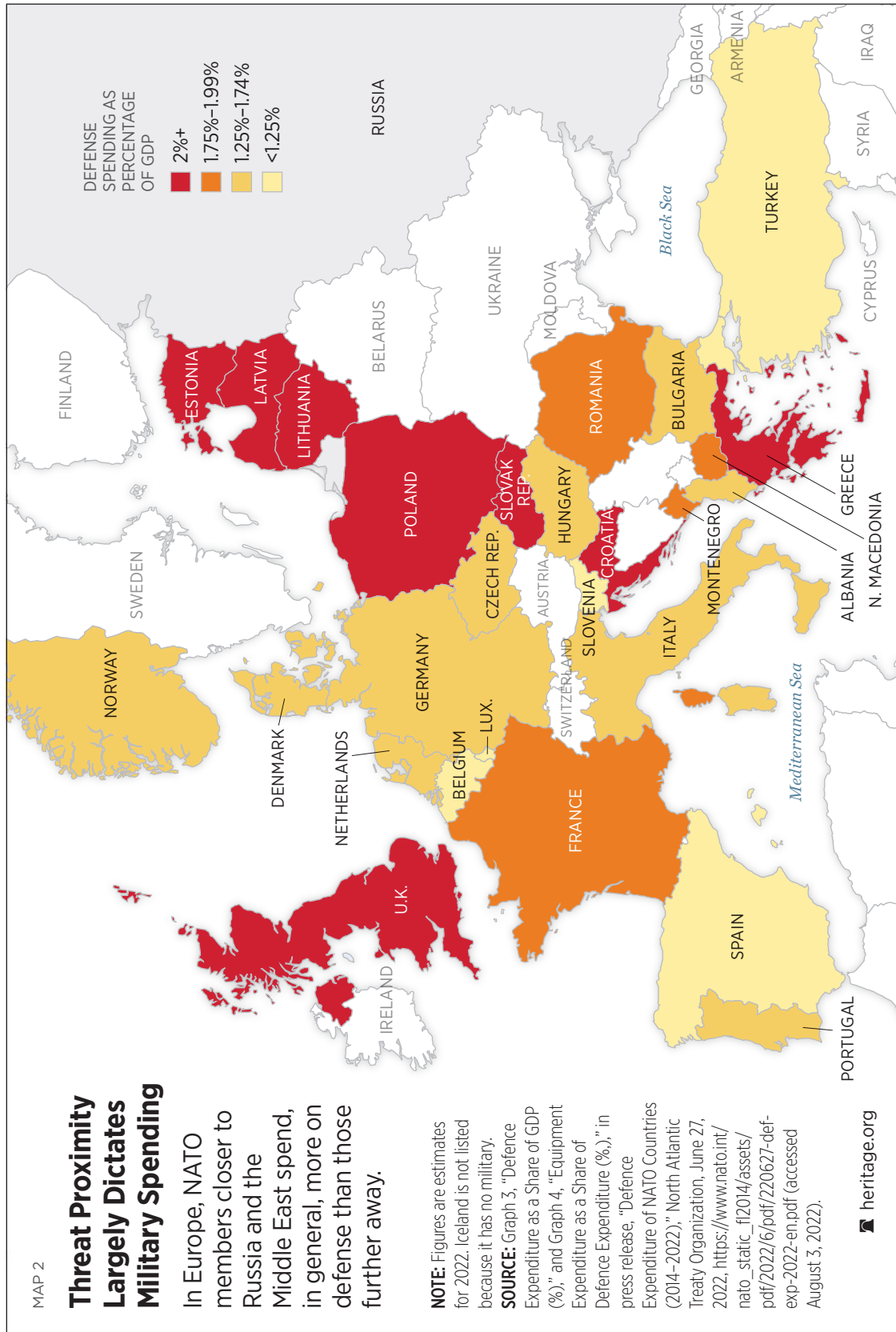
In 2018, NATO established two new commands with a combined total of 1,500 personnel: a joint force command for the Atlantic based in Norfolk, Virginia, and a logistics and military mobility command headquartered in Ulm, Germany.¹⁴⁰ Logistics has been a significant alliance focus in recent years. An internal 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



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 Cyber-space 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 of 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 HN-LMS *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

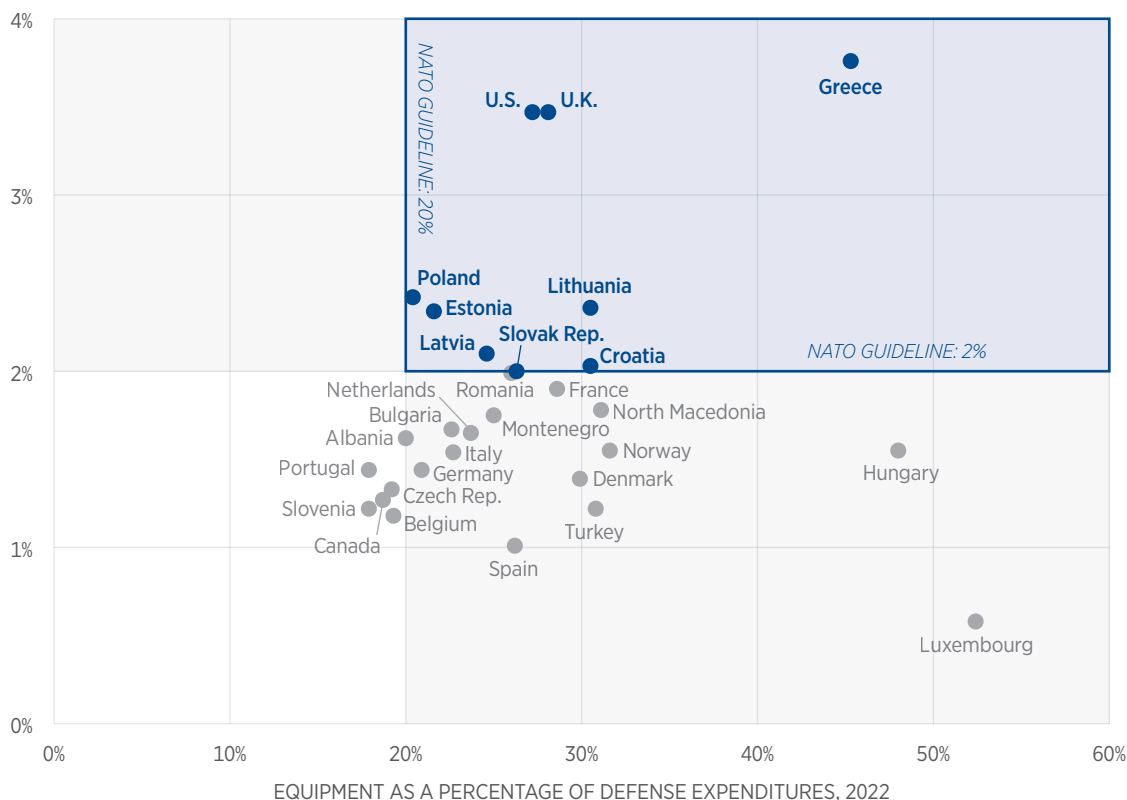
In February, Germany also sent an additional 380 troops, including “artillery soldiers, reconnaissance specialists, medics [and] nuclear and biological warfare specialists,” to Lithuania where it serves as

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.

DEFENSE SPENDING AS A PERCENTAGE OF GDP, 2022



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).

heritage.org

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 TI-GER 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]he 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 service-members 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 armoured infantry brigades, whereas they are now saying they can only generate one. They have enough vehicles for three infantry armoured 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 military³⁷¹ 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 Łask 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-defense 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 Oshtkosh 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

1. Russia's initial invasion of Ukraine occurred in 2014 when Russia seized and illegally annexed Ukraine's Crimean Peninsula and ignited a war in Ukraine's Donbas region, fought with regular Russian forces and aid to proxies created in the region, so called "Russian backed separatist forces." Deutsche Welle, "Russian Court Says Country's Soldiers Stationed in Ukraine," December 16, 2021, <https://www.dw.com/en/russian-court-says-countrys-soldiers-stationed-in-ukraine/a-60153034> (accessed May 26, 2022).
2. John A. Tirpak, "U.S. Military Posture Changes Needed in Europe, Pentagon Says," *Air Force Magazine*, April 18, 2022, <https://www.airforcemag.com/u-s-military-posture-changes-needed-in-europe-pentagon-says/> (accessed May 26, 2022).
3. North Atlantic Treaty Organization, "NATO 2022 Strategic Concept," p. 4, <https://www.nato.int/strategic-concept/> (accessed July 6, 2022).
4. Ibid., p. 5.
5. Peter Ong, "U.S. Navy Reports on Arctic and North Atlantic," *Naval News*, February 20, 2021, <https://www.navalnews.com/naval-news/2021/02/u-s-navy-reports-on-arctic-and-north-atlantic/> (accessed May 26, 2022).
6. Trisha Thomas, "NATO: Russia Uses Syrian War to Boost Mediterranean Presence," Associated Press, May 7, 2018, <https://apnews.com/article/391be5ea4450452caa7d84458806b9e9> (accessed May 26, 2022).
7. David A. Werner, "US Joint Chiefs Chairman Makes the Case for Keeping US Troops in Europe," Atlantic Council, New Atlanticist Blog, March 21, 2019, <https://www.atlanticcouncil.org/blogs/new-atlanticist/us-joint-chiefs-chairman-makes-the-case-for-keeping-us-troops-in-europe> (accessed May 26, 2022).
8. Agence France-Presse, "'Top Target for Putin': Residents in Polish Town Worried over US Missile Facility," March 18, 2022, <https://www.firstpost.com/world/top-target-for-putin-residents-in-polish-town-worried-over-us-missile-facility-10469751.html> (accessed May 26, 2022).
9. Zachary Basu, "Where 100,000 US Troops Are Stationed in Europe," Axios, March 22, 2022, <https://www.axios.com/2022/03/23/where-100000-us-troops-are-stationed-europe> (accessed June 16, 2022).
10. Meghann Myers, "Pentagon Reconsidering Troop Levels in Europe amid Russia's Invasion of Ukraine," *Military Times*, March 25, 2022, <https://www.militarytimes.com/news/pentagon-congress/2022/03/25/pentagon-reconsidering-troop-levels-in-europe-amid-russias-invasion-of-ukraine/> (accessed May 27, 2022).
11. Tirpak, "U.S. Military Posture Changes Needed in Europe, Pentagon Says."
12. C. Todd Lopez, "6 Navy 'Growler' Aircraft Headed to Germany to Support Deterrence Mission," Spangdahlem Air Base, March 28, 2022, <https://www.spangdahlem.af.mil/News/Article-Display/Article/2980758/6-navy-growler-aircraft-headed-to-germany-to-support-deterrence-mission/> (accessed May 27, 2022).
13. Press release, "Bomber Task Force Europe: Strategic Bombers Soar Through NATO's Eastern Flank, Complete Successful 2-Month Rotation," U.S. European Command, April 18, 2022, <https://www.eucom.mil/pressrelease/42017/bomber-task-force-europe-strategic-bombers-soar-through-natos-eastern-flank-complete-succe> (accessed May 27, 2022).
14. Dan Lamothe, "As Ukraine War Drags on, Pentagon Makes Long-Term Plans for Europe," *The Washington Post*, April 5, 2022, <https://www.washingtonpost.com/national-security/2022/04/05/us-troops-europe-russia-ukraine/> (accessed June 8, 2022).
15. "Senate Armed Services Committee Advance Policy Questions for General Christopher G. Cavoli, USA, Nominee for Appointment to the Position of Commander, United States European Command and Supreme Allied Commander, Europe," pp. 8–9, <https://www.armed-services.senate.gov/imo/media/doc/Cavoli%20APQ%20responses.pdf> (accessed July 6, 2022).
16. U.S. Department of Defense, Office of the Under Secretary of Defense (Comptroller), *Department of Defense Budget Fiscal Year (FY) 2023: European Deterrence Initiative*, April 2022, p. 3, https://comptroller.defense.gov/Portals/45/Documents/defbudget/FY2022/FY2022_EDI_JBook.pdf (accessed June 9, 2022).
17. Ibid., pp. 2, 9, 17, and 17.
18. General Tod D. Wolters, U.S. Air Force, Commander, United States European Command, statement before the Committee on Armed Services, U.S. Senate, March 29, 2022, pp. 10–11, <https://www.eucom.mil/document/42003/sasc-29-mar-2022-eucom-statement-gen-wolterspdf> (accessed May 27, 2022).
19. "Contract Awarded for Largest Overseas U.S. Military Hospital," U.S. Army, January 20, 2022, https://www.army.mil/article/253398/contract_awarded_for_largest_overseas_u_s_military_hospital (accessed June 17, 2022).
20. Phil Stewart, "Military Deploys First Coronavirus Test Kits, Though Capacity Is Limited," Task & Purpose, March 6, 2020, <https://taskandpurpose.com/news/military-deploys-coronavirus-test-kits> (accessed May 28, 2022).
21. Fact Sheet, "European Recapitalization Incentive Program (ERIP)," U.S. Department of State, Bureau of Political-Military Affairs, December 6, 2021, <https://www.state.gov/european-recapitalization-incentive-program-erip/> (accessed May 28, 2022).
22. Press release, "Ninth Atlantic Resolve Armored Rotation Set to Begin Mission," U.S. Army Europe and Africa, March 21, 2022, <https://www.europeafrica.army.mil/ArticleViewPressRelease/Article/2972096/press-release-ninth-atlantic-resolve-armored-rotation-set-to-begin-mission/> (accessed May 28, 2022).

23. Sean Monaghan, Andrew Lohsen, and Pierre Morcos, "Designing New Battlegroups: Advice for NATO Planners," Center for Strategic and International Studies *Commentary*, April 15, 2022, <https://www.csis.org/analysis/designing-new-battlegroups-advice-nato-planners> (accessed May 28, 2022).
24. This was announced early in 2016. See Reuters, "U.S. to Deploy Armored Brigade Combat Teams to Europe," March 30, 2016, <https://www.reuters.com/article/us-usa-military-europe-idUSKCN0WW23P> (accessed May 28, 2022). In early 2017, the Army initiated a program to rotate units from CONUS to Europe and back, emphasizing the heel-to-toe aspect, meaning that the replacing unit would arrive before departure of the current unit so as to achieve a constant presence in Europe. The program began in January 2017 with the 10th CAB, followed by the 1st CAB in November 2017 and the 4th CAB in June 2018. See Spc. Thomas Scaggs, "10th Combat Aviation Brigade Returns from Successful Rotation in Europe," U.S. Army, November 15, 2017, https://www.army.mil/article/196979/10th_combat_aviation_brigade_returns_from_successful_rotation_in_europe (accessed May 28, 2022), and Staff Sgt. Adrian Patoka, "Third Atlantic Resolve Aviation Brigade Arrives in Europe," U.S. Department of Defense, June 22, 2018, <https://www.defense.gov/News/Article/Article/1558059/third-atlantic-resolve-aviation-brigade-arrives-in-europe/> (accessed May 28, 2022).
25. U.S. Army Europe and Africa, "Fact Sheet: U.S. Army Europe and Africa Support to Atlantic Resolve," as of November 8, 2021, <https://www.europeafrica.army.mil/Portals/19/documents/Fact%20Sheets/Atlantic%20Resolve%20Fact%20Sheet%2011082021.pdf?ver=jTsg-qzycQlh3TgpPuZg-g%3d%3d> (accessed May 28, 2022).
26. Kyle Rempfer, "Air Force MQ-9 Reaper Drones Based in Poland Are Now Fully Operational," *Air Force Times*, March 5, 2019, <https://www.airforcetimes.com/news/your-air-force/2019/03/05/air-force-mq-9-reaper-drones-based-in-poland-are-now-fully-operational/> (accessed May 28, 2022).
27. David Cenciotti, "US Air Force M-9 Reaper Drones Have Deployed to Estonia for the First Time in History," *Business Insider*, July 13, 2020, https://www.businessinsider.com/air-force-mq9-reaper-drones-deploy-to-estonia-first-time-2020-7?utm_source=feedburner&utm_medium=referral (accessed June 16, 2022).
28. Press release, "U.S. Air Force Establishes Enduring Presence in Romania," U.S. Air Forces in Europe & Air Forces Africa, January 4, 2021, <https://www.usafe.af.mil/News/Press-Releases/Article/2461113/us-air-force-establishes-enduring-presence-in-romania/> (accessed June 2, 2022).
29. Oriana Pawlyk, "With Fewer US Troops in Europe, MQ-9 Reaper Drones Are Filling the Gap," *Military.com*, February 26, 2021, <https://www.military.com/daily-news/2021/02/26/fewer-us-troops-europe-mq-9-reaper-drones-are-filling-gap.html> (accessed May 27, 2022).
30. Brian W. Everstine, "US, Poland Finish Negotiations on Troop Increase, Drones," *Air Force Magazine*, August 3, 2020, <https://www.airforcemag.com/us-poland-end-negotiations-on-troop-increase-drones/> (accessed May 28, 2022).
31. BBC News, "Pompeo Signs Deal to Redeploy Troops from Germany to Poland," August 15, 2020, <https://www.bbc.com/news/world-europe-53792019> (accessed May 28, 2022).
32. Jędrzej Graf and Jakub Palowski, "Defence24 Reveals Details of the Enhanced Defence Cooperation Agreement [EXCLUSIVE]," *Defence24.com*, August 14, 2020, <https://www.defence24.com/defence24-reveals-details-of-the-enhanced-defence-cooperation-agreement-exclusive> (accessed May 28, 2022).
33. Pvt. Devin Klecan, "Victory in Europe: V Corps Reaches Major Milestone," U.S. Army, November 4, 2021, https://www.army.mil/article/251719/victory_in_europe_v_corps_reaches_major_milestone (accessed May 28, 2022).
34. "Permanent HQ for US Army's V Corps to Be Set up in Poland Says Biden," *The First News*, June 29, 2022, <https://www.thefirstnews.com/article/permanent-hq-for-us-armys-v-corps-to-be-set-up-in-poland-says-biden-31386> (accessed July 6, 2022).
35. U.S. Army, V Corps Public Affairs, "Press Release: Victory Corps Deploys Main Headquarters to Europe," March 3, 2022, <https://www.vcorps.army.mil/Newsroom/Articles/Article-Display/Article/2954021/press-release-victory-corps-deploys-main-headquarters-to-europe/> (accessed July 6, 2022).
36. Natalie Liu, "US Visit Highlights Poland's Rising Military Capabilities," *Voice of America*, April 21, 2022, <https://www.voanews.com/a/us-visit-highlights-poland-s-rising-military-capabilities-/6538941.html> (accessed May 28, 2022), and Shannon Pettypiece, "Biden Travels to Poland as the Country Struggles with Ukrainian Refugee Influx," *NBC News*, March 25, 2022, <https://www.nbcnews.com/politics/white-house/biden-poland-ukraine-refugees-russia-invasion-president-rcna21380> (accessed May 28, 2022).
37. Phil Stewart and Idrees Ali, "U.S. Liaising with Ukrainian Forces in Poland, Pentagon Says," *Reuters*, March 29, 2022, <https://www.reuters.com/world/us-liaising-with-ukrainian-forces-poland-pentagon-says-2022-03-29/> (accessed May 28, 2022).
38. Jim Garamone, "U.S. Troops Train Ukrainians in Germany," U.S. Department of Defense, April 29, 2022, <https://www.defense.gov/News/News-Stories/Article/Article/3015610/us-troops-train-ukrainians-in-germany/#:~:text=U.S.%20service%20members%20in%20Germany,Kirby%20said%20today> (accessed May 28, 2022).
39. Thomas Nilsen, "U.S. Navy to Build Airport Infrastructure in North Norway to Meet Upped Russian Submarine Presence," *Radio Canada International, Eye on the Arctic*, April 16, 2021, <https://www.rcinet.ca/eye-on-the-arctic/2021/04/16/u-s-navy-to-build-airport-infrastructure-in-north-norway-to-meet-upped-russian-submarine-presence/> (accessed May 28, 2022).
40. Reuters, Terje Solsvik, and Nerijus Adomaitis, "Norway to Allow U.S. Military to Build on Its Soil in New Accord," *Reuters*, April 16, 2021, <https://www.reuters.com/world/europe/norway-may-allow-us-military-build-its-soil-revised-cooperation-deal-2021-04-16/> (accessed May 28, 2022).

