# Europe

## **Daniel Kochis**

uring the past year, America continued to reengage on European defense and the North Atlantic Treaty Organization (NATO) continued to operationalize new decisions, exercises, and structures to bolster collective defense, but the spring shock of the COVID-19 pandemic caused some defense exercises to be cancelled or postponed and necessitated the use of military resources for the pandemic response across Europe.1 External threats to European security include the continued risk of Russian aggression toward the eastern states of NATO, Russian activity in the Arctic, a growing Russian presence in the Mediterranean theater, and Russian efforts to destabilize Western cohesion. In addition, the threat to the transatlantic alliance posed by Chinese investments, technology, and propaganda efforts has begun to move toward center stage.

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 to defend these shared ideals—the foundations on which America was built.

America's economic ties to the region are likewise important. A stable, secure, and economically viable Europe is in America's economic interest. For more than 70 years, the U.S. military presence has contributed to regional security and stability, economically benefiting both Europeans and Americans. The economies of the member states of the European Union (EU), 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 generally each other's principal trading partners.

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

European basing 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. At the same time, Russia's strengthened position in Syria has led to a resurgence of Russian activity in the Mediterranean that has contributed to "congested" conditions.<sup>2</sup>

Speaking at an Atlantic Council meeting in March 2019, General Joseph F. Dunford, former 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. 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 across 17 nations);4 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. The Trump Administration's fiscal year (FY) 2021 request for EDI is \$4.5 billion, down from \$6 billion in FY 2020 and \$6.5 billion in FY 2019.5 In FY 2020, EDI-funded initiatives included, among others, the continuous U.S. rotational "presence of an Armored Brigade Combat Team (ABCT) with enablers, a Combat Aviation Brigade (CAB), and a Battalion to support NATO's enhanced forward presence (EFP)" along with enhancement of "Theater Anti-Submarine Warfare infrastructure," retention of F-15C fighter aircraft in Europe, "continued placement of prepositioned equipment," and an "increase in the training tempo" to improve the "overall readiness and interoperability of NATO's allies and partners."6

Testifying before the Senate Armed Services Committee in February 2020, General Tod Wolters was clear about the importance of EDI funding in returning the United States to a posture of deterrence:

Through EDI, we have enhanced our presence in the theater to assure Allies

and deter adversaries. Increases of forward-stationed and rotational forces continue to improve our posture and enable us to compete and win in a multi-domain crisis or conflict. EDI funding for exercises, training, and building partner capacity programs enhance the readiness and interoperability of U.S. and Alliance forces. EDI funds have also improved our ability to respond using prepositioned stocks and improved theater infrastructure. Together, these improvements enable the rapid deployment and sustainment of forces.<sup>7</sup>

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, AFRICOM and CENTCOM." The importance of Landstuhl should not be underestimated. In early March, the facility was one of the first two U.S. laboratories overseas capable of testing for coronavirus. 9

In addition to EDI, since 2018, the Department of State has awarded \$277 million in grants through its European Recapitalization Incentive Program (ERIP) and repurposed funds to help U.S. allies in Europe replace Russian equipment with U.S.-made equipment. This has led to \$2.5 billion in equipment sales including Blackhawk procurement in Albania, Lithuania, and Slovakia; Stryker vehicles in North Macedonia; Bradley Fighting Vehicles in Croatia; Bell Huey II helicopters in Bosnia and Herzegovina; and F16 purchases in Bulgaria. 10

Forward Presence. In October 2019, the 2nd Armored Brigade Combat Team (ABCT) of the 1st Cavalry Division from Fort Hood, Texas, replaced the outgoing BCT in the "fifth iteration of an armored rotation in support of Atlantic Resolve." The BCT, consisting in part of 3,500 troops, 85 tanks, and 120 infantry fighting vehicles, deployed to sites across Belgium, Bulgaria, the Czech Republic, Denmark, Estonia,

Germany, Great Britain, Greece, Hungary, Italy, Latvia, Lithuania, the Netherlands, Norway, Poland, Romania, and Slovakia.<sup>11</sup>

General Mark A. Milley, former Army Chief of Staff and now Chairman of the Joint Chiefs of Staff, 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." 12

In addition to back-to-back rotations of armor, the U.S. has maintained a rotational aviation brigade in Europe since February 2017.13 In October 2019, the 3rd Combat Aviation Brigade, 3rd Infantry Division from Hunter Army Airfield, Georgia, arrived in Europe for a ninemonth rotation with "approximately 1,700 personnel; 50 UH-60 and HH-60 Black Hawks; 10 CH-47 Chinooks; 20 AH-64 Apaches; and more than 2,000 wheeled vehicles and pieces of equipment." The units of the aviation brigade were distributed to Belgium, Bulgaria, the Czech Republic, Denmark, Estonia, Germany, Great Britain, Greece, Hungary, Italy, Latvia, Lithuania, the Netherlands, Norway, Poland, Romania and Slovakia.14

In May 2018, the U.S. began flying MQ-9 Reaper drones on unarmed reconnaissance flights out of Miroslawiec Air Base in Poland. The drones became fully operational in March 2019 when U.S. Air Force (USAF) officials stated that Poland was chosen for the MQ-9s because of its "strategic location." Runway work at Miroslawiec necessitated the temporary relocation of the MQ-9 drones to Campia Turzii Air Base in Romania in July 2019. It is expected that some MQ-9s will eventually be based out of Lask, Poland.

Since 2017, the U.S. has beefed up its presence in Norway as well. In September 2019, 700 Marines from the 2nd Battalion, 6th Marine Regiment deployed to the Norwegian towns of Setermoen and Vaernes, the sixth rotation of the Marine Rotational Force–Europe. However, the Pentagon announced the end of the rotations beginning in October 2020.<sup>18</sup>

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 includes "military police, ammunition handlers, movement control teams, truck drivers, maintenance, supply, fuelers and postal services." <sup>19</sup>

In July 2020, the United States announced plans to remove nearly 12,000 troops stationed in Germany, with 6,400 returning to the U.S. and 5,600 to be stationed elsewhere in Europe, principally Belgium and Italy.<sup>20</sup> Among the planned changes, the 2nd Cavalry Regiment based in Vilseck, Germany, would return to the United States; the 5th Battalion, 4th Air Defense Artillery Regiment, activated in November 2018 and currently based in Ansbach, would be moved to Belgium; and the 52nd fighter wing, currently based in Spangdahlem, would be based in Vicenza, Italy.<sup>21</sup> The Department of Defense announced plans to move EUCOM and Special Operations Command Europe (SOCEUR) from Stuttgart, Germany, to Mons, Belgium.<sup>22</sup> The Pentagon also announced plans for further rotational deployments "farther east on the continent in more strategic locations, such as near the Black Sea region," although no specific plans have yet been announced.<sup>23</sup> NATO's Supreme Headquarters Allied Powers Europe is based in Mons, and General Tod Wolters stated that the headquarters moves "will improve the speed and clarity of our decision-making and promote greater operational alignment."24

In August, the U.S. and Poland signed a Defense Cooperation agreement. Under this agreement, an additional 1,000 U.S. soldiers will rotate to the country, "to include the forward elements of the U.S. Army's V Corps headquarters and a Division headquarters, intelligence, surveillance and reconnaissance capabilities, and the infrastructure to support an armored brigade combat team and combat aviation brigade."<sup>25</sup> Poland reportedly will cover \$135 million annually to support the augmented presence.<sup>26</sup> The U.S. and Poland have also

agreed to establish a USAF airport of debarkation at Wroclaw–Strachowice Air Base, a U.S. Special Forces facility at Lubliniec, and a joint Combat Training Centre in Drawsko Pomorskie. The U.S. Army reportedly plans to transform "command headquarters in Poznan—known as a mission-command element—into a full-fledged division headquarters that would improve the military's ability to manage forces up and down the eastern flank." In October 2019, the Army "rebranded the headquarters as 1st Infantry Division (Forward), but to date no additional troops have been added since negotiations with Poland remain ongoing." 28

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." In 2019, the U.S. spent 109 days in the Black Sea, an increase of four days from 2018.

Russian undersea activity has continued to increase, with EUCOM confirming "a 50 percent increase in the number of resources in the undersea that Russia committed to...out-of-area submarine operations" in the summer and fall of 2019 compared to the same period in 2018.<sup>30</sup> The Navy reestablished the Second Fleet, "responsible for the northern Atlantic Ocean," in May 2018, nearly seven years after it had been disbanded in 2011.<sup>31</sup> Second fleet reached full operational capability at the end of 2019.<sup>32</sup> The fleet was reestablished because of Russian militarization of the Arctic and led the BALTOPS exercise in June 2019.<sup>33</sup>

Prepositioned Stocks. The U.S. continues to preposition equipment in Europe across all services. Equipment and ammunition sufficient to support a division will continue to arrive in Europe through 2021.<sup>34</sup> 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.<sup>35</sup> DOD proposed that EDI Army funding will further "continue the build of a division-sized set of prepositioned equipment with corps-level enablers that is planned to contain two ABCTs (one of which is modernized), two Fires Brigades, air defense, engineer, movement control, sustainment and medical units."<sup>36</sup>

In February 2020, General Gustave F. Perna, Commanding General of the U.S. Army Materiel Command, revealed that the U.S. is building an additional Army prepositioned stock that is set for Europe.<sup>37</sup> Also in February, General Tod Wolters testified before the Senate Armed Services Committee that "Army Prepositioned Stocks in Europe hold equipment and logistics for an Armored Brigade Combat Team and key enablers, facilitating increased lethality by rapidly integrating deployed units into operations."<sup>38</sup>

Impact of the Coronavirus. While the impact of Covid-19 was felt across the alliance, it did not alter NATO's ability to carry out the vital work of collective defense. "Our forces remain ready," stated NATO Secretary General Jens Stoltenberg on April 2, "and our crucial work goes on—including in our multinational battlegroups in the east of the alliance, NATO Air Policing and our maritime deployments."

