Europe

America's reengagement with Europe continues. The resurgence of Russia, fomenting instability from the Arctic to the Baltics, the Black Sea and South Caucasus, and increasingly the Mediterranean Sea, has brought Europe back into the top tier of U.S. international interests.

The 51 countries in the U.S. European Command (USEUCOM) area of responsibility 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 in defense of these shared ideals—the foundations on which America was built.

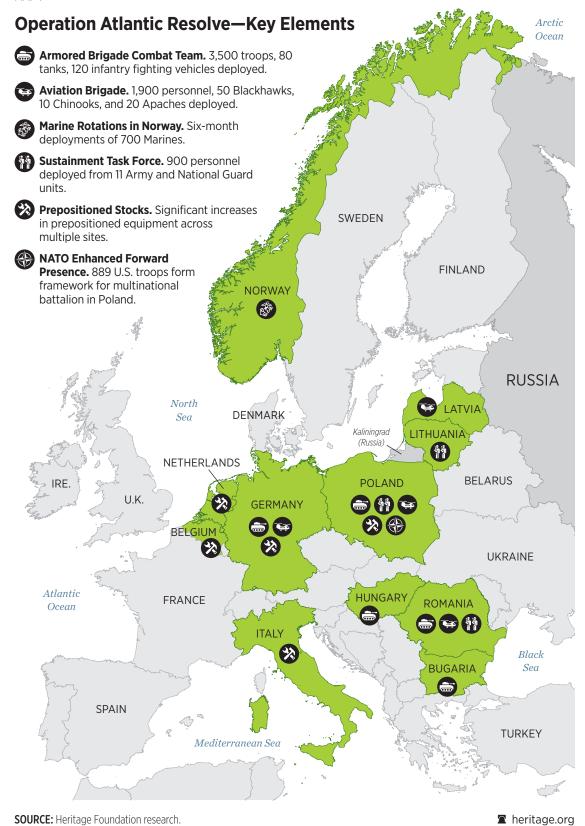
America's economic ties to the region are likewise important. A stable, secure, and economically viable Europe is in America's economic interest. For more than 70 years, the U.S. military presence has contributed to regional security and stability, economically benefiting both Europeans and Americans. The economies of the member states of the European Union (EU), now 28 but soon to be 27,¹ along with the United States, account for approximately half of the global economy. In addition, the U.S. and the EU's member countries are 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 for U.S. forces provides the ability to respond robustly and quickly to challenges to U.S. economic and security interests in and near the region. 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 naval activity in the Mediterranean that has contributed to "congested" conditions.²

Speaking at an Atlantic Council meeting in March 2019, General Joseph F. Dunford, Chairman of the U.S. Joint Chiefs of Staff, 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." Nowhere is the value of allies and U.S. basing more apparent than in the European operating environment.

U.S. Reinvestment in Europe. Russia's continued aggression in the region has caused the U.S. to reinvest in military capabilities on the continent. General Curtis M. Scaparrotti, former Supreme Allied Commander, Europe, and Commander, U.S. European Command, has described the change as "returning to our historic role as a warfighting command focused on deterrence and defense."⁴



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 OAR and funded through the European Deterrence Initiative (EDI), the U.S. has increased its forward presence in Europe (around 6,000 soldiers take part in OAR missions at any one time);⁵ invested in European basing infrastructure and prepositioned stocks and equipment and supplies; engaged in enhanced multinational training exercises; and negotiated agreements for increased cooperation with NATO allies.

European Deterrence Initiative. Under President Donald Trump, EDI funding has nearly doubled from the final year of the Obama Administration, with more than \$6.5 billion in funding enacted for the initiative in fiscal year (FY) 2019.6 The FY 2020 Department of Defense budget requests \$5.9 billion for EDI,7 roughly 10 percent less than the enacted amount for FY 2019.8 Of EDI's five lines of effort, Enhanced Prepositioning and Improved Infrastructure would see decreases under the FY 2020 budget request. In March 2019, acting DOD Comptroller Elaine McCusker explained that the decreases resulted from the amount of infrastructure and prepositioning work that has already been completed.9 Under the FY 2020 request, funds for presence and building partnership capacity would be increased, with funds for exercises and training more than doubled.10

Testifying in March 2019, General Scaparrotti was clear about the importance of EDI funding in returning the United States to a posture of deterrence:

The European Deterrence Initiative (EDI) provides funding to improve our deterrence posture and execute our deterrent initiatives and activities. First, EDI ensures that we position the right capabilities and refine the necessary infrastructure to respond to adversaries in a timely manner. Second, it underwrites our commitment to Article 5 and to the territorial integrity of all NATO nations. Third. EDI increases

the capability and readiness of U.S.
Forces, NATO allies, and regional partners so we can effectively deter adversary aggression and adventurism. USEUCOM has remained disciplined in nominating EDI projects that are consistent with Congressional guidance and follow five distinct lines of effort: increased presence, exercises and training, enhanced prepositioning, improved infrastructure, and building partnership capacity.¹¹

EDI has supported infrastructure improvements across the region. One major EDI-funded project is a replacement hospital at Landstuhl, Germany. When completed in 2022, the new permanent facility "will provide state-of the-art combat and contingency medical support to service members from EUCOM, AF-RICOM and CENTCOM." EDI funds are also contributing to the creation of the Joint Intelligence Analysis Center, which will consolidate intelligence functions formerly spread across multiple bases and "strengthen EUCOM, NATO and UK intelligence relationships." ¹³

Forward Presence. In January 2019, the 1st Armored Brigade Combat Team (ABCT) of the 1st Infantry Division from Fort Riley, Kansas, replaced the outgoing BCT in the "fourth rotation of an armored brigade combat team in support of Atlantic Resolve." The BCT, consisting in part of 3,500 troops, 80 tanks, and 120 infantry fighting vehicles, deployed to sites across Bulgaria, Hungary, Poland, and Romania, with the largest portion of the forces stationed in Poland.¹⁴

Former Army Chief of Staff General Mark Milley has emphasized the value of ground forces in deterrence: "The air [and] maritime capabilities are very important, but I would submit that ground forces play an outsize role in conventional deterrence and conventional assurance of allies. Because your physical presence on the ground speaks volumes." In April 2018, a U.S. Armored BCT exercised a road march on public roadways with 700 vehicles in Germany, the first time such a brigade-level moment had been conducted in 15 years. 16

In addition to back-to-back rotations of armor, the U.S. has maintained a rotational aviation brigade in Europe since February 2017.¹⁷ The majority of the aviation brigade is located in Illesheim and Vilseck, Germany. Additionally, 13 helicopters and 60 soldiers are deployed to Lielvārde, Latvia; 17 helicopters and 150 soldiers are deployed to Powidz, Poland; and 14 helicopters and 100 soldiers are deployed to Mihail Kogălniceanu Air Base in Romania. The 1st Combat Aviation Brigade, 1st Infantry Division, took over the aviation brigade mission in February 2019.¹⁸

The U.S. has beefed up its presence in Norway as well. Rotation of 330 marines to Norway for six-month deployments began in 2017. In October 2018, the U.S. sent 700 Marines, an increase that coincided with the opening of a second training area in Norway's Troms region near Russia. In March 2019, a new deployment of 700 Marines arrived, the fifth unit to take part in the six-month rotation. With a focus on cold-weather training and mountain warfare, the Norwegian Marine deployment has allowed for training activities with Norway, Sweden, and the U.K. 20

The U.S. also continues to rotate a Sustainment Task Force of 900 personnel from 11 Army Reserve and National Guard units that concentrate on logistics and maintenance to improve readiness. The Sustainment Task Force is based in Poland but includes personnel deployed to Lithuania and Romania.²¹

Operation Atlantic Resolve's naval component has consisted in part of increased deployments of U.S. ships to the Baltic and Black Seas. According to Admiral James Foggo III, Commander of U.S. Naval Forces in Europe and Africa, "The United States and NATO are active with more ships in the Black Sea Region. We provide deterrence through our military presence, our exercises, and the training we conduct with allies and partners there." The Navy also has taken part in bilateral and NATO exercises. U.S. Naval Forces Europe "executed a no-notice deployment of the Harry S. Truman (HST) Carrier Strike Group (CSG) to the Mediterranean in the

summer [of] 2018 and to the North Atlantic in the fall [of] 2018."²³

In May 2018, the Navy announced the reestablishment of the Second Fleet, "responsible for the northern Atlantic Ocean," nearly seven years after it had been disbanded in 2011.²⁴ The fleet was reestablished because of Russian militarization of the Arctic and was scheduled to lead the BALTOPS exercise in June 2019.²⁵

In his 2019 USEUCOM posture statement, General Scaparrotti raised the possibility of potential future forward deployments of enabler units: "The forward stationing of longrange fires and air defense units will further improve the lethality and resilience of USA-REUR forces." ²⁶

Prepositioned Stocks. The U.S. Army has prepositioned additional equipment across Europe as part of Operation Atlantic Resolve. A prepositioning site in Eygelshoven, the Netherlands, opened in December 2016 and stores 1,600 vehicles including "M1 Abrams Tanks, M109 Paladin Self-Propelled Howitzers and other armored and support vehicles."27 Exercises in March 2019 with 1,500 soldiers from Texas deploying rapidly to Europe drew on 700 pieces of equipment from Eygelshoven.²⁸ A second site in Dülmen, Germany, opened in May 2017 and holds equipment for an artillery brigade.²⁹ Other prepositioning sites include Zutendaal, Belgium; Livorno, Italy; Mannheim and Miesau, Germany; and Powidz, Poland. The Polish site, which has been selected by the Army for prepositioned armor and artillery, is expected to cost \$200 million (funded by NATO) and will open in 2021.30

Equipment and ammunition sufficient to support a division will continue to arrive in Europe through 2021.³¹ The U.S. Air Force, Special Forces, and Marine Corps are beefing up prepositioned stocks; the Marine Corps Prepositioning Program in Norway is emphasizing cold-weather equipment.³²

Multinational Training. In 2018, "USEU-COM conducted nearly 100 exercises with allies and partners from approximately 30 countries."³³ The combat training center at Hohenfels, Germany, is one of a very few located

outside of the continental United States at which large-scale combined-arms exercises can be conducted, and more than 60,000 U.S. and allied personnel train there annually.