41. Christopher Woody, "The US Navy Is Going Underground as NATO Increases Its Focus on Its Northern Border with Russia," *Business Insider*, October 29, 2021, <https://www.businessinsider.com/us-navy-deploys-hospital-to-norway-caves-amid-russia-tension-2021-10> (accessed May 28, 2022).
42. Diana Stancy Correll, "Navy Sets up Mobile Hospital with 150 Beds in Norwegian Caves," *Navy Times*, October 26, 2021, <https://www.navytimes.com/news/your-navy/2021/10/26/navy-sets-up-mobile-hospital-with-150-beds-in-norwegian-caves/> (accessed May 28, 2022). NEMSCOM has since been renamed and is now the Naval Medical Readiness Logistical Command (NMRLC). Julius Evans, "NEMSCOM Changes Name and Fleets up, NOSTRA to Be Disestablished," U.S. Department of Defense, Defense Visual Information Distribution Service, December 7, 2021, <https://www.dvidshub.net/image/7208092/nemscm-changes-name-and-fleets-up-nostra-disestablished> (accessed June 9, 2022).
43. Philip Athey, "Marine Corps Announces End to Year-Round Deployment to Norway," *Marine Corps Times*, August 13, 2020, <https://www.marinecorpstimes.com/news/your-marine-corps/2020/08/13/marine-corps-announces-end-to-year-round-deployment-to-norway/> (accessed May 28, 2022).
44. Gina Harkins, "Norway Cancels Big Military Exercise After 1,000 US Marines Arrive in Country," *Military.com*, January 27, 2021, <https://www.military.com/daily-news/2021/01/27/norway-cancels-big-military-exercise-after-1000-us-marines-arrive-country.html> (accessed June 16, 2022).
45. U.S. Marine Corps Forces, Europe and Africa, "Marine Rotational Force-Europe 19.2 & 20.1 Transfer of Authority," September 27, 2019, <https://www.dvidshub.net/news/344810/marine-rotational-force-europe-192-201-transfer-authority> (accessed July 6, 2022).
46. North Atlantic Treaty Organization, "Exercise Cold Response 2022—NATO and Partner Forces Face the Freeze in Norway," last updated March 25, 2022, https://www.nato.int/cps/en/natohq/news_192351.htm?selectedLocale=en (accessed June 17, 2022), and Caleb Larson, "The U.S. Marine Corps Is Keeping an Eye on Russia and Europe," *The National Interest*, The Buzz Blog, March 27, 2022, <https://nationalinterest.org/blog/buzz/us-marine-corps-keeping-eye-russia-and-europe-201483> (accessed June 9, 2022).
47. Brian W. Everstine, "First B-1 Deployment to Norway Shows Importance of Arctic, Cold-Weather Ops," *Air Force Magazine*, March 5, 2021, <https://www.airforcemag.com/first-b-1-deployment-to-norway-shows-importance-of-arctic-cold-weather-ops/> (accessed May 28, 2022).
48. Ibid. and Thomas Nilsen, "U.S. B-1 Bomber Makes First Landing Inside Norway's Arctic Circle," *The Barents Observer*, March 9, 2021, <https://thebarentsobserver.com/en/security/2021/03/us-b-1-bomber-makes-first-landing-inside-norways-arctic-circle> (accessed May 28, 2022).
49. Bruno Waterfield, "Norway Reopens Submarine Base to Help US," *The Times*, October 12, 2020, <https://www.thetimes.co.uk/article/norway-reopens-submarine-base-to-help-us-hlmr3wv8s> (accessed June 9, 2022).
50. U.S. Army Europe and Africa, "Fact Sheet: U.S. Army Europe and Africa Support to Atlantic Resolve."
51. U.S. Department of Defense, "Fact Sheet—U.S. Defense Contributions to Europe," June 29, 2022, <https://www.defense.gov/News/Releases/Release/Article/3078056/fact-sheet-us-defense-contributions-to-europe/> (accessed July 6, 2022).
52. Heritage Foundation research.
53. Idrees Ali, "With an Eye on Russia, U.S. Navy Re-establishing Its Second Fleet," *Reuters*, May 4, 2018, <https://www.reuters.com/article/us-usa-defense-navy-russia/with-an-eye-on-russia-u-s-navy-re-establishing-its-second-fleet-idUSKBN1I52CJ> (accessed May 28, 2022).
54. 13News Now Staff, "US Second Fleet Declares Full Operational Capability," WVEC, Norfolk, Virginia, updated January 1, 2020, <https://www.13newsnow.com/article/news/national/military-news/us-2nd-fleet-declares-full-operational-capability/291-4dddc02-5f8d-46c6-8c2c-62ba665b017b> (accessed May 28, 2022).
55. U.S. 2nd Fleet Public Affairs, "U.S. 2nd Fleet to Lead BALTOPS 2019," *Military News*, April 2, 2019, https://www.militarynews.com/news/u-s-2nd-fleet-to-lead-baltops-2019/article_00db98bc-557a-11e9-a02b-c718d36bd746.html (accessed May 28, 2022).
56. Paul McLeary, "How the US Is Preparing to Hunt New Chinese, Russian Subs," *Breaking Defense*, September 17, 2020, <https://breakingdefense.com/2020/09/how-the-us-is-preparing-to-hunt-new-chinese-russian-subs/> (accessed May 27, 2022).
57. Joseph Trevithick, "Three Russian Ballistic Missile Submarines Just Surfaced Through the Arctic Ice Together," *The War Zone*, March 26, 2021, <https://www.thedrive.com/the-war-zone/39953/three-russian-ballistic-missile-submarines-just-surfaced-through-the-arctic-ice-together> (accessed May 27, 2022).
58. McLeary, "How the US Is Preparing to Hunt New Chinese, Russian Subs."
59. Ong, "U.S. Navy Reports on Arctic and North Atlantic."
60. Ibid.
61. U.S. Sixth Fleet Public Affairs, "USS New Mexico Arrives in Tromsø, Norway," U.S. Naval Forces Europe–Africa / U.S. Sixth Fleet, May 10, 2021, <https://www.c6f.navy.mil/Press-Room/News/Article/2600979/uss-new-mexico-arrives-in-troms-norway/> (accessed May 28, 2022).
62. Wolters, statement before Senate Armed Services Committee, March 29, 2022, p. 8.
63. Joseph Trevithick, "Admiral Warns America's East Coast Is No Longer a 'Safe Haven' Thanks to Russian Subs," *The War Zone*, February 4, 2020, <https://www.thedrive.com/the-war-zone/32087/admiral-warns-americas-east-coast-is-no-longer-a-safe-haven-thanks-to-russian-subs> (accessed May 27, 2022).
64. Sam LaGrone, "Updated: Russian Navy Cruisers Positioned to Counter U.S., French and Italian Carrier Groups in the Mediterranean," U.S. Naval Institute News, updated February 24, 2022, <https://news.usni.org/2022/02/22/russian-navy-cruisers-positioned-to-counter-u-s-french-and-italian-carrier-groups-in-the-mediterranean> (accessed May 27, 2022).

65. H I Sutton, "Unusual Russian Navy Concentration Seen in Eastern Mediterranean," *Naval News*, February 24, 2022, <https://www.navalnews.com/naval-news/2022/02/unusual-russian-navy-concentration-seen-in-eastern-mediterranean/#:~:text=Russia%20has%20reinforced%20its%20naval,US%20and%20French%20aircraft%20carriers> (accessed May 26, 2022).
66. Hope Seck, "The Army Just Activated Its Massive Gear Stockpile in Europe. Here's What That Means," *Sandboxx*, March 4, 2022, <https://www.sandboxx.us/blog/the-army-just-activated-its-massive-gear-stockpile-in-europe-heres-what-that-means/#:~:text=Since%202014%2C%20three%20new%20Army,of%20war%20stocks%3B%20and%20Zutendaal%2C> (accessed May 27, 2022).
67. U.S. Department of Defense, Office of the Secretary of Defense (Comptroller), *Department of Defense Budget Fiscal Year (FY) 2023: European Deterrence Initiative*, pp. 3 and 13–14. "Navy funding for Chemical, Biological, Radiological, and Nuclear Preparedness in the amount of \$3.8 million was not coded as EDI and is not included in this budget overview document." *Ibid.*, p. 14, note.
68. *Ibid.*, p. 13.
69. Wolters, statement before Senate Armed Services Committee, March 29, 2022, pp. 14–15.
70. News release, "NATO Enhanced Forward Presence Receives First Multinational Ammunition Warehouse," North Atlantic Treaty Organization, March 23, 2022, https://www.nato.int/cps/en/natohq/news_193622.htm?selectedLocale=en (accessed May 28, 2022).
71. North Atlantic Treaty Organization, "Speech by NATO Secretary General Jens Stoltenberg During an Online Conversation with POLITICO Journalist Lili Bayer," June 22, 2022, https://www.nato.int/cps/en/natohq/opinions_196972.htm (accessed July 6, 2022).
72. Cameron Porter, "Joint Munitions Command Experts Deployed to Europe Provide Vital Support," U.S. Army, April 18, 2022, https://www.army.mil/article/255757/joint_munitions_command_experts_deployed_to_europe_provide_vital_support (accessed May 28, 2022).
73. Press statement by Antony J. Blinken, Secretary of State, "\$150 Million in Additional U.S. Military Assistance for Ukraine," U.S. Department of State, May 6, 2022, <https://www.state.gov/150-million-in-additional-u-s-military-assistance-for-ukraine/> (accessed May 28, 2022).
74. Terri Moon Cronk, "President Biden Announces New \$800M in Military Assistance to Ukraine," U.S. Department of Defense, April 21, 2022, <https://www.defense.gov/News/News-Stories/Article/Article/3006622/president-biden-announces-new-800m-in-military-assistance-to-ukraine/> (accessed May 28, 2022).
75. Secretary of Defense Lloyd J. Austin III [@SecDef], "United States Security Assistance to Ukraine," Twitter, April 14, 2022, <https://twitter.com/SecDef/status/1514704710162333697/photo/1> (accessed May 28, 2022).
76. Press release, "EU Support to Ukraine: Council Agrees on Third Tranche of Support Under the European Peace Facility for Total €1.5 billion," European Union, Council of the European Union, April 13, 2022, <https://www.consilium.europa.eu/en/press/press-releases/2022/04/13/eu-support-to-ukraine-council-agrees-on-third-tranche-of-support-under-the-european-peace-facility-for-total-1-5-billion/> (accessed May 28, 2022).
77. Beyza Binnur Donmez, "One-Third of Estonia's Military Budget Donated to Ukraine," Anadolu Agency [Ankara, Turkey], May 12, 2022, <https://www.aa.com.tr/en/russia-ukraine-war/one-third-of-estonias-military-budget-donated-to-ukraine/2586116#:~:text=Estonia%20has%20donated%20one%2Dthird,Foreign%20Ministry%20said%20on%20Twitter> (accessed May 28, 2022).
78. Philippe Chapleau, "40 Ukrainian Gunners in France from This Weekend to Be Trained on Caesar," *Lignes de défense Blog*, April 22, 2022, <http://lignesdedefense.blogs.ouest-france.fr/archives/2022/04/index-3.html> (accessed May 28, 2022).
79. Christopher Miller and Paul McLeary, "Heavy Weaponry Pours into Ukraine as Commanders Become More Desperate," *Politico*, April 25, 2022, <https://www.politico.com/news/2022/04/25/ukraine-weaponry-russia-war-00027406> (accessed May 28, 2022).
80. Lee Hudson, Paul McLeary, and Connor O'Brien, "Pentagon Scrambles to Replenish Weapons Stocks Sent to Ukraine," *Politico*, March 22, 2022, <https://www.politico.com/news/2022/03/22/pentagon-scrambles-to-replenish-weapons-stocks-sent-to-ukraine-00019333> (accessed May 28, 2022).
81. Craig Hooper, "Ukraine's Use of Stinger and Javelin Missiles Is Outstripping U.S. Production," *Forbes*, March 8, 2022, <https://www.forbes.com/sites/craighooper/2022/03/08/ukraines-use-of-stinger-and-javelin-missiles-is-outstripping-us-production/?sh=2559e6152409> (accessed May 28, 2022).
82. Hal Brands, "Ukraine War Is Depleting America's Arsenal of Democracy," *The Washington Post*, April 14, 2022, https://www.washingtonpost.com/business/ukraine-war-is-depleting-americas-arsenal-of-democracy/2022/04/14/4d1b8896-bbfb-11ec-a92d-c763de818c21_story.html (accessed May 28, 2022).
83. Reuters, "Slovakia Gives S-300 Air Defense System to Ukraine, PM Says," April 8, 2022, <https://www.voanews.com/a/slovakia-gives-s-300-air-defense-system-to-ukraine-pm-says/6520768.html#:~:text=Slovakia%20on%20Friday%20announced%20it,air%20defense%20system%20to%20Ukraine.&text=Slovakia%20has%20donated%20its%20S,Minister%20Eduard%20Heger%20said%20Friday> (accessed June 9, 2022), and Sofia Stuart Leeson, "Dutch Sent Patriot Missile Systems to Slovakia," *Euractiv*, April 15, 2022, https://www.euractiv.com/section/politics/short_news/dutch-sent-patriot-missile-systems-to-slovakia/ (accessed June 9, 2022).
84. Reuters, "Britain Examining Anti-Ship Missile Solution for Ukraine," April 19, 2022, <https://www.reuters.com/world/europe/britain-examining-anti-ship-missile-solution-ukraine-2022-04-19/> (accessed May 28, 2022).
85. Reuters, "US Starts Training of Some Ukrainian Troops on Howitzer Artillery," April 20, 2022, <https://www.reuters.com/world/us-starts-training-some-ukrainian-troops-howitzer-artillery-2022-04-20/> (accessed May 28, 2022).

86. Andrew Chuter, "Britain Reveals Ukrainian Soldiers Are Training Locally," *Defense News*, April 22, 2022, <https://www.defensenews.com/training-sim/2022/04/22/britain-reveals-ukrainian-soldiers-are-training-locally/> (accessed May 28, 2022).
87. Agence France-Presse, "Czech Arms Firms to Repair Damaged Ukrainian Tanks," *The Defense Post*, April 20, 2022, <https://www.thedefensepost.com/2022/04/20/czech-firms-repair-ukraine-tanks/> (accessed May 28, 2022).
88. Liu, "US Visit Highlights Poland's Rising Military Capabilities."
89. Ellen Mitchell, "NATO Activates Response Force for First Time in History," *The Hill*, February 25, 2022, <https://thehill.com/policy/defense/595876-nato-activates-response-force-for-first-time-in-history/> (accessed May 28, 2022), and Abraham Mahshie, "NATO Activates Response Force; Austin Calls on Allies to Increase Contributions," *Air Force Magazine*, February 25, 2022, <https://www.airforcemag.com/nato-activates-response-force-austin-calls-on-allies-to-increase-contributions/> (accessed May 28, 2022).
90. News release, "SACEUR Statement on the activation of the NATO Response Force," North Atlantic Treaty Organization, February 25, 2022, <https://shape.nato.int/news-archive/2022/saceur-statement-on-the-activation-of-the-nato-response-force> (accessed May 28, 2022).
91. Phil Stewart, "U.S. Puts 8,500 Troops on Alert to Deploy amid Ukraine Tensions," Reuters, January 25, 2022, <https://www.reuters.com/world/us/us-puts-8500-troops-alert-deploy-amid-ukraine-tensions-2022-01-24/> (accessed May 28, 2022).
92. Steven Chase, "Another 3,400 Canadian Troops Placed on Standby to Deploy to Europe if Necessary, Defence Minister Says," *The Globe and Mail*, updated February 25, 2022, <https://www.theglobeandmail.com/canada/article-another-3400-canadian-troops-placed-on-standby-to-deploy-to-europe-if/> (accessed May 28, 2022).
93. Paul Belkin, "Russia's Invasion of Ukraine: NATO Response," Congressional Research Service *Insight* No. IN11866, updated March 21, 2022, p. 1, <https://crsreports.congress.gov/product/pdf/IN/IN11866> (accessed May 28, 2022).
94. Alexandra Ma, "NATO to Boost Rapid-Response Unit from 40,000 to over 300,000 Troops in Apparent Response to Putin's War," *Business Insider*, June 27, 2022, <https://www.businessinsider.com/nato-rapid-response-unit-announce-expansion-300k-troops-2022-6> (accessed July 6, 2022), and North Atlantic Treaty Organization, "Speech by NATO Secretary General Jens Stoltenberg During an Online Conversation with POLITICO Journalist Lili Bayer."
95. Michael Birnbaum and Emily Rauhala, "Those 300,000 High-Readiness NATO Troops? 'Concept,' not Reality," *The Washington Post*, June 29, 2022, <https://www.washingtonpost.com/world/2022/06/29/those-300000-high-readiness-nato-troops-concept-not-reality/> (accessed July 6, 2022).
96. Factsheet, "NATO's Forward Presence," North Atlantic Treaty Organization, June 2022, https://www.nato.int/nato_static_fl2014/assets/pdf/2022/6/pdf/2206-factsheet_efp_en.pdf?utm_source=twitter&utm_medium=natopress&utm_campaign=20220628_bg (accessed July 6, 2022).
97. Ibid.
98. Ibid.
99. Ibid.
100. SHAPE Public Affairs Office, "France Sends Troops and Equipment to Romania," North Atlantic Treaty Organization, March 8, 2022, <https://shape.nato.int/news-archive/2022/france-sends-troops-and-equipment-to-romania> (accessed May 28, 2022).
101. News release, "NATO's Military Presence in the East of the Alliance," last updated June 1, 2022, https://www.nato.int/cps/en/natohq/topics_136388.htm#:~:text=This%20enhanced%20forward%20presence%20was,robust%20and%20combat%20Dready%20forces (accessed June 10, 2022).
102. Wolters, statement before Senate Armed Services Committee, March 29, 2022, p. 14.
103. Joseph Trevithick, "Air Force Shows Off Squadron Logo Highlighting Stockpile of Nuclear Bombs in Belgium," *The War Zone*, March 31, 2021, <https://www.thedrive.com/the-war-zone/40008/air-force-shows-off-squadron-logo-highlighting-stockpile-of-nuclear-bombs-in-belgium> (accessed May 27, 2022).
104. Abhijnan Rej, "US Sanctions Turkey over Russian Air Defense System, Raising Questions and Concerns," *The Diplomat*, December 16, 2020, <https://thediplomat.com/2020/12/us-sanctions-turkey-over-russian-air-defense-system-raising-questions-and-concerns/> (accessed May 28, 2022).
105. Trevithick, "Air Force Shows Off Squadron Logo Highlighting Stockpile of Nuclear Bombs in Belgium."
106. U.S. Department of Energy, National Nuclear Security Administration, "B61-12 Life Extension Program," November 2021, <https://www.energy.gov/sites/default/files/2021-12/B61-12%20Fact%20Sheet%20December%202021.pdf> (accessed May 29, 2022).
107. Oriana Pawlyk, "Air Force Advances Testing of New Nuclear Gravity Bomb: General," *Military.com*, May 1, 2018, <https://www.military.com/dodbuzz/2018/05/01/air-force-advances-testing-new-nuclear-gravity-bomb-general.html> (accessed May 27, 2022).
108. News release, "KCNSC Celebrates Completion of 'B61-12 Life Extension Program' First Production Unit," U.S. Department of Energy, Kansas City National Security Campus, February 1, 2022, <https://kcncs.doe.gov/news/news-article/2022/02/01/kcncs-celebrates-completion-of-b61-12-life-extension-programfirst-production-unit> (accessed May 27, 2022).

109. Thomas Newdick, “F-35A Completes Final Inert Drop Test of New B61-12 Nuclear Bomb,” *The War Zone*, October 5, 2021, <https://www.thedrive.com/the-war-zone/42639/f-35a-completes-final-drop-test-of-new-b61-12-nuclear-bomb> (accessed May 27, 2022).
110. Press release, “London Declaration Issued by the Heads of State and Government Participating in the Meeting of the North Atlantic Council in London 3–4 December 2019,” North Atlantic Treaty Organization, December 4, 2019, https://www.nato.int/cps/en/natohq/official_texts_171584.htm (accessed May 29, 2022).
111. Press release, “Statement by NATO Heads of State and Government,” North Atlantic Treaty Organization, March 24, 2022, https://www.nato.int/cps/en/natohq/official_texts_193719.htm (accessed May 29, 2022).
112. Ong, “U.S. Navy Reports on Arctic and North Atlantic.”
113. North Atlantic Treaty Organization, “Resolute Support Mission in Afghanistan (2015–2021),” last updated May 30, 2022, https://www.nato.int/cps/en/natohq/topics_113694.htm (accessed June 4, 2022).
114. North Atlantic Treaty Organization, “Operations and Missions: Past and Present,” last updated June 8, 2022, https://www.nato.int/cps/en/natolive/topics_52060.htm (accessed June 10, 2022), and North Atlantic Treaty Organization, Allied Air Command, “Icelandic Air Policing,” <https://ac.nato.int/missions/air-policing/iceland> (accessed June 10, 2022).
115. North Atlantic Treaty Organization, “Relations with Iraq,” last updated June 1, 2021, https://www.nato.int/cps/en/natohq/topics_88247.htm (accessed May 29, 2022), and France 24, “NATO to Expand Iraq Mission to Around 4,000 Personnel,” February 18, 2021, <https://www.france24.com/en/europe/20210218-nato-to-expand-iraq-mission-to-around-4-000-personnel> (accessed May 29, 2022).
116. North Atlantic Treaty Organization, “Readiness Action Plan,” last updated July 15, 2021, http://www.nato.int/cps/on/natohq/topics_119353.htm (accessed May 29, 2022).
117. Radio Free Europe/Radio Liberty, “NATO Agrees to ‘Four 30s’ Plan to Counter Russia,” updated June 7, 2018, <https://www.rferl.org/a/nato-ministers-expected-to-okay-four-thirties-initiative-stoltenberg/29275979.html> (accessed May 29, 2022).
118. North Atlantic Treaty Organization, *The Secretary General’s Annual Report 2019*, p. 16, https://www.nato.int/nato_static_fl2014/assets/pdf/2020/3/pdf_publications/sgar19-en.pdf (accessed May 29, 2022).
119. North Atlantic Treaty Organization, “NATO Space Centre,” <https://shape.nato.int/about/aco-capabilities2/nato-space-centre> (accessed May 29, 2022).
120. Bruno Waterfield, “Nato Fast-Tracks Membership of Finland and Sweden to Minimise Threat from Russia,” *The Sunday Times*, May 15, 2022, <https://www.thetimes.co.uk/article/nato-fast-tracks-membership-of-finland-and-sweden-to-minimise-threat-from-russia-7zs86sbn5> (accessed May 29, 2022).
121. Factsheet, “NATO’s Forward Presence.”
122. Ibid.
123. Ibid.
124. Ibid.
125. Mariusz Błaszczak, “Poland’s Defense Minister: Making the Constant Effort to Strengthen Defense,” *Defense News*, December 9, 2018, <https://www.defensenews.com/outlook/2018/12/10/polands-defense-minister-making-the-constant-effort-to-strengthen-defense/> (accessed May 29, 2022), and news release, “Landcom Soldiers in Elbląg,” North Atlantic Treaty Organization, Multinational Division North East, February 22, 2018, <https://mndne.wp.mil.pl/en/articlesnews-u/2018-02-226-landcom-soldiers-in-elblag/> (accessed May 29, 2022).
126. Baltic News Service, “Baltic Countries Sign Agreement on Fast Movement of NATO Forces,” Latvian Information Agency, February 15, 2017, http://www.leta.lv/eng/defence_matters_eng/defence_matters_eng/news/CEB6CED4-EA2D-404C-8814-A8765D6BA915/ (accessed May 29, 2022).
127. Deutsche Welle, “Germany’s Baerbock calls for stronger NATO strategy in Baltics,” April 22, 2022, <https://www.dw.com/en/germanys-baerbock-calls-for-stronger-nato-strategy-in-baltics/a-61557467> (accessed May 29, 2022).
128. Ibid.
129. North Atlantic Treaty Organization, NATO Force Integration Units (NFIU), “NATO Force Integration Unit (NFIU) Fact Sheet,” <https://jfcbs.nato.int/page5725819/nato-force-integration-units/nato-force-integration-units-fact-sheet> (accessed May 29, 2022).
130. Press release, “Warsaw Summit Communiqué Issued by the Heads of State and Government Participating in the Meeting of the North Atlantic Council in Warsaw 8–9 July 2016,” North Atlantic Treaty Organization, July 9, 2016, last updated March 29, 2017, https://www.nato.int/cps/en/natohq/official_texts_133169.htm (accessed May 30, 2022). See also North Atlantic Treaty Organization, “NATO’s Military Presence in the East of the Alliance.”
131. Capt. Brian Anderson, “Michigan Units Dash Hopes at Saber Guardian 19,” U.S. Army, June 20, 2019, https://www.army.mil/article/223457/michigan_units_dash_hopes_at_saber_guardian_19 (accessed June 30, 2021).
132. U.S. Army Europe and Africa, “Press Release—DEFENDER—Europe 21 Activities Begin This Month, Include Two Dozen Nations,” March 15, 2021, <https://www.europeafrica.army.mil/ArticleViewPressRelease/Article/2537359/press-release-defender-europe-21-activities-begin-this-month-include-two-dozen/> (accessed May 29, 2022).