Some members of NATO's military services did fall ill. In early March, Polish general Jarosław Mika was among attendees at a DEFENDER-Europe 20 conference in Wiesbaden, Germany, that caught the coronavirus. <sup>40</sup> In April, 50 French sailors aboard the aircraft carrier *Charles de Gaulle* were found to be positive for coronavirus, and by mid-April, hundreds of American sailors aboard the aircraft carrier USS *Theodore Roosevelt* had tested positive for COVID-19.<sup>41</sup>

Allied militaries across NATO were called upon to assist with civilian pandemic mitigation and response efforts. The French armed forces, for example, helped to set up additional capacity in the form of a field hospital, and the air force "evacuated patients from hospitals in Mulhouse and Colmar to military hospitals in Marseille and Toulon." Similarly, Sweden's

### **NATO Excercises Cancelled in 2020 Due to Coronavirus**

| Excercise                    | Original<br>Excercise Dates | Location(s)                            |
|------------------------------|-----------------------------|--|
| Asgard Skjold                | Spring                      | Norway                                 |
| Cold Response                | March 2-18                  | Norway                                 |
| Dynamic Front                | Spring                      | U.S., Germany, Latvia, and Poland      |
| Joint Warfighting Assessment | April 13-May 23             | Several European countries             |
| Juniper Cobra                | March 3-13                  | Israel                                 |
| Saber Strike                 | Spring                      | Estonia, Latvia, Lithuania, and Poland |
| Swift Response               | Spring                      | Bulgaria, Croatia, and Romania         |

**SOURCE:** Heritage Foundation research.

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armed forces built a field hospital at Uppsala.<sup>43</sup> In the United States, USNS *Comfort* and USNS *Mercy*, two naval hospital ships, docked in New York and Los Angeles, respectively, to assist with health care overcrowding.<sup>44</sup>

NATO's Euro-Atlantic Disaster Response Coordination Centre (EADRCC) helped to coordinate assistance based on requests and availability of supplies. The Czech Republic and Turkey, for example, "provided Italy and Spain with medical supplies such as masks, personal protection equipment and disinfectants."45 In April, NATO foreign ministers directed Supreme Allied Commander Wolters to help coordinate the matching of requests for aid with offers of assistance and to utilize excess airlift capacity to ease the transport of essential supplies across borders.46 According to Secretary General Stoltenberg, General Wolters "will also implement simplified procedures for rapid air mobility, in coordination with Eurocontrol, using the NATO call sign for military relief flights."47

NATO's Strategic Airlift Capability (SAC), "a multinational programme that provides assured access to strategic military airlift capability for its 12 member nations," 48 which include 10 NATO members and two Partnership for Peace Countries, 49 was leveraged for

pandemic response. Examples include cargo flights to bring essential medical supplies from South Korea to the Czech Republic, Hungary, Romania, and Slovakia; use of SAC to transport ICU beds to Dutch Sint Maarten in April; the partnering of an Italian team from NATO's Support and Procurement Agency with a private company to create printed 3-D connectors to convert snorkeling masks to ventilator masks. <sup>50</sup> In April, NATO's Kosovo Force (KFOR) helped to transport gowns, masks, and sanitizers to North and South Mitrovica in Kosovo. <sup>51</sup>

In addition to NATO facilitation, allies have banded together to assist one another during the pandemic. Poland and Albania, for example, have sent doctors to Italy; the German air force has helped to transport patients from France and Italy to German hospitals for treatment; Germany has donated ventilators to the U.K.; the U.S. Administration has "authorized a robust assistance package for Italy," Estonia has donated masks and disinfectant to Spain and Italy, and NATO's Support and Procurement Agency has provided field hospital tents and equipment to Luxembourg to increase capacity.<sup>52</sup>

Another important impact of the pandemic has been the cancellation or postponement

of exercises. In March, Cold Response 20, a major exercise in Norway focused on Arctic security, was cancelled and 1,500 American servicemembers were put into quarantine after coming into contact with an infected Norwegian servicemember. DEFENDER-Europe 20, which was to be "the U.S. Army's largest exercise in Europe in 25 years, ranging across ten countries and involving 37,000 troops from at least 18 countries, of which 20,000 soldiers [were to] be deployed from the United States to Europe," was significantly scaled back, and "linked exercises...Dynamic Front, Joint Warfighting Assessment, Saber Strike and Swift Response" were cancelled. 4

Despite these changes, the U.S. did exercise large movements of soldiers and equipment before the cancellation of DEFENDER-Europe 20. Beginning in January:

[T]he Army deployed approximately 6,000 Soldiers from the United States to Europe including a division headquarters and an armored brigade combat team. It has moved approximately 9,000 vehicles and pieces of equipment from Army Prepositioned Stocks and approximately 3,000 pieces of equipment via sea from the United States. And, in coordination with Allies and partners, it also completed movement of Soldiers and equipment from multiple ports to training areas in Germany and Poland.<sup>55</sup>

In early April, it was reported that "Canada and Germany have canceled [their] participation" in and that "Austria is considering not coming" and "Britain will substantially scale down [its] contribution" to the Aurora 20 exercise in Sweden because of COVID-19.<sup>56</sup>

**U.S. Nuclear Weapons in Europe.** In his 2020 EUCOM posture statement, General Tod Wolters reaffirmed that:

As long as nuclear weapons exist, NATO will remain a nuclear Alliance. The fundamental purpose of NATO's nuclear capability is to preserve peace, prevent coercion,

and deter aggression. The strategic forces of the Alliance are the supreme guarantee of the security of Allies and underwrite every U.S. military operation in Europe. Since 2015, the Alliance has placed increased emphasis on the role of nuclear capabilities in its overall deterrence and defense posture, and continues to adapt its posture to ensure its nuclear capabilities remain credible, coherent, resilient, and adaptable to the changing environment.<sup>57</sup>

It is believed that until the end of the Cold War, the U.S. maintained approximately 2,500 nuclear warheads in Europe. Unofficial estimates range between 150 and 200 warheads spread across bases in Italy, Turkey, Germany, Belgium, and the Netherlands. In October 2019, reports surfaced that the U.S. was considering moving the roughly 50 tactical nuclear weapons stored at Incirlik Air Base in Turkey in light of ongoing tensions, but no decision has been made. All of these weapons are free-fall gravity bombs designed for use with U.S. and allied dual-capable aircraft.

These bombs are undergoing a life extension program that is expected to add at least 20 years to their life span. The B61-12 bomb, according to U.S. officials, is "intended to be three times more accurate than its predecessors" and had been slated to begin production in March 2020. However, in September 2019, Charles Verdon, Deputy Administrator for Defense Programs at the National Nuclear Security Administration, announced that the life extension program for the new B61-12 gravity bomb could face an 18-month delay, which could shrink in the future, because of the need to replace certain parts.

# Important Alliances and Bilateral Relations in Europe

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

### **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 seven other nations do both.





EQUIPMENT AS A PERCENTAGE OF DEFENSE EXPENDITURES, 2020

**NOTES:** Figures are estimates for 2020. Iceland is not listed because it has no military.

**SOURCE:** Press release, "Defence Expenditure of NATO Countries (2013–2020)," North Atlantic Treaty Organization, October 21, 2020, https://www.nato.int/nato\_static\_fl2014/assets/pdf/2020/10/pdf/pr-2020-104-en.pdf (accessed October 26, 2020).

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#### North Atlantic Treaty Organization.

NATO is an intergovernmental, multilateral security organization that was designed originally to defend Western Europe from the Soviet Union. It anchored the U.S. firmly

in Europe, solidified Western resolve during the Cold War, and rallied European support following the 9/11 terrorist attacks. NATO has been the bedrock of transatlantic security cooperation ever since its creation in 1949 and is likely to remain so for the foreseeable future.

Current NATO operations include Resolute Support, "a non-combat mission which provides training, advice and assistance to Afghan security forces and institutions"; Kosovo Force; Operation Sea Guardian, tasked with maintaining "maritime situational awareness, counter-terrorism at sea and support to capacity-building" in the Mediterranean; Airborne Surveillance and Interception Capabilities to meet Iceland's Peacetime Preparedness Needs (ASIC IPPN); NATO Air Policing over the Baltics, Albania, Montenegro, and Slovenia; airlift and sealift support to the African Union Mission in Somalia; "capacity-building support" and "expert training support" for the African Standby Force; and NATO Mission Iraq (NMI), "a non-combat training and capacity-building mission that involves several hundred NATO trainers."62 The 500-strong NMI was temporarily suspended in January 2020 following the death of Iranian General Qassem Soleimani. In February 2020, despite the suspension, NATO reportedly began to consider expanding the NMI to meet U.S. demands for a greater alliance presence in the Middle East.63

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

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. 65 "In 2019, Allies contributed all of the combat forces required for this initiative," and they "are now working to build and maintain the level of readiness of these forces and organise them into larger formations."