U.S.–European training exercises further advance U.S. interests by developing links between America's allies in Europe and National Guard units back in the United States. At a time when most American servicemembers do not recall World War II or the Cold War, cementing bonds with allies in Europe is vital. Currently, 22 nations in Europe have state partners in the U.S. National Guard.³⁴

Assistance to Ukraine. In addition to training with fellow NATO member states, the U.S. Joint Multinational Training Group-Ukraine (JMTG-U) will train up to five Ukrainian battalions a year through 2020 at the Yarvoriv Combat Training Center in the Lviv region. ³⁵ Canada, Lithuania, and Poland also participate in JMTG-U. ³⁶ In March 2019, Canada announced an extension of Operation UNIFIER, the Canadian training mission in Ukraine, through 2022. The mission has trained 10,800 Ukrainian personnel since its inception in September 2015. ³⁷

In April 2018, the U.S. delivered 210 Javelin anti-tank missiles and 37 Javelin launchers to Ukraine.³⁸ In July 2018, the U.S. announced a further \$200 million "in security cooperation funds for additional training, equipment and advisory efforts to build the defensive capacity of Ukraine's forces."39 In December 2018, NATO Secretary General Jens Stoltenberg announced that NATO was supplying Ukraine with secure communications equipment, encrypted radios, and GPS trackers through its "Command, Control, Communications and Computers (C4) Trust Fund for Ukraine, a support package announced in 2016 to assist Kiev in better providing for its own security."40 In July 2018, the same trust fund provided Ukraine with "state of the art" equipment to bolster the nation's cyber defenses.⁴¹

In October 2018, troops from Belgium, Denmark, Estonia, the Netherlands, Poland, Romania, the United Kingdom, and the United States took part in Clear Sky 2018, the first

large multinational air exercise to be held in Ukraine since Russia's invasion in 2014. U.S. Air Force Chief of Staff General David Goldfein explained that Clear Sky 2018 "showcased the strong bond between the U.S. and Ukraine and how far the Ukrainian air force has come in their path towards NATO interoperability." Lieutenant Colonel Robert Swertfager, State Partnership Director for the California Air National Guard, noted the "need to highlight differences, not just in record keeping and cross-functional equipment, but also laws," adding that "[t]hese are things we highlighted for Ukraine that they can take back to their Ministry of Defense and start working to change internal laws or doctrine within their own military" to enhance interoperability.42

U.S. Nuclear Weapons in Europe. 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 based in Italy, Turkey, Germany, Belgium, and the Netherlands.⁴³ All of these weapons are free-fall gravity bombs designed for use with U.S. and allied dual-capable aircraft. The bombs are undergoing a life extension program that is expected to add at least 20 years to their life span.⁴⁴

In October 2018, the National Nuclear Security Administration stated that the new B61-12 gravity bomb had completed its final design review; production of the first unit is scheduled for March 2020.⁴⁵ Also in October 2018, the B61-12's guided tail kit assembly received approval to enter the production phase after a series of successful tests had been completed.⁴⁶ The B61-12, according to U.S. officials, is "intended to be three times more accurate than its predecessors."⁴⁷

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 (NATO), 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 terrorist attacks on 9/11. 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.

The past year saw continued focus on military mobility and logistics in line with NATO's 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."

In June 2018, NATO defense ministers agreed to the Four 30s plan to improve 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 battalions, 30 squadrons of aircraft, and 30 warships within 30 days. ⁴⁹ The plan was endorsed at the July 2018 NATO summit in Brussels, Belgium, but the declaration "did not include Four Thirties initiative specifics, including which nations would contribute which types of forces and a timeframe for implementation." ⁵⁰

Enhanced Forward Presence. The centerpiece of NATO's renewed focus on collective defense is the four multinational battalions stationed in Poland and the Baltic States as part of the alliance's Enhanced Forward Presence (EFP).

- The U.S. serves as the framework nation in Orzysz, Poland, near the Suwalki Gap. The U.S.-led battlegroup consists of 889 American troops augmented by 69 from Croatia, 120 from Romania, and 140 from the United Kingdom.⁵¹
- In Estonia, the United Kingdom serves as the framework nation, headquartered in

Tapa with 800 troops in an armored infantry battalion along with main battle tanks and artillery and 300 French troops, 269 troops from Belgium, three staff officers from Denmark, and one Icelandic strategic communications civilian.⁵²

- In Adazi, Latvia, Canada is the framework nation with 450 troops and armored fighting vehicles augmented by 21 troops from Albania, 60 from the Czech Republic, 160 from Italy, eight from Montenegro, approximately 200 from Poland, 152 from Slovakia, 50 from Slovenia, and 300 from Spain.⁵³
- In Rukla, Lithuania, Germany serves as the framework nation with 540 troops augmented by another 230 from the Czech Republic, approximately 270 from the Netherlands, 13 from Norway, one Belgian staff officer, and one Icelandic public affairs civilian.⁵⁴

EFP troops are under NATO command and control; a Multinational Division Headquarters Northeast located in Elblag, Poland, which reached full operational capability in December 2018, coordinates the four battalions. ⁵⁵ In February 2017, the Baltic States signed an agreement to facilitate the movement of NATO forces among the countries. ⁵⁶

In addition, NATO 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." ⁵⁷

At the July 2016 Warsaw summit, NATO also agreed to create a multinational framework brigade based in Craiova, Romania, under the control of Headquarters Multinational Division Southeast (HQ MND-SE) in Bucharest. 58 HQ MND-SE achieved final operational

capability in March 2018.⁵⁹ The 5,000-strong brigade "still consists mainly of Romanian troops, but they are supplemented by Bulgarian and Polish troops and headquarters staff from various other NATO states."⁶⁰

Addressing a NATO capability gap, Belgium, Germany, Luxembourg, the Netherlands, and Norway are jointly procuring eight A330 airto-air refueling aircraft, to be deployed from 2020–2024. The U.S. currently carries out 90 percent of NATO air-to-air refuelings. 62

Logistics have been a significant focus of the alliance 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." In 2018, NATO established two new commands: a joint force command for the Atlantic based in Norfolk, Virginia, and a logistics and military mobility command. These commands consist of a total of 1,500 personnel, with the logistics command headquartered in Ulm, Germany.

In recent years, shortfalls in the alliance's ability to move soldiers and equipment swiftly and efficiently have occasionally been glaring. In January 2018, German border guards stopped six U.S. M109 Paladin howitzers en route from Poland to multinational exercises in Bavaria because the trucks being used to transport the artillery were allegedly too wide and heavy for German roadways. In addition, contractors driving the trucks were missing paperwork and trying to transport the howitzers outside of the allowed 9:00 p.m.–5:00 a.m. window.

Former Commander of U.S. Army Europe Lieutenant General Ben Hodges has described the importance of NATO's recent focus on ports. In addition to improving capabilities for loading and offloading equipment, utilizing different ports in Europe has helped to improve alliance resiliency. Focusing on only one port "would obviously communicate a vulnerability to the Russians or other potential adversaries," according to Hodges, "so we've used Gdansk.

We've used Bremerhaven. We've used Klaipeda in Lithuania. We've used Thessaloniki and Alexandropulis in Greece, and Constanta in Romania."⁶⁶ In May 2018, a U.S. ABCT arriving in Europe for a rotational deployment disembarked at Antwerp, Belgium, and practiced traveling overland to its deployment bases further east.⁶⁷

Training Exercises. In order to increase interoperability and improve familiarity with allied warfighting capabilities, doctrines, and operational methods, NATO conducts frequent joint training exercises. The number of these exercises has increased from 108 in 2017 to 180 in 2018.⁶⁸

The broad threat that Russia poses to Europe's common interests makes military-to-military cooperation, interoperability, and overall preparedness for joint warfighting especially important in Europe. In October and November 2018, 50,000 troops from 31 nations (every NATO member state plus Finland and Sweden) took part in Trident Juncture 18, the largest NATO exercise since 2002.69 "At the core of the exercise," as described by Admiral James Foggo, Commander, Allied Joint Force Command, "is the NATO Response Force and within that, the 5000 person-plus Spearhead force, otherwise known as the VJTF or the Very High Readiness Joint Taskforce."70 A principal focus of the exercise "was NATO's ability to move personnel and armor quickly across Europe."71

In June 2018, 18,000 troops from Canada, Croatia, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Italy, Latvia, Lithuania, Macedonia, the Netherlands, Norway, Poland, Romania, Spain, the United Kingdom, and the U.S. took part in Saber Strike 18 across Estonia, Latvia, Lithuania, and Poland. The exercise focused on moving large numbers of troops and equipment across Europe and "integrat[ing] NATO command elements at multiple levels to practice coordination and command and control."