133. U.S. European Command, “DEFENDER-Europe 22 Fact Sheet,” as of May 3, 2022, <https://www.europeafrica.army.mil/Portals/19/documents/Infographics/DE22%20Factsheet%20.pdf?ver=Sz9mrh0GxIMTAdli--z00Q%3d%3d> (accessed May 29, 2022).
134. News release, “U.S. F-16 Begin [sic] NATO Air Policing Mission with Bulgarian Air Force,” North Atlantic Treaty Organization, September 28, 2020, https://ac.nato.int/archive/2020/US_eAP_BGR (accessed May 29, 2022).
135. Deutsche Welle, “NATO Scrambled Jets 290 Times Due to Russian Planes in 2021,” December 28, 2021, <https://www.dw.com/en/nato-scrambled-jets-290-times-due-to-russian-planes-in-2021/a-60271618> (accessed May 29, 2022).
136. News release, “Multinational MRTT Fleet Continues to Grow,” North Atlantic Treaty Organization, NATO Support and Procurement Agency, August 31, 2021, <https://www.nspa.nato.int/news/2021/multinational-mrtt-fleet-continues-to-grow> (accessed May 29, 2022).
137. Gareth Jennings, “Czech Republic Joins EU/NATO MMF Tanker Group,” Janes, October 24, 2019, <https://www.janes.com/defence-news/news-detail/czech-republic-joins-eunato-mmf-tanker-group> (accessed May 27, 2022).
138. North Atlantic Treaty Organization, “AWACS: NATO’s ‘Eyes in the Sky,’” last updated March 3, 2022, https://www.nato.int/cps/en/natohq/topics_48904.htm (accessed May 29, 2022).
139. News release, “NATO Alliance Ground Surveillance Force Achieves Initial Operational Capability,” North Atlantic Treaty Organization, Supreme Headquarters Allied Powers Europe, February 15, 2021, <https://shape.nato.int/news-archive/2021/nato-alliance-ground-surveillance-force-achieves-initial-operational-capability> (accessed May 29, 2022).
140. Jim Garamone, “NATO Approves Norfolk Joint Force Command, Defense Readiness Initiative,” U.S. Army, June 8, 2018, https://www.army.mil/article/206683/nato_approves_norfolk_joint_force_command_defense_readiness_initiative (accessed May 29, 2022); news release, “NATO Defence Ministers Take Decisions to Strengthen the Alliance,” North Atlantic Treaty Organization, February 15, 2018, https://www.nato.int/cps/ua/natohq/news_152125.htm (accessed May 29, 2022); and Reuters, “Germany Chooses Ulm for New Proposed NATO Logistics Command,” March 20, 2018, <https://www.reuters.com/article/us-nato-germany/germany-chooses-ulm-for-new-proposed-nato-logistics-command-idUSKBNIGW1QM> (accessed May 29, 2022).
141. Christopher Woody, “A Convoy of US Army Howitzers Got Stopped by German Police, and It Points to a Major Problem NATO Has in Europe,” *Business Insider*, January 12, 2018, <http://www.businessinsider.com/us-army-howitzers-stopped-in-germany-nato-logistics-problems-2018-1> (accessed May 29, 2022).
142. Octavian Manea, “A Tour of Horizon Interview with Lieutenant General Ben Hodges on NATO Adaption and the Russian Way of War,” *Small Wars Journal*, August 7, 2018, <https://smallwarsjournal.com/jrnl/art/small-wars-journal-interview-lieutenant-general-ben-hodges-nato-adaptation-and-russian-way> (accessed May 29, 2022).
143. Maciej Szopa, “Military Mobility—A Key in Defending the NATO Eastern Flank,” *Defence24.com*, March 31, 2020, <https://www.defence24.com/military-mobility-a-key-in-defending-the-nato-eastern-flank> (accessed May 29, 2022).
144. News release, “Deputy Secretary General Discusses NATO–EU Cooperation at Military Mobility Symposium,” North Atlantic Treaty Organization, last updated May 7, 2021, https://www.nato.int/cps/en/natohq/news_183464.htm (accessed May 29, 2022).
145. Vivienne Machi, “NATO Unveils Tech Accelerator Footprint, with Plans for over 60 Sites,” *Defense News*, April 6, 2022, <https://www.defensenews.com/global/europe/2022/04/06/nato-unveils-tech-accelerator-footprint-with-plans-for-over-60-sites/> (accessed May 29, 2022).
146. North Atlantic Treaty Organization, *The Secretary General’s Annual Report 2020*, p. 23, https://www.nato.int/nato_static_fl2014/assets/pdf/2021/3/pdf/sgar20-en.pdf (accessed May 29, 2022). Article 5 of the North Atlantic Treaty states that an attack on one or more NATO member states will be considered an attack on all NATO member states. The North Atlantic Treaty, Article 5, April 4, 1949, last updated April 10, 2019, http://www.nato.int/cps/en/SID-857936BB-66246E10/natolive/official_texts_17120.htm (accessed May 29, 2022).
147. Robin Emmott, “NATO Cyber Command to Be Fully Operational in 2023,” Reuters, October 16, 2018, <https://www.reuters.com/article/us-nato-cyber/nato-cyber-command-to-be-fully-operational-in-2023-idUSKCNIMQ1Z9> (accessed May 29, 2022), and North Atlantic Treaty Organization, “Cyber Defence,” last updated March 23, 2022, https://www.nato.int/cps/en/natohq/topics_78170.htm (accessed May 29, 2022).
148. North Atlantic Treaty Organization, *The Secretary General’s Annual Report 2020*, p. 23. See also press release, “Statement by the North Atlantic Council Concerning Malicious Cyber Activities,” North Atlantic Treaty Organization, June 3, 2020, https://www.nato.int/cps/en/natohq/official_texts_176136.htm (accessed May 29, 2022).
149. North Atlantic Treaty Organization, “Cyber Defence.”
150. Ibid.
151. North Atlantic Treaty Organization, *The Secretary General’s Annual Report 2020*, p. 24.
152. North Atlantic Treaty Organization, *The Secretary General’s Annual Report 2021*, p. 125, https://www.nato.int/nato_static_fl2014/assets/pdf/2022/3/pdf/sgar21-en.pdf (accessed July 6, 2022).
153. Ibid.
154. Dan Sabbagh, “Using Huawei in UK 5G Networks Would Be ‘Madness’, US Says,” *The Guardian*, January 13, 2020, <https://www.theguardian.com/technology/2020/jan/13/using-huawei-in-uk-5g-networks-would-be-madness-us-says> (accessed May 30, 2022).

155. Press release, “Brussels Summit Communiqué Issued by the Heads of State and Government Participating in the Meeting of the North Atlantic Council in Brussels 14 June 2021,” North Atlantic Treaty Organization, June 14, 2021, last updated April 8, 2022, https://www.nato.int/cps/en/natohq/news_185000.htm#:~:text=It%20guarantees%20the%20security%20of,unity%2C%20solidarity%2C%20and%20cohesion (accessed May 30, 2022).
156. Wolters, statement before Senate Armed Services Committee, March 29, 2022, p. 4.
157. North Atlantic Treaty Organization, *The Secretary General's Annual Report 2021*, p. 28.
158. Dorian Archus, “NATO Has Completed AEGIS Upgrade at Romania,” Naval Post, August 11, 2019, <https://navalpost.com/nato-has-completed-aegis-upgrade-at-romania/> (accessed May 30, 2022).
159. North Atlantic Treaty Organization, “Ballistic Missile Defence,” last updated January 26, 2022, https://www.nato.int/cps/en/natohq/topics_49635.htm (accessed May 30, 2022).
160. Ibid.
161. Testimony of General Tod D. Wolters, USAF, Commander, U.S. European Command, in hearing, *National Security Challenges and U.S. Military Activities in Europe*, Committee on Armed Services, U.S. House of Representatives, 117th Cong., 1st Sess., April 15, 2021, pp. 16 and 31, <https://www.congress.gov/117/chrg/CHRG-117hrg45430/CHRG-117hrg45430.pdf> (accessed May 30, 2021).
162. United States Department of Defense, “Fact Sheet—U.S. Defense Contributions to Europe.”
163. “US Navy Commissions NSF Redzikowo in Poland,” Naval Technology, September 4, 2020, <https://www.naval-technology.com/news/us-navy-commissions-nsf-redzikowo-in-poland/> (accessed May 30, 2022), and Jen Judson, “Construction of Aegis Ashore in Poland Nearing Completion,” *Defense News*, March 9, 2022, <https://www.defensenews.com/pentagon/2022/03/09/construction-of-aegis-ashore-in-poland-nearing-completion/> (accessed May 30, 2022).
164. North Atlantic Treaty Organization, “Ballistic Missile Defence.”
165. Guest Contributor, “Ballistic Missile Defence and the Type 45 Destroyer,” *UK Defence Journal*, March 19, 2021, <https://ukdefencejournal.org.uk/ballistic-missile-defence-and-the-type-45-destroyer/> (accessed July 2, 2021).
166. U.S. Naval Forces Europe and Africa/U.S. Sixth Fleet Public Affairs, “Allied Forces Prepare for the Start of Exercise Formidable Shield 2021,” *Naval News*, May 4, 2021, <https://www.navalnews.com/naval-news/2021/05/allied-forces-prepare-for-the-start-of-exercise-formidable-shield-2021/> (accessed May 30, 2022), and news release, “Allied Forces Prepare for the Start of Exercise At-Sea Demo/Formidable Shield 2021,” U.S. Sixth Fleet Public Affairs, May 3, 2021, <https://www.navy.mil/Press-Office/News-Stories/Article/2592845/allied-forces-prepare-for-the-start-of-exercise-at-sea-demoformidable-shield-20/> (accessed May 30, 2022).
167. Russian Embassy in Norway and Norway Today, “Russia Threatens Norway to Stay out of NATO Missile Defense,” Atlantic Council, March 21, 2017, <https://www.atlanticcouncil.org/blogs/natosource/russia-threatens-norway-to-stay-out-of-nato-missile-defense/> (accessed May 31, 2022).
168. Seaforces.org, “Royal Norwegian Navy: Fridtjof Nansen Class Frigate,” <https://www.seaforces.org/marint/Norwegian-Navy/Frigate/Fridtjof-Nansen-class.htm> (accessed May 31, 2022), and Ronald O'Rourke, “Navy Aegis Ballistic Missile Defense (BMD) Program: Background and Issues for Congress,” Congressional Research Service *Report for Members and Committees of Congress* No. RL33745, updated May 18, 2022, p. 2, <https://fas.org/sgp/crs/weapons/RL33745.pdf> (accessed May 31, 2022).
169. “Norwegian Government Scraps the Wrecked Frigate Helge Ingstad,” *The Maritime Executive*, January 21, 2021, <https://www.maritime-executive.com/article/norwegian-government-scraps-the-wrecked-frigate-helge-ingstad> (accessed May 31, 2022).
170. Danish Ministry of Defence, “Agreement for Danish Defence 2018–2023,” <https://www.fmn.dk/en/topics/agreements-and-economy/agreement-for-danish-defence-2018--2023/> (accessed May 31, 2022).
171. “Denmark Progresses in NATO Ballistic Missile Defense Role,” *Defense News*, April 22, 2016, <http://www.defensenews.com/story/defense/air-space/strike/2016/04/22/denmark-progresses-nato-ballistic-missile-defense-role/83391868/> (accessed May 31, 2022).
172. Xavier Vavasseur, “Germany and the Netherlands Joining Forces for F-124 / LCF Frigate Replacement,” *Naval News*, December 18, 2020, <https://www.navalnews.com/naval-news/2020/12/germany-and-the-netherlands-joining-forces-for-f-124-lcf-frigate-replacement/> (accessed May 31, 2022).
173. “HNLMS De Zeven Provinciën Successfully Fires Two RIM-162 ESSM,” *Navy Recognition*, May 21, 2021, <https://www.navyrecognition.com/index.php/naval-news/naval-news-archive/2021/may/10177-hnlms-de-zeven-provincien-successfully-fires-two-rim-162-essm.html> (accessed May 31, 2022).
174. Xavier Vavasseur, “Royal Netherlands Navy's HNLMS De Zeven Provinciën Frigate Tracks Ballistic Missile,” *Naval News*, March 31, 2022, <https://www.navalnews.com/naval-news/2021/05/royal-netherlands-navys-hnlms-de-zeven-provincien-frigate-tracks-ballistic-missile/> (accessed May 31, 2022).
175. Vavasseur, “Germany and the Netherlands Joining Forces for F-124 / LCF Frigate Replacement.”
176. Xavier Vavasseur, “Video: Admiral De Beurme on Belgian Navy MCM and Frigate Programs,” *Naval News*, April 5, 2021, <https://www.navalnews.com/naval-news/2021/04/video-admiral-de-beurme-on-belgian-navy-mcm-and-frigate-programs/> (accessed May 31, 2022).
177. “Thales to Develop Air Warfare Mission Suite for New Dutch, Belgian Frigates,” *Naval Today*, February 29, 2019, <https://navaltoday.com/2019/02/28/thales-to-develop-air-warfare-mission-suite-for-new-dutch-belgian-frigates/> (accessed May 31, 2022).

178. Lockheed Martin, "Aegis: The Shield of the Fleet: Deployed Aegis Global Fleet," <https://www.lockheedmartin.com/en-us/products/aegis-combat-system.html> (accessed May 31, 2022), and O'Rourke, "Navy Aegis Ballistic Missile Defense (BMD) Program: Background and Issues for Congress," p. 2.
179. "Lockheed Martin to Equip Spanish F-110 Frigates with New Radar System," *Naval Technology*, December 6, 2019, <https://www.naval-technology.com/news/lockheed-martin-spain-f-110/> (accessed July 10, 2021).
180. "PPA Class Multi-Purpose Offshore Patrol Vessels," *Naval Technology*, August 14, 2020, <https://www.naval-technology.com/projects/ppa-class-multi-purpose-offshore-patrol-vessels/> (accessed May 31, 2022), and "PPA to Bring BMD Capability to Italian Navy in 2024," *Navy Recognition*, March 5, 2018, <https://www.navyrecognition.com/index.php/naval-news/naval-news-archive/2018/march-2018-navy-naval-defense-news/6008-ppa-to-bring-bmd-capability-to-italian-navy-in-2024.html> (accessed May 31, 2022).
181. The North Atlantic Treaty, Article 3.
182. Graph 3, "Defence Expenditure as a Share of GDP (%)," 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 July 6, 2022).
183. North Atlantic Treaty Organization, *The Secretary General's Annual Report 2021*, p. 42.
184. Graph 4, "Equipment Expenditure as a Share of Defence Expenditure (%)," in press release, "Defence Expenditure of NATO Countries (2014–2022)," p. 3.
185. Graph 3, "Defence Expenditure as a Share of GDP (%)," in press release, "Defence Expenditure of NATO Countries (2014–2022)," and Graph 4, "Equipment Expenditure as a Share of Defence Expenditure (%)," in press release, "Defence Expenditure of NATO Countries (2014–2022)," Defence Expenditure of NATO Countries (2014–2022), p. 3.
186. Sebastian Sprenger, "Scholz Proposes 100 Billion Euro Defense Fund, Vows to Exceed NATO Spending Goal," *Defense News*, February 27, 2022, <https://www.defensenews.com/global/europe/2022/02/27/scholz-proposes-100-billion-euro-defense-fund-vows-to-exceed-nato-spending-goal/> (accessed May 31, 2022).
187. Deutsche Welle, "Germany Commits €100 Billion to Defense Spending," February 27, 2022, <https://www.dw.com/en/germany-commits-100-billion-to-defense-spending/a-60933724> (accessed May 31, 2022).
188. Deutsche Welle, "German Troop Reinforcements Arrive in Lithuania amid Russia Tensions," February 14, 2022, <https://www.dw.com/en/german-troop-reinforcements-arrive-in-lithuania-amid-russia-tensions/a-60774606> (accessed May 18, 2022).
189. Fact Sheet, "NATO's Enhanced Forward Presence."
190. Baltic News Service, "Germany Deploys Ozelot Air Defence System in Lithuania," LRT [Lithuanian National Television and Radio], April 4, 2022, <https://www.lrt.lt/en/news-in-english/19/1661776/germany-deploys-ozelot-air-defence-system-in-lithuania> (accessed May 31, 2022).
191. Reuters, "Germany Vows to Keep Troops in Lithuania, Invest More in Barracks," February 4, 2019, <https://www.reuters.com/article/us-lithuania-nato/germany-vows-to-keep-troops-in-lithuania-invest-more-in-barracks-idUSKCN1PT1QN> (accessed May 31, 2022).
192. News release, "German Air Force Reinforces Patrolling of the Baltic Airspace," Republic of Lithuania, Ministry of National Defence, July 20, 2020, https://kam.lt/en/news_1098/news_archives/news_archive_2020/news_archive_2020_-_07/german_air_force_reinforces_patrolling_of_the_baltic_airspace.html (accessed May 31, 2022), and NATO Allied Air Command Public Affairs Office, "Italy Starts First-Time F-35 Deployment," May 3, 2021, <https://www.lockheedmartin.com/f35/news-and-features/italy-starts-first-time-f35-deployment.html> (accessed May 31, 2022).
193. North Atlantic Treaty Organization, "Kosovo Force (KFOR): Key Facts and Figures," March 2022, https://www.nato.int/nato_static_fl2014/assets/pdf/2022/3/pdf/2022-03-KFOR-Placemat.pdf (accessed May 31, 2022).
194. Federal Government of Germany, "Extension for Mission SEA GUARDIAN," February 9, 2022, <https://www.bundesregierung.de/breg-en/news/sea-guardian-federal-armed-forces-2004702> (accessed May 31, 2022), and Federal Government of Germany, Federal Foreign Office, "Support for South Sudan," March 18, 2022, <https://www.auswaertiges-amt.de/en/aussenpolitik/laenderinformationen/suedsudan-node/-/2440878> (accessed May 31, 2022).
195. Reuters, "Germany to End EU Training Mission in Mali," May 5, 2022, <https://www.reuters.com/world/europe/germany-ready-continue-un-mission-mali-defmin-2022-05-04/> (accessed May 31, 2022).
196. Federal Government of Germany, "German Troops to Remain in Lebanon," May 12, 2021, <https://www.bundesregierung.de/breg-en/news/extension-unifil-1913790#:~:text=UNIFIL%20mandate%20German%20troops%20to,approved%20by%20the%20German%20Bundestag> (accessed May 31, 2022).
197. Federal Government of Germany, Federal Foreign Office, "Germany Continues to Stand Shoulder to Shoulder with the Iraqi Government in the Fight Against IS," January 28, 2022, <https://www.auswaertiges-amt.de/en/aussenpolitik/themen/terrorismus-kriminalitaet/fight-against-is/2383354> (accessed May 31, 2022).
198. Federal Republic of Germany, Federal Ministry of Defence, Bundeswehr, Cyber and Information Domain Service, "Cyber and Information Space—A New Domain," <https://www.bundeswehr.de/en/organization/the-cyber-and-information-domain-service> (accessed May 31, 2022).
199. International Institute for Strategic Studies, *The Military Balance 2022: The Annual Assessment of Global Military Capabilities and Defence Economics* (London: Routledge, 2022), p. 106.