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

- The U.S. serves as the lead nation in Orzysz, Poland, near the Suwalki Gap. The U.S.-led battlegroup consists of 857 American troops and an armored cavalry squadron with combat service and support enablers augmented by 80 troops from Croatia, 120 from Romania, and 140 from the United Kingdom.<sup>67</sup>
- In Estonia, the United Kingdom serves as the lead nation, headquartered in Tapa. Its battlegroup consists of 800 troops in an armored infantry battalion with main battle tanks and armored fighting vehicles, supported by "self-propelled artillery and air defence assets, engineers, an intelligence, surveillance and reconnaissance group and logistic support elements," in addition to three staff officers from Denmark, and one Icelandic strategic communications civilian.<sup>68</sup>
- In Adazi, Latvia, Canada is the lead nation with 525 troops and armored fighting vehicles augmented by 21 troops from Albania, 55 from the Czech Republic, 166 from Italy, 10 from Montenegro, approximately 200 from Poland, 152 from Slovakia, 33 from Slovenia, and 350 from Spain.<sup>69</sup>
- In Rukla, Lithuania, Germany serves as the lead nation with 560 troops augmented by another 262 from Belgium, 188 from Croatia, 35 from the Czech Republic, 270 from the Netherlands, 120 from Norway, a contribution from Luxembourg, and one Icelandic public affairs civilian.<sup>70</sup>

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. <sup>71</sup> In February 2017, the Baltic States signed an agreement to facilitate the movement of NATO forces among the countries. <sup>72</sup>

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."

At its July 2016 Warsaw summit, NATO also agreed to "develop tailored forward presence in the southeast part of the Alliance territory." According to the summit's official communiqué:

Appropriate measures, tailored to the Black Sea region and including the Romanian initiative to establish a multinational framework brigade to help improve integrated training of Allied units under Headquarters Multinational Division Southeast, will contribute to the Alliance's strengthened deterrence and defence posture, situational awareness, and peacetime demonstration of NATO's intent to operate without constraint. It will also provide a strong signal of support to regional security. Options for a strengthened NATO air and maritime presence will be assessed.<sup>74</sup>

The land component of NATO's tailored forward presence is a multinational framework brigade based in Craiova, Romania, under the control of Headquarters Multinational Division Southeast (HQ MND–SE) in Bucharest. HQ MND–SE achieved final operational capability in March 2018. 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."<sup>77</sup> The U.S. and Romania jointly organize a biannual exercise named Saber Guardian, which is designed to improve the integration of multinational combat forces."<sup>78</sup> In the 2019 iteration, "[a]lmost 8,000 soldiers from six countries (Albania, Bosnia and Herzegovina, Bulgaria, Romania, Hungary and United States of America)" participated in exercises in Bulgaria, Hungary, and Romania.

Addressing a NATO capability gap in aerial refueling, the Czech Republic joined the Multinational Multi-Role Tanker Transport Fleet (MMF) program, which also includes Belgium, Germany, Luxembourg, the Netherlands, and Norway, in October 2019. The first two of eight Airbus A330 Multi-Role Tanker Transport (MRTT) aircraft, which will help to offset some of Europe's reliance on the United States for aerial refueling services, are to be delivered to Eindhoven air base in the Netherlands in May 2020, with another four scheduled for delivery over the next three years; the other three will operate out of Cologne, Germany, with the first to be delivered in October 2020.80 The U.S. currently carries out 90 percent of NATO airto-air refuelings.81

Additionally, in November 2019, NATO announced a \$1 billion package to upgrade its Airborne Warning and Control System (AWACS) planes along with "an announcement that the first of five Global Hawk drones making up the Alliance Ground Surveillance program was en route from the United States to its future home base at Sigonella, Sicily."<sup>82</sup>

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. Sa These commands consist of a total of 1,500 personnel, with the logistics command headquartered in Ulm, Germany. 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."<sup>85</sup> In December 2019, EUCOM Commander General Tod Wolters stated that logistics deficiencies in Europe keep him up at night: "[W]hen I go to sleep at night, it's probably the last thought I have, that we need to continue to improve upon, and we are, from a road, rail, and air perspective, in getting large quantities of hardware and software from west to east on continent."<sup>86</sup>

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. NATO has focused heavily on overcoming these barriers and is working with the European Union, which retains competencies that are critical to improving military mobility, particularly with respect to overcoming legal and regulatory hurdles.

Cyber Capabilities. NATO has stated that "a severe cyber-attack could lead [it] to invoke Article 5."87 Ultimately, the decision to invoke Article 5 will be a political decision. At the 2016 Warsaw summit, NATO recognized cyberspace as a domain of operations, and on August 31, 2018, it established a Cyberspace Operations Centre (CYOC) in Mons, Belgium, that will include 70 cyber experts when it becomes fully operational in 2023.88 The CYOC, according to NATO, "will provide situational awareness and coordination of NATO operational activity within cyberspace."89 In 2017, it was reported that NATO "is preparing to expand its satellite communications capability with contracts worth about \$1.85 billion later this year as it prepares to field a new fleet of drones."90 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. Satellite communications are critical both for piloting the Global Hawks and for disseminating the surveillance data they collect in real time.

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.<sup>92</sup>

Another related initiative, the NATO Industry Cyber Partnership, focuses on industry and the academic community:

NATO has also invested in strengthening its relationship with industry through the NATO Industry Cyber Partnership. This initiative, established in 2014, facilitates cooperation for the mutual benefit of both NATO and Allies' industry and academia. In 2019, industry continued to support NATO's cyber defence by providing real-time actionable cyber threat information, thereby enabling stakeholders to take rapid action to respond to threats.<sup>93</sup>

U.S. officials have raised concerns about the impact of Chinese 5G technology on the sharing of intelligence in Europe, stating that using Chinese state-controlled companies for next-generation wireless networks would be "nothing short of madness." The landscape in Europe for key decisions regarding Chinese technology in next-generation wireless networks is accelerating. Exactly how the

emerging patchwork approach to Chinese 5G technology in Europe will affect the European operating environment will become clearer in the coming years.

Ballistic Missile Defense. In July 2016, NATO members declared Initial Operational Capability of NATO ballistic missile defense (BMD), which offers a stronger capability to defend alliance populations, territory, and forces across the southern portion of Europe from a potential ballistic missile attack. 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.95 An AN/TPY-2 forward-based early-warning BMD radar established at Kürecik, Turkey, has a range of up to 1,800 miles. The U.S. is also reportedly building a second undisclosed site near Malatya, expanding capability at that location.<sup>96</sup>

BMD-capable U.S. Aegis-equipped ships are forward deployed at Rota, Spain.97 In March 2020, the U.S. Navy announced support for basing an additional two destroyers at Rota, which would bring the total to six.98 The additional deployments, according to NATO Supreme Allied Commander Wolters, "would allow us the opportunity to continue to improve our ability to get indications and warnings in the potential battlespace and also dramatically improve our ability to better command and control."99 A second Aegis Ashore site in Redzikowo, Poland, which broke ground in May 2016, was expected to be operational in 2017 but has been beset by construction delays and may not become operational until 2022.100 Ramstein Air Base in Germany hosts a command center.<sup>101</sup>

The U.K. operates a BMD radar at RAF Fylingdales in England. In November 2015, the government "announced it would invest in a ground-based BMD radar, intended to enhance the coverage and effectiveness of the NATO BMD capability." <sup>102</sup> As of July 2017, it was reported that "[t]he UK's current and only ballistic missile defence (BMD) radar [was still] at RAF Fylingdales" but that the government

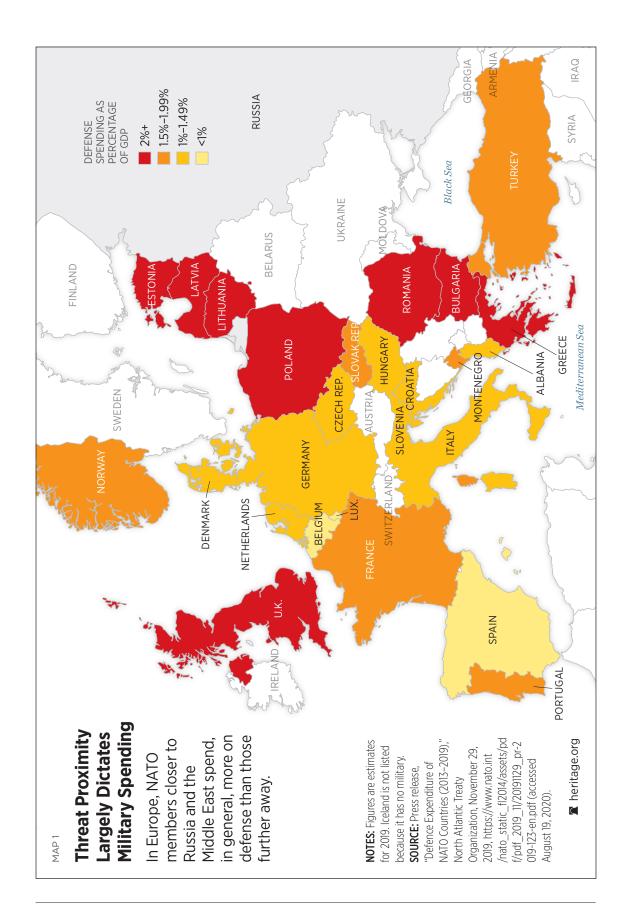
expects the new radar "to be in service by the mid-2020s" and "will also investigate further the potential of the Type 45 Destroyers to operate in a BMD role." <sup>103</sup>