In September and October 2018, 5,500 troops from 20 nations including the U.S. took part in Saber Junction 2018 in Germany. The

exercise "was designed to assess the readiness of the 173rd Airborne Brigade to execute land operations in a joint, combined environment and to promote interoperability with participating allies and partner nations."⁷³

Cyber Capabilities. The alliance's Joint Air Power (JAP) Strategy released in June 2018 highlighted the importance of cyber and space capabilities:

Increasing reliance on cyber and spacebased capabilities by Alliance forces presents vulnerabilities for adversaries to negate critical NATO capabilities through degradation, denial or destruction, whilst providing opportunities for the Alliance to integrate such capabilities with JAP for kinetic and non-kinetic effect. Both the resilience and exploitation of such capabilities is [sic] therefore a critical requirement that future development should address.⁷⁴

At the 2016 Warsaw summit, NATO recognized cyberspace as a domain of operations, and on August 31, 2018, it established a Cyberspace Operations Center (CYOC) in Mons, Belgium, that will include 70 cyber experts when it becomes fully operational in 2023.75 The CYOC, according to NATO, "will provide situational awareness and coordination of NATO operational activity within cyberspace."76 In 2017, NATO announced \$1.85 billion to expand its satellite communications capabilities.⁷⁷ Its decision was driven in part by the acquisition of five Global Hawk surveillance drones, which generate significant data; after delays, the first drone was delivered in 2019 to Sigonella Naval Air Station.78

The alliance is seeking ways to work more closely with the EU on cyber issues, but "[d]espite political-level agreement to work together, EU–NATO cyber cooperation remains difficult and the institutional options often limited."⁷⁹ Nevertheless, cyber is recognized as a critical area of competition, and NATO is expanding its efforts to gain greater expertise and capability in this area. In 2018, Japan and Australia

became the first non-NATO countries outside of the EU to join the Cooperative Cyber Defence Centre of Excellence (CCDCOE) in Tallinn.⁸⁰

Ballistic Missile Defense. NATO announced the initial operating capability of the Ballistic Missile Defense (BMD) system in 2016.81 An Aegis Ashore site in Deveselu, Romania, became operational in May 2016, and in April 2019, the U.S. announced the temporary deployment of a Terminal High Altitude Area Defense (THAAD) system to Romania while the Aegis Ashore system is being updated.82 Other components include a forward-based early-warning BMD radar at Kürecik, Turkey, and BMD-capable U.S. Aegis ships forward deployed at Rota, Spain.83 A second Aegis Ashore site in Redzikowo, Poland, which broke ground in May 2016, was expected to be operational in 2017 but because of "construction issues" is now not expected to become operational until 2020.84 Ramstein Air Base in Germany hosts a command and control center.85

In January 2017, the Russian embassy in Norway threatened that if Norway contributes ships or radar to NATO BMD, Russia "will have to react to defend our security." Norway operates four Aegis *Fridtjof Nansen*–class Aegis-equipped frigates that are not currently BMD capable. A fifth Aegis-equipped frigate, the *Helge Ingstad*, collided with an oil tanker and was intentionally run aground in November 2018 and is almost certainly lost. B

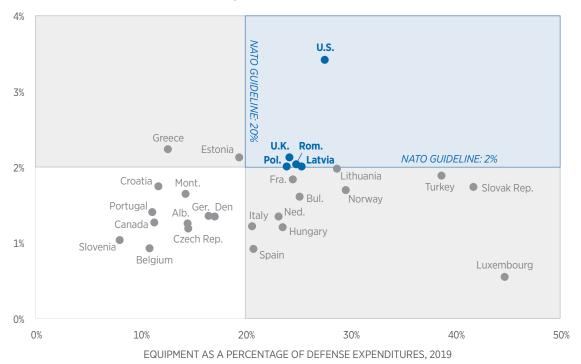
Denmark, which agreed in 2014 to equip at least one frigate with radar to contribute to NATO BMD, reaffirmed this commitment in the recent Defence Agreement 2018–2023. Russia's ambassador in Copenhagen has openly threatened Denmark for agreeing to contribute: "I do not believe that Danish people fully 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."

In March 2019, the first of four Dutch *Iver Huitfeldt*-class frigates received a SMART-L Multi-Mission/Naval (MM/N) D-band

Few 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 four other nations do both, though Estonia and Lithuania nearly meet both guidelines.





NOTES: Figures are estimates for 2019. Iceland is not listed because it has no military. **SOURCE:** NATO, "Defence Expenditures of NATO Countries (2012–2019)," June 25, 2019, https://www.nato.int/nato_static_fl2014/assets/pdf/pdf 2019 06/20190625 PR2019-069-EN.pdf (accessed June 26, 2019).

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long-range radar upgrade, which is "designed to detect air, surface, and high-speed exo-atmospheric targets out to an instrumental range of 2,000 km." In February, the German Navy began a tender to upgrade radar on three F124 *Sachsen*-class frigates in order to contribute sea-based radar to NATO BMD.

The U.K. operates a BMD radar at RAF Fylingdales in England. In November 2015, the

U.K. government stated that it plans to build new ground-based BMD radar as a contribution. ⁹³ It expects the new radar to be in service by the mid-2020s and reportedly will also "investigate further the potential of the Type 45 Destroyers to operate in a BMD role." ⁹⁴ It also has been reported that Belgium intends to procure M-class frigates that "will be able to engage exo-atmospheric ballistic missiles."

Belgium and the Netherlands are jointly procuring four frigates. Spain currently operates four Aegis equipped F-100 *Alvaro de Bazan*-class frigates.⁹⁶

In October 2017, ships from the U.S. and allies Canada, France, Germany, Italy, the Netherlands, Spain, and the United Kingdom took part in a three-and-a-half-week BMD exercise called Formidable Shield off the Scottish Coast. ⁹⁷ Formidable Shield exercises were held again in 2019. ⁹⁸

Quality of Armed Forces in the Region

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

In 2018, seven countries-Estonia (2.07 percent); Greece (2.22 percent); Latvia (2.03 percent); Lithuania (2.00 percent); Poland (2.05 percent); the United Kingdom (2.15 percent); and the United States (3.39 percent))—spent the required 2 percent of gross domestic product (GDP) on defense,100 and 16 NATO allies spent 20 percent of their defense budgets on "major new capabilities." 101 NATO defense spending continues to trend upward: "In real terms, defence spending among European Allies and Canada increased by almost 4% from 2017 to 2018. Furthermore, in the period from 2016 to 2018, they have contributed an additional cumulative spending of over USD 41 billion."102

Germany. Germany remains an economic powerhouse that punches well below its weight in terms of defense. In 2018, it spent only 1.23 percent of GDP on defense and 14.1 percent of its defense budget on equipment. ¹⁰³ This year, Germany officially reneged on its pledge to spend 2 percent of GDP in 2024, informing NATO that it would reach only 1.5 percent. ¹⁰⁴ Germany plans to raise defense spending to 1.3 percent of GDP in 2019 and 1.37 percent in 2020; however, under current budget plans, its defense spending will decline again to 1.25

percent in 2023.¹⁰⁵ Because of the political constraints under the current coalition government, which is likely to remain in office until 2021, German defense spending is not likely to shift significantly.