200. Germany at NATO (@GermanyNATO), Tweet, June 29, 2022, 8:40 am, <https://twitter.com/GermanyNATO/status/1542125880931241986> (accessed July 6, 2022).
201. Agence France-Presse, "How Germany, Shaken by Ukraine, Plans to Rebuild Its Military," France 24, March 29, 2022, <https://www.france24.com/en/live-news/20220329-how-germany-shaken-by-ukraine-plans-to-rebuild-its-military> (accessed May 31, 2022).
202. Michael Shurkin, "How the Bundeswehr Should Spend Its Money," War on the Rocks, March 21, 2022, <https://warontherocks.com/2022/03/how-the-bundeswehr-should-spend-its-money/> (accessed May 31, 2022).
203. Ibid. and Agence France-Presse, "How Germany, Shaken by Ukraine, Plans to Rebuild Its Military."
204. Shurkin, "How the Bundeswehr Should Spend Its Money," and Agence France-Presse, "How Germany, Shaken by Ukraine, Plans to Rebuild Its Military."
205. Reuters, "Germany to Buy 35 Lockheed F-35 Fighter Jets from U.S. amid Ukraine Crisis," March 14, 2022, <https://www.reuters.com/world/europe/germany-decides-principle-buy-f-35-fighter-jet-government-source-2022-03-14/> (accessed May 31, 2022).
206. Reuters, "Germany Looks to Buy Israeli or U.S. Missile Defence System," April 2, 2022, <https://www.reuters.com/world/europe/germany-looks-buy-israeli-or-us-missile-defence-system-2022-04-02/> (accessed May 31, 2022); Sebastian Sprenger and Seth J. Frantzman, "German Air Force Banks on Israel's Arrow-3 for National Missile Shield," *Defense News*, April 6, 2022, <https://www.defensenews.com/global/europe/2022/04/06/german-air-force-banks-on-israels-arrow-3-for-national-missile-shield/> (accessed May 31, 2022); Agence France-Presse, "How Germany, Shaken by Ukraine, Plans to rebuild Its Military"; and Reuters, "Germany Looks to Buy Israeli or U.S. Missile Defence System."
207. Sebastian Sprenger, "Germany Shelves New Anti-Missile Weapon and Turns to Drone Defense," *Defense News*, March 23, 2021, <https://www.defensenews.com/global/europe/2021/03/23/germany-shelves-new-anti-missile-weapon-and-turns-to-drone-defense/> (accessed June 10, 2022).
208. International Institute for Strategic Studies, *The Military Balance 2021*, p. 67, and table, "Orders, Deliveries, in Operation Military Aircraft by Country—Worldwide," summary to May 31, 2022, in Airbus, "A400M," <https://www.airbus.com/en/products-services/defence/military-aircraft/a400m> (accessed June 2, 2022).
209. Trevithick, "Germany, France Move Ahead with Joint C-130J Unit amid Budget Woes and A400M Delays," *The War Zone*, May 8, 2018, <https://www.thedrive.com/the-war-zone/20697/germany-france-move-ahead-with-joint-c-130j-unit-amid-budget-woes-and-a400m-delays> (accessed May 27, 2022).
210. Vivienne Machi, "France, Germany Launch Joint Tactical Air Squadron and Training Center," *Defense News*, September 2, 2021, <https://www.defensenews.com/global/europe/2021/09/02/france-germany-launch-joint-tactical-air-squadron-and-training-center/> (accessed May 31, 2022).
211. Stefano D'Urso, "First German C-130J Hercules Performs Maiden Flight," *The Aviationist*, November 10, 2021, <https://theaviationist.com/2021/11/10/first-german-c-130j/> (accessed May 31, 2022).
212. "Germany Signs Deal to Procure Five Boeing P-8A Poseidon Aircraft," *Naval-Technology*, July 1, 2021, <https://www.naval-technology.com/news/germany-five-boeing-p-8a-poseidon-aircraft/> (accessed June 11, 2022).
213. Sebastian Sprenger, "Boeing Gets Nod to Start Building Germany's P-8 Anti-Submarine Aircraft," *Defense News*, September 29, 2021, <https://www.defensenews.com/global/europe/2021/09/29/boeing-gets-nod-to-start-building-germanys-p-8-anti-submarine-aircraft/> (accessed May 31, 2022).
214. Gastón DuBois, "Boeing and Airbus Team up to Support H-47 Chinook Offer to Germany," *Aviacionline*, March 25, 2022, <https://www.aviacionline.com/2022/03/boeing-and-airbus-team-up-to-support-h-47-chinook-offer-to-germany/> (accessed May 31, 2022).
215. Shephard News, "Germany Bites the Bullet and Arms Heron TPs," April 7, 2022, <https://www.shephardmedia.com/news/uv-online/germany-bites-the-bullet-and-arms-heron-tps/> (accessed May 31, 2022).
216. Vivienne Machi, "With Spain on Board, Final Contracts Imminent for Eurodrone Program," *Defense News*, January 27, 2022, <https://www.defensenews.com/global/europe/2022/01/27/with-spain-on-board-final-contracts-imminent-for-eurodrone-program/> (accessed May 31, 2022).
217. Caleb Larson, "France and Germany Are Teaming Up to Build a New Super Tank," *The National Interest*, The Reboot Blog, December 12, 2021, <https://nationalinterest.org/blog/reboot/france-and-germany-are-teaming-build-new-super-tank-197825> (accessed May 31, 2022).
218. Harry Lye, "German MoD Mulls Military Equipment Shopping List," Shephard News, March 16, 2022, <https://www.shephardmedia.com/news/defence-notes/german-mod-mulls-military-equipment-shopping-list/> (accessed May 31, 2022), and Agence France-Presse, "How Germany, Shaken by Ukraine, Plans to Rebuild Its Military."
219. Tyler Rogoway, "The German Navy Decided to Return Their Bloated New Frigate to the Ship Store This Christmas," *The War Zone*, December 23, 2017, <http://www.thedrive.com/the-war-zone/17185/the-german-navy-has-decided-to-return-their-new-frigate-to-the-ship-store-this-christmas> (accessed May 31, 2022).
220. William Wilkes, "German Engineering Yields New Warship That Isn't Fit for Sea," *The Wall Street Journal*, January 12, 2018, <https://www.wsj.com/articles/german-engineering-yields-new-warship-that-isnt-fit-for-sea-1515753000> (accessed May 31, 2022).
221. John Beckner and Helmoed Heitman, "Is Germany's Navy Dead?" *The National Interest*, The Buzz Blog, July 23, 2018, <https://nationalinterest.org/blog/buzz/germanys-navy-dead-26566> (accessed May 31, 2022), and Ross Clark, "Germany's Military Has Become a Complete Joke," *The Spectator*, August 31, 2019, <https://www.spectator.co.uk/article/germany-s-military-has-become-a-complete-joke> (accessed May 31, 2022).

222. "Germany Returns Lead F125 Frigate to Builder, Report," *Naval Today*, December 22, 2017, <https://navaltoday.com/2017/12/22/germany-returns-lead-f125-frigate-to-builder-report/> (accessed May 31, 2022).
223. "TKMS Delivers 4th and Final F125 Frigate 'RHEINLAND-PFALZ,'" *Naval News*, January 28, 2022, <https://www.navalnews.com/naval-news/2022/01/tkms-delivers-4th-and-final-f125-frigate-to-the-german-navy/> (accessed May 31, 2022).
224. Reuters, "Germany Awards Warships Construction Contract to Dutch Shipyard Damen," January 14, 2020, <https://www.reuters.com/article/germany-awards-warships-construction-con/germany-awards-warships-construction-contract-to-dutch-shipyard-damen-idINL8N29J33J> (accessed June 11, 2022).
225. "Damen Signs Mk41 VLS Contract with Lockheed Martin for F126 Frigates," *Naval News*, February 16, 2022, <https://www.navalnews.com/naval-news/2022/02/damen-signs-mk41-vls-contract-with-lockheed-martin-for-f126-frigates/> (accessed June 11, 2022).
226. Naida Hakirevic Prevljak, "Germany, Norway Seal Deal for Six Type 212CD Submarines," *Naval News*, July 8, 2021, <https://www.navaltoday.com/2021/07/08/germany-seals-deal-for-two-u212cd-submarines/> (accessed May 31, 2022).
227. Fatima Bahtić, "Work Starts on Last German Navy's K130 Corvette," *Naval News*, February 18, 2022, <https://www.navaltoday.com/2022/02/18/construction-starts-on-last-german-navys-k130-corvette/> (accessed May 31, 2022).
228. Reuters, "Germany Military to Quicken Push for Combat Readiness, Defmin Says," March 29, 2022, <https://www.reuters.com/world/europe/germany-military-quicken-push-combat-readiness-defmin-says-2022-03-29/> (accessed May 31, 2022).
229. *Information from the Parliamentary Commissioner for the Armed Forces: Annual Report 2020 (62nd Report)*, German Bundestag, 19th Electoral Term, Printed Paper 19/26600, February 23, 2021, p. 79, https://www.bundestag.de/resource/blob/839232/ela864120697c27057534944ceb20111/annual_report_2020_62nd_report-data.pdf (accessed May 31, 2022).
230. *Ibid.*, p. 81.
231. Deutsche Welle, "German Submarines Fitted with Russian Technology: Report," March 28, 2021, <https://www.dw.com/en/german-submarines-fitted-with-russian-technology-report/a-57030819> (accessed May 31, 2022).
232. Daniel Kochis, "Winds of Change in Berlin? A Road Map for U.S.–German Relations," The Heritage Foundation *Backgrounders* No. 3655, September 26, 2021, p. 17, <https://www.heritage.org/europe/report/winds-change-berlin-road-map-us-german-relations>.
233. *Information from the Parliamentary Commissioner for the Armed Forces: Annual Report 2021 (63rd Report)*, German Bundestag, Printed Paper 20/900, March 15, 2022, pp. 12, 61, and 63, https://www.bundestag.de/resource/blob/901614/fc410cdd893ba69d52b8cb55ed1fb715/annual_report_2021_63rd_report-data.pdf (accessed July 6, 2022).
234. Alex Berry, "Germany Launches New Voluntary Military Service Program," Deutsche Welle, April 6, 2021, <https://www.dw.com/en/germany-launches-new-voluntary-military-service-program/a-57105974> (accessed May 31, 2022).
235. Graph 3, "Defence Expenditure as a Share of GDP (%)," in press release, "Defence Expenditure of NATO Countries (2014–2022)," and Graph 4, "Equipment Expenditure as a Share of Defence Expenditure (%)," in press release, "Defence Expenditure of NATO Countries (2014–2022)," Defence Expenditure of NATO Countries (2014–2022), p. 3.
236. Christina Mackenzie, "Seven European Nations Have Increased Defense Budgets in One Month. Who Will Be Next?" *Breaking Defense*, March 22, 2022, <https://breakingdefense.com/2022/03/seven-european-nations-have-increased-defense-budgets-in-one-month-who-will-be-next/> (accessed June 1, 2022).
237. Vivienne Machi, "Next-Gen Tech Investments, Platform Upgrades Lead France's 2022 Defense Budget," *Defense News*, September 22, 2021, <https://www.defensenews.com/global/europe/2021/09/22/next-gen-tech-investments-platform-upgrades-lead-frances-2022-defense-budget/> (accessed July 6, 2022).
238. Murielle Delaporte, "France Wants to Transform Its 'Beautiful' Army for High-Intensity Warfare," *Breaking Defense*, December 16, 2021, <https://breakingdefense.com/2021/12/france-wants-to-transform-its-beautiful-army-for-high-intensity-warfare/> (accessed June 1, 2022).
239. Agence France-Presse, "France Receives Second Lockheed KC-130J, Completing Delivery of 4 Super Hercules Aircraft," *The Defense Post*, February 10, 2020, <https://www.thedefensepost.com/2020/02/10/france-lockheed-kc-130j-super-hercules/> (accessed June 1, 2022).
240. Table, "Orders, Deliveries, in Operation Military Aircraft by Country—Worldwide," summary to May 31, 2022, in Airbus, "A330 MRTT," <https://www.airbus.com/en/products-services/defence/military-aircraft/a330-mrtd> (accessed June 1, 2022).
241. Table, "Orders, Deliveries, in Operation Military Aircraft by Country—Worldwide," summary to May 31, 2022, in Airbus, "A400M."
242. Christina Mackenzie, "France Orders Beefed-Up NH90 Choppers for Special Operations," *Defense News*, October 12, 2020, <https://www.defensenews.com/global/europe/2020/10/12/france-orders-beefed-up-nh90-choppers-for-special-operations/> (accessed June 1, 2022).
243. David Donald, "France Launches Rafale F4 Upgrade," *AINonline*, January 24, 2019, <https://www.ainonline.com/aviation-news/defense/2019-01-24/france-launches-rafale-f4-upgrade> (accessed June 1, 2022).
244. Christina Mackenzie, "France Orders \$2.3 Billion Upgrade for Rafale Warplanes," *Defense News*, January 14, 2019, <https://www.defensenews.com/global/europe/2019/01/14/france-orders-upgraded-rafale-warplanes-for-23-billion/> (accessed June 1, 2022).
245. Younis Dar, "New F4 Rafale Fighter Jets to Have Advanced Stealth & EWS; Is India a Potential Customer?" *The Eurasian Times*, April 5, 2021, <https://eurasianimes.com/new-f4-rafale-fighter-jets-to-have-advanced-stealth-is-india-a-potential-customer/> (accessed June 1, 2022).

246. Airforce Technology, "French Air and Space Force to Receive 12 New Rafales from Dassault," February 1, 2021, <https://www.airforce-technology.com/news/french-air-and-space-force-to-receive-12-new-rafales-from-dassault/> (accessed June 1, 2022).
247. "France, Germany Spain Reach FCAS Agreement," *Defense Brief*, May 17, 2021, <https://defbrief.com/2021/05/17/france-germany-spain-reach-fcas-agreement/> (accessed June 1, 2022).
248. Hanan Zaffar, "Setback to European Fighter Jet as Companies in Deadlock," *The Defense Post*, March 9, 2022, <https://www.thedefensepost.com/2022/03/09/fcas-program-airbus-dassault/> (accessed June 1, 2022).
249. Pfeifer and White, "Divisions Risk Undermining Windfall for Europe's Defence Industry."
250. Ibid.
251. Christina Mackenzie, "France, Spain Ink Deals to Upgrade Tiger Attack Helicopters," *Breaking Defense*, March 11, 2022, <https://breakingdefense.com/2022/03/france-spain-ink-deals-to-upgrade-tiger-attack-helicopters/> (accessed June 1, 2022).
252. Christina Mackenzie, "France Plans to Boost Its Self-Defense Posture in Space," *Defense News*, July 26, 2019, <https://www.defensenews.com/global/europe/2019/07/26/france-plans-to-boost-its-self-defense-posture-in-space/> (accessed June 1, 2022).
253. Christina Mackenzie, "NATO Names Location for New Military Space Center," *Defense News*, February 5, 2021, <https://www.defensenews.com/space/2021/02/05/nato-names-location-for-new-military-space-center/> (accessed June 1, 2022).
254. Lauren Chadwick and Jeremy Wilks, "'May the Force Be with Vous': France Unveils Space Weapons Plan," Euronews, updated July 26, 2019, <https://www.euronews.com/2019/07/26/may-the-force-be-with-vous-france-unveils-space-weapons-plan> (accessed June 1, 2022), and Rachel Cordery, "French Defence Minister Announces Anti-Satellite Laser Weapons," Airforce Technology, July 26, 2019, <https://www.airforce-technology.com/news/french-anti-satellite-laser-weapon/> (accessed June 1, 2022).
255. Deutsche Welle, "France Conducts First Military Exercises in Space," March 10, 2021, <https://www.dw.com/en/france-conducts-first-military-exercises-in-space/a-56821868> (accessed June 1, 2022).
256. Doug Messier, "AsterX 2022: The Space Threat Under the Eye of the Space Command and CNES," *Parabolic Arc*, March 14, 2022, <http://www.parabolicarc.com/2022/03/14/asterx-2022-the-space-threat-under-the-eye-of-the-space-command-and-cnes/> (accessed June 1, 2022), and Zach, "The Space Surveillance Operations Center at the ASTERX 22 Exercise in France," *DI SoftBall News*, March 15, 2022, <https://di softballnews.com/the-space-surveillance-operations-center-at-the-asterx-22-exercise-in-france/> (accessed June 1, 2022).
257. Machi, "Next-Gen Tech Investments, Platform Upgrades Lead France's 2022 Defense Budget."
258. Eyal Boguslavsky, "French Army Continues to Arm with H&K's HK416F Assault Rifles," *Israel Defense*, March 14, 2022, <https://www.israeldefense.co.il/en/node/53910> (accessed May 19, 2022); Tong Ong, "Parrot to Supply French Army with Hundreds of Micro-Drones," *The Defense Post*, January 12, 2021, <https://www.thedefensepost.com/2021/01/12/french-army-parrot-micro-drones/> (accessed June 1, 2022); and "Future Army Serval Armored Reconnaissance Vehicle to Be Delivered in Three Variants," *Army Recognition*, February 2, 2022, https://www.armyrecognition.com/defense_news_february_2022_global_security_army_industry/future_french_army_serval_armored_reconnaissance_vehicle_to_be_delivered_in_three_variants.html?fbclid=IwAR18ZIFLoHwraqXvbu6SSkdIDHNfCNrqwXO7JsOLWCOjarLJ8DKrVec9Asw (accessed June 1, 2022).
259. Machi, "Next-Gen Tech Investments, Platform Upgrades Lead France's 2022 Defense Budget."
260. Christina Mackenzie, "See France Test-Fire an M51 Strategic Missile into the Atlantic," *Defense News*, April 28, 2021, <https://www.defensenews.com/global/europe/2021/04/28/france-test-fires-an-m51-strategic-missile-into-the-atlantic/> (accessed June 1, 2022).
261. International Institute for Strategic Studies, *The Military Balance 2022: The Annual Assessment of Global Military Capabilities and Defence Economics* (London: Routledge, 2022), p. 104.
262. Thomas Newdick, "France Has Increased Its Ballistic Missile Submarine Patrols for the First Time in Decades," *The War Zone*, March 24, 2022, <https://www.thedrive.com/the-war-zone/44910/france-has-increased-its-ballistic-missile-submarine-patrols-for-the-first-time-in-decades> (accessed June 1, 2022).
263. Christina Mackenzie, "France to Begin Building New Ballistic Missile Subs," *Defense News*, February 22, 2021, <https://www.defensenews.com/naval/2021/02/22/france-to-begin-building-new-ballistic-missile-subs/> (accessed June 1, 2022).
264. Christina Mackenzie, "Macron Kicks off French Race to Build a New Nuclear-Powered Aircraft Carrier," *Defense News*, December 8, 2020, <https://www.defensenews.com/global/europe/2020/12/08/macron-kicks-off-french-race-to-build-a-new-nuclear-powered-aircraft-carrier/> (accessed June 1, 2022).
265. Maritime Fairtrade, "France's Aircraft Carriers to Account for 20% of Naval Vessel Spend over Next 10 Years," December 17, 2021, <https://maritimefairtrade.org/frances-aircraft-carriers-to-account-for-20-of-naval-vessel-spend-over-next-10-years/> (accessed June 1, 2022).
266. Michael Peck, "France Is Still Mad at the US over a Lost Submarine Deal, But That Isn't Keeping It from Buying US Gear for Its New Aircraft Carrier," *Business Insider*, <https://www.businessinsider.com/france-buying-emals-for-aircraft-carrier-despite-us-aukus-ire-2021-12#:~:text=EMALS%20and%20AAG%20will%20be,%2Dgeneration%20aircraft%20carrier%20program.%22&text=Electromagnetic%20catapults%20such%20as%20EMALS,kicking%20jets%20off%20floating%20airfields> (accessed June 1, 2022).

267. Emmanuel Huberdeau, "France Launches First Barracuda SSN," *Janes*, July 12, 2019, <https://www.janes.com/defence-news/news-detail/france-launches-first-barracuda-ssn> (accessed May 27, 2022), and "New Suffren Barracuda-Class Nuclear-Powered Attack Submarine Officially Commissioned by French Navy," *Navy Recognition*, November 2020, <https://www.navyrecognition.com/index.php/news/defence-news/2020/november/9236-new-suffren-barracuda-class-nuclear-powered-attack-submarine-officially-commissioned-by-french-navy.html> (accessed June 1, 2022).
268. Dylan Malyasov, "France Rolls Out New Nuclear-Powered Attack Submarine," *Defence Blog*, modified November 29, 2021, <https://defence-blog.com/france-rolls-out-new-nuclear-powered-attack-submarine/#:~:text=The%204%2C500%20Duguay%2DTrouin%20S636,enduring%20and%20quick%20to%20deploy> (accessed June 1, 2022).
269. "France Accelerates the FDI Frigates Program," *Navy Recognition*, March 2021, <https://www.navyrecognition.com/index.php/news/defence-news/2021/march/9901-france-accelerates-the-fdi-frigates-program.html> (accessed June 1, 2022).
270. Xavier Vavasour, "France's Final FREMM Frigate 'Lorraine' Starts Sea Trials," *Naval News*, February 22, 2022, <https://www.navalnews.com/naval-news/2022/02/frances-final-fremm-frigate-lorraine-starts-sea-trials/> (accessed June 1, 2022), and Christina Mackenzie, "Naval Group Delivers French Frigate with Bolstered Capabilities," *Defense News*, April 16, 2021, <https://www.defensenews.com/naval/2021/04/16/naval-group-delivers-french-frigate-with-bolstered-capabilities/> (accessed June 1, 2022).
271. Christina Mackenzie, "French Navy Begins Broad Revamp of Its Mine-Hunting Abilities," *Defense News*, November 6, 2020, <https://www.defensenews.com/global/europe/2020/11/06/french-navy-begins-broad-revamp-of-its-mine-hunting-abilities/> (accessed June 1, 2022).
272. Harry Lye, "UK, France to Sign Autonomous Minehunting Production Contract," *Naval Technology*, November 3, 2020, <https://www.naval-technology.com/news/contract-news/uk-france-to-sign-autonomous-minehunting-production-contract/> (accessed June 1, 2022).
273. "France, UK Take Delivery of New Unmanned Minehunting Demonstrators," *Defense Brief*, December 8, 2021, <https://defbrief.com/2021/12/08/france-uk-take-delivery-of-new-unmanned-minehunting-demonstrators/> (accessed June 1, 2022).
274. Marine Pennetier, "Under Threat, France Grooms Army Hackers for Cyber Warfare," *Reuters*, April 5, 2017, <https://www.reuters.com/article/us-france-cyber/under-threat-france-grooms-army-hackers-for-cyber-warfare-idUSKBN1771B2> (accessed June 1, 2022).
275. Arthur P. B. Laudrain, "France's New Offensive Cyber Doctrine," *Lawfare*, February 26, 2019, <https://www.lawfareblog.com/frances-new-offensive-cyber-doctrine> (accessed June 1, 2022).
276. Machi, "Next-Gen Tech Investments, Platform Upgrades Lead France's 2022 Defense Budget."
277. Chapter Four, "Europe," in International Institute for Strategic Studies, *The Military Balance 2022*, pp. 64–163.
278. Infographic, "Opération CHAMMAL," in Government of France, Ministry of the Armed Forces, "Operations: Operation CHAMMAL," <https://www.defense.gouv.fr/operations/grand-levant/operation-chammal> (accessed June 1, 2022).
279. Martin Manaranche, "French Carrier Strike Group Begins 'Clemenceau 22' Deployment," *Naval News*, February 1, 2022, <https://www.navalnews.com/naval-news/2022/02/french-carrier-strike-group-begins-clemenceau-22-deployment/> (accessed June 1, 2022).
280. Factsheet, "NATO's Enhanced Forward Presence," and ERR [Estonian Public Broadcasting], "France Sending More Forces to Estonia," February 25, 2022, <https://news.err.ee/1608512663/france-sending-more-forces-to-estonia> (accessed June 1, 2022).
281. Government of France, Ministry for Europe and Foreign Affairs, "France Diplomacy: France and NATO," <https://www.diplomatie.gouv.fr/en/french-foreign-policy/security-disarmament-and-non-proliferation/our-alliances-and-cooperations/france-and-nato/> (accessed June 1, 2022), and news release, "French Air and Space Force Employs Assets for NATO's Deterrence and Defence," North Atlantic Treaty Organization, Allied Air Command, March 1, 2022, https://ac.nato.int/archive/2022/FRA_EVA (accessed June 1, 2022).
282. Government of France, Ministry for Europe and Foreign Affairs, "France Diplomacy: France and NATO," and news release, "French Air and Space Force Employs Assets for NATO's Deterrence and Defence," North Atlantic Treaty Organization, Allied Air Command, March 1, 2022, https://ac.nato.int/archive/2022/FRA_EVA (accessed June 1, 2022).
283. News release, "France Sends Troops and Equipment to Romania," North Atlantic Treaty Organization, Supreme Headquarters Allied Powers Europe, March 8, 2022, <https://shape.nato.int/news-archive/2022/france-sends-troops-and-equipment-to-romania> (accessed June 1, 2022).
284. Archyde, "French Armed Forces Prepare for High Intensity War," March 30, 2021, <https://www.archyde.com/french-armed-forces-prepare-for-high-intensity-war/> (accessed June 1, 2022).
285. Associated Press, "France and EU to Withdraw Troops from Mali, Remain in Region," *U.S. News & World Report*, February 17, 2022, <https://www.usnews.com/news/world/articles/2022-02-17/eu-nations-to-withdraw-military-task-force-from-mali> (accessed June 1, 2022).
286. Infographic, "Déploiements Opérationnels des Forces Armées Françaises [Operational Deployments of the French Armed Forces]," in Government of France, Ministry of the Armed Forces, "Operations," https://www.defense-gouv-fr.translate.goog/operations/operations?_x_tr_sl=fr&_x_tr_tl=en&_x_tr_hl=en&_x_tr_pto=sc (accessed June 1, 2022).
287. Ibid.
288. European Union Naval Force Mediterranean (EUNAVFOR MED), Operation IRINI, "About Us," <https://www.operationirini.eu/about-us/> (accessed June 2, 2022).
289. Abhijnan Rej, "France-Led Multination Naval Exercise Commences in Eastern Indian Ocean," *The Diplomat*, April 5, 2021, <https://thediplomat.com/2021/04/france-led-multination-naval-exercise-commences-in-eastern-indian-ocean/> (accessed June 1, 2022).