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 Formidable Shield BMD exercise off the Scottish Coast.<sup>104</sup> Formidable Shield exercises were held again in 2019.<sup>105</sup> During Formidable Shield 19, a French FREMM frigate deployed an Aster-15 air defense missile for the first time to "to intercept a projectile travelling at a speed of over Mach 1," and a Canadian frigate engaged a supersonic target with an Evolved Sea Sparrow Missile for the first time.<sup>106</sup>

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." <sup>107</sup> Norway operates four *Fridtjof Nansen*—class Aegis-equipped frigates that are not currently BMD capable. <sup>108</sup> A fifth Aegis-equipped frigate, the *Helge Ingstad*, collided with an oil tanker and was intentionally run aground in November 2018; although raised in 2019, it likely will be salvaged for parts rather than returned to service. <sup>109</sup>

Denmark, which agreed in 2014 to equip at least one frigate with radar to contribute to NATO BMD, reaffirmed this commitment in its recent Defence Agreement 2018–2023. 110 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." 111

In March 2019, the first of four Dutch *Iver Huitfeldt*–class frigates received a "SMART-L Multi-Mission radar upgrade, providing enhanced Air and Missile Defense capability." The SMART-L MM "is capable of detecting a very wide variety of air and space objects including stealth, short up to long range ballistic



missiles and space objects" and "capable of surveillance and tracking of Ballistic Missiles up to 2000 km while simultaneous[ly] maintaining the Air Defence capability." All four Dutch frigates will receive the radar upgrade, and the Netherlands announced plans to acquire the BMD-capable SM-3 surface-to-air missiles in 2018. In February 2019, 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.

In addition, it has been reported that Belgium intends to procure M-class frigates that "will be able to engage exo-atmospheric ballistic missiles."<sup>115</sup> A contract to develop a weapons suite for a joint Belgian and Dutch procurement of two multipurpose frigates apiece was awarded in February 2019, and the vessels are expected to enter service beginning in 2024.116 Spain currently operates four Aegis-equipped F-100 Alvaro de Bazan-class frigates, and "[t]wo more frigates are to come." 117 In April 2019, Spain signed an agreement to procure five F-110 multi-mission frigates; the first of these Aegis-equipped frigates will likely be deployed in 2026 and "will host the first naval solid-state S-band radar for the Spanish Navy."118 Finally, the Italian Navy is procuring seven multi-role offshore patrol vessels (PPAs) to be delivered from 2021 to 2026; the first of two BMD-capable PPAs in full configuration is scheduled for delivery in 2024.119

#### **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 2020, nine countries—Estonia (2.38 percent); Greece (2.58 percent); Latvia (2.32 percent); Lithuania (2.38 percent); Norway (2.03 percent); Poland (2.30 percent); Romania (2.38 percent); the United Kingdom (2.43 percent); and the United States (3.87 percent)—spent the required minimum of 2 percent of

gross domestic product (GDP) on defense, <sup>121</sup> and 16 NATO allies spent 20 percent of their defense budgets on "major new capabilities." <sup>122</sup> NATO defense spending continues to trend upward: "2019 marked the fifth consecutive year of growth in defence spending for European Allies and Canada, with an increase in real terms of 4.6% from 2018 to 2019." <sup>123</sup>

Germany. Germany remains an economic powerhouse that punches well below its weight in terms of defense. In 2020, it will spend only 1.57 percent of GDP on defense and 16.8 percent of its defense budget on equipment;124 however, this is an increase from 2019, when it spent only 1.38 percent of GDP on defense and 16.6 percent of its defense budget on equipment.125 In 2019, Germany officially reneged on its pledge to spend 2 percent of GDP in 2024, informing NATO that it would reach only 1.5 percent. 126 In November 2019, Defense Minister Annegret Kramp-Karrenbauer announced that Germany may not attain the 2 percent benchmark until 2031.127 Because of political constraints under the current coalition government, German defense spending is not likely to shift significantly until after the next election, which will be held before October 2021. Overall, 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."128

Germany continues to serve as the lead nation for NATO's EFP battalion in Lithuania, with 560 troops stationed there, and is investing \$110 million through 2021 in upgrading facilities in Lithuania, including barracks used by the multinational battalion. <sup>129</sup> The Luftwaffe has taken part in Baltic Air Policing more than any other nation's armed forces: 11 times, including most recently in the second half of 2018.

Germany maintains 70 troops in Kosovo as part of NATO's Kosovo Force and is the second-largest contributor to NATO's Resolute Support Mission in Afghanistan with 1,300 troops. <sup>130</sup> In February 2020, the Bundestag

extended the mandates for Germany's participation in NATO's Sea Guardian maritime security operation and Resolute Support Mission through March 2021. <sup>131</sup> German forces also participate in a number of U.N. peacekeeping missions including in Lebanon, Mali, and South Sudan. <sup>132</sup>

On March 11, 2020, after extending Germany's non-combat training mission in Iraq and its air-to-air refueling and air surveillance radar missions in support of the counter-ISIS coalition, the German government announced that it was ending its Tornado reconnaissance mission on March 31.133 Germany maintains approximately 90 soldiers in Iraq who are helping to train Kurdish forces. 134 An additional 30 soldiers were redeployed to Kuwait and Jordan in January 2020 after Qassem Soleimani was killed by a U.S. drone strike.135 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 2021.136

While Germany's forces have taken on additional roles in recent years, its overall military continues to suffer serious equipment and readiness issues. According to a January 2020 report, "just 15 percent of Germany's Tiger attack helicopters and only around 12 percent of its NH90 transport helicopters were mission capable as of November 2019."137 The readiness rate of Germany's fleet of 93 Tornado jets reportedly is less than 40 percent. 138 A February 2019 report stated that, on average, only 39 of 128 Eurofighters and 26 of 93 tornadoes were available for training and combat in 2018. 139 In addition to equipment problems, the Luftwaffe is facing a shortage of pilots, with only twothirds of combat pilot positions filled.140

The situation is not much better for either the army or the navy. Germany, which was the lead nation for NATO's Very High Readiness Joint Task Force (VJTF)<sup>141</sup> in 2019, "promised to have 44 Leopard 2 tanks and 14 Marder armoured infantry vehicles available for the task, yet in the event could only muster nine and three respectively."<sup>142</sup>

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. <sup>143</sup> Equipment availability has since been classified and thus is not available in the Parliamentary Armed Forces Commissioner's 2019 annual report. <sup>144</sup>

In December 2017, Germany's F-125 Baden-Württemberg-class frigate failed sea trials because of "software and hardware defects."145 The frigate reportedly had "problems with its radar, electronics and the flameproof coating on its fuel tanks." It "was also found to list to the starboard" and lacked sufficiently robust armaments as well as the ability to add them.<sup>146</sup> Concerns have been raised about the frigate's lack of a surface-to-air missile system, a deficiency that leaves it fit only for "stabilization operations," and lack of sonar and torpedo tubes, which leaves it vulnerable to submarine attack. 147 The government returned the ship to the shipbuilder following delivery,148 and the redesigned Baden-Württemberg was belatedly commissioned in June 2019, the first of four F-125 frigates to be delivered through 2021.149 In January 2020, Germany announced a \$6.7 billion contract with a Dutch and German shipbuilder to build the next-generation MKS 180 frigate, the first of four (with the possibility of another two) to be delivered in 2027.150

Germany has increased the number of personnel on active duty in its army from 176,000 in 2016 to 182,000 in 2019:

The government recognizes that the force structure needs to expand in light of Germany's ambitious plans but is grappling with recruitment and retention issues. To address this, Berlin launched a new strategy in October 2019, designed to create a more flexible reserve cadre that can rapidly respond to territorial and collective-defence tasks.<sup>151</sup>

In March 2020, Germany announced that it will purchase 90 Eurofighter Typhoons and 45 F/A-18E/F Super Hornets to replace its fleet

of Tornados. <sup>152</sup> It will cost almost €9 billion to keep the Tornados in the air until their retirement, which is scheduled for 2030. <sup>153</sup> Their replacements 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. <sup>154</sup> The U.S. and Germany have already tested the Tornado's ability to carry the new B61-12 tactical nuke. <sup>155</sup> While not yet certified, Germany is planning on the Super Hornets as their dual-capable aircraft. <sup>156</sup> Of the 45 Super Hornets, 15 will be an EA-18 Growler electronic warfare variant. <sup>157</sup>

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. 158

Germany's procurement of A400M cargo aircraft has been beset by delays. In November 2019, Germany refused to accept delivery of two aircraft, "citing recurring technical problems with the military transporters." As of that same month, 31 of 53 aircraft ordered by Germany had been delivered, but they were found to have a host of technical problems that included incorrect nuts used on propellers and problems with "engine mounts, combustion chambers and engine flaps and for crack detection on various parts."159 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.160

**France.** France has one of NATO's most capable militaries 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. In 2020, France will spend 2.11 percent of GDP on defense and 26.5 percent of its defense budget on equipment, meeting both NATO benchmarks.<sup>161</sup>