The German military remains underfunded and underequipped. One former German diplomat has stated that without NATO, Germany "would have to double its defence budget to 3–3.5 per cent of GDP or risk being 'completely blind, deaf and defenceless.'"¹⁰⁶

Germany continues to serve as the framework nation for NATO's EFP battalion in Lithuania, with 540 troops stationed there. 107 The Luftwaffe has taken part 11 times in Baltic Air Policing, more than any other nation's armed forces, including most recently in the second half of 2018. Additionally, in January, Germany took over the lead for NATO's VJTF.108 However, the political decision-making involved in deploying German VJTF forces could prove worrisome in case of a crisis.¹⁰⁹ An ominous internal Ministry of Defense report leaked in February 2018 questioned the readiness and ability of the brigade that will lead the VJTF, citing a lack of equipment. According to reports, "the brigade had only nine of 44 Leopard 2 tanks, and three of the 14 Marder armored personnel carriers that it needs. It is also missing night vision goggles, support vehicles, winter clothing and body armor."110

The 1st German/Netherlands Corps is also currently in charge of the land forces of the larger NATO Response Force. Germany maintains 100 troops in Kosovo as part of NATO's Kosovo Force (KFOR) 2 and is the second-largest contributor to NATO's Resolute Support Mission in Afghanistan, with 1,300 troops, a level made possible by an increase of one-third that was approved in March 2018. The Bundestag also extended the mandate for Germany's participation in NATO's Sea Guardian maritime security operation, as well as deployments in support of the U.N. peacekeeping mission in Mali and South Sudan and participation in the counter-ISIS coalition. ¹¹⁴

In October 2018, Germany extended its non-combat training mission in Iraq, but it

is scheduled to end its reconnaissance and air-to-air refueling missions in support of the counter-ISIS coalition by October 31, 2019. 115 Germany has trained over 18,000 Peshmerga since 2015 and in August 2018 introduced a new training program for Iraqi forces at Taji, which will focus on "logistics, paramedic training and defusing explosive devices." 116 In April 2017, the Bundeswehr established a new cyber command, which initially will consist of 260 staff but will number around 13,500 by the time it becomes fully operational in 2021. 117

While Germany's forces have taken on additional roles in recent years, its overall military continues to suffer serious equipment and readiness issues. In June 2018, it was reported that a Defense Ministry document revealed the state of German readiness: Only 39 of 128 German Typhoons, 26 of 93 Tornado aircraft, 12 of 62 Tiger attack helicopters, 16 of 72 CH-53 transport helicopters, 13 of 58 NH-90 transport helicopters, three of 15 A400M transport aircraft, 105 of 224 Leopard 2 tanks, five of 13 frigates, and no German submarines were ready for action. The same report also stated that the increased number of deployments and training events since 2014 was causing equipment to wear down at a faster rate.118

The myriad examples of Germany's lack of military readiness are worrisome. Despite plans to raise the number of active soldiers from 179,000 to 198,000 by 2024, for example, the military already suffers from acute manpower shortages including 21,000 vacant officer posts. ¹¹⁹ News reports in December 2018 cited a classified Defense Ministry plan to recruit Italians, Poles, and Romanians living in Germany to fill manpower gaps. ¹²⁰

For five months in 2018, the German Navy had no working submarines; all six of its Type 212-class submarines were in dry-dock awaiting repairs or not ready for active service. ¹²¹ In December 2017, Germany's F-125 *Baden-Württemberg*–class frigate failed sea trials because of "software and hardware defects." ¹²² The frigate reportedly had "problems with its radar, electronics and the flameproof coating on

its fuel tanks. The vessel was also found to list to the starboard" and lacked sufficiently robust armaments as well as the ability to add them. ¹²³ Concerns have been raised about the frigate's ability to defend against aerial attack, leaving it fit only for "stabilization operations." ¹²⁴ Germany returned the ship to the shipbuilder following delivery. ¹²⁵

The German Army cannot deploy a single brigade without first cannibalizing equipment and materials from other units. 126 The Luftwaffe faces similar problems. Training for new Tornado pilots is three months behind, and "[t]he Luftwaffe's main forces—the Eurofighter and Tornado fighter jets and its CH-53 transport helicopters—are only available for use an average of four months a year—the rest of the time the aircraft are grounded for repairs and rearmament." 127

The Navy's planned acquisitions signal the growing importance of operations in the Baltic Sea. ¹²⁸ Germany is seeking a replacement for its 90 Tornado aircraft, set to be retired in 2030. In January 2019, the F-35 was eliminated as a potential replacement, leaving the F/A-18E/F Super Hornet and the Eurofighter Typhoon. ¹²⁹ The Tornado replacement, planned "to enter service in about 2025," ¹³⁰ will need to be able to carry both nuclear and conventional weapons, as the Tornadoes are dual-capable aircraft equipped to carry B61 tactical nukes in addition to conventional payloads. ¹³¹

Germany's military faces institutional challenges to procurement that include an understaffed procurement office with 1,100 vacancies, which is equal to 17 percent of its entire workforce, and the need for special approval by a parliamentary budget committee for any expenditure of more than €25 million. Because of vacancies and ineffective management, 10 percent of Germany's equipment budget went unspent in 2018. 133

In February 2017, Germany decided to replace its short-range air defense systems. Once complete, this upgrade, which could cost as much as €3.3 billion by 2030, will help to close a gap in Europe's short-range air defense weapons that was identified in 2016.¹³⁴

Germany's procurement of A400M cargo aircraft has been beset by delays, although the nation did receive 10 A400M aircraft in 2018.135 A confidential German report reportedly raised doubts about "whether, when and how many mature deployable A400M will be available with the contractually required suite of tactical capabilities."136 A difficult-to-use mission-planning system was a significant problem flagged by the report. 137 The continued failure of the A400M to include all of the original requirements has led in part to further delays and the need for retrofits and upgrades to produced aircraft, which could take several years; the U.K.'s A400M fleet reportedly will not be fully capable until the middle of the next decade.138

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 are planning to create a joint capability. 139

France. France has one of the most capable militaries within the NATO alliance and retains an independent nuclear deterrent capability. Although France rejoined NATO's Integrated Command Structure in 2009, it remains outside the alliance's nuclear planning group. France increased its defense spending by 5 percent (\$2.1 billion more than 2017) in 2018 and further increased spending by 5 percent (\$2 billion more than 2018) in 2019.140 In 2018, France spent 1.82 percent of GDP on defense and 23.7 percent of defense spending on equipment, attaining one of two NATO benchmarks.141 In 2019, it plans to spend an extra \$1.46 billion more on equipment purchases than in 2018.142

In July 2018, President Emmanuel Macron signed the 2019–2025 military budget law, under which France's defense spending would reach 2 percent of GDP in 2025. However, one-third of the planned increases will not take effect until 2023 after the next French general election, with a budgetary review set for 2021. Much of the increased spending will be used for intelligence and military procurement, including "the acquisition of more than 1,700 armored vehicles for the Army as well

as five frigates, four nuclear-powered attack submarines and nine offshore patrol vessels for the Navy." Procurements for the Air Force would include "12 in-flight refueling tankers, 28 Rafale fighter jets and 55 upgraded Mirage 2000 fighters."¹⁴³

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 28 Rafales, to be delivered in 2023, "will include some F4 functionalities." Also in January, French Armed Forces Minister Florence Parly announced a potential order of 30 additional Rafales at full F4 standard in 2023 for delivery between 2027 and 2030.¹⁴⁴

France is upgrading its sea-based and airbased nuclear deterrent. "It is estimated the cost of this process will increase from \$4.4bn in 2017 to \$8.6bn per year in 2022–2025," according to the International Institute for Strategic Studies (IISS), "but decrease thereafter—with these outlays likely to come at the expense of conventional procurements." ¹⁴⁵

In December 2016, France opened a cyber-operational command. ¹⁴⁶ The French Military Programming Law for 2019–2015, 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." ¹⁴⁷

France, which has the third-largest number of active-duty personnel in NATO,¹⁴⁸ withdrew the last of its troops from Afghanistan at the end of 2014, although all French combat troops had left in 2012. France has 1,100 soldiers deployed in the campaign against the Islamic State, along with 10 Rafale fighter jets and three CAESAR self-propelled howitzers.¹⁴⁹

The September 2017 death of a Special Forces soldier was the first combat death in Operation Chammal (French operations in Iraq). ¹⁵⁰ In April 2018, France joined the U.S. and U.K. in targeting the Assad regime for its use of chemical weapons. ¹⁵¹ In January 2019, President Macron stated that France would continue to be

"militarily engaged" in the Middle East through the end of 2019. 152

In April 2019, 300 French troops, along with four Leclerc tanks and 20 IFVs, joined the U.K.-led NATO EFP battlegroup in Estonia, to remain until the end of August. ¹⁵³ The French military is also very active in Africa, with more than 4,500 troops involved in anti-terrorism operations in Burkina Faso, Chad, Mali, Mauritania, and Niger as part of Operation Barkhane and more than 1,450 troops stationed in Djibouti, 900 in Côte d'Ivoire, 350 in Gabon, and 350 in Senegal. In addition, France has a close relationship with the United Arab Emirates. It has 650 troops stationed in the UAE, and a 15-year defense agreement between the countries has been in effect since 2012.