290. Reuters, “French Nuclear Submarine Patrolled in South China Sea—Navy,” February 9, 2021, <https://www.reuters.com/article/southchina-sea-france-submarine-idUSL1N2KF1J7> (accessed June 1, 2022).
291. Nathalie Guibert and Elise Vincent, “Admiral Pierre Vandier: In the Indo-Pacific, ‘We Face a Stifling Logic of Suffocation,’” *Le Monde*, June 10, 2021, https://www.lemonde.fr/international/article/2021/06/10/amiral-pierre-vandier-en-indo-pacifique-nous-affrontons-une-logique-d-etouffement_6083594_3210.html (accessed June 1, 2022).
292. “Two Years of Operation AGENOR in Gulf and Strait of Hormuz,” *SeaWaves Magazine*, March 1, 2022, <https://seawaves.com/?p=19597> (accessed June 2, 2022).
293. France 24, “Macron Launches Army Operation Resilience to Support Fight Against Coronavirus,” March 25, 2020, <https://www.france24.com/en/20200325-macron-launches-army-operation-resilience-to-support-fight-against-coronavirus> (accessed June 2, 2022).
294. Jean-Pierre Maulny, Deputy Director, French Institute for International and Strategic Affairs, “Lessons Learned from France’s Military Engagements in Foreign Operations and Internal Security,” in Bastian Giegerich and James Hackett, “Military Capabilities in Europe: A Framework for Assessing the Qualitative Dimension,” International Institute for Strategic Studies *Research Paper*, January 2022, pp. 8–9, <https://www.iiss.org/blogs/research-paper/2022/02/military-capabilities-in-europe-a-framework-for-assessing-the-qualitative-dimension> (accessed June 2, 2022).
295. Graph 3, “Defence Expenditure as a Share of GDP (%),” in press release, “Defence Expenditure of NATO Countries (2014–2022),” and Graph 4, “Equipment Expenditure as a Share of Defence Expenditure (%),” in press release, “Defence Expenditure of NATO Countries (2014–2022),” Defence Expenditure of NATO Countries (2014–2022), p. 3.
296. Joseph Trevithick, “Everything We Know About the United Kingdom’s Big New Defense Spending Plan,” *The War Zone*, November 19, 2020, <https://www.thedrive.com/the-war-zone/37722/everything-we-know-about-the-united-kingdoms-big-new-defense-spending-plan> (accessed June 2, 2022).
297. Her Majesty’s Government, *Global Britain in a Competitive Age: The Integrated Review of Security, Defence, Development and Foreign Policy*, Presented to Parliament by the Prime Minister by Command of Her Majesty, CP 403, March 2021, https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/975077/Global_Britain_in_a_Competitive_Age-_the_Integrated_Review_of_Security_Defence_Development_and_Foreign_Policy.pdf (accessed June 14, 2022), and U.K. Ministry of Defence, *Defence in a Competitive Age*, Presented to Parliament by the Secretary of State for Defence by Command of Her Majesty, CP 411, March 2021, https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/974661/CP411_-_Defence_Command_Plan.pdf (accessed June 14, 2022).
298. U.K. Ministry of Defence, *Defence in a Competitive Age*, pp. 49 and 52.
299. *Ibid.*, pp. 48 and 56.
300. *Ibid.*, p. 53, and Daniel Kochis, “European Defense Spending Still Rising, but COVID-19 Poses Retrenching Risk,” *Heritage Foundation Commentary*, April 6, 2021, <https://www.heritage.org/europe/commentary/european-defense-spending-still-rising-covid-19-poses-retrenching-risk>.
301. Douglas Barrie, Ben Barry, Henry Boyd, and Nick Childs, “The UK’s New Model Forces,” International Institute for Strategic Studies, Analysis Blog, March 24, 2021, <https://www.iiss.org/blogs/analysis/2021/03/uk-defence-command-paper> (accessed June 2, 2022).
302. U.K. Ministry of Defence, *Defence in a Competitive Age*, p. 54.
303. Andrew Chuter, “Did Russia’s War Sink the Latest British Defense Strategy?” *Defense News*, April 5, 2022, <https://www.defensenews.com/global/europe/2022/04/05/did-russias-war-sink-the-latest-british-defense-strategy/> (accessed June 2, 2022).
304. U.K. Ministry of Defence, *The Defence Equipment Plan 2021–2031*, 2022, p. 5, https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1055953/Defence_Equipment_Plan_2021.pdf (accessed June 14, 2022). This “report is published in parallel with a review by the National Audit Office (NAO), who review our plans each year and provide feedback on areas for improvement.” *Ibid.*, p. 7. See National Audit Office, *The Equipment Plan 2021 to 2031, Ministry of Defence*, Report by the Comptroller and Auditor General, HC 1105, February 21, 2022, <https://collateral.prmx.co.uk/collateral/189946.pdf> (accessed June 14, 2022).
305. U.K. Ministry of Defence, *The Defence Equipment Plan 2021–2031*, 2022, pp. 36, 36, 38, 40, 42, and 44.
306. The Rt Hon Ben Wallace MP, Secretary of State for Defence, “Secretary of State Foreword,” in *ibid.*, p. 2.
307. National Audit Office, *The Equipment Plan 2021 to 2031*, p. 12. See also Figure 10, “Our Audit Approach,” in *ibid.*, p. 45.
308. Andrew Chuter, “British Army Admits More Delays in Fielding Enough Combat Forces,” *Defense News*, October 12, 2020, <https://www.defensenews.com/global/europe/2020/10/12/british-army-admits-more-delays-in-fielding-enough-combat-forces/> (accessed June 14, 2022).
309. *Ibid.* See also Ben Barry, “British Army Heavy Division Comes up Light,” International Institute for Strategic Studies, Military Balance Blog, January 8, 2021, <https://www.iiss.org/blogs/military-balance/2021/01/british-army-heavy-division> (accessed June 14, 2022).
310. Andrew Chuter and Sebastian Sprenger, “British Military Looks to the ‘Eurotank’ as It Weighs Its Hardware Options,” *Defense News*, January 11, 2021, <https://www.defensenews.com/global/europe/2021/01/11/british-military-looks-to-the-eurotank-as-it-weighs-its-hardware-options/> (accessed June 2, 2022).

311. Samuel Cranny-Evans, "UK to Reduce Operational Challenger 2 Tank Fleet," *Janes*, April 23, 2019, <https://www.janes.com/defence-news/news-detail/uk-to-reduce-operational-challenger-2-tank-fleet> (accessed June 2, 2022).
312. David Axe, "British Army Is Planning to Upgrade Just 148 of Its 227 Challenger 2 Tanks," *The National Interest*, The Buzz Blog, April 21, 2019, <https://nationalinterest.org/blog/buzz/british-army-planning-upgrade-just-148-its-227-challenger-2-tanks-53587> (accessed June 2, 2022).
313. David Axe, "British Army, German Tanks. London Might Not Like It, but It Needs to Buy Leopard 2s," *Forbes*, November 11, 2020, <https://www.forbes.com/sites/davidaxe/2020/11/11/british-army-german-tanks-london-might-not-like-it-but-it-needs-to-buy-leopard-2s/?sh=32f598922d7a> (accessed June 2, 2022).
314. Cranny-Evans, "UK to Reduce Operational Challenger 2 Tank Fleet."
315. U.K. Ministry of Defence, *Defence in a Competitive Age*, p. 54.
316. Stuart Crawford, "The Future UK Main Battle Tank Fleet," *UK Defence Journal*, March 22, 2021, <https://ukdefencejournal.org.uk/the-future-uk-main-battle-tank-fleet/> (accessed June 2, 2022).
317. Caleb Larson, "Production of the British Challenger 3 Tank Has Begun," *The National Interest*, The Buzz Blog, March 29, 2022, <https://nationalinterest.org/blog/buzz/production-british-challenger-3-tank-has-begun-201526> (accessed June 2, 2022).
318. Andrew Chuter, "British Army Wants More Punch in Its Boxer Vehicle Fleet," *Defense News*, April 6, 2021, <https://www.defensenews.com/global/europe/2021/04/06/british-army-wants-more-punch-in-its-boxer-vehicle-fleet/> (accessed June 2, 2022).
319. Shephard News, "British Army Orders 100 More Boxer Armored Vehicles," April 11, 2022, <https://www.shephardmedia.com/news/landwarfareintl/british-army-orders-100-more-boxer-armoured-vehicl/> (accessed June 2, 2022).
320. Chuter, "British Army Wants More Punch in Its Boxer Vehicle Fleet."
321. Shephard News, "British Army Orders 100 More Boxer Armored Vehicles."
322. George Allison, "More F-35B Jets Being Delivered to the UK," *UK Defence Journal*, February 15, 2022, <https://ukdefencejournal.org.uk/more-f-35b-jets-being-delivered-to-the-uk/#:~:text=The%20aircraft%20are%20being%20flown,by%20the%20end%20of%202025> (accessed June 2, 2022).
323. Aaron Mehta, "New British Plan Looks to Boost F-35 Numbers, but Is It Still Aiming for 138?" *Defense News*, March 22, 2021, <https://www.defensenews.com/global/europe/2021/03/23/new-british-plan-looks-to-boost-f-35-numbers-but-is-it-still-aiming-for-138/> (accessed June 14, 2022), and U.K. Ministry of Defence, *Defence in a Competitive Age*, p. 56.
324. ITV News, "UK's F-35 Fighter Jets Join Operations Against IS Above Iraq and Syria," June 25, 2019, <https://www.itv.com/news/2019-06-25/uks-f-35-fighter-jets-join-operations-against-is-above-iraq-and-syria> (accessed June 3, 2022).
325. Ed Adamczyk, "Britain's Royal Air Force Receives Last Typhoon Fighter on Order from BAE," *United Press International*, September 27, 2019, <https://www.upi.com/Defense-News/2019/09/27/Britains-Royal-Air-Force-receives-last-Typhoon-fighter-on-order-from-BAE/7821569598752/> (accessed June 2, 2022).
326. George Allison, "24 Typhoon Aircraft to Be Retired by 2025," *UK Defence Journal*, March 22, 2021, <https://ukdefencejournal.org.uk/24-typhoon-aircraft-to-be-retired-by-2025/> (accessed June 2, 2022).
327. Andrew Chuter, "The British Air Force Is Upgrading Its Typhoon Fighter Jets to Keep Them Fighting Until 2040," *Business Insider*, August 9, 2019, <https://www.businessinsider.com/british-air-force-sensor-upgrades-typhoon-fighter-jets-2019-8> (accessed June 2, 2022).
328. "UK Defence to Invest £2bn in Combat Air System Tempest," *Government Computing*, March 25, 2021, <https://www.governmentcomputing.com/national-security/news/uk-defence-to-invest-2bn-in-combat-air-system-tempest/> (accessed June 2, 2022), and Brent M. Eastwood, "Tempest: The UK Has Big Plans for a Stealth 6th Generation Fighter," *1945*, February 16, 2022, <https://www.19fortyfive.com/2022/02/tempest-the-uk-has-big-plans-for-a-stealth-6th-generation-fighter/> (accessed June 2, 2022).
329. Alan Warnes, "NATO Air-to-Air Refuelling," *European Security & Defence*, December 13, 2019, <https://euro-sd.com/2019/12/articles/15526/nato-air-to-air-refuelling/> (accessed June 2, 2022).
330. Royal Air Force, "Aircraft: RC-135W Rivet Joint: About the RC-135W Rivet Joint," <https://www.raf.mod.uk/aircraft/airseeker-rc-135w-rivet-joint/> (accessed June 3, 2022).
331. George Allison, "UK Planning to Purchase Additional A400M Transport Aircraft," *UK Defence Journal*, January 6, 2022, <https://ukdefencejournal.org.uk/uk-planning-to-purchase-additional-a400m-transport-aircraft/> (accessed June 3, 2022).
332. News release, "RAF Sentinel R1 Aircraft Conducts Last Operational Flight," Royal Air Force, February 26, 2021, <https://www.raf.mod.uk/news/articles/raf-sentinel-r1-aircraft-conducts-last-operational-flight/> (accessed June 3, 2022).
333. News release, "Final Poseidon Aircraft Delivered to RAF Lossiemouth," U.K. Ministry of Defence, January 12, 2021, <https://des.mod.uk/poseidon-aircraft-delivered-raf-lossiemouth/#:~:text=The%20ninth%20and%20final%20Poseidon,multi%20role%20maritime%20patrol%20aircraft> (accessed June 3, 2022).
334. David Axe, "The Royal Air Force Needs More Patrol Planes," *The National Interest*, The Buzz Blog, January 1, 2020, <https://nationalinterest.org/blog/buzz/royal-air-force-needs-more-patrol-planes-110231> (accessed June 3, 2022).

335. Harry Lye, "UK's New Medium Helicopter to Fly into 2040s," *Army Technology*, April 8, 2021, <https://www.army-technology.com/news/uk-medium-helicopter-requirement/> (accessed June 3, 2022).
336. David B. Larter, "In a Naval Confrontation with Iran, Great Britain Can Find Neither Ships nor Friends," *Defense News*, July 25, 2019, <https://www.defensenews.com/naval/2019/07/25/in-a-naval-confrontation-with-iran-great-britain-can-find-neither-ships-nor-friends/> (accessed June 3, 2022).
337. Ibid. and Table 4, "Availability of Royal Navy Vessels by Class," in U.K. House of Commons Defence Committee, *"We're Going to Need a Bigger Navy,"* Third Report of Session 2021–22, HC 168, December 14, 2021, p. 43, <https://committees.parliament.uk/publications/8205/documents/85026/default/> (accessed June 3, 2022).
338. U.K. House of Commons Defence Committee, *"We're Going to Need a Bigger Navy,"* p. 3.
339. Barrie et al., "The UK's New Model Forces."
340. Seaforces.org, "City (Type 26) Class Frigate (Global Combat Ship Programme)," <https://www.seaforces.org/marint/Royal-Navy/Frigate/City-Type-26-class.htm> (accessed June 3, 2022).
341. Fatima Bahtić, "UK's First Type 26 Frigate to Hit the Water Later This Year," *Naval Today*, March 8, 2022, <https://www.navaltoday.com/2022/03/08/uks-first-type-26-frigate-to-hit-the-water-later-this-year/> (accessed June 3, 2022), and Navy Lookout, "Royal Navy's Type 26 Frigates to Be Equipped with Cruise Missiles by 2028," July 9, 2021, <https://www.navylookout.com/royal-navys-type-26-frigates-to-be-equipped-with-cruise-missiles-by-2028/> (accessed June 3, 2022).
342. Bahtić, "UK's First Type 26 Frigate to Hit the Water Later This Year."
343. Fatima Bahtić, "UK to Retire Two Type 23 Frigates Saving £100M to Boost Future Fleet," *Naval Today*, November 24, 2021, <https://www.navaltoday.com/2021/11/24/uk-to-retire-two-type-23-frigates-saving-100m-to-boost-future-fleet/> (accessed June 3, 2022), and Harry Lye, "Royal Navy to lose Type 23s setting stage for future fleet," *Naval Technology*, March 23, 2021, <https://www.naval-technology.com/analysis/royal-navy-to-lose-two-type-23s-setting-stage-for-future-fleet/> (accessed June 3, 2022).
344. Constantine Atlamazoglou, "The UK's New Aircraft Carrier Wrapped up Its Maiden Deployment with 2 More Milestones—One Good and One Bad," *Business Insider*, December 28, 2021, <https://www.businessinsider.com/new-uk-aircraft-carrier-ends-first-deployment-with-milestones-2021-12> (accessed June 3, 2022).
345. Nick Childs, "UK Carrier Strike Capability: Where Next?" International Institute for Strategic Studies, Military Balance Blog January 7, 2022, <https://www.iiss.org/blogs/military-balance/2022/01/uk-carrier-strike-capability-where-next> (accessed June 3, 2022).
346. Atlamazoglou, "The UK's New Aircraft Carrier Wrapped up Its Maiden Deployment with 2 More Milestones—One Good and One Bad."
347. James Hirst, "Prince Charles Attends Commissioning of HMS Prince of Wales," *Forces.net*, December 10, 2019, <https://www.forces.net/news/prince-charles-attend-commissioning-hms-prince-wales> (accessed June 3, 2022).
348. Harry Lye, "HMS Prince of Wales to Begin F-35 Trials in January 2021: Exclusive," *Naval Technology*, March 2, 2020, <https://www.naval-technology.com/news/hms-prince-of-wales-to-begin-f-35-trials-in-january-2021-exclusive/> (accessed June 3, 2022), and Jemma Carr, "Royal Navy's Newest Aircraft Carrier HMS Prince of Wales Returns to the Sea After Two Leaks in Five Months and £3.3Million Repairs," *Daily Mail*, April 30, 2021, <https://www.msn.com/en-gb/news/world/hms-prince-of-wales-returns-to-the-sea-after-two-leaks-in-five-months/ar-BB1gf5KJ?MSCC=1604183894> (accessed June 3, 2022).
349. Carr, "HMS Prince of Wales Returns to the Sea After Two Leaks in Five Months and £3.3Million Repairs."
350. David Axe, "Attention Navy Fans, Britain's Type 26 Frigate Is Nearly Here," *The National Interest*, The Buzz Blog, September 1, 2019, <https://nationalinterest.org/blog/buzz/attention-navy-fans-britains-type-26-frigate-nearly-here-77006> (accessed June 3, 2022), and ITV News, "UK's F-35 Fighter Jets Join Operations Against IS Above Iraq and Syria."
351. "HMS Prince of Wales to Lead NATO Task Force in the Arctic," *Naval News*, March 8, 2022, <https://www.navalnews.com/naval-news/2022/03/hms-prince-of-wales-to-lead-nato-task-force-in-the-arctic/> (accessed June 3, 2022).
352. News release, "Testing the Latest Astute Class Submarine," BAE Systems, February 11, 2022, <https://www.baesystems.com/en-us/article/testing-the-latest-astute-class-submarine> (accessed June 3, 2022).
353. Harry Lye, "Royal Navy to Begin Unmanned Minehunting Operations," *Naval Technology*, January 14, 2020, <https://www.naval-technology.com/news/royal-navy-to-begin-unmanned-minehunting-operations/> (accessed June 3, 2022).
354. Hanan Zaffar, "UK Orders Additional Mine-Hunting System for Royal Navy," *The Defense Post*, February 7, 2022, <https://www.thedefensepost.com/2022/02/07/royal-navy-mine-hunting-system/> (accessed June 3, 2022).
355. Her Majesty's Government, *Global Britain in a Competitive Age: The Integrated Review of Security, Defence, Development and Foreign Policy*, p. 76.
356. Nick Childs, "The UK's Dreadnought Programme: The Latest Lessons," International Institute for Strategic Studies, Military Balance Blog, January 21, 2022, <https://www.iiss.org/blogs/military-balance/2022/01/the-uks-dreadnought-programme-the-latest-lessons> (accessed June 4, 2022).
357. Dan Taylor, "MOD 'Orders Review into Concerns over Dreadnought Submarine Programme," *The Mail*, May 5, 2021, <https://www.nwemail.co.uk/news/19278533.mod-orders-review-concerns-dreadnought-submarine-programme/> (accessed June 14, 2022).