In February 2020, the *Suffren*, the first of six new fifth-generation *Barracuda*-class nuclearpowered attack submarines, was floated for the first time. The vessel is expected to be commissioned late in 2020.<sup>162</sup> Construction began on the first of five defense and intervention frigates in October 2019, and "[t]he navy expects the ship to be pronounced operational in early 2025."<sup>163</sup>

France is upgrading its aerial refueling and airlift fleet. In September 2019, it received the first of two KC-130J Super Hercules. <sup>164</sup> It has also been introducing a dozen new A330 MRTT Multi-Role Tanker Transport aircraft, which were procured in 2018 and will be delivered through 2023. <sup>165</sup> By the end of 2020, all 15 French A400M Atlas military transport aircraft will have been upgraded to "tactical standard," and it is expected that an additional 10 aircraft will be procured by 2025. <sup>166</sup>

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 F4 Standard upgrade includes "a number of new features, the most important of which is an improvement in the aircraft's connectivity in both national and allied contexts, through software-defined radio, new links, and satellite communications."167 The 28 Rafales, to be delivered in 2023, "will include some F4 functionalities." Also in January, Armed Forces Minister Florence Parly announced a potential order of 30 additional Rafales at full F4 standard in 2023 for delivery between 2027 and 2030.168 France is also spending \$5 billion in 2020 on modernization of its sea-based and air-based nuclear deterrent.169

France established a 220-person Space Command under its air force in September 2019 and has committed to investing \$4.78 billion in its space capabilities by 2025. 170 France plans to have an "active defence" of its assets in space, including lasers and patrols of "nano-satellites," by 2023. "If our satellites are threatened," Armed Forces Minister Parly has explained, "we intend to blind those of our adversaries. We reserve the right and the means to be able to respond: that could imply the use of powerful lasers deployed from our satellites or from patrolling nano-satellites." 171

In December 2016, France opened a cyber-operational command.<sup>172</sup> The French Military Programming Law for 2019–2025, enacted in the summer of 2018, added "an additional 1.6 billion euros for cyber operations along with 1,500 additional personnel for a total of 4,000 cyber combatants by 2025," and in January 2019, France issued its "first doctrine for offensive cyber operations."<sup>173</sup>

France, which has the third-largest number of active-duty personnel in NATO, withdrew the last of its troops from Afghanistan at the end of 2014 (all of its combat troops had left in 2012) but remains engaged in the fight against the Islamic State with 1,000 troops deployed in Operation Chammal.<sup>174</sup> The January-April 2020 deployment of a carrier strike group led by the aircraft carrier Charles de Gaulle to the eastern Mediterranean in support of Operation Chammal was the fifth such deployment since 2014. 175 France has contributed to NATO deterrence missions in Eastern Europe, although 300 soldiers deployed to Estonia as part of NATO's Enhanced Forward Presence withdrew in August 2019.176

The French military is also very active in Africa, with more than 5,100 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,<sup>177</sup> 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 against human smuggling and migration and is involved in a few other maritime missions across the globe as well. <sup>178</sup> In Asia, for example, French naval forces occasionally conduct freedom-of-navigation operations in the South China Sea. <sup>179</sup> In April 2019, France sent a frigate, the *Vendemiaire*, through the Taiwan Strait on a freedom-of-navigation operation. <sup>180</sup> The French-led Maritime Situation Awareness in the Strait of Hormuz

(EMASOH) initiative to help patrol the waters near Iran is based out of Abu Dhabi and became operational on February 25, 2020.<sup>181</sup> France is expanding its presence in the eastern Mediterranean and conducted naval drills with Cyprus in October 2019.<sup>182</sup> Cyprus is planning to expand Evangelos Florakis naval base in Mari to host the French navy.<sup>183</sup>

Operation Sentinelle, launched in January 2015 to protect France 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."184 Frequent deployments, especially in Operation Sentinelle, have placed significant strains on French forces and equipment. "In early September 2017," according to the International Institute for Strategic Studies (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."185 France's 2017 Defense and National Security Strategic Review similarly noted that "simultaneous sustained operations and deployments are causing early wear and tear of human resources and equipment."186

Sentinelle deployments have had a negative effect on morale for a myriad of reasons. In March 2019, for example, at the height of the *gilets jaunes* (yellow vests) protests, soldiers temporarily took over guard duties at certain Paris buildings to free police. <sup>187</sup> To counteract the strain on soldiers, the government extended deployment pay to soldiers who took part and created a "medal for Protection of the Territory" for troops deployed for 60 days in Operation Sentinelle. <sup>188</sup>

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.

In 2020, the U.K. will spend 2.43 percent of GDP on defense and 23.0 percent of its defense budget on equipment.189 In September 2019, the Treasury announced a defense budget increase of \$2.7 billion between 2019 and 2021, raising overall spending from £39 billion in 2019 to "over £41 billion" (\$53 billion) in 2021.190 The increase, however, is less than the £3.3 billion requested by the Ministry of Defence (MOD).191 In addition, more than 30 percent of the increased funding (\$910 million) "was earmarked to deal with an increase in pensions contributions," with most of the remaining £1.2 billion used for military modernization, "including investments in the Dreadnought-class nuclear-powered ballistic-missile submarine that will replace the Vanguard class; wider ship-building plans, such as the Type-26 and Type-31 frigates; and funding for cyber capabilities."192 The Financial Times reported in December 2019 that the chief of the Defence Staff had called an emergency meeting with the service chiefs to discuss a £1 billion FY 2021 budget shortfall that would cause "a squeeze on day-to-day deployments and training activities, which will jeopardise overall capability and operational readiness."193

In December 2018, the U.K. released its Modernising Defence Programme, which reaffirmed Britain's commitment to defense in post-Brexit Europe. The program 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." <sup>194</sup> A 2020 report from the National Audit Office, however, warned that the U.K.'s "10-year defense equipment plan shows there is a potential funding shortfall of up to £13 billion (U.S. \$15 billion)." <sup>195</sup>

On February 26, 2020, Prime Minister Boris Johnson announced a foreign policy, defense, security, and international development

review intended in part to "[d]efine the Government's ambition for the UK's role in the world and the long-term strategic aims for our national security and foreign policy" and "[s]et out the way in which the UK will be a problem-solving and burden-sharing nation, examining how we work more effectively with our allies."<sup>196</sup> The July 2020 deadline for this review, which will run parallel with a comprehensive spending review, was criticized as overly ambitious even before the outbreak of the COVID-19 pandemic.<sup>197</sup>

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. This goal was reiterated in the MOD's 2018 report on the Modernising Defence Programme. However, U.K. defense forces remain plagued by vacancies. According to the IISS:

The personnel strength of the British armed forces continues to decrease, with an overall deficit of 7.6% in 2019, compared with 6.2% the previous year. Although recruitment initiatives continue, shortages remain in key specialist areas, including 18% of required Royal Air Force (RAF) pilots. The MoD routinely claims that it has enough personnel to meet operational requirements, and in the event of a largescale operation, such as a NATO Article 5 contingency, the army could probably draw on its reserves to bring its units to full strength. But the Royal Navy and RAF, with smaller reserves, might find it more problematic to generate the necessary personnel for a large-scale operation.<sup>200</sup>

The National Audit Office found that onethird of the U.K.'s 32 most important procurement projects were behind, with new equipment "on average more than two years late before it can be at full operating capability."<sup>201</sup> 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. The 79 other tanks would be used as a source of spare parts. The British Army had previously cut its tank forces by 40 percent in 2010. Description 2010.

In November 2018, former Defence Secretary Gavin Williamson announced a contract to order an additional 17 F-35B aircraft. The U.K. has taken delivery of 16 F-35Bs, and it is expected that 17 more will be delivered between 2020 and 2022. The MOD remains committed to purchasing 138 F-35s but has yet to decide which variants will complete the bloc. RAF F-35s based at Akrotiri, Cyprus, flew operational sorties for the first time in June 2019. The solution of the second contract of

In September 2019, the U.K. took delivery of the last of 160 Typhoon aircraft, which are expected to stay in service until 2040.<sup>208</sup> Project Centurion, a \$515.83 million Typhoon upgrade to integrate additional Storm Shadow long-range cruise missiles and Brimstone precision attack missiles, was completed in 2018, allowing the U.K. to retire its fleet of Tornado aircraft.<sup>209</sup> The U.K. also plans to invest \$2.6 billion in development of the Tempest, a sixth-generation fighter to be delivered in 2035.<sup>210</sup>

The RAF operates the largest fleet of air-to-air refuelers in Europe, which is noteworthy because of the severe shortage of this capability on the continent.<sup>211</sup> Along with the U.K., the U.S. has produced and jointly operated an intelligence-gathering platform, the RC-135 Rivet Joint aircraft, which has seen service in Mali, Nigeria, and Iraq and is now part of the RAF fleet.<sup>212</sup>

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 of 22 A400Ms by the early 2020s. In July 2019, the U.K. extended the out-of-service date for its fleet of 14 C-130Js (one C-130J C5 and 13 C-130J-30 C4s) to 2035; the fleet, which is critical to the U.K.'s special operations forces, is undergoing "a key structural upgrade programme." 214