France is part of the EU-led Operation Sophia in the Mediterranean to clamp down on human smuggling and migration and is involved in a few other maritime missions across the globe as well.¹⁵⁴ French naval forces occasionally conduct freedom of navigation operations in the South China Sea.¹⁵⁵ In April 2019, France sent a frigate, the Vendémiaire, through the Taiwan Strait on a freedom of navigation operation.156 In March 2019, a French carrier strike group that included the French aircraft carrier Charles de Gaulle following an 18-month refurbishment began a five-month deployment to the Mediterranean to support Operation Chammal, as well as to the Red Sea and Indian Ocean, making a port call in Singapore in May.157

Operation Sentinelle, launched in January 2015 to protect the country from terrorist attacks, is the largest operational commitment of French forces, accounting for some 13,000 troops and reportedly costing "upwards of €400,000 per day." Frequent deployments, especially in Operation Sentinelle, have placed significant strains on French forces and equipment. "In early September 2017," according to the IISS, "the chief of defense staff declared that the French armed forces have been used to '130% of their capacities and now need time to regenerate." To counteract the strain on soldiers, the government extended

deployment pay to soldiers taking part in and created a "medal for Protection of the Territory" for troops deployed for 60 days in Operation Sentinelle.¹⁶⁰

The United Kingdom. America's most important bilateral relationship in Europe is the Special Relationship with the United Kingdom. In his famous 1946 "Sinews of Peace" speech-now better known as his "Iron Curtain" speech—Winston Churchill described the Anglo-American relationship as one that is based first and foremost on defense and military cooperation. From the sharing of intelligence to the transfer of nuclear technology, a high degree of military cooperation has helped to make the Special Relationship between the U.S. and the U.K. unique. U.K. Prime Minister Margaret Thatcher made clear the essence of this Special Relationship when she first met U.S.S.R. President Mikhail Gorbachev in 1984: "I am an ally of the United States. We believe the same things, we believe passionately in the same battle of ideas, we will defend them to the hilt. Never try to separate me from them."161

In 2015, the U.K. conducted a Strategic Defence and Security Review (SDSR), the results of which have driven a modest increase in defense spending and an effort to reverse some of the cuts that had been implemented pursuant to the previous review in 2010. In 2018, the U.K. spent 2.15 percent of GDP on defense and 24.1 percent of its defense budget on equipment.¹⁶² In October 2018, the Treasury announced an additional \$1.28 billion for the Ministry of Defence (MOD), in particular for cyber, anti-submarine warfare, and Dreadnought-class submarines.¹⁶³ Even though the MOD managed to save £5 billion over five years on "efficiencies," 164 funding procurement remains a long-term issue. A November 2018 report from the National Audit Office found a \$9.4 billion funding shortfall for the U.K.'s equipment program.165

In December 2018, the U.K. released its Defence Modernisation Programme, which reaffirmed Britain's commitment to defense in post-Brexit Europe: "As we leave the European Union, the UK will continue to protect the Euro-Atlantic region through our leading role in the Alliance." The program also noted plans to rebuild weapons stockpiles and "improve the readiness and availability of a range of key defence platforms, including: major warships, our attack submarines and helicopters." The report on the program also announced the creation of a £160 million transformation fund to develop "cutting-edge technologies." ¹⁶⁶

Though its military is small in comparison to the militaries of France and Germany, the U.K. maintains one of European NATO's most effective armed forces. Former Defence Secretary Michael Fallon stated in February 2017 that the U.K. will have an expeditionary force of 50,000 troops by 2025.167 This goal was reiterated in the MOD's 2018 report on the Defence Modernisation Programme.168 However, U.K. defense forces remain plagued by vacancies. "Under-staffing increased by 1.3% in 2018, an overall deficit of 6.2%, compared with 3.3% in 2016," according to the IISS. "There are particular deficiencies in numbers of pilots, intelligence specialists and engineers, especially nuclear engineers."169

In October 2018, because of a shortage of sailors, four of the Royal Navy's 13 frigates reportedly had not spent a day at sea.¹⁷⁰ In April 2019, the U.K. reportedly was planning to upgrade only 148 of its 227 remaining Challenger 2 main battle tanks, cutting its fleet by one-third.¹⁷¹ The 79 other tanks would be scavenged for spare parts.¹⁷² The British Army had previously cut its tank forces by 40 percent in 2010.¹⁷³

In November 2018, former Defence Secretary Gavin Williamson announced a contract to order an additional 17 F-35B aircraft. The Royal Air Force (RAF), which has already taken delivery of 17 F-35Bs and has one additional plane on order, will have a fleet of 35 F-35Bs by the end of 2022. The MOD remains committed to purchasing 138 F-35s, but defense budget pressure has led some to raise the possibility that the number acquired might be cut. The January 2019, the RAF announced that initial operating capability had been reached both for the F-35B and for the Typhoon fighter aircraft,

which received additional Storm Shadow long-range cruise missiles and Brimstone precision attack missiles under the \$546 billion Project Centurion upgrades. The U.K. also plans to invest \$2.6 billion in development of the Tempest, a sixth-generation fighter to be delivered in 2035. The Edward Tempest, a sixth-generation fighter to be delivered in 2035.

The RAF recently brought into service a new fleet of air-to-air refuelers, which is particularly noteworthy because of the severe shortage of this capability in Europe. 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 already seen service in Mali, Nigeria, and Iraq and is now part of the RAF fleet.¹⁷⁸

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 will procure a total fleet of 22 A400Ms by the early 2020s. The 2015 SDSR recommended keeping 14 C-130Js in service even though they initially were going to be removed from the force structure.

The Sentinel R1, an airborne battlefield and ground surveillance aircraft, originally was due to be removed from the force structure in 2015, but its service is being extended at least to 2025, and the U.K. will soon start operating the P-8 Poseidon maritime patrol aircraft (MPA). The U.K. has procured nine P-8A maritime patrol aircraft, the first of which will come into service in November.¹⁸⁰ In January 2019, RAF members began P-8 training in the U.S. 181 A £132 million facility to house the P-8s is under construction at RAF Lossiemouth in Scotland, to be completed in 2020. 182 In the meantime, the U.K. has relied on allied MPAs to fill the gap; in 2017, 17 MPAs from the U.S., Canada, France, Germany, and Norway deployed to RAF Lossiemouth.¹⁸³

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.¹⁸⁴ The U.K. operates only 19 frigates and destroyers, which most experts agree is dangerously low for the commitment asked of the Royal Navy (in the 1990s, the fleet numbered nearly 60 surface combatants). In December 2017, 12 of 13 Type-23 frigates and all six Type-45 destroyers were in port, leaving only one Royal Navy frigate on patrol. ¹⁸⁵ In August 2017, because of a shortage of surface combatants, the U.K. was forced to send a minesweeper to escort two Russian submarines through the English Channel. ¹⁸⁶

The U.K. will not have an aircraft carrier in service until the first Queen Elizabeth-class carrier enters service next year.¹⁸⁷ This will be the largest carrier operated in Europe, and two of her class will be built. In September 2018, the Queen Elizabeth underwent development trials off the Maryland coast that included flight trials with F-35Bs landing and taking off from the carrier's deck.188 HMS Queen Elizabeth will return to the U.S. in late 2019 for additional sea and flight trials.189 The Royal Navy is also introducing seven Astute-class attack submarines as it phases out its older Trafalgar-class subs. Crucially, the U.K. maintains a fleet of 13 Mine Counter Measure Vessels (MC-MVs) that deliver world-leading capability and play an important role in Persian Gulf security contingency planning.

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. However, the replacement submarines are not expected to enter service until 2028 at the earliest. 190 In March 2018, Prime Minister Theresa May announced a £600m increase for procurement of the new Dreadnought-class submarines, stating that the extra funds "will ensure the work to rebuild the UK's new world-class submarines remains on schedule."191

The U.K. remains a leader inside NATO, serving as the framework nation for NATO's EFP in Estonia and as a contributing nation for the U.S.-led EFP in Poland. In April, four RAF Typhoons were sent to Estonia to begin

Britain's fifth Baltic Air Policing deployment. 192 Four RAF Typhoons were deployed to Romania for four months in May 2017 to support NATO's Southern Air Policing mission, and another four were deployed from May-September 2018. 193 The U.K. took part in Icelandic Air Policing in 2018 for the first time in over a decade because of a previous diplomatic dispute.194 The U.K. also increased its already sizeable force in Afghanistan to 1,100 troops in 2018 as part of NATO's Resolute Support Mission and contributes to NATO's Kosovo Force, Standing NATO Maritime Group 1, and Mine Countermeasures Group One. 195 U.K. forces are an active part of the anti-ISIS coalition, and the U.K. joined France and the U.S. in launching airstrikes against the Assad regime in April 2018 in response to its use of chemical weapons against civilians. 196

Italy. Italy hosts some of the U.S.'s most important bases in Europe, including the headquarters of the Sixth Fleet. It also has NATO's fifth-largest military¹⁹⁷ and one of its more capable ones despite continued lackluster defense investment. In 2018, Italy spent only 1.15 percent of GDP on defense, but it did spend 21.1 percent of its defense budget on equipment, meeting the second NATO spending benchmark.¹⁹⁸ Italy cut a further \$512.3 million from defense spending in 2019 and suspended NH-90 helicopter procurements and, as a result, the CAMM-ER (Common Anti-Air Modular Missile-Extended Range) missile system as well.¹⁹⁹

Home to a developed and mature defense industry, Italy spent approximately \$5.7 billion on procurement in 2018, including purchases of four Special Forces Chinook helicopters. 200 The Italian Navy is undergoing a long-term replacement program that will include seven multipurpose patrol ships, new U212A submarines, a submarine rescue vehicle, and a new anti-ship missile system. 201 Italy launched the eighth of 10 planned FREMM frigates in February 2019 and also plans to purchase 60 F-35As for the air force and 30 F-35Bs for naval aviation. 202