358. News story, "Defence Secretary and Polish Counterpart Reaffirm Commitment to European Security," U.K. Ministry of Defence and The Rt Hon Ben Wallace MP, February 8, 2022, <https://www.gov.uk/government/news/defence-secretary-and-polish-counterpart-reaffirm-commitment-to-european-security#:~:text=The%20Defence%20Secretary%20confirmed%20that,tensions%20on%20the%20Ukrainian%20border> (accessed June 4, 2022).
359. George Allison, "How Many British Tanks and Troops Are in Estonia?" *UK Defence Journal*, March 1, 2022, <https://ukdefencejournal.org.uk/how-many-british-tanks-and-troops-are-in-estonia/> (accessed June 4, 2022).
360. News story, "Defence Secretary and Polish Counterpart Reaffirm Commitment to European Security."
361. Reuters, "British Troops to Join NATO Combat Unit in Bulgaria—PM Petkov," March 24, 2022, <https://www.reuters.com/world/uk/british-troops-join-nato-combat-unit-bulgaria-pm-petkov-2022-03-24/> (accessed June 4, 2022).
362. News story, "RAF Typhoons Begin NATO Air Policing Mission in Lithuania," U.K. Ministry of Defence and The Rt Hon Ben Wallace MP, May 1, 2020, <https://www.gov.uk/government/news/raf-typhoons-begin-nato-air-policing-mission-in-lithuania> (accessed July 3, 2021).
363. News release, "Royal Air Force Typhoons Support NATO's Enhanced Air Policing in Romania," North Atlantic Treaty Organization, Allied Air Command, March 31, 2022, <https://ac.nato.int/archive/2022/RAFeAPRomania2022> (accessed June 4, 2022).
364. News release, "RAF F-35 Lightnings Join NATO mission," Royal Air Force, March 4, 2022, <https://www.raf.mod.uk/news/articles/raf-f-35-lightnings-join-nato-mission/> (accessed June 4, 2022).
365. George Allison, "British Jets Complete Icelandic Air Policing Mission," *UK Defence Journal*, December 11, 2019, <https://ukdefencejournal.org.uk/british-jets-complete-icelandic-air-policing-mission/> (accessed June 4, 2022).
366. North Atlantic Treaty Organization, Resolute Support Mission, "Resolute Support Mission (RSM): Key Facts and Figures," February 2021, https://www.nato.int/nato_static_fl2014/assets/pdf/2021/2/pdf/2021-02-RSM-Placemat.pdf (accessed June 4, 2022).
367. North Atlantic Treaty Organization, Kosovo Force, "Kosovo Force (KFOR): Key Facts and Figures."
368. North Atlantic Treaty Organization, Allied Maritime Command, "Standing NATO Mine Countermeasures Group One (SNMCMG1)," <https://mc.nato.int/snmcmg1> (accessed June 5, 2022); North Atlantic Treaty Organization, Allied Maritime Command, "Standing NATO Maritime Group One (SNMG1)," <https://mc.nato.int/SNMG1> (accessed June 5, 2022); and North Atlantic Treaty Organization, Allied Maritime Command, "Standing NATO Maritime Group Two (SNMG2)," <https://mc.nato.int/SNMG2> (accessed June 5, 2022).
369. Forces.net, "Operation Shader: All You Need to Know About Britain's Fight Against IS," June 22, 2021, <https://www.forces.net/news/three-years-op-shader-1500-airstrikes-against-islamic-state> (accessed June 4, 2022).
370. James Hirst, "UK to Increase Military Training Presence in Iraq," Forces.net, February 18, 2021, <https://www.forces.net/news/iraq/uk-increase-military-training-presence-iraq> (accessed June 4, 2022).
371. International Institute for Strategic Studies, *The Military Balance 2019*, p. 66.
372. Graph 3, "Defence Expenditure as a Share of GDP (%)," in press release, "Defence Expenditure of NATO Countries (2014–2022)," and Graph 4, "Equipment Expenditure as a Share of Defence Expenditure (%)," in press release, "Defence Expenditure of NATO Countries (2014–2022)," Defence Expenditure of NATO Countries (2014–2022), p. 3.
373. Tom Kington, "Italy Defense Budget Rebounds Despite Coronavirus," *Defense News*, October 28, 2020, <https://www.defensenews.com/global/europe/2020/10/28/italy-defense-budget-rebounds-despite-covid-crisis/> (accessed June 4, 2022).
374. Tom Kington, "Italy Aims to Reach NATO Defense-Spending Target by 2028, Four Years Late," *Defense News*, April 1, 2022, <https://www.defensenews.com/global/europe/2022/04/01/italy-aims-to-reach-nato-defense-spending-target-by-2028-four-years-late/> (accessed June 14, 2022).
375. Tim Fish, "Italy's Army Modernization Finally Seeing Movement After Years of Delays," *Breaking Defense*, November 24, 2021, <https://breakingdefense.com/2021/11/italys-army-modernization-finally-seeing-movement-after-years-of-delays/> (accessed June 14, 2022).
376. Crispian Balmer and Angelo Amante, "Italy Defers NATO Defense Spending Goal to 2028 in Coalition Compromise," Reuters, March 31, 2022, <https://www.reuters.com/world/europe/italy-defers-nato-defence-spending-goal-2028-coalition-compromise-2022-03-31/> (accessed June 4, 2022).
377. David Cenciotti, "First Two T-345 Trainers Delivered to the Italian Air Force," *The Aviationist*, December 23, 2020, <https://theaviationist.com/2020/12/23/first-two-t-345-trainers-delivered-to-the-italian-air-force/> (accessed June 15, 2022); Military Leak, "Italian Ministry of Defense to Fund MC-27J Praetorian Military Transport Aircraft Development," August 17, 2021, <https://militaryleak.com/2021/08/17/italian-ministry-of-defence-to-fund-mc-27j-praetorian-military-transport-aircraft-development/> (accessed June 4, 2022), and Stefano D'Urso, "Italy Increasing Tempest Funding and Planning New Support Aircraft Acquisitions," *The Aviationist*, August 18, 2021, <https://theaviationist.com/2021/08/18/italy-dpp-2021-2023/> (accessed May 23, 2022).
378. David Cenciotti and Stefano D'Urso, "Third Italian F-35B Goes to the Italian Air Force. And the Italian Navy Is Not Happy at All," *The Aviationist*, February 26, 2020, <https://theaviationist.com/2020/02/26/third-italian-f-35b-goes-to-the-italian-air-force-and-the-italian-navy-is-not-happy-at-all/> (accessed June 4, 2022).
379. International Institute for Strategic Studies, *The Military Balance 2022*, pp. 120–121.

380. Airbus, "Eurodrone," <https://www.airbus.com/en/defence/eurodrone> (accessed June 4, 2022), and D'Urso, "Italy Increasing Tempest Funding and Planning New Support Aircraft Acquisitions."
381. Mansij Asthana, "Big Boost to Sixth-Gen Tempest Fighter Program as Italy and Sweden Ink Trilateral Agreement," *The EurAsian Times*, January 7, 2021, <https://eurasianimes.com/big-boost-to-sixth-gen-tempest-fighter-program-as-italy-uk-and-sweden-ink-trilateral-agreement/> (accessed June 4, 2022).
382. Luca Peruzzi, "Italy's Defense Ministry Multi-Year Planning Document 2021–2023," *European Security & Defence*, October 22, 2021, <https://euro-sd.com/2021/10/articles/exclusive/24116/italys-defence-multi-year-planning-document-2021-2023/> (accessed June 4, 2022).
383. Tom Kington, "Italian Military Chief Envisions the Tempest Fighter Zapping Missiles," *Defense News*, April 13, 2021, <https://www.defensenews.com/global/europe/2021/04/13/italian-military-chief-envisions-the-tempest-fighter-zapping-missiles/> (accessed June 4, 2022).
384. Fish, "Italy's Army Modernization Finally Seeing Movement After Years of Delays."
385. Luca Peruzzi, "First Details About the Italian Navy's U212 NFS," *Naval News*, January 13, 2022, <https://www.navalnews.com/naval-news/2022/01/first-details-about-the-italian-navys-u212-nfs/> (accessed June 4, 2022); Kington, "Italy Defense Budget Rebounds Despite Coronavirus"; Luca Peruzzi, "Italy's New Defence Budget Plan: What Is New?" *European Security & Defence*, September 19, 2019, <https://euro-sd.com/2019/09/articles/14456/italys-new-defence-budget-plan-what-is-new/> (accessed June 4, 2022); and Xavier Vavasseur, "MBDA Unveils New Teseo Mk2/E Anti-Ship Missile at SEAFUTURE 2021," *Naval News*, September 28, 2021, <https://www.navalnews.com/naval-news/2021/09/mbda-unveils-new-teseo-mk2-e-anti-ship-missile-at-seafuture-2021/> (accessed June 4, 2022).
386. Xavier Vavasseur, "Fincantieri Launched the Italian Navy's Tenth and Final FREMM Frigate," *Naval News*, January 27, 2020, <https://www.navalnews.com/naval-news/2020/01/fincantieri-launched-the-italian-navys-tenth-and-final-fremm-frigate/> (accessed June 4, 2022), and Tom Kington, "Italy Plans New Destroyers for 2028 Delivery," *Defense News*, November 9, 2020, <https://www.defensenews.com/global/europe/2020/11/09/italy-plans-new-destroyers-for-2028-delivery/#:~:text=ROME%20%E2%80%94%20Fresh%20from%20a%20burst,of%20its%20fleet%20%E2%80%94%20new%20destroyers> (accessed June 4, 2022).
387. News release, "NATO Operation Sea Guardian Focused Patrols Return to Central Mediterranean," North Atlantic Treaty Organization, Allied Maritime Command, March 11, 2021, <https://mc.nato.int/media-centre/news/2021/nato-operation-sea-guardian-focused-patrols-return-to-central-mediterranean> (accessed June 4, 2022); European Union Naval Force Mediterranean (EUNAVFOR MED), Operation IRINI, "About Us"; Naida Hakirevic Prevliak, "EU Naval Operation Atalanta Extended Until December 2022," *Naval Today*, January 4, 2021, <https://www.navaltoday.com/2021/01/04/eu-naval-operation-atalanta-extended-until-december-2022/> (accessed June 4, 2022); "Marina Militare: Cambio commando all'Operazione 'Mare Sicuro' (OMS) [Navy: Change of Command at the Operation 'Safe Sea' (WHO)]," *ForzeArmate.org* [ArmedForces.org], December 29, 2021, <https://www.forzearmate.org/marina-militare-cambio-comando-alloperazione-mare-sicuro-oms/> (accessed June 4, 2022).
388. International Institute for Strategic Studies, *The Military Balance 2022*, p. 122, and Italian Ministry of Defence, Army, "International Operations: Bilateral Mission of Assistance and Support in Libya (MIASIT)," 2019, <https://www.esercito.difesa.it/en/Operations/international-operations/Pagine/Libya-MIL.aspx> (accessed June 4, 2022).
389. North Atlantic Treaty Organization, Allied Maritime Command, "Standing NATO Maritime Group Two (SNMG2)"; Associated Press, "Live Updates: Italy Formally Approves NATO Contingents," *The Denver Post*, February 25, 2022, <https://www.denverpost.com/2022/02/25/live-updates-italy-formally-approves-nato-contingents/> (accessed May 23, 2022); International Institute for Strategic Studies, *The Military Balance 2022*, p. 122; and news release, "Secretary General Praises Italy for Major Role in NATO," North Atlantic Treaty Organization, last updated November 18, 2021, https://www.nato.int/cps/en/natohq/news_188662.htm?selectedLocale=en (accessed June 5, 2022).
390. International Institute for Strategic Studies, *The Military Balance 2022*, p. 122.
391. North Atlantic Treaty Organization, Kosovo Force, "Kosovo Force (KFOR): Key Facts and Figures."
392. Tayfun Ozberk, "Italy Plans to Send Two MCM Vessels to Romania to Tackle Mine Threat," *Naval News*, April 1, 2022, <https://www.navalnews.com/naval-news/2022/04/italy-plans-to-send-two-mcm-vessels-to-romania/> (accessed June 5, 2022).
393. LETA [Latvian Information Agency], Baltic News Service, TBT Staff, "Italy, Germany to Continue NATO's Baltic Air-Policing Mission for Another 3 Months," *The Baltic Times*, December 29, 2020, https://www.baltictimes.com/italy_germany_to_continue_nato_s_baltic_air-policing_mission_for_another_3_months/ (accessed June 5, 2022), and David Cenciotti, "The Italian F-35As Have Deployed to Estonia for NATO's Baltic Air Policing Mission," *The Aviationist*, April 30, 2021, <https://theaviationist.com/2021/04/30/italian-f35-estonia/> (accessed June 5, 2022).
394. Cenciotti, "The Italian F-35As Have Deployed to Estonia for NATO's Baltic Air Policing Mission."
395. Blog Before Flight, "Italian Air Force Completes Record Participation in NATO Baltic Air Policing Mission," December 5, 2021, <https://www.blogbeforeflight.net/2021/12/italian-air-force-nato-baltic-air-policing.html> (accessed June 5, 2022).
396. News release, "Italian Eurofighter Detachment Take Over Responsibility for Enhanced Air Policing in Romania from the Royal Canadian Air Force," North Atlantic Treaty Organization, Allied Air Command, December 16, 2021, <https://ac.nato.int/archive/2021/italian-eurofighter-detachment-take-over-responsibility-for-enhanced-air-policing-in-romania-from-the-royal-canadian-air-force> (accessed June 5, 2021).
397. News release, "Italian Eurofighters to Enhance Air Policing Capabilities over Romania," North Atlantic Treaty Organization, Allied Air Command, April 29, 2019, <https://ac.nato.int/archive/2019/italian-eurofighters-enhance-air-policing-capabilities-over-romania> (accessed June 5, 2022).

398. News release, “Air Policing in Iceland. New Italian Air Patrol Operation,” Embassy of Italy, Oslo, June 12, 2020, https://amboslo.esteri.it/ambasciata_oslo/en/ambasciata/news/dall_ambasciata/2020/06/air-policing.html#:~:text=Six%20F%2D35A%20fighters%20of,last%20for%20about%20two%20months (accessed June 5, 2022).
399. Daniel Kochis, “Poland: The Lynchpin of Security on NATO’s Front Lines,” Heritage Foundation *Issue Brief* No. 4455, August 17, 2015, <http://www.heritage.org/research/reports/2015/08/poland-the-lynchpin-of-security-on-natos-front-lines>.
400. Agence France-Presse, “Near Ukraine Border, Western Arms Arrive Quickly and Discreetly,” France 24, March 4, 2022, <https://www.france24.com/en/live-news/20220304-near-ukraine-border-western-arms-arrive-quickly-and-discreetly> (accessed June 5, 2022).
401. Michael Gabriel Hernandez, “US Patriot Batteries Deployed to Poland amid Russia’s War on Ukraine: Official,” Anadolu Agency [Ankara, Turkey], March 9, 2022, <https://www.aa.com.tr/en/europe/us-patriot-batteries-deployed-to-poland-amid-russias-war-on-ukraine-official/2529646> (accessed June 5, 2022).
402. International Institute for Strategic Studies, *The Military Balance 2022*, p. 135.
403. Christian Davies, “New Polish Military Force Worries Political Opposition,” *Politico*, November 16, 2016, <http://www.politico.eu/article/new-polish-military-force-worries-political-opposition/> (accessed June 5, 2022).
404. International Institute for Strategic Studies, *The Military Balance 2020*, p. 79.
405. Błaszczak, “Poland’s Defense Minister: Making the Constant Effort to Strengthen Defense.”
406. International Institute for Strategic Studies, *The Military Balance 2021*, p. 132. The 2022 edition of *The Military Balance* confirms both the end-strength objective and the number of brigades. International Institute for Strategic Studies, *The Military Balance 2022*, pp. 135 and 136.
407. International Institute for Strategic Studies, *The Military Balance 2018: The Annual Assessment of Global Military Capabilities and Defence Economics* (London: Routledge, 2018), p. 135, and Charlie Gao, “This Is How Poland Plans to Fight Russia in a War,” *The National Interest*, The Buzz Blog, March 3, 2018, <http://nationalinterest.org/blog/the-buzz/how-poland-plans-fight-russia-war-24731> (accessed June 5, 2022).
408. Mariusz Błaszczak, “Poland’s Defense Minister: COVID-19 Is Forcing the Military to Reexamine Its Role,” *Defense News*, January 11, 2021, <https://www.defensenews.com/outlook/2021/01/11/polands-defense-minister-covid-19-is-forcing-the-military-to-reexamine-its-role/> (accessed June 5, 2022).
409. Associated Press, “Poland Launches Cybersecurity Military Unit,” *The Seattle Times*, updated February 9, 2022, <https://www.seattletimes.com/business/technology/poland-launches-cybersecurity-military-unit/> (accessed June 5, 2022).
410. Graph 3, “Defence Expenditure as a Share of GDP (%),” in press release, “Defence Expenditure of NATO Countries (2014–2022),” and Graph 4, “Equipment Expenditure as a Share of Defence Expenditure (%),” in press release, “Defence Expenditure of NATO Countries (2014–2022),” Defence Expenditure of NATO Countries (2014–2022), p. 3.
411. Republic of Poland, *National Security Strategy of the Republic of Poland*, 2020, p. 18, https://www.bbn.gov.pl/ftp/dokumenty/National_Security_Strategy_of_the_Republic_of_Poland_2020.pdf (accessed June 5, 2022).
412. “Poland’s Lower House of Parliament Approves Law to Increase Military,” *The Kyiv Independent*, March 12, 2022, <https://kyivindependent.com/uncategorized/polands-lower-house-of-parliament-approves-law-to-increase-military/> (accessed June 5, 2022); Reuters, “Poland to Ramp up Defense Spending, Army as Ukraine War Rages,” March 3, 2022, <https://www.reuters.com/world/europe/poland-ramp-up-defence-spending-army-ukraine-war-rages-2022-03-03/> (accessed June 5, 2022); and Ana-Roxana Popescu, “Poland to Increase Defence Spending to 3% of GDP from 2023,” *Janes*, March 4, 2022, <https://www.janes.com/defence-news/news-detail/poland-to-increase-defence-spending-to-3-of-gdp-from-2023> (accessed June 5, 2022).
413. Jacek Siminski, “Polish MoD Adopts a New Technical Modernization Plan—Air Domain Focus. F-35 Top Priority,” *The Aviationist*, October 14, 2019, <https://theaviationist.com/2019/10/14/polish-mod-adopts-a-new-technical-modernization-plan-air-domain-focus-f-35-top-priority/> (accessed June 5, 2022).
414. Aaron Mehta, “Poland, Canada Join NATO Members in Potential Maritime Surveillance Aircraft Buy,” *Defense News*, February 15, 2018, <https://www.defensenews.com/smr/munich-security-forum/2018/02/15/poland-canada-join-nato-members-in-potential-maritime-surveillance-aircraft-buy/> (accessed June 5, 2022).
415. Lidia Kelly, “Poland Signs \$4.75 Billion Deal for U.S. Patriot Missile System Facing Russia,” Reuters, March 28, 2018, <https://www.reuters.com/article/us-raytheon-poland-patriot/poland-united-states-sign-4-75-billion-deal-on-patriot-missiles-idUSKBN1H417S> (accessed June 5, 2022), and Staff Sgt. Andrew Mallett, “U.S. and Poland Continue to Grow Air Defense Powerhouse,” U.S. Army, August 20, 2020, https://www.army.mil/article/238302/u_s_and_poland_continue_to_grow_air_defense_powerhouse (accessed June 5, 2022).
416. Associated Press, “Poland to Pay \$414M for US-Made Rocket Launching System,” February 10, 2019, <https://www.apnews.com/573c2f35ffea4cbfb65edb90aa22c0ff> (accessed June 5, 2022).
417. Jarosław Adamowski, “Poland Acquires AW101 Helos for Navy Under \$430M Deal,” *Defense News*, April 29, 2019, https://www.defensenews.com/global/europe/2019/04/29/poland-acquires-aw101-helos-for-navy-under-430m-deal/?utm_source=clavis (accessed June 5, 2022).
418. “Poland Finalizes Negotiations to Buy FGM-148 Javelin Antitank Missiles,” *Army Recognition*, April 22, 2020, https://www.armyrecognition.com/april_2020_news_defense_global_security_army_industry/poland_finalizes_negotiations_to_buy_fgm-148_javelin_antitank_missiles.html (accessed June 5, 2022).