The Sentinel R1, an airborne battlefield and ground surveillance aircraft, 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 landed in Scotland in February 2020.215 A £132 million facility to house the P-8s is under construction at RAF Lossiemouth in Scotland, and P-8s will operate out of the facility by the end of 2020.216 The U.K. has relied on allied MPAs to fill a capability gap that began in 2010. In 2018, retired Air Vice-Marshal Andrew Roberts testified before a parliamentary committee that, "capable though the P-8 may be, the number of aircraft planned is undoubtedly inadequate to fulfil even the highest priority tasks likely to be assigned to the force in tension and hostilities."217

The Royal Navy has lost 40 percent of its fleet since the end of the Cold War.<sup>218</sup> Of the 55 ships that the Royal Navy has lost since the early 1980s, half are frigates, and the U.K. was operating only 13 as of 2018.<sup>219</sup> 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.<sup>220</sup> The Type-26 Global Combat Ships are meant to handle a flexible range of tasks, but whether all of their weapons capabilities will be funded remains unclear.221 The U.K. announced procurement of five T31e frigates to enter service in 2023, the year the first of the Type-23 frigates is slated to be phased out of service.<sup>222</sup>

HMS *Queen Elizabeth* is expected to become operational in 2021.<sup>223</sup> The U.K.'s *Queen Elizabeth*–class carriers will be the largest operated in Europe, and two of her class will be built. HMS *Price of Wales*, which will be the larger of the two carriers, was commissioned in December 2019 and will undergo fixed-wing sea trials with F-35s off the U.S. east coast in January 2021.<sup>224</sup> In July 2019, a leak in the *Queen Elizabeth* forced the carrier to return to port early from sea trials.<sup>225</sup> In January 2020, the carrier took part in sea trials with F-35s in

U.K. waters for the first time.  $^{226}$  While each carrier is capable of supporting 36 F-35s, the U.K. plans to procure only 48 F-35s for the foreseeable future.  $^{227}$ 

The Royal Navy is also introducing seven *Astute*-class attack submarines as it phases out its older *Trafalgar*-class subs. Crucially, the U.K. also maintains a fleet of 13 Mine Counter Measure Vessels (MCMVs) that deliver world-leading capability. As a supplement, the U.K. began minehunting and survey operations using unmanned surface vessels (USVs) in March 2020.<sup>228</sup>

Perhaps the Royal Navy's most important contribution is its continuous-at-sea, submarine-based nuclear deterrent based on the *Vanguard*-class ballistic missile submarine and the Trident missile. In July 2016, the House of Commons voted to renew Trident and approved the manufacture of four replacement submarines to carry the missile. The replacement submarines are not expected to enter service until 2028 at the earliest. <sup>229</sup> The U.K. plans to procure four new *Dreadnought*-class ballistic missile submarines at a cost of £31 billion with a completion date of 2028 for the first, HMS *Valiant*. <sup>230</sup>

The U.K. remains a leader inside NATO, serving as the lead nation for NATO's EFP in Estonia and as a contributing nation for the U.S.-led EFP in Poland. The Royal Air Force has taken part in Baltic Air Policing five times since 2004, including most recently from May–September 2019.<sup>231</sup> 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.<sup>232</sup> From November–December 2019, four U.K. typhoons and 120 personnel took part in Icelandic Air Policing.<sup>233</sup>

The U.K. also increased its already sizeable force in Afghanistan to 1,100 troops in 2018 and continues to support this deployment as part of NATO's Resolute Support Mission in addition to contributing to NATO's Kosovo Force.<sup>234</sup> U.K. forces are an active part of the anti-ISIS coalition, contributing 1,400 servicemembers to Operation Shader, which includes

400 servicemembers involved in training Iraqi security forces, and with RAF drones and aircraft carrying out 8,400 missions.<sup>235</sup>

Italy. Italy hosts some of the most important U.S. bases in Europe, including the headquarters of the Sixth Fleet. It also has NATO's fifth-largest military<sup>236</sup> and one of its more capable despite continued lackluster defense investment. Italy cut its procurement budget by 15 percent in 2019 but increased its overall defense budget, which included an additional 19 percent for maintenance and operations.237 Italy raised its defense spending in 2020 but still spent only 1.43 percent of GDP on defense; however, it spent 24.6 percent of its defense budget on equipment, meeting the second NATO spending benchmark.<sup>238</sup> Overall, "the procurement approval and delay in programme launch and the long-term 2019-2033 investment planning (with most of the budget concentrated from 2027-2028) is affecting defence programmes and international commitments."239

In June 2019, the government announced plans to invest \$8.1 billion in defense modernization through 2032. Some of the modernization projects receiving additional funds include procurements for 64 Centauro II 8x8 tank destroyers, 156 VBM Freccia 8x8 infantry combat vehicles, the M-345 jet trainer and HH-101 Combat Search and Rescue helicopter programs, and the NH90 Tactical Transport helicopter.<sup>240</sup> Italy plans to purchase 60 F-35As for the air force and 30 F-35Bs, with the F-35Bs to be divided equally between the air force and navy.241 The government will spend \$942 million on F-35 deliveries in 2020.242 A government-owned final assembly plant for the F-35 is located in Cameri, Italy.

Key naval procurements include plans for four U212A submarines, a special operations and diving operations/Submarine Rescue Ship platform, and a new anti-ship missile system.<sup>243</sup> Italy launched its tenth and final new FREMM frigate in January 2020.<sup>244</sup> Among other defense priorities are "protection of the defence infrastructure against cyber-attacks," the launch of new surveillance and

communications satellites, "the development and qualification programme for the ground-based air-defence MBDA Italia CAMM ER missile system," and "procurement of munition[s] for training and NATO reserve replenishment—for a long time neglected."

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 (EUNAVFOR MED), as well as the Italian Navy's own Operation Mare Sicuro (Safe Sea) off the Libyan Coast. Additionally, 400 Italian troops take part in the Bilateral Mission of Assistance and Support in Misrata and Tripoli.<sup>246</sup>

Despite a southern focus, Italy contributes to Standing NATO Maritime Group Two.<sup>247</sup> It also has 166 troops deployed in the EFP battalion in Latvia, 895 in Afghanistan as part of NATO's Resolute Support mission, and a contingent of approximately 1,100 troops in Kuwait and Iraq taking part in Operation Prima Parthica, Italy's "[n]ational contribution to the Global Coalition Against DAESH."<sup>248</sup> In 2020, Italian Eurofighter jets operating out of Kuwait replaced Germany in a reconnaissance mission in support of the coalition to defeat the Islamic State.<sup>249</sup>

Italy is a major contributor to KFOR with 542 troops, second only to the United States. <sup>250</sup> 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." <sup>251</sup> The Italian Air Force also has deployed to Iceland to perform air patrols five times since 2013, most recently in October 2019 when four F-35As were deployed. <sup>252</sup>

**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 liberation of the Baltic States in the event of a Russian invasion reportedly rely heavily on Polish troops and ports.<sup>253</sup>

Poland has an active military force of 123,700, including a 61,200-strong army with 606 main battle tanks.<sup>254</sup> In November 2016, the parliament approved a new 53,000-strong territorial defense force (TDF) intended, in the words of Defense Minister Antoni Macierewicz, "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."255 The TDF is mostly volunteer; "its personnel combine their civilian careers with limited military service of a minimum of two days twice a month and an annual two-week camp."256 The TDF's planned 17 brigades will be distributed across the country.<sup>257</sup> The force, which currently numbers approximately 21,000, constitutes the fifth branch of the Polish military, subordinate to the Minister of Defense.<sup>258</sup>

Poland is also investing in cyber capabilities. "Plans for a 2,000-strong cyberdefence force were also unveiled in 2019," reports the IISS. "Centralised within the defence ministry, this force is due to be operational before 2025. A cyber component was also set up in the TDF in 2019." <sup>259</sup>

In 2020, Poland will spend 2.30 percent of GDP on defense and 25.7 percent of its defense budget on equipment, reaching both NATO benchmarks. <sup>260</sup> Increases in defense spending adopted in October 2017 should enable Poland to spending 2.5 percent of GDP on defense in 2030. <sup>261</sup> Poland is making major investments in military modernization and is planning to spend \$133 billion on new capabilities by 2035 pursuant to the government's new Technical Modernization Plan for 2021–2035, which was signed in October 2019. <sup>262</sup>

In January 2020, Poland signed a \$4.6 billion deal to purchase 32 F-35As, with deliveries to begin in 2024.<sup>263</sup> In March 2018, in the largest procurement contract in its history,

Poland signed a \$4.75 billion deal for two Patriot missile batteries.<sup>264</sup> 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, 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 2022.265 In February 2018, Poland joined an eight-nation "coalition of NATO countries seeking to jointly buy a fleet of maritime surveillance aircraft."266 In March 2020, the State Department approved "the potential \$100 million sale to Poland of 180 Javelin anti-tank guided missiles and associated equipment."267

Although Poland's focus is territorial defense, it has 350 troops deployed in Afghanistan as part of NATO's Resolute Support Mission and took part in Operation Inherent Resolve to defeat ISIS.<sup>268</sup> Poland's air force has taken part in Baltic Air Policing nine times since 2006, most recently operating four F-16s at Ämari Air Base in Estonia from January-April 2020.269 In 2020, Poland took the lead for NATO's VJTF, taking over from Germany. Of the force's 6,000 troops, half are Polish units.<sup>270</sup> Poland also is part of NATO's EFP in Latvia and has 249 troops in NATO's KFOR mission.<sup>271</sup> In January, the government announced that "there were no plans to withdraw" the 268 soldiers in Iraq assisting in NATO Mission Iraq and the U.S.-led coalition against ISIS and that "NATO commanders in Iraq have stressed the need for Poland to prepare for...reactivation" of both operations.<sup>272</sup>