A government-owned final assembly plant for the F-35 is located in Italy, which "was about to take delivery of its 12 F-35" as of March 2019. 203 Italian Defense Minister Elisabetta Trenta of the Five Star Movement was reviewing the program in June 2018, and the Five Star Movement had gone on record previously against Italy's planned order, but in March 2019, the leader of Italy's powerful junior coalition partner defended the nation's planned F-35 purchase. 204

Italy's focus is the Mediterranean region where it participates in a number of stabilization missions including NATO's Sea Guardian and the EU's Operation Sophia. ²⁰⁵ Italy's Operation Mare Sicuro has been active off the Libyan coast, and Italy has donated patrol boats to the Libyan coast guard. ²⁰⁶ Additionally, 283 Italian troops take part in the bilateral Mission of Assistance of Support in both Misrata and Tripoli. ²⁰⁷ These efforts have borne fruit; In February 2019, Central Mediterranean migrant crossings reached a nine-year low. ²⁰⁸

Despite a southern focus, Italy contributes to NATO's EFP battalion in Latvia with 160 troops and (second only to the United States) KFOR with 542 troops. ²⁰⁹ The Italian Air Force has taken part in Baltic Air Policing three times, most recently in the first half of 2018. From May–August 2019, Italy's air force took part in NATO's enhanced air policing in Romania, having previously participated in "a four-month enhanced Air Policing deployment to Bulgaria in 2017." ²¹⁰ In March 2019, the Italian Air Force deployed to Iceland to perform air patrols for the fourth time since 2013. ²¹¹

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, and NATO's contingency plans for liberating the Baltic States in the event of a Russian invasion reportedly rely heavily on Polish troops and ports. ²¹²

Poland has an active military force of 117,800, including a 61,200-strong army

with 637 main battle tanks.²¹³ In November 2016, Poland's Parliament approved a new 53,000-strong territorial defense force intended, in the words of Poland's Defense Minister, "to increase the strength of the armed forces and the defense capabilities of the country" and as "the best response to the dangers of a hybrid war like the one following Russia's aggression in Ukraine."214 The planned 17 brigades of the Territorial Defense Forces will be distributed across the country.215 Scheduled "to reach the full manpower by 2019," the Territorial Defense Forces constitute the fifth branch of the Polish military, subordinate to the Minister of Defense,216 and will deal with hybrid threats, linking "the military closely to society, so that there will be someone on hand in the event of an emergency to organize our defenses at the local level."217 Prioritization of the Territorial Defense Forces, which had a budget similar to the Polish Navy's in 2018,218 remains controversial in Polish defense circles.

In 2018, Poland spent 2.05 percent of GDP on defense and 26.5 percent of its defense budget on equipment, reaching both NATO benchmarks.²¹⁹ Pursuant to increases in defense spending adopted in October 2017, Poland should be spending 2.5 percent of GDP on defense in 2030.²²⁰ Poland is making major investments in military modernization and is planning to spend \$48.7 billion on new capabilities by 2026, as assumed by the Armed Forces Technological Modernisation Plan (TMP) 2017–2026 signed in February 2019.²²¹

In March 2018, in the largest procurement contract in its history, Poland signed a \$4.75 billion deal for two Patriot missile batteries. ²²² 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, ²²³ and in April 2019, it signed a \$430 million deal to buy four AW101 helicopters, which will provide anti-submarine warfare and search-and-rescue capabilities and are to be delivered by the end of 2022. ²²⁴ In February 2018, Poland joined an eight-nation "coalition of NATO countries seeking to jointly buy a fleet of maritime surveillance aircraft." ²²⁵ Poland

has also expressed interest in purchasing 32 F-35 fighter jets.²²⁶

Poland seeks a permanent U.S. presence, offering \$2 billion to support it. ²²⁷ Although Poland's focus is territorial defense, it has 303 troops deployed in Afghanistan as part of NATO's Resolute Support Mission and took part in Operation Inherent Resolve to defeat ISIS. ²²⁸ Poland's air force has taken part in Baltic Air Policing eight times since 2006, most recently from January–May 2019. ²²⁹ Poland also is part of NATO's EFP in Latvia, ²³⁰ has 100 troops in NATO Mission Iraq, ²³¹ has a frigate in Standing NATO Maritime Group One (SNMG1), ²³² and has 240 troops in NATO's KFOR mission. ²³³

Turkey. Turkey remains an important U.S. ally and NATO member, but the increasingly autocratic presidency of Recep Tayyip Erdogan and a thaw in relations between Turkey and Russia have introduced troubling challenges. 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.

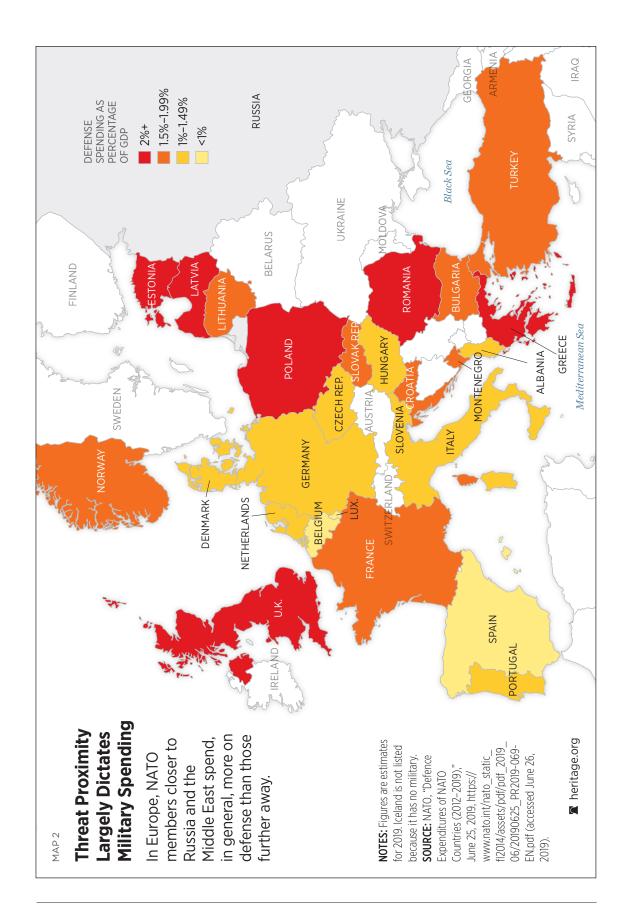
Following an attempted coup in July 2016, thousands of academics, teachers, journalists, judges, prosecutors, bureaucrats, and soldiers were fired or arrested. As of April 2019, 77,000 people had been jailed, and nearly 170,000 civil servants and military members had been fired or suspended; the mass detentions led the government in December 2017 to announce plans to build 228 new prisons over five years. 234 The post-coup crackdown has had an especially negative effect on the military. In April 2019, Turkey announced the detention of 210 additional military members including five colonels, seven lieutenant colonels, 14 majors, and 33 captains.²³⁵ In April 2019, the Turkish Defense Ministry reported that 16,540 military personnel have been dismissed since the coup attempt.236

Turkey's military is now suffering from a loss of experienced generals and admirals as well as an acute shortage of pilots, and former NATO Supreme Allied Commander, Europe, General Scaparrotti has stated that Erdogan's military purges have "degraded" NATO's military capabilities.237 The dismissal of more than 300 F-16 pilots, for instance, led to an August 2017 emergency decree in which the government recalled retired fighter pilots by threatening to revoke their civil pilot licenses; as of January 2019, only 40 had returned. 238 In January 2019, Turkish Defense Minister Hulusi Akar admitted that pilots are overworked: "When we conduct ground operations, our air force, with great heroism and sacrifice, successfully hits its targets, with one pilot assuming tasks that five pilots are supposed to do."239

Erdogan's rapprochement with Russian President Vladimir Putin has brought U.S.–Turkish relations to an all-time low. In December 2017, Turkey signed a \$2.5 billion agreement with Russia to purchase S-400 air defense systems, and Russia began delivery of the S-400 system to Turkey in July 2019. U.S. officials, including Secretary of State Mike Pompeo, have expressed grave concerns about this purchase and have stated that Turkey will not receive F-35 jets if it acquires the S-400. 241

U.S. Administration officials and Members of Congress have threatened Turkey with potential sanctions because of the purchase. ²⁴² In March 2019, Katie Wheelbarger, Acting Assistant Secretary of Defense for International Security Affairs, summarized the threat: "The S-400 is a computer. The F-35 is a computer. You don't hook your computer to your adversary's computer and that's basically what we would be doing." ²⁴³ While training of Turkish pilots on the aircraft in the U.S. reportedly continues, ²⁴⁴ it is hard to envision a scenario in which Turkey continues with the S-400 purchase and receives the F-35.