419. Jaroslaw Adamowski, "Poland Inks \$4.6 Billion Contract for F-35 Fighter Jets," *Defense News*, January 31, 2020, <https://www.defensenews.com/global/europe/2020/01/31/poland-inks-46-billion-contract-for-f-35-fighter-jets/> (accessed July 3, 2021); David Axe, "Report: Poland Is Buying 32 F-35 Fighters (And Russia Won't Like It)," *The National Interest*, The Buzz Blog, May 21, 2019, <https://nationalinterest.org/blog/buzz/report-poland-buying-32-f-35-fighters-and-russia-wont-it-58742> (accessed July 3, 2021); David Donald, "Poland to Receive C-130Hs, Announces F-35 Base," *AINonline*, April 15, 2021, <https://www.ainonline.com/aviation-news/defense/2021-04-15/poland-receive-c-130hs-announces-f-35-base#:~:text=Poland's%20Minister%20of%20National%20Defense,Martin%20C%2D130H%20Hercules%20turboprops> (accessed June 5, 2022); and Lockheed Martin, Global Enterprise, Poland, "F-35: A Dominant Capability For the 21st Century (Poland)," <https://www.f35.com/f35/global-enterprise/poland.html> (accessed June 5, 2022).
420. Jacek Siminski, "Poland Signs Excess Defense Article Deal Procuring Five Extra C-130Hs (Resurrected from the 'Boneyard')," *The Aviationist*, April 14, 2021, <https://theaviationist.com/2021/04/14/poland-signs-excess-defense-article-deal-procuring-five-extra-c-130hs-resurrected-from-the-boneyard/> (accessed June 5, 2022).
421. Jaroslaw Adamowski, "Polish Defence Ministry Confirms Plan to Buy M1 Abrams Tanks," *Defense News*, July 14, 2021, <https://www.defensenews.com/land/2021/07/14/polish-defence-ministry-confirms-plan-to-buy-m1-abrams-tanks/> (accessed June 5, 2022).
422. Jaroslaw Adamowski, "Poland Will Get a New Air-Defense System After the Summer," *Defense News*, April 14, 2022, <https://www.defensenews.com/global/europe/2022/04/14/poland-will-get-a-new-air-defense-system-after-the-summer/> (accessed June 5, 2022).
423. North Atlantic Treaty Organization, Resolute Support Mission, "Resolute Support Mission (RSM): Key Facts and Figures."
424. News release, "Polish Air Force Starts Baltic Air Policing Mission in Lithuania," North Atlantic Treaty Organization, Allied Air Command, December 1, 2021, <https://ac.nato.int/archive/2021/polish-air-force-starts-baltic-air-policing-mission-in-lithuania-> (accessed June 5, 2022).
425. PAP [Polish Press Agency], "Poland Joins NATO's Air Policing Mission in Iceland," *The First News*, August 2, 2021, <https://www.thefirstnews.com/article/poland-joins-natos-air-policing-mission-in-iceland-23714> (accessed June 5, 2022).
426. News release, "Poland Takes Charge of NATO High Readiness Force," North Atlantic Treaty Organization, December 30, 2019, https://www.nato.int/cps/en/natohq/news_172334.htm (accessed June 5, 2022).
427. Factsheet, "NATO's Enhanced Forward Presence," and North Atlantic Treaty Organization, Kosovo Force, "Kosovo Force (KFOR): Key Facts and Figures."
428. International Institute for Strategic Studies, *The Military Balance 2022*, p. 137.
429. Republic of Poland, Ministry of National Defence, "Polish Armed Forces in the TAMT Mission in Turkey," <https://www.gov.pl/web/national-defence/polish-armed-forces-in-the-tamt-mission-in-turkey> (accessed June 5, 2022).
430. Republic of Poland, Ministry of National Defence, "PMC Romania," <https://www.gov.pl/web/national-defence/pmc-romania> (accessed June 5, 2022), and International Institute for Strategic Studies, *The Military Balance 2022*, p. 137.
431. Factsheet, "NATO's Enhanced Forward Presence," and Michal Hudec, "Slovak Government Approves Deployment of NATO Troops," *Euractiv*, March 10, 2022, https://www.euractiv.com/section/politics/short_news/slovak-government-approves-deployment-of-nato-troops/ (accessed June 5, 2022).
432. France 24, "Turkey Marks Fifth Anniversary of Failed Coup that Prompted Sweeping Crackdown," July 15, 2021, <https://www.france24.com/en/europe/20210715-turkey-marks-fifth-anniversary-of-failed-coup-against-erdogan> (accessed June 3, 2022).
433. Noah Blaser, "'We Fell Off the Face of the Earth,'" *Foreign Policy*, August 8, 2021, <https://foreignpolicy.com/2021/08/08/turkey-prison-complex-erdogan/> (accessed May 27, 2022).
434. France 24, "Turkey Marks Fifth Anniversary of Failed Coup that Prompted Sweeping Crackdown," and International Institute for Strategic Studies, *The Military Balance 2020*, p. 82.
435. Al Jazeera, "Turkey Arrests 10 Retired Admirals over Government Criticism," April 5, 2021, <https://www.aljazeera.com/news/2021/4/5/turkey-issues-arrest-warrants-over-retired-admirals-open-letter> (accessed June 3, 2022).
436. Dario Leone, "Turkey Could Soon Train Its Fighter Pilots on Qatar's Rafales to Learn How to Counter Greek Rafales," *The Aviation Geek Club*, December 21, 2021, <https://theaviationgeekclub.com/turkey-could-soon-train-its-fighter-pilots-on-qatars-rafales-to-learn-how-to-counter-greek-rafales/> (accessed June 3, 2022).
437. Abdullah Bozkurt, "Turkish Air Force Crippled After Mass Purge of Pilots by Erdoğan Government," *Nordic Monitor*, January 13, 2020, <https://www.nordicmonitor.com/2020/01/the-turkish-air-force-crippled-after-mass-purge-of-pilots-by-erdogan-government/> (accessed June 3, 2022).
438. Michael Peck, "Turkey: How One Country Destroyed Their Own Air Force," *The National Interest*, The Buzz Blog, January 2, 2020, <https://nationalinterest.org/blog/buzz/turkey-how-one-country-destroyed-their-own-air-force-110581> (accessed June 3, 2022).
439. Bozkurt, "Turkish Air Force Crippled After Mass Purge of Pilots by Erdoğan Government."
440. Michael Peck, "Bad Idea: In 2016, Turkey Destroyed Its Own Air Force," *The National Interest*, The Reboot Blog, March 18, 2021, <https://nationalinterest.org/blog/reboot/bad-idea-2016-turkey-destroyed-its-own-air-force-180427> (accessed June 3, 2022).

441. Abdullah Bozkurt, "Turkey Failed to Convince Russia to Share Missile Technology, Agree to Co-production," *Nordic Monitor*, December 29, 2021, <https://nordicmonitor.com/2021/12/turkey-failed-to-convince-russia-to-share-missile-technology-co-production/> (accessed June 3, 2022).
442. International Institute for Strategic Studies, *The Military Balance 2020*, p. 82. Turkey has pushed ahead with this acquisition. The 2022 edition of *The Military Balance* notes tension with NATO allies because of this acquisition and reports that Turkey now has 32 S-400 missiles in its inventory. International Institute for Strategic Studies, *The Military Balance 2022*, pp. 155 and 157.
443. Aaron Mehta, "Turkey Officially Kicked Out of F-35 Program, Costing US Half a Billion Dollars," *Defense News*, July 17, 2019, <https://www.defensenews.com/air/2019/07/17/turkey-officially-kicked-out-of-f-35-program/> (accessed June 3, 2022).
444. Burak Ege Bekdil, "Turkey Transports S-400 Air Defense System for Black Sea Tests," *Defense News*, October 9, 2020, <https://www.defensenews.com/training-sim/2020/10/09/turkey-transport-s-400-air-defense-system-for-black-sea-tests/> (accessed June 3, 2022).
445. Amanda Macias, "U.S. Sanctions Turkey over Purchase of Russian S-400 Missile System," *CNBC*, updated December 15, 2020, <https://www.cnbc.com/2020/12/14/us-sanctions-turkey-over-russian-s400.html> (accessed June 3, 2022).
446. "US Sanctions on Turkish Officials over S-400s Come into Force," *Daily Sabah*, April 6, 2021, <https://www.dailysabah.com/politics/diplomacy/us-sanctions-on-turkish-officials-over-s-400s-come-into-force> (accessed June 3, 2022).
447. Thomas Newdick, "Turkish F-16 Knocks Down Target Drone with New Indigenous Air-to-Air Missile," *The War Zone*, April 15, 2021, <https://www.thedrive.com/the-war-zone/40193/turkish-f-16-knocks-down-target-drone-with-new-indigenous-air-to-air-missile> (accessed May 27, 2022).
448. David Welna, "U.S.-Turkey Standoff over F-35 Escalates as Each Side Waits for the Other to Blink," *NPR*, April 3, 2019, <https://www.npr.org/2019/04/03/709222963/u-s-turkey-standoff-over-f-35-escalates-as-each-side-waits-for-the-other-to-blink> (accessed May 27, 2022), and Burak Ege Bekdil, "How Turkey's Industry Could Suffer from the S-400 Deal with Russia," *Defense News*, April 11, 2019, <https://www.defensenews.com/industry/2019/04/11/how-turkeys-industry-could-suffer-from-the-s-400-deal-with-russia/> (accessed May 27, 2022).
449. According to the GAO, "the F-35 program office and the prime contractors have identified and are contracting with alternative suppliers to produce the 1,005 parts that are currently made in Turkey." U.S. Government Accountability Office, *F-35 Joint Strike Fighter: DOD Needs to Update Modernization Schedule and Improve Data on Software Development*, GAO-21-226, March 2021, p. 5, <https://www.gao.gov/assets/gao-21-226.pdf> (accessed May 27, 2022).
450. Valerie Insinna, "Turkey's Removal from F-35 Program to Cause Hike in Engine Price," *Defense News*, April 23, 2021, <https://www.defensenews.com/air/2021/04/23/turkeys-removal-from-f-35-program-to-cause-hike-in-engine-price/> (accessed June 3, 2022).
451. Umut Uras, "Analysis: Turkey's New S-400 Proposal Offers Olive Branch to US," *Al Jazeera*, February 10, 2021, <https://www.aljazeera.com/news/2021/2/10/turkey-proposes-model-to-resolve-s-400-dispute-with-us> (accessed June 3, 2022), and "Turkey Says Idea to Send Its S-400s to Ukraine 'Quite Unrealistic,'" *Daily Sabah*, March 24, 2022, <https://www.dailysabah.com/business/defense/turkey-says-idea-to-send-its-s-400s-to-ukraine-quite-unrealistic> (accessed June 3, 2022).
452. Wolters, statement before Senate Armed Services Committee, March 29, 2022, p. 19.
453. Dorian Jones, "Turkey Steps Up Support for Ukraine, Risking Russian Retaliation," *Voice of America*, March 3, 2022, <https://www.voanews.com/a/turkey-steps-up-support-for-ukraine-risking-russian-retaliation-/6468635.html> (accessed June 3, 2022).
454. Heather Mongilio, "Turkey Closes Bosphorus, Dardanelles Straits to Warships," *U.S. Naval Institute News*, February 28, 2022, <https://news.usni.org/2022/02/28/turkey-closes-bosphorus-dardanelles-strait-to-warships> (accessed May 27, 2022).
455. Jim Zanotti and Clayton Thomas, "Turkey: Background and U.S. Relations," Congressional Research Service *Report for Members and Committees of Congress* No. R41368, updated November 9, 2020, p. 29, <https://fas.org/sgp/crs/mideast/R41368.pdf> (accessed June 3, 2022).
456. Humeysra Pamuk, "U.S. Says Potential F-16 Sale to Turkey Would Serve U.S. Interests, NATO—Letter," *Reuters*, April 7, 2022, <https://www.reuters.com/world/us-says-potential-f-16-sale-turkey-would-serve-us-interests-nato-letter-2022-04-06/> (accessed June 3, 2022).
457. Humeysra Pamuk and Andrea Shalal, "Biden Administration Throws Support Behind Potential F-16 Sale to Turkey," *Reuters*, June 29, 2022, <https://www.reuters.com/world/biden-administration-throws-support-behind-potential-f-16-sale-turkey-2022-06-29/> (accessed June 29, 2022). See also Jared Szuba, "Pentagon 'Fully Supports' F-16 Sale to Turkey," *Al-Monitor*, June 30, 2022, <https://www.al-monitor.com/originals/2022/06/pentagon-fully-supports-f-16-sale-turkey> (accessed July 6, 2022).
458. Ahval, "Fate of Turkish Air Force May Resemble Iran's—Analyst," February 10, 2021, <https://ahvalnews.com/turkey-military/fate-turkish-air-force-may-resemble-irans-analyst> (accessed June 3, 2022).
459. Kemal Kirisci, "As EU-Turkey Migration Agreement Reaches the Five-Year Mark, Add a Job Creation Element," *The Brookings Institution*, Order from Chaos Blog, March 17, 2021, <https://www.brookings.edu/blog/order-from-chaos/2021/03/17/as-eu-turkey-migration-agreement-reaches-the-five-year-mark-add-a-job-creation-element/> (accessed June 15, 2022), and Vice Admiral Patrick Chevallereau, "The Worm Is in the Fruit: A Rising Strategic Foe Inside NATO," *RUSI [Royal United Services Institute] Europe Commentary*, July 31, 2020, <https://rusi.org/explore-our-research/publications/commentary/worm-fruit-rising-strategic-foe-inside-nato> (accessed June 3, 2022).
460. *Al Jazeera*, "Twelve Refugees Found Frozen to Death near Turkey-Greece Border," February 3, 2022, <https://www.aljazeera.com/news/2022/2/3/12-migrants-found-frozen-to-death-near-turkey-greece-border> (accessed June 3, 2022).

461. Associated Press, “Leaders of Turkey, Greece Hold Talks in Rare Meeting,” *U.S. News & World Report*, March 13, 2022, <https://www.usnews.com/news/business/articles/2022-03-13/leaders-of-turkey-greece-hold-talks-in-rare-meeting> (accessed June 3, 2022).
462. Nikos Stelgias, “Kibris Postasi: Plan for a Turkish Naval Base in Karpasia,” *News in Cyprus*, October 18, 2021, <http://www.newsincyprus.com/news/351462/kibris-postasi-plan-for-a-turkish-naval-base-in-karpasia> (accessed May 23, 2022), and Reuters, “Turkish Drones Escorting Drill Ships to Fly from Turkish Cypriot Airport: Report,” December 13, 2019, <https://www.reuters.com/article/us-turkey-defence-cyprus/turkish-drones-escorting-drill-ships-to-fly-from-turkish-cypriot-airport-report-idUSKBN1YH2DZ> (accessed June 3, 2022).
463. Associated Press, “Turkey’s Drone Base in Northern Cyprus Hightens [sic] Regional Tensions,” *Haaretz*, August 25, 2021, <https://www.haaretz.com/middle-east-news/turkey/turkey-s-drone-base-in-northern-cyprus-hightens-regional-tensions-1.10149930> (accessed June 3, 2022).
464. Sakshi Tiwari, “Rafale Fighter Jets: Turkey to Train Its Pilots on French-Origin Warplane Operated by Qatari Air Force—Reports,” *The Eurasian Times*, December 22, 2021, <https://eurasianimes.com/rafale-fighter-jets-turkey-could-train-its-pilots-operated-by-qatar-air-force/> (accessed June 15, 2022); Ragip Soylu, “Qatar to Train Air Force in Turkey Under New Deal,” *Middle East Eye*, July 1, 2021, <https://www.middleeasteye.net/news/turkey-qatar-military-training-airforce-agreement> (accessed May 23, 2022); and Leone, “Turkey Could Soon Train Its Fighter Pilots on Qatar’s Rafales to Learn How to Counter Greek Rafales.”
465. Dorian Jones, “US Military Base in Turkey Has Uncertain Future,” *Voice of America*, November 26, 2019, <https://www.voanews.com/europe/us-military-base-turkey-has-uncertain-future> (accessed June 3, 2022).
466. North Atlantic Treaty Organization, Airborne Early Warning and Control Force, “FOB Konya,” <https://awacs.nato.int/organisation/forward-operating-bases-location/fob-konya> (accessed June 3, 2022), and Kalev Stoicescu and Hille Hanso, “Turkey’s Future Role in NATO: An Indispensable and Difficult Ally,” *International Center for Defence and Security Policy Paper*, January 2022, p. 9, https://icds.ee/wp-content/uploads/2022/01/ICDS_Policy_Paper_Turkey%C2%B4s_Future_Role_in_NATO_Stoicescu_Hanso_January_2022-1.pdf (accessed June 3, 2022).
467. Infographic, “NATO Ballistic Missile Defence Architecture as of 2019,” North Atlantic Treaty Organization, https://www.nato.int/nato_static_fl2014/assets/pictures/2016_07_160711a-infographics-bmd/20170907_170907-bmd03.jpg (accessed July 3, 2021), and Joseph Trevithick, “The U.S. Army Wants to Expand a Secretive Missile Defense Site in Turkey,” *The War Zone*, May 25, 2017, <https://www.thedrive.com/the-war-zone/10638/the-u-s-army-wants-to-expand-a-secretive-missile-defense-site-in-turkey> (accessed May 27, 2022).
468. News release, “Turkey Takes Charge of NATO High Readiness Force,” North Atlantic Treaty Organization, last updated December 30, 2020, https://www.nato.int/cps/en/natohq/news_180627.htm (accessed June 5, 2022).
469. News release, “Turkey Continues Its Efforts for Afghanistan’s Lasting Security, Through the NATO-Led Resolute Support Mission,” North Atlantic Treaty Organization, last updated March 31, 2021, https://www.nato.int/cps/en/natohq/news_182914.htm?selectedLocale=en (accessed June 3, 2022).
470. North Atlantic Treaty Organization, Kosovo Force, “Kosovo Force (KFOR): Key Facts and Figures.”
471. North Atlantic Treaty Organization, Allied Maritime Command, “Standing NATO Mine Countermeasures Group One (SNMCMG2),” and North Atlantic Treaty Organization, Allied Maritime Command, “Standing NATO Maritime Group Two (SNMG2).”
472. Ed Adamczyk, “Turkish F-16s, Troops Join NATO Air Policing,” *United Press International*, July 7, 2021, <https://www.upi.com/Defense-News/2021/07/07/nato-turkey-poland-airpolicing/8551625672900/> (accessed June 5, 2022).
473. Mongilio, “Turkey Closes Bosphorus, Dardanelles Straits to Warships,” and Brad Lendon, “Russian Warship Sinks in the Black Sea After Ukraine Claims It Was Hit by a Missile,” *CNN*, updated April 14, 2022, <https://www.cnn.com/2022/04/14/europe/russia-navy-cruiser-moskva-fire-abandoned-intl-hnk-ml/index.html> (accessed June 5, 2022).
474. International Institute for Strategic Studies, *The Military Balance 2022*, p. 155.
475. International Institute for Strategic Studies, *The Military Balance 2020: The Annual Assessment of Global Military Capabilities and Defence Economics* (London: Routledge, 2020), p. 81.
476. Graph 3, “Defence Expenditure as a Share of GDP (%),” in press release, “Defence Expenditure of NATO Countries (2014–2022),” and Graph 4, “Equipment Expenditure as a Share of Defence Expenditure (%),” in press release, “Defence Expenditure of NATO Countries (2014–2022),” *Defence Expenditure of NATO Countries (2014–2022)*, p. 3.
477. Benjamin Brimelow, “Turkey Is Building New Ships, Tanks, and Missiles to Boost Its Military and Send a Message to the Rest of NATO,” *Business Insider*, August 6, 2021, <https://www.msn.com/en-us/news/world/turkey-is-building-new-ships-tanks-and-missiles-to-boost-its-military-and-send-a-message-to-the-rest-of-nato/ar-AAN0SR> (accessed June 5, 2022).
478. Ibid.
479. Ashish Dangwal, “The ‘Power of Panther’—Dumped by France & Germany, Turkey’s Long-Delayed Altay Main Battle Tanks Get Korean Thrust,” *The Eurasian Times*, March 18, 2022, <https://eurasianimes.com/turkeys-long-delayed-altay-tanks-to-get-s-korean-engine/> (accessed June 5, 2022).
480. Burak Ege Bekdil, “Turkey to Export T129 Helos to Philippines Despite Block on Pakistani Order,” *Defense News*, May 25, 2021, <https://www.defensenews.com/air/2021/05/25/turkey-to-export-t129-helos-to-philippines-despite-block-on-pakistani-order/> (accessed June 5, 2022).
481. Gastón Dubois, “Pakistan Cancels Purchase of Turkish T129 ATAK Helicopters, and Seeks Replacement from China,” *Aviacionline*, January 5, 2022, <https://www.aviacionline.com/2022/01/pakistan-cancels-purchase-of-turkish-t129-atak-helicopters-and-seeks-replacement-from-china/> (accessed June 7, 2022).

482. Bekdil, "Turkey to Export T129 Helos to Philippines Despite Block on Pakistani Order."
483. Linda Kay, "Ukrainian-Origin ATAK-II Helicopter Engines to Be Produced in Turkey," *Defense World*, posted February 23, 2022, <https://www.defenseworld.net/2022/02/23/ukrainian-origin-atak-ii-helicopter-engines-to-be-produced-in-turkey.html> (accessed June 17, 2022).
484. Sevil Erkuş, "France 'Hampers Eurosam Missile System Due to Political Reasons,'" *Hürriyet Daily News*, January 6, 2020, <https://www.hurriyetaidailynews.com/france-hampers-eurosam-missile-system-due-to-political-reasons-150657> (accessed June 7, 2022).
485. Selcan Hacaoglu, Firat Kozok, and Ania Nussbaum, "Turkey Pushes Macron to Allow Purchase of Missile System," *Financial Post*, September 25, 2020, <https://financialpost.com/pmn/business-pmn/turkey-pushes-macron-to-allow-purchase-of-missile-system> (accessed June 7, 2022).
486. "Turkey, France, Italy to Revive Steps on SAMP/T Missiles: Erdoğan," *Daily Sabah*, March 25, 2022, <https://www.dailysabah.com/business/defense/turkey-france-italy-to-revive-steps-on-sampt-missiles-erdogan> (accessed June 7, 2022).
487. Sakshi Tiwari, "Turkey's 5th-Gen TF-X Stealth Fighter Jet to Be Rolled Out by 2025; Mega Engineering Complex Inaugurated," *The EurAsian Times*, January 10, 2022, <https://eurasiatimes.com/turkey-tf-x-stealth-fighter-jet-in-3-years-opens-complex/> (accessed June 7, 2022).
488. Tayfun Ozberk, "Turkey Floats Out Its First AIP Submarine 'Piri Reis,'" *Naval News*, March 25, 2021, <https://www.navalnews.com/naval-news/2021/03/turkey-floats-out-its-first-aip-submarine-piri-reis/> (accessed June 7, 2022).
489. Xavier Vavasseur, "Turkish Industry to Conduct Mid-life Upgrade of Preveze-Class Submarines," *Naval News*, February 10, 2019, <https://www.navalnews.com/naval-news/2019/02/turkish-industry-to-conduct-mid-life-upgrade-of-preveze-class-submarines/?nowprocket=1> (accessed June 7, 2022).
490. "STM Completes Sea Trials of Turkish Preveze-Class Modernized Submarines," *Navy Recognition*, February 14, 2022, <https://www.navyrecognition.com/index.php/naval-news/naval-news-archive/2022/february/11398-stm-completes-sea-trials-of-turkish-preveze-class-modernized-submarines.html> (accessed June 7, 2022).
491. "Turkey Launches Test and Evaluation Ship TCG Ufuk," *Naval Today*, February 11, 2019, <https://navaltoday.com/2019/02/11/turkey-launches-test-and-evaluation-ship-tcg-ufuk/> (accessed June 7, 2022), and Can Kasapoglu, "'The Blue Homeland': Turkey's Largest Naval Drill," *Anadolu Agency* [Ankara, Turkey], February 27, 2019, <https://www.aa.com.tr/en/analysis/-the-blue-homeland-turkey-s-largest-naval-drill/1404267> (accessed June 7, 2022).
492. Press release, "Serial Production of Turkey's Hurjet Not Enough to Help Meet 2023 Indigenous Production Goal, Says GlobalData," *GlobalData*, January 19, 2022, <https://www.globaldata.com/serial-production-turkeys-hurjet-not-enough-help-meet-2023-indigenous-production-goal-says-globaldata/> (accessed June 7, 2022).
493. Burak Ege Bekdil, "Turkey Reports 17% Drop in Defense Exports," *Defense News*, January 19, 2021, <https://www.defensenews.com/global/europe/2021/01/19/turkey-reports-nearly-15-drop-in-defense-exports/> (accessed June 7, 2022), and "Turkey's Defense Industry Targets More than \$4 billion in Exports This Year: Official," *Hürriyet Daily News*, March 6, 2022, <https://www.hurriyetaidailynews.com/turkeys-defense-industry-targets-more-than-4-billion-in-exports-this-year-official-172005> (accessed June 7, 2022).
494. Graph 3, "Defence Expenditure as a Share of GDP (%)," in press release, "Defence Expenditure of NATO Countries (2014–2022)," and Graph 4, "Equipment Expenditure as a Share of Defence Expenditure (%)," in press release, "Defence Expenditure of NATO Countries (2014–2022)," *Defence Expenditure of NATO Countries (2014–2022)*, p. 3.
495. Jaroslaw Adamowski, "Estonia Increases Defense Spending to Buy Air Defense Systems, More Weapons," *Defense News*, March 25, 2022, <https://www.defensenews.com/global/europe/2022/03/25/estonia-increases-defense-spending-to-buy-air-defense-systems-more-weapons/> (accessed June 7, 2022).
496. ERR [Estonian Public Broadcasting], "Estonia Signs Contract for Coastal Defense System Acquisition," October 6, 2021, <https://news.err.ee/1608361155/estonia-signs-contract-for-coastal-defense-system-acquisition> (accessed June 7, 2022).
497. Republic of Estonia, Ministry of Defence, "National Defence Development Plan 2031," last updated December 14, 2021, <https://kaitseministeerium.ee/en/national-defence-development-plan-2031> (accessed June 7, 2022).
498. Georgia Wilson, "Estonia Announces Largest Defense Procurement Worth US\$794mn," *Procurement*, February 7, 2022, <https://procurementmag.com/procurement-strategy/estonia-announces-largest-defence-procurement-worth-us-794mn> (accessed June 7, 2022).
499. International Institute for Strategic Studies, *The Military Balance 2022*, p. 100.
500. Simon Newton, "Why NATO's Military Might Is Focused on Estonia," *Forces.net*, May 11, 2015, <https://www.forces.net/news/tri-service/why-natos-military-might-focused-estonia> (accessed June 7, 2022).
501. Republic of Estonia, Ministry of Defence, "National Defence Development Plan 2031."
502. ERR [Estonian Public Broadcasting], "Paper: More Military Equipment to Be Bought from South Korea," October 3, 2019, <https://news.err.ee/987854/paper-more-military-equipment-to-be-bought-from-south-korea> (accessed June 7, 2022).
503. "Estonia Receives First K9 Howitzers from South Korea," *Defense Brief*, October 10, 2020, <https://defbrief.com/2020/10/10/estonia-receives-first-k9-howitzers-from-south-korea/> (accessed June 7, 2022).
504. ERR [Estonian Public Broadcasting], "Finland and Latvia to Build Armored Vehicles Together," January 10, 2021, <https://news.err.ee/1234201/finland-and-latvia-to-build-armored-vehicles-together> (accessed June 7, 2022).