**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 to Korea 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 February 2020, 80,000 people had been jailed, with an estimated 3,000 in solitary confinement, and nearly 150,000 civil servants and military members had been fired or suspended; the mass detentions led the government to announce in May 2019 that it was planning to build 100 new prisons. <sup>273</sup> As a response to the COVID-19 pandemic, Turkey has utilized early and temporary releases to lower the prison population by a third, but many political prisoners arrested after the failed coup were excluded from the releases. <sup>274</sup>

The post-coup crackdown has had an especially negative effect on the military; 17,500 officers have been dismissed since 2016, and "[t]he effect on officer morale of these continuing purges was exacerbated by the widespread suspicion that promotions and appointments were increasingly politicised, with outspoken supporters of Erdogan fast-tracked for promotion"<sup>275</sup>

Turkey's military is now suffering from a loss of experienced generals and admirals as well as an acute shortage of pilots. The dismissal of more than 300 F-16 pilots, for instance, which greatly exacerbated existing pilot shortages, led in 2017 to "a decree that threaten[ed] 330 former pilots with the revocation of their civil pilot license, unless they return[ed] to Air Force duty for four years."<sup>276</sup> Almost a third of the dismissed pilots "were commanders and veterans who were in charge of bases, fleets and squadrons."<sup>277</sup> A request to the U.S. that it send trainers was denied, as was a Turkish plan to utilize Pakistani trainers to fly the F-16.<sup>278</sup> In addition:

The shortage of pilots was not the only problem. Many of the veteran staff members, especially at the operations and logistics centers that help pilots fly successful missions, were also removed, hampering the close coordination

between the air and land elements of the air force. Hundreds of engineers on the ground were also removed.<sup>279</sup>

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 delivery began in July 2019.280 According to the IISS, "[t]he decision to purchase two S-400 air-defence systems from Russia was made by the president without detailed consultation with the armed forces about the possible technical and strategic repercussions."281 The U.S. suspended Turkey from the F-35 program in July 2019, stating that "[t]he F-35 cannot coexist with a Russian intelligence collection platform that will be used to learn about its advanced capabilities."282 Turkish plans to activate the S-400s in April 2020 were delayed by "several months" because of what one senior Turkish official reportedly characterized as "technical issues." 283

Eight Turkish defense firms make more than 800 components for the F-35, and suspension from the program could cost Turkey's defense industry as much as \$10 billion.<sup>284</sup> The U.S. stopped delivery of key parts and program materials to Turkish firms in early April 2019 and reportedly has offered to allow Turkey to purchase a Patriot missile battery if it cancels the S-400 sale, but "Turkey has said it will only agree to an offer if it includes technology transfer and joint production terms."<sup>285</sup>

Partly as a result of its manned aircraft issues, Turkey is investing heavily in armed drones. It currently has approximately 130 of these drones, and they have played a significant role in Turkish operations in Syria. <sup>286</sup>

In October 2019, Turkey launched a major offensive in Syria against the Kurdish-led Syrian Democratic Forces (SDF), in part to create a buffer zone near the Turkish border. The largest Kurdish armed faction within the SDF, the People's Protection Units (YPG), is an offshoot of the Kurdistan Workers' Party (PKK), a U.S.-designated terrorist group that has waged

war against Turkey off and on since 1984. The offensive led to the creation of a buffer zone jointly patrolled by Turkish and Russian forces following an agreement between Turkish President Erdogan and Russian President Putin in Sochi.

In February 2020, Russian-backed Syrian regime forces launched an attack on Idlib, the last remaining stronghold of forces opposed to Syrian President Bashar al-Assad. Turkish forces opposed the offensive and lost 36 soldiers before Turkey and Russia agreed to a cease-fire.<sup>287</sup> Turkey requested additional NATO support including "greater air support on the Turkish-Syrian border, more reconnaissance aircraft, surveillance drones, and more ships in the eastern Mediterranean."288 Following the Idlib offensive, Erdogan announced that Turkey would "no longer [be] able to hold refugees" and instead facilitated their movement to Turkey's borders with EU states, reneging on "a 2016 agreement with the EU to halt the flow of migrants in to Europe."289 Turkey's decision placed new strain on Turkish-Greek relations, with Greek officials voicing concern "that refugees infected with the coronavirus may be among the new wave of asylum seekers."290

Turkey and Greece remain at odds over Cyprus. Turkey is reportedly scouting a location for a naval base in the Turkish Republic of Northern Cyprus and began flying unmanned aerial vehicles (UAVs), some of them armed, out of Geçitkale Airport in December 2019. Turkey remains locked in a dispute with Greece over drilling rights off the Cypriot coast. The EU rejects Turkish claims, and France has sent warships to the region in support of Cyprus. <sup>292</sup>

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. Restrictions on the use of Incirlik for operations in Syria have proven problematic: "[The] American operation to kill Islamic State leader Abu Bakr al-Baghdadi in Syria saw U.S. forces use a base in Iraq instead of the much closer Incirlik, requiring a round trip of many hours." In July 2019, Turkish Foreign Minister Mevlut Cavusoglu threatened that if the U.S. sanctioned Turkey over its purchase of S-400s, "U.S. use of two strategically vital bases [Incirlik and Kürecik] could be at risk." Germany's decision to leave the base in 2017 also has affected American views of Incirlik's value.

U.S. officials, however, have largely down-played tensions with Turkey. An official at EUCOM, 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." <sup>296</sup> Incirlik's strategic value was on display again in May 2018 when an F-18 pilot taking part in air strikes against ISIS made an emergency landing there after suffering from hypoxia. <sup>297</sup>

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.<sup>298</sup> In December 2019, Spain announced a six-month extension of its air defense batteries deployed to Turkey (Italy, on the other hand, had previously announced that its air defense deployment to Turkey would be ended by December 31).299 Additionally, NATO AWACS aircraft involved in counter-ISIS operations have flown from Turkey's Konya Air Base.300 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.301

Turkey continues to maintain more than 600 troops in Afghanistan as part of NATO's Resolute Support Mission, making it the seventh-largest troop contributor out of 39 nations.<sup>302</sup> The Turks also have contributed to a number of peacekeeping missions in the Balkans, still maintain 371 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,<sup>303</sup> which is NATO's second largest after that of the United States. However, in June 2019:

President Recep Tayyip Erdogan ratified a new law that reduced the length of compulsory military service from 12 to six months. On payment of a fee, compulsory service can be reduced further to one month of basic training. The changes were expected to reduce the overall size of the armed forces by around 35%, as part of Turkey's long-term plan to create compact and fully professional armed forces.<sup>304</sup>

Turkish defense procurement has become more convoluted and more directly tied to President Erdogan. A December 2017 decree placed the Undersecretariat for Defense Industries (SSB), which is responsible for procurement, under Erdogan's direct control. 305 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." 306

Other challenges include 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 had been scheduled for delivery in May 2020, has been delayed indefinitely. The tank relies on a German-made engine and transmission, but because the technology transfer has not been approved, Turkey

is looking to produce domestic alternatives.<sup>307</sup> Similarly, Turkey's procurement of 50 T-129 attack helicopters will likely be delayed for more than four years because of the need to produce a domestic engine to replace one produced by American and British firms.<sup>308</sup> Additionally, the French government has blocked development of anti-ballistic missiles with Turkey because of Turkey's actions in Syria.<sup>309</sup>

Other major procurements include 350 T-155 Firtina 155mm self-propelled howitzers and six Type-214 submarines. The first of the submarines was launched in December 2019, and the program, which was delayed for six years by "technical and financial issues," is expected to deliver one submarine a year, "with all six submarines from the project set to be completed by 2027."<sup>310</sup>

In February 2019, Turkey announced upgrades of four *Preveze*-class submarines, to take place from 2023–2027. 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." In December 2019, the SSB released its "Strategic Plan 2019–2023," which specifies that by 2023, 75 percent of Turkish military needs will be supplied domestically and defense exports will be increased to \$10.2 billion (up from \$2 billion in 2018), although there are doubts about the feasibility of the latter goal. 313

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, Estonia, Latvia, and Lithuania 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 2.38 percent of GDP on defense and 17.3 percent of its defense budget on equipment in 2020.<sup>314</sup> Estonia's development plan for 2021–2024, released in February 2020, details planned investments of \$216 million over four years

in early warning and intelligence and a plan for Estonian defense forces to have modern anti-tank weapons, along with command and communications systems, by 2024.<sup>315</sup>

Although Estonia's armed forces total only 6,700 active-duty service personnel (including the army, navy, and air force), 316 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 were deployed between 2003 and 2014 and sustained the second-highest number of deaths per capita among all 28 NATO members.