Eight Turkish defense firms make more than 800 components for the F-35, and some U.S. officials have suggested that American sanctions could cost Turkish defense industry as much as \$10 billion.²⁴⁵ The U.S. stopped



delivery of key parts and program materials to Turkish firms in early April and reportedly has offered to allow Turkey to purchase a Patriot missile battery if it cancels the S-400 sale, an offer that Turkish officials have declined in part because of the exclusion of a technology-sharing pact.²⁴⁶

One result of the strain in U.S.–Turkish relations caused by the S-400 purchase has been an underappreciated strengthening of U.S.–Greek relations. In May 2018, the U.S. began to operate MQ-9 Reaper drones out of Greece's Larisa Air Base in flights that continued through August 2019. The U.S. and Greece are in discussions about possibly using Larisa for KC-135 Stratotanker or UAV flights and expanding training at the base. In October 2018, Greek Defense Minister Panos Kammenos raised the possibility that the U.S. might "deploy military assets in Greece on a more permanent basis, not only in Souda Bay but also in Larissa, in Volos, in Alexandroupoli."

Nevertheless, 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 air base, 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. According to U.S. officials, "Turkey has been making it harder to conduct air operations at the base, such as requesting the U.S. suspend operations to allow high-ranking Turkish officials to use the runway. Officials said this sometimes halts U.S. air operations for more than a day."250 Germany's decision to leave the base also has affected American views of Incirlik's value. Other tensions stem from an August 2018 petition promoted by a Turkish legal organization with ties to the ruling party. The group was seeking to execute a search warrant at Incirlik and to arrest American personnel who, according to the petition, at one time were assigned to the base and allegedly had participated in the failed 2016 coup.²⁵¹

U.S. officials, however, have largely down-played tensions with Turkey. An official at EU-COM, for example, has stated that "Incirlik still serves as [a] forward location that enables operational capabilities and provides the U.S. and NATO the strategic and operational breadth needed to conduct operations and assure our allies and partners."²⁵² Incirlik's strategic value was on display again in May 2018 when an F-18 pilot taking part in airstrikes against ISIS made an emergency landing there after suffering from hypoxia.²⁵³

One cause for optimism has been NATO's decision to deploy air defense batteries to Turkey and increased AWACS flights in the region after the Turkish government requested them in late 2015. NATO members Italy and Spain currently deploy air defense batteries to Turkey. Stadditionally, NATO AWACS aircraft involved in counter-ISIS operations have flown from Turkey's Konya Air Base. Turkey also hosts a crucial radar at Kürecik, which is part of NATO's BMD system, and the U.S. is reportedly building a second undisclosed site (site K) near Malatya, which is home to an AN/TPY-2 radar with a range of up to 1,800 miles.

While visiting Turkey in April 2018, NATO Secretary General Jens Stoltenberg stated that "Turkey is a highly valued NATO Ally, and Turkey contributes to our shared security, our collective defence, in many different ways." Stoltenberg also referenced the significant financial investment that NATO was making in the upgrading of Turkey's military infrastructure.²⁵⁸ Turkey continues to maintain more than 593 troops in Afghanistan as part of NA-TO's Resolute Support Mission, making it the seventh-largest troop contributor out of 39 nations.²⁵⁹ The Turks also have contributed to a number of peacekeeping missions in the Balkans, still maintain 246 troops in Kosovo, 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 has a 355,200-strong active-duty military,260 which is NATO's second largest after that of the United States.

The failed coup plot enabled Erdogan to consolidate more power. A December 2017 decree placed the Undersecretariat for Defense Industries (SSB) responsible for procurement under Erdogan's direct control.261 Since then, Turkey's defense procurement has suffered from a "brain drain." In January 2019, it was reported that 272 defense officials and engineers had left for jobs overseas since the change. Of the 81 who responded to an SSB survey, "41 percent are in the 26-30 age group. 'This highlights a trend among the relatively young professionals to seek new opportunities abroad,' one SSB official noted."262 Other challenges include a sputtering economy, weakened lira,263 and continued reliance on foreign components despite a focus on indigenous procurement. For example, Turkey's procurement of 250 new Altay main battle tanks, the first of which are scheduled to be ready in May 2020, relies on a German-made engine and transmission.264

Other major procurements include 350 T-155 Firtina 155mm self-propelled howitzers, six Type-214 submarines, and more than 50 T-129 attack helicopters. ²⁶⁵ Turkish submarine procurement has faced six-year delays, and the first submarine will not be delivered until 2021. ²⁶⁶ In February 2019, Turkey announced upgrades of four *Preveze*-class submarines, to take place from 2023–2027. ²⁶⁷ The same month, Turkey launched an intelligence-gathering ship, the TCG *Ufuk*, described by President Erdogan as the "eyes and ears of Turkey in the seas." ²⁶⁸

Geographically and geopolitically, Turkey remains a key U.S. ally and NATO member. It has been a constructive and fruitful security partner for decades, and maintaining the relationship is in America's interest. The challenge for U.S. and NATO policymakers will be to navigate Erdogan's increasingly autocratic leadership, discourage Ankara's warming relations with Russia, and find a way to resolve the S-400 standoff.

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 Russia 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 and, with defense spending equal to 2.07 percent of GDP, was one of seven NATO members to meet the first NATO benchmark in 2018.²⁶⁹ In March 2019, the Defense Ministry announced that "[a] total of EUR 585 million has been set aside for defence expenditures, representing 2.16% of the forecast GDP."²⁷⁰

Although the Estonian armed forces total only 6,600 active-duty service personnel (including the army, navy, and air force),²⁷¹ they are held in high regard by their NATO partners and punch well above their weight inside the alliance. Between 2003 and 2011, 455 served in Iraq. Perhaps Estonia's most impressive deployment has been to Afghanistan: more than 2,000 troops deployed between 2003 and 2014, sustaining 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. The number of Estonian conscripts will increase from 3,200 to 4,000 by 2026.

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. One recent joint procurement is with neighboring Finland to acquire 12 South Korean-built howitzers by 2023.274 In 2014, Estonia contracted with the Netherlands to purchase 44 used infantry fighting vehicles, the last of which have been delivered.275 In June 2018, it signed a \$59 million deal to purchase shortrange air defenses, with Mistral surface-toair missiles to be delivered starting in 2020.276 In 2019, Estonia received two C-145A tactical transport aircraft donated by the U.S.²⁷⁷ In May, the first of three Sandown-class minehunters underwent sea trials following upgrades.²⁷⁸

According to Estonia's National Defence Development Plan for 2017–2026, "the size of the rapid reaction structure will increase from the current 21,000 to over 24,400."²⁷⁹ In February 2019, the Defense Ministry approved its development plan for 2020–2023, which in part details plans to spend over \$48 million on the Estonian Defence League: "The equipment and armaments of the Defence Forces and the Defence League are being upgraded—new firearms, communications and IT equipment, clothing, flak jackets and bulletproof vests are being procured."²⁸⁰

Estonia's cyber command became operational in August 2018 and is expected to include 300 people when it reaches full operational capability in 2023. ²⁸¹ The Estonian Defence League also has a Cyber Defence Unit, a reserve force that relies heavily on expertise found in the civilian sector and whose mission is "to protect Estonia's high-tech way of life, including protection of information infrastructure and supporting broader objectives of national defence." ²⁸²

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.²⁸³ Estonia's defense budget for 2019 reflects that Estonia was to receive €14 million from NATO's Security Investment Program to improve staging facilities at Tapa where the NATO EFP is located and €9 million "for increasing training opportunities at the central training area."²⁸⁴

Latvia. Latvia's recent military experience also has been centered on operations in Iraq and Afghanistan alongside NATO and U.S. forces. Latvia has deployed more than 3,000 troops to Afghanistan and between 2003 and 2008 deployed 1,165 troops to Iraq. In addition, it has contributed to a number of other international peacekeeping and military missions. These are significant numbers when one considers that only 6,210 of Latvia's troops are full-time servicemembers; the remainder are reserves.²⁸⁵

Latvia's 2016 National Defence Concept clearly defines Russia as a threat to national security and states that "[d]eterrence is enhanced by the presence of the allied forces in Latvia." The concept requires a 6,500-strong peacetime military force, a level that Latvia has not yet achieved; Latvia added 640 soldiers to its armed forces in 2018 and plans "to recruit up to 710" more by the end of 2019.

In 2018, Latvia spent 2.03 percent of GDP on defense, slightly higher than the NATO benchmark of 2 percent, and spent 35.4 percent of its defense budget on equipment.²⁸⁸ In November 2018, it signed a deal for four UH-60M Black Hawk helicopters.²⁸⁹ In addition, Latvia has purchased 47 M109 self-propelled artillery pieces from Austria and Stinger man-portable air-defense missile systems (MANPADs) from Denmark.²⁹⁰ Latvia has also expressed interest in procuring a medium-range ground-based air-defense system (GBADS) and 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.291

Lithuania. Lithuania is the largest of the three Baltic States, and its armed forces total 19,850 active-duty troops.²⁹² It reintroduced conscription in 2015.293 Lithuania has also shown steadfast commitment to international peacekeeping and military operations. Between 2003 and 2011, it sent 930 troops to Iraq. Since 2002, around 3,000 Lithuanian troops have served in Afghanistan, a notable contribution that is divided between a special operations mission alongside U.S. and Latvian Special Forces and command of a Provisional Reconstruction Team (PRT) in Ghor Province, making Lithuania one of only a handful of NATO members to have commanded a PRT. Lithuania continues to contribute to NATO's KFOR and Resolute Support Missions. 294

In 2018, Lithuania reached the NATO benchmark of 2 percent of GDP devoted to spending on defense and spent 30.6 percent of its defense budget on equipment.²⁹⁵ The government's 2019 National Threat Assessment

clearly identifies Russia as the main threat to the nation. ²⁹⁶ In April 2019, the U.S. and Lithuania signed a five-year "road map" defense agreement. ²⁹⁷ According to the Pentagon, the agreement will help "to strengthen training, exercises, and exchanges" and help Lithuania "to 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." ²⁹⁸

Prime Minister Saulius Skvernelis has identified modernization as the armed forces' "number-one priority." Lithuania is procuring Norwegian-made ground-based mid-range air defence systems armed with U.S.-made missiles by 2021. Additional procurements include 88 Boxer Infantry Fighting Vehicles through 2021, additional missiles for the Javelin anti-tank system, and 21 PzH 2000 self-propelled howitzers. Lithuania is also seeking to purchase 200 Oshkosh Joint Light Tactical Vehicles by 2023.