505. Gareth Jennings, "Estonia Receives First of Two Donated C-145As," *Janes*, March 19, 2019, <https://www.janes.com/defence-news/news-detail/estonia-receives-first-of-two-donated-c-145as> (accessed June 7, 2022).
506. Paul McLeary, "Estonia Inks 'Big' New US Defense Deal, Eyes on Russia," *Breaking Defense*, July 9, 2019, <https://breakingdefense.com/2019/07/estonia-inks-big-us-defense-deal-eyes-on-russia/> (accessed June 7, 2022).
507. Monica M. Ruiz, "To Bolster Cybersecurity, the US Should Look to Estonia," *Wired*, February 14, 2020, <https://www.wired.com/story/opinion-to-bolster-cybersecurity-the-us-should-look-to-estonia/> (accessed June 7, 2022).
508. Eric Tucker, "US, Estonia Partnered to Search out Cyber Threat from Russia," Associated Press, December 3, 2020, <https://apnews.com/article/hacking-russia-estonia-e931e674091b080f7a01642b01729bbe> (accessed June 7, 2022).
509. News release, "Dept. of Defense's Largest Multinational Cyber Exercise Yet Focuses on Collective Defense," U.S. Cyber Command, December 3, 2021, <https://www.cybercom.mil/Media/News/Article/2861207/dept-of-defenses-largest-multinational-cyber-exercise-yet-focuses-on-collective/> (accessed June 7, 2022).
510. News release, "Signing of Defense Cooperation Agreement—Remarks by Ambassador James D. Melville," U.S. Embassy in Estonia, January 17, 2017, <https://ee.usembassy.gov/signing-defense-cooperation-agreement-remarks-ambassador-james-d-melville/> (accessed June 7, 2022).
511. North Atlantic Treaty Organization, Resolute Support Mission, "Resolute Support Mission (RSM): Key Facts and Figures"; North Atlantic Treaty Organization, "Standing NATO Mine Countermeasures Group One (SNMCMG1)"; and Gregoire Lory, "EU's Takuba Military Taskforce in Sahel Caught Between France and Mali," *Euronews*, updated March 2, 2022, <https://www.euronews.com/my-europe/2022/02/03/eu-s-takuba-military-taskforce-in-sahel-caught-between-france-and-mali#:~:text=Takuba%20was%20set%20up%20in,the%20jihadist%20advance%20in%20Mali> (accessed June 7, 2022).
512. Republic of Estonia, Defence Forces, "Operations Abroad," last updated July 23, 2021, <https://mil.ee/en/defence-forces/operations-abroad/#t-nato-mission-iraq-nmi> (accessed June 7, 2022).
513. James Tasamba, "Estonia to Withdraw Its Troops from Mali," *Anadolu Agency* [Ankara, Turkey], February 15, 2022, <https://www.aa.com.tr/en/africa/estonia-to-withdraw-its-troops-from-mali/2502729> (accessed June 7, 2022).
514. International Institute for Strategic Studies, *The Military Balance 2022*, p. 122.
515. *Ibid.*, p. 123; North Atlantic Treaty Organization, Resolute Support Mission, "Resolute Support Mission (RSM): Key Facts and Figures"; press release, "Saeima Extends Participation of Latvian Troops in International Coalition Military Operation 'Inherent Resolve,'" Latvijas Republikas Saeima [Parliament of the Republic of Latvia], March 17, 2022, <https://www.saeima.lv/en/news/saeima-news/30783-saeima-extends-participation-of-latvian-troops-in-international-coalition-military-operation-inherent-resolve?phrase=iraq> (accessed June 7, 2022); and North Atlantic Treaty Organization, Kosovo Force, "Kosovo Force (KFOR): Key Facts and Figures."
516. Republic of Latvia, Ministry of Defence, *The State Defence Concept*, approved by the Cabinet of Ministers on August 18, 2020, and adopted by the Saeima [Parliament of the Republic of Latvia] on September 24, 2020, p. 24, https://www.mod.gov.lv/sites/mod/files/document/Valsts%20aizsardzibas%20konceptija_ENG_0.pdf (accessed June 7, 2022). See also news release, "Saeima Approves the National Defence Concept," Republic of Latvia, Ministry of Defence, September 28, 2020, <https://www.mod.gov.lv/en/news/saeima-approves-national-defence-concept#:~:text=National%20Guard%20are%20indispensable%20to,long%20term%20protection%20of%20Latvia> (accessed June 7, 2022).
517. Viktors Domburs, "Latvia: Armed to the Teeth," *The Independent*, December 8, 2019, <https://www.theindependentbd.com/arcprint/details/226969/2019-12-08> (accessed June 7, 2022), and news release, "Latvia Plans to Invest the Average of €50 Million a Year in the Development of Military Infrastructure over the Next Four Years," Republic of Latvia, Ministry of Defence, February 26, 2019, <https://www.mod.gov.lv/en/news/latvia-plans-invest-average-eu50-million-year-development-military-infrastructure-over-next> (accessed June 7, 2022).
518. Graph 3, "Defence Expenditure as a Share of GDP (%)," in press release, "Defence Expenditure of NATO Countries (2014–2022)," and Graph 4, "Equipment Expenditure as a Share of Defence Expenditure (%)," in press release, "Defence Expenditure of NATO Countries (2014–2022)," p. 3.
519. LETA [Latvian National News Agency], "Latvian Government Confirms Increased Defense Spend," March 30, 2022, <https://eng.lsm.lv/article/society/defense/latvian-government-confirms-increased-defense-spend.a450233/> (accessed May 27, 2022).
520. Staff Sgt. Tristan Viglianco, "Michigan National Guard Trains First Latvian UH-60 Black Hawk Maintainer," U.S. Air Forces in Europe & Air Forces Africa, December 17, 2021, <https://www.usafe.af.mil/News/Article-Display/Article/2877557/michigan-national-guard-trains-first-latvian-uh-60-black-hawk-maintainer/> (accessed June 7, 2022).
521. Military Leak, "Latvian National Armed Forces Takes Delivery of New Spike Precision-Guided Tactical Missiles," February 24, 2020, <https://militaryleak.com/2020/02/24/latvian-national-armed-forces-takes-delivery-of-new-spike-precision-guided-tactical-missiles/#:~:text=The%20Latvian%20National%20Armed%20Forces%20purchased%20a%20new%20delivery%20of,Spike%20LR2%2C%20and%20Spike%20ER2> (accessed June 7, 2022).
522. "Latvia Installs Team Trainer for Spike Missiles," *Army Technology*, October 9, 2020, <https://www.army-technology.com/news/latvia-team-trainer-spike-missiles/> (accessed June 7, 2022).
523. Eng.lsm.lv [Latvian Public Broadcasting] and ReTV, "Latvia Gets First 'Patria' Armored Vehicles," March 8, 2022, <https://eng.lsm.lv/article/society/defense/latvia-gets-first-patria-armored-vehicles.a446891/> (accessed June 16, 2022).
524. Eng.lsm.lv [Latvian Public Broadcasting] and Linda Spundina, "Latvia–Belarus Border Construction Costs Rise by €15 Million," March 16, 2022, <https://eng.lsm.lv/article/society/defense/latvia-belarus-border-construction-costs-rise-by-15-million.a448215/> (accessed June 16, 2022).

525. Eng.İsm.lv [Latvian Public Broadcasting] and Dāvids Friedenfelds, “Latvian Border Guard Gets Tactical Vehicles from USA,” *eng.İsm.lv*, March 9, 2022, <https://eng.İsm.lv/article/society/defense/latvian-border-guard-gets-tactical-vehicles-from-usa.a447151/> (accessed May 27, 2022).
526. International Institute for Strategic Studies, *The Military Balance 2022*, p. 123.
527. LRT [Lithuanian National Television and Radio], “Lithuania Lowers Conscription Age,” December 12, 2019, <https://www.lrt.lt/en/news-in-english/19/1124775/lithuania-lowers-conscription-age#:~:text=Young%20men%20between%2018%20and,called%20up%20for%20military%20service> (accessed June 7, 2022).
528. Graph 3, “Defence Expenditure as a Share of GDP (%),” in press release, “Defence Expenditure of NATO Countries (2014–2022),” and Graph 4, “Equipment Expenditure as a Share of Defence Expenditure (%),” in press release, “Defence Expenditure of NATO Countries (2014–2022),” p. 3.
529. Tim Fish, “As Russia Threatens Ukraine, Baltic Nations Work to Update Armored Vehicle Fleets,” *Breaking Defense*, January 31, 2022, <https://breakingdefense.com/2022/01/as-russia-threatens-ukraine-baltic-nations-work-to-update-armored-vehicle-fleets/> (accessed July 6, 2022).
530. Sebastian Sprenger, “Lithuania Is First Baltic Nation to Sign US Defense-Cooperation Pact,” *Defense News*, April 3, 2019, <https://www.defensenews.com/global/europe/2019/04/03/lithuania-is-first-baltic-nation-to-sign-us-defense-cooperation-pact/> (accessed June 7, 2022).
531. News release, “U.S., Lithuania Detail Roadmap for Cooperation Through 2024,” U.S. Department of Defense, April 2, 2019, <https://www.defense.gov/Explore/News/Article/Article/1803578/us-lithuania-detail-roadmap-for-cooperation-through-2024/> (accessed June 7, 2022).
532. International Institute for Strategic Studies, *The Military Balance 2021*, p. 122.
533. Jim Garamone, “U.S., Lithuania Sign Agreement to Further Military Interoperability,” U.S. Department of Defense, December 13, 2021, <https://www.defense.gov/News/News-Stories/Article/Article/2871726/us-lithuania-sign-agreement-to-further-military-interoperability/> (accessed June 7, 2022).
534. Jaroslaw Adamowski, “Lithuania Signs Deal for Its First American Military Helicopters,” *Defense News*, November 13, 2020, <https://www.defensenews.com/global/europe/2020/11/13/lithuania-signs-deal-for-its-first-american-military-helicopters/> (accessed June 7, 2022).
535. Press release, “NASAMS Medium-Range Air Defence System Officially Handed Over to the Lithuanian Armed Forces,” Republic of Lithuania, Ministry of National Defence, October 30, 2020, <https://www.defense-aerospace.com/articles-view/release/3/214069/lithuania-takes-delivery-of-nasams-air-defense-system.html> (accessed June 5, 2021), and Airforce Technology, “Lithuania to Buy Additional NASAMS Air Defence Missiles from Norway,” January 4, 2019, <https://www.airforce-technology.com/news/lithuania-nasams-defence-missiles-norway/> (accessed June 1, 2022).
536. Baltic News Service, “Lithuanian Military to Purchase More Javelin Missiles from US,” LRT [Lithuanian National Television and Radio], March 10, 2022, <https://www.lrt.lt/en/news-in-english/19/1641039/lithuanian-military-to-purchase-more-javelin-missiles-from-us> (accessed June 7, 2022).
537. Joe Saballa, “US Donates \$10M in Anti-Tank Weapons to Lithuania,” *The Defense Post*, April 20, 2021, <https://www.thedefensepost.com/2021/04/20/us-donates-lithuania-anti-tank-weapons/> (accessed June 7, 2022).
538. “Lithuania Will Procure 200 US JLTV Joint Light Tactical Vehicles from Oshkosh Defense,” *Army Recognition*, November 24, 2019, https://www.armyrecognition.com/november_2019_global_defense_security_army_news_industry/lithuania_will_procure_200_us_jltv_joint_light_tactical_vehicles_from_oshkosh_defense.html (accessed June 7, 2022).
539. Fish, “As Russia Threatens Ukraine, Baltic Nations Work to Update Armored Vehicle Fleets.”
540. Joe Saballa, “Saab Supplying Carl-Gustaf M4 Ammunition to Lithuania,” *The Defense Post*, January 13, 2022, <https://www.thedefensepost.com/2022/01/13/saab-gustaf-m4-lithuania/> (accessed June 7, 2022).
541. Basu, “Where 100,000 US Troops Are Stationed in Europe;”
542. Abraham Mahshie, “What Is EUCOM’s Ukraine Control Center?” *Air Force Magazine*, April 29, 2022, <https://www.airforcemag.com/what-is-eucoms-ukraine-control-center/> (accessed June 7, 2022).
543. U.S. European Command, “Commander’s Priorities: Mission,” <https://www.eucom.mil/organization/commanders-priorities> (accessed June 16, 2022).
544. C. Todd Lopez, “Neptune Strike ’22 Kicks off Monday in Mediterranean,” U.S. Department of Defense, January 21, 2022, <https://www.defense.gov/News/News-Stories/Article/Article/2906812/neptune-strike-22-kicks-off-monday-in-mediterranean/> (accessed June 8, 2022).
545. “NATO Forces Conduct Air Operations with USS Harry S. Truman CSG,” *Naval News*, March 11, 2022, <https://www.navalnews.com/naval-news/2022/03/nato-forces-conduct-air-operations-with-uss-harry-s-truman-csg/> (accessed June 8, 2022).
546. U.S. Army Public Affairs, “U.S. Army Europe and Africa Commands Consolidate,” November 20, 2020, https://www.army.mil/article/241094/u_s_army_europe_and_africa_commands_consolidate (accessed June 8, 2022). See also press release, “US Army Europe, Africa Now Consolidated,” U.S. Army Europe and Africa, November 23, 2020, <https://www.europeafrica.army.mil/ArticleViewPressRelease/Article/2424126/press-release-us-army-europe-africa-now-consolidated/> (accessed June 7, 2022).
547. U.S. Army Europe and Africa, “Fact Sheet: U.S. Army Europe and Africa,” as of March 8, 2021, <https://www.europeafrica.army.mil/Portals/19/documents/Infographics/USAREURAF%20Fact%20Sheet%2003082021.pdf?ver=2RoIT5wSRaHhBRpUz26yvw%3D%3D> (accessed July 7, 2022).
548. Kinsey Lindstrom, “Rockets Return to Europe,” U.S. Army, January 10, 2020, https://www.army.mil/article/231553/rockets_return_to_europe (accessed July 7, 2022).

549. 10th Army Air & Missile Defense Command, "Units of 10th AAMDC: 5th Battalion, 4th Air Defense Artillery," <https://www.10thaaamdc.army.mil/5-4ADA/> (accessed June 8, 2022).
550. Jen Judson, "US Army's Short-Range Air Defense Capability Will Grow to a Battalion by Year's End," *Defense News*, March 30, 2022, <https://www.defensenews.com/land/2022/03/30/us-armys-short-range-air-defense-capability-will-grow-to-a-battalion-by-years-end/> (accessed June 8, 2022).
551. U.S. Army Europe and Africa, "Fact Sheet: U.S. Army Europe and Africa."
552. U.S. Air Forces in Europe & Air Forces Africa, "USAFE-AFAFRICA," <https://www.usafe.af.mil/About-Us/Mission-and-Organization/> (accessed June 2, 2022).
553. Fact sheet, "U.S. Air Forces in Europe–Air Forces Africa," U.S. Air Force, July 2015, <https://www.af.mil/About-Us/Fact-Sheets/Display/Article/609838/united-states-air-force-in-europe/> (accessed June 2, 2022).
554. Radio Free Europe/Radio Liberty, "Germany Arrests Four Tajik Nationals Suspected of Plotting Terrorist Attack," April 15, 2020, <https://www.rferl.org/a/germany-arrests-four-tajik-nationals-suspected-of-plotting-terrorist-attack/30555712.html> (accessed June 8, 2022).
555. Brian W. Everstine, "B-1s, B-2s Wrap up European Bomber Task Force Deployment," *Air Force Magazine*, <https://www.airforcemag.com/b-1s-b-2s-wrap-up-european-bomber-task-force-deployment/> (accessed June 2, 2022).
556. U.S. Air Forces in Europe and Air Forces Africa, "U.S. Air Force B-2s Return to Europe," Air Force Global Strike Command, March 10, 2020, <https://www.afgsc.af.mil/News/Article-Display/Article/2106854/us-air-force-b-2s-return-to-europe/> (accessed May 27, 2022).
557. U.S. Marine Corps, U.S. Marine Forces Europe and Africa, "About: History," <https://www.marforeur.marines.mil/About/History/> (accessed May 27, 2022).
558. See Military.com, "Marines May Move Even More Combat Gear into Norwegian Caves," June 16, 2017, <https://www.military.com/defensetech/2017/06/16/marines-combat-gear-norwegian-caves> (accessed May 27, 2022).
559. North Atlantic Treaty Organization, "Exercise Cold Response 2022—NATO and Partner Forces Face the Freeze in Norway," and Larson, "The U.S. Marine Corps Is Keeping an Eye on Russia and Europe."
560. Philip Athey, "Marine Corps Ends All 3 of Its Crisis Response Deployments," *Marine Corps Times*, March 18, 2022, (accessed June 17, 2022).
561. See, for example, Maj. Cain Claxton, "Response Force Hones Capability in Air–Ground Integration Exercise," United States Africa Command, December 10, 2021, <https://www.afcom.mil/article/34235/response-force-hones-capability-in-air-ground-integration-exercise> (accessed June 17, 2022), and Maj. Cain Claxton, "AFRICOM Response Force Keeps Skills Sharp," U.S. Army, February 22, 2022, https://www.army.mil/article/254151/usafricom_response_force_keeps_skills_sharp (accessed June 17, 2022).
562. U.S. Special Operations Command, *Fiscal Year 2022 President's Budget, United States Special Operations Command*, May 2021, p. 114, 129 https://comptroller.defense.gov/Portals/45/Documents/defbudget/fy2022/budget_justification/pdfs/01_Operation_and_Maintenance/O_M_VOL_1_PART_1/SOCOM_OP-5.pdf (accessed June 17, 2022).
563. Military Leak, "US Special Forces Open Site in Latvia," December 5, 2020, <https://militaryleak.com/2020/12/05/us-special-forces-open-operations-site-in-latvia/> (accessed June 17, 2022). See also Stavros Atlamazoglu, "NATO Has Opened a New Special Operations Facility in Latvia," *The National Interest*, The Reboot Blog, January 14, 2022, <https://nationalinterest.org/blog/reboot/nato-has-opened-new-special-operations-facility-latvia-199400> (accessed June 17, 2022).
564. Wolters, statement before Senate Armed Services Committee, March 29, 2022, p. 17.
565. Table 3, "EDI Funding by Appropriation," in U.S. Department of Defense, Office of the Under Secretary of Defense (Comptroller), *Department of Defense Budget Fiscal Year (FY) 2023: European Deterrence Initiative*, pp. 28, 31, and 32.
566. Michael Beaton, "MEDDAC Bavaria Reaches East to Romania to Support U.S., Multinational Forces," U.S. Army, April 17, 2017, https://www.army.mil/article/185409/meddac_bavaria_reaches_east_to_romania_to_support_u_s_multinational_forces (accessed June 8, 2022), and Capt. Moriamo Sulaiman, "Romanian President Welcomes NATO Allied Troops at Mihail Kogalniceanu Airbase," March 7, 2022, <https://www.dvidshub.net/news/416710/romanian-president-welcomes-nato-allied-troops-mihail-kogalniceanu-airbase> (accessed June 7, 2022).