In 2015, Estonia reintroduced conscription for men ages 18–27, who must serve eight or 11 months before being added to the reserve rolls. The number of conscripts will increase from 3,200 to 4,000 by 2026. In case of the 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. In October 2019, it was reported that Estonia was acquiring six South Korean-built howitzers at a cost of €20 million "after purchasing an initial 12 last year" at a cost of €46 million and that the U.S. "has recently helped Estonia acquire large-caliber ammunition, marine surveillance equipment, intelligence equipment, and communications equipment which the Estonian government has planned to buy themselves."319 In February 2020, the U.S. delivered 128 Javelin anti-tank weapons to Estonia.320

Additionally, in 2014, Estonia contracted with the Netherlands to purchase 44 used infantry fighting vehicles, the last of which was delivered in 2019. In June 2018, it signed a \$59 million deal to purchase short-range air defenses, with Mistral surface-to-air missiles to be delivered starting in 2020. In 2019, it received two C-145A tactical transport aircraft donated by the U.S. In May 2019, the first of three *Sandown*-class minehunters underwent sea trials following upgrades. In July 2019, Estonia signed a \$24 million deal to purchase

16,000 rifles from an American arms company, allowing it to phase out older Soviet and Israeli weapons. <sup>325</sup> And in April 2020, it signed a technical agreement with Finland and Latvia for joint armored vehicle development. <sup>326</sup>

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." Estonia's cyber command became operational in August 2018 and is expected to include 300 people when it reaches full operational capability in 2023. 328

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. <sup>329</sup> Cooperation continues to grow. In 2019, Estonian and American troops engaged in over 150 military-to-military engagements. <sup>330</sup>

Estonian forces contribute to a number of operations including 42 soldiers taking part in Resolute Support, "up to 210 service members being sent to NATO's Response Force (NRF), with an armored infantry company (within the Baltic Battalion), special operations forces, staff officers and a mine counter-measures vessel crew, and up to 24 service members towards the UK-led Joint Expeditionary Force."331 In November 2019, Estonia announced that the number of troops taking part in the Frenchled Operation Barkhane in Mali would be increased to 95 and that "Estonian special operations forces are set to join the new France-led Task Force Takuba in the Sahel in the second half of 2020."332 Estonian troops also take part in the U.S.-led Operation Inherent Resolve in Iraq along with NATO Mission Iraq, 333 although Estonian operations in NMI were temporarily suspended in early 2020 because of COVID-19.

*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, despite

a military that consists of only 6,900 full-time servicemembers,<sup>334</sup> Latvia contributes to NA-TO's Resolute Support Mission in Afghanistan (40 troops); Operation Inherent Resolve in Iraq (six soldiers, temporarily transferred to Kuwait in January 2020); and NATO's VJTF,<sup>335</sup> as well as a number of EU flagged missions.

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." To that end, Latvia is making a significant investment in military infrastructure: \$56 million annually through 2022, with two-thirds of this amount being used to upgrade Ādaži military base, headquarters of the Canadian-led EFP battlegroup. 337

In 2020, Latvia will spend 2.32 percent of GDP on defense and 26.0 percent of its defense budget on equipment.<sup>338</sup> In November 2018, it signed a deal for four UH-60M Black Hawk helicopters.<sup>339</sup> In 2018, Latvia also received the last of 47 M109 series 155mm self-propelled artillery systems purchased from Austria and signed a \$133 million agreement to purchase Spike precision-guided tactical missiles, the first of which were delivered in February 2020.<sup>340</sup> Latvia has also expressed interest in procuring a medium-range ground-based air-defense system (GBADS).

Lithuania. Lithuania is the largest of the three Baltic States, and its armed forces total 20,650 active-duty troops.341 It reintroduced conscription in 2015.342 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 a handful of NATO members to have commanded a PRT. Lithuania also continued to contribute to NATO's KFOR and Resolute Support Missions in 2019 and NATO's VJTF in 2020.343

In 2020, Lithuania spent 2.28 percent of GDP on defense and 26.2 percent of its defense budget on equipment.<sup>344</sup> In April 2019, the U.S. and Lithuania signed a five-year "road map" defense agreement.<sup>345</sup> 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."<sup>346</sup>

In October 2019, Lithuania announced plans to spend €300 million on six Black Hawk helicopters from the U.S., the first of which "would be delivered to Lithuania by the end of 2024." Procurement of Norwegian-made ground-based mid-range air defense systems armed with U.S.-made missiles, along with "training and integration of all components," should be completed by 2021. Additional procurements include 88 Boxer Infantry Fighting Vehicles, €145 million for 200 U.S.-made Oshkosh Joint Light Tactical Vehicles, additional missiles for the Javelin anti-tank system, and 21 PzH 2000 self-propelled howitzers. 349

#### **Current U.S. Military Presence in Europe**

In 1953, because of the Soviet threat to Western Europe at the height of the Cold War, 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 72,000 troops are stationed in Europe.<sup>350</sup>

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–Air Forces Africa [USAFE–AFAFRICA]; 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.

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. <sup>351</sup> In February 2020, General Wolters stated the importance of CSG deployments: "We see predictable Carrier Strike Group and Amphibious presence as key elements of an agile theater posture. The reactivation of U.S. Second Fleet provides necessary maritime command and control capability in the Atlantic, while reinforcing NATO's western flank."<sup>352</sup>

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 38,000 soldiers, is head-quartered in Wiesbaden, Germany. Permanently deployed forces include the 2nd Cavalry Regiment, based in Vilseck, Germany, 454 and the 173rd Airborne Brigade in Italy, with both units supported by the 12th Combat Aviation Brigade out of Ansbach, Germany. In November 2018, the 41st Field Artillery Brigade returned to Europe with headquarters in Grafenwoehr, Germany. 1555 In addition:

Operational and theater enablers such as the 21st Theater Sustainment Command, 7th Army Training Command, 10th Army 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.<sup>356</sup>

The 1st Battalion, 6th Field Artillery, 41st Field Artillery Brigade was reactivated in September 2019 and is currently the only U.S. rocket artillery brigade in Europe and represents the first time in 13 years in which USAREUR has had the Multiple Launch Rocket System in its command; a second field artillery battalion will be reactivated in the fall of 2020. 357 The 5th Battalion, 4th Air Defense Artillery Regiment, was activated in November 2018 and is now based in Ansbach. 358

USAREUR also engages in major exercises with allies. In 2019, it participated in over 50 multinational exercises with 68,000 multinational participants in 45 countries.<sup>359</sup>

U.S. Air Forces in Europe–Air Forces Africa. USAFE–AFAFRICA provides a forward-based air capability that can support a wide range of contingency operations. It originated as the 8th Air Force in 1942 and flew strategic bombing missions over the European continent during World War II. Today, "USAFE directs air operations in a theater spanning three continents, covering more than 19 million square miles, containing 104 independent states, and possessing more than a quarter of the world's population and more than a quarter of the world's Gross Domestic Product." 360

Headquartered at Ramstein Air Base, "USAFE-AFAFRICA consists of one Numbered Air Force, seven main operating bases and 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. 362 Terrorist attacks against these installations remain a threat. In March and April 2020, five Tajik Nationals who came to Germany seeking refugee status were arrested for plotting terrorist attacks against U.S. Air Force bases and personnel on behalf of ISIS. 363

In March 2020, B-2 bombers and KC-10 refueling aircraft were deployed to Laje Field in Portugal's Azores "to conduct theater integration and flying training." <sup>364</sup> EUCOM stated that "[s]trategic bomber deployments to Europe provide theater familiarization for aircrew members and demonstrate U.S. commitment to allies and partners." <sup>365</sup>

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. 366 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.<sup>367</sup> 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 Trident Juncture 18, the largest NATO exercise in 16 years, which included 50,000 troops from

31 nations.<sup>368</sup> The prepositioned stocks were also to factor heavily into the cancelled Cold Response 2020 exercise.<sup>369</sup>

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.<sup>370</sup> The SPMAGTF helped with embassy evacuations in Libya and South Sudan and conducts regular drills with embassies in the region and exercises with several African nations' militaries.<sup>371</sup>

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,<sup>372</sup> since 1967. It also operates out of RAF Mildenhall. In June 2018, 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.<sup>373</sup>

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 AFRICOM'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 (SOF) in those countries.

According to General Tod Wolters, SOF are essential to counter Russia's "below-the-threshold strategy." U.S. SOF in Europe "are another vital element of this approach working with European Allies and partners to enhance defense institutions, border security, and resilience to Russian malign attacks." The FY 2021 DOD EDI budget request included over \$40 million in declared special operations funding for various programs including intelligence enhancements, staging and prepositioning, and exercises with allies.

# Key Infrastructure and Warfighting Capabilities

One of the major advantages of having U.S. forces stationed 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.<sup>376</sup>

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 the roads 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. However, the threat posed by Chinese propaganda, influence operations, and investments in key sectors is also significant and needs to be addressed. Both NATO and many European countries apart from those in the alliance have reason to be increasingly concerned about the behavior and ambitions of both countries, although agreement on a collective response to these challenges remains elusive.

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.

COVID-19 caught the U.S. and Europe off guard, led to disrupted or cancelled exercises, and caused the armed forces of Europe to take on new and unexpected roles in assisting with the response to the pandemic. The economic, political, and societal impacts of the pandemic are only beginning to be felt and will undoubtedly have to be reckoned with for years to come, in particular with respect to Europe's relationship with China. NATO utilized a host of resources in responding to the pandemic while continuing to ensure that the pandemic did not undermine the alliance's collective defense.

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 that ranges from "very poor" to "excellent" conditions and covers four regional characteristics of greatest relevance to the conduct of military operations:

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

- 2. **Unfavorable.** A challenging operating environment for military operations is marked by inadequate infrastructure, weak alliances, and recurring political instability. The U.S. military is inadequately placed in the region.
- 3. Moderate. A neutral to moderately favorable operating environment is characterized