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, around 68,000 troops are stationed in Europe.³⁰³

EUCOM's stated mission is to conduct military operations, international military partnering, and interagency partnering to enhance transatlantic security and defend the United States as part of a forward defensive posture. EUCOM is supported by four service component commands (U.S. Naval Forces Europe [NAVEUR]; U.S. Army Europe [USAREUR]; 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.

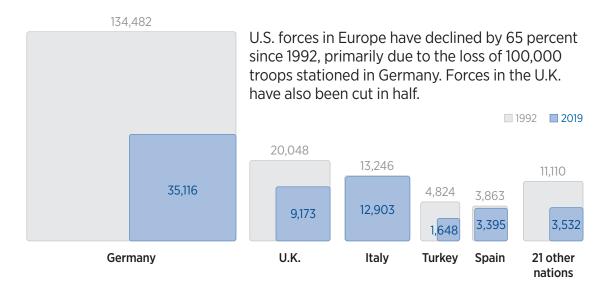
This command is currently provided by the U.S. Sixth Fleet, based in Naples, and brings critical U.S. maritime combat capability to an important region of the world. Some of the more notable U.S. naval bases in Europe include the Naval Air Station in Sigonella, Italy; the Naval Support Activity Base in Souda Bay, Greece; and the Naval Station at Rota, Spain. Naval Station Rota is home to four capable Aegis-equipped destroyers.³⁰⁴

A special focus for NAVEUR this year includes "enhancement to the Theater's Anti-Submarine Warfare through the procurement of additional equipment and the improvement to theater infrastructure" and a naval logistics hub. ³⁰⁵ In 2018, the Norfolk, Virginia-based Harry S. Truman Carrier Strike Group (CSG) executed no-notice deployments to the Mediterranean over the summer and the Norwegian Sea above the Arctic Circle in October; the Arctic deployment was the first for a CSG in 30 years. ³⁰⁶

U.S. Army Europe. USAREUR was established in 1952. Then, as today, the U.S. Army formed the bulk of U.S. forces in Europe. USAREUR, overseeing 35,000 soldiers, is headquartered in Wiesbaden, Germany. Permanently deployed forces include the 2nd Cavalry Regiment, based in Vilseck, Germany, and the 173rd Airborne Brigade in Italy, with both units supported by the 12th Combat Aviation Brigade out of Ansbach, Germany. Additionally, in November 2018, the 41st Field Artillery Brigade returned to Europe, with headquarters in Grafenwoehr, Germany. 307 In addition:

Operational and theater enablers such as the 21st Theater Sustainment Command, 7th Army Training Command, 10th Army

U.S. Maintains Significantly Smaller Presence in Europe



NOTES: 2019 figures are as of March. "21 other nations" include non-listed NATO members with American forces. **SOURCES:** U.S. Department of Defense, Defense Manpower Data Center, "DoD Personnel, Workforce Reports & Publications: Historical Reports—Military Only—1950, 1953–1999," https://www.dmdc.osd.mil/appj/dwp/dwp_reports.jsp (accessed August 10, 2018), and U.S. Department of Defense, Defense Manpower Data Center, "DoD Personnel, Workforce Reports & Publications: Military and Civilian Personnel by Service/Agency by State/Country," https://www.dmdc.osd.mil/appj/dwp/dwp_reports.jsp (accessed July 1, 2019).

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Air and Missile Defense Command, 2nd Theater Signal Brigade, 66th Military Intelligence Brigade, the U.S. Army NATO Brigade, Installation Management Command-Europe and Regional Health Command-Europe provide essential skills and services that enable our entire force.³⁰⁸

USAREUR will add 1,500 soldiers by 2020, including "two multiple launch rocket system battalions" and "a short-range air defense battalion." The 5th Battalion, 4th Air Defense Artillery Regiment, was activated in November 2018 and is now based in Ansbach. The rotational National Guard 174th Air Defense Artillery Brigade has replaced the National Guard 678th ADAB, which first deployed in April 2018 in the first such deployment since the end of the Cold War. 311

U.S. Air Forces in Europe. USAFE provides a forward-based air capability that can support a wide range of contingency operations. USAFE originated as the 8th Air Force in 1942 and flew strategic bombing missions over the European continent during World War II.

Headquartered at Ramstein Air Base, US-AFE 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. 312

U.S. Marine Forces Europe. MARFO-REUR was established in 1980. It was originally a "designate" component command, meaning that it was only a shell during peacetime but could bolster its forces during wartime. Its

initial staff was 40 personnel based in London. By 1989, it had 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 140 of the 1,500 Marines based in Europe are assigned to MARFOREUR. 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. The Corps has 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," and the Norwegian government covers half of the costs of the prepositioned storage. The stores have been utilized for Operation Iraqi Freedom and current counter-ISIS operations, as well as for humanitarian and disaster response.314 The prepositioned stock's proximity to the Arctic region makes it of particular geostrategic importance. In October 2018, Marines utilized the prepositioned equipment as part of NATO's exercise Trident Juncture 18, the largest NATO exercise in 16 years, which included 50,000 troops from 31 nations.315

Crucially, MARFOREUR provides the U.S. with rapid reaction capability to protect U.S. embassies in North Africa. The Special-Purpose Marine Air-Ground Task Force-Crisis Response-Africa (SPMAGTF-CR-AF) is currently located in Spain and Italy and provides a response force of 850 Marines, six MV-22 Ospreys, and three KC-130s. The SPMAGTF helped with embassy evacuations in Libya and South Sudan and conducts regular drills with embassies in the region and exercises with a host of African nations' militaries. The SPMAGTF is a superior of African nations' militaries.

In September 2018, the Marine Corps ended a consistent rotation of 700 marines to the Black Sea Rotational Force (BSRF).³¹⁸

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 June 2018, former U.S. Special Operations Command General Tony Thomas stated that the U.S. plans "to move tactical United States special operations forces from the increasingly crowded and encroached Stuttgart installation of Panzer Kaserne to the more open training grounds of Baumholder," a move that is expected to take a few years.³¹⁹

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; took an active role in the Balkans in the mid-1990s and in combat operations in the Iraq and Afghanistan wars; and most recently supported AF-RICOM's Operation Odyssey Dawn in Libya. SOCEUR also plays an important role in joint training with European allies; since June 2014, it has maintained an almost continuous presence in the Baltic States and Poland in order to train special operations forces in those countries.

According to General Scaparrotti, "USEU-COM and USSOCOM work together to employ SOF in Europe, where their unique access and capabilities can be utilized to compete below the level of armed conflict." The FY 2020 DOD budget request included over \$100 million for various special operations programs and functions through EDI. This funding is intended to go to such projects as enhancement of special operations forces' staging capabilities and prepositioning in Europe, exercise support, and partnership activities with Eastern and Central European allies' special operations forces. ³²¹

Key Infrastructure and Warfighting Capabilities

One of the major advantages of having U.S. forces in Europe is access to logistical infrastructure. For example, EUCOM supports the U.S. Transportation Command (TRANSCOM) with its array of air bases and access to ports throughout Europe. One of these bases, Mihail Kogalniceanu Air Base in Romania, is a major logistics and supply hub for U.S. equipment and personnel traveling to the Middle East region. 322

Europe is a mature and advanced operating environment. America's decades-long presence in Europe means that the U.S. has tried and tested systems that involve moving large numbers of matériel and personnel into, inside, 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 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 stable, mature, and friendly operating environment. Russia remains the preeminent military threat to the region, both conventionally and unconventionally. 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 the European region or nearby, 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 modest increases in European allies' defense budgets and capability investment. Despite allies' initial concerns, 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.

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 capability and readiness gaps for many European nations, continuing improvements and exercises in the realm of logistics, a tempestuous Turkey, disparate threat perceptions within the alliance, 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, for example, whether transfers of power are generally

- peaceful and whether there have been any recent instances of political instability in the region.
- c. U.S. Military Positioning. Having military forces based or equipment and supplies staged in a region greatly facilitates the United States' ability to respond to crises and, presumably, achieve successes in critical "first battles" more quickly. Being routinely present in a region also assists in maintaining 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 no substantial changes in any individual categories or average scores:

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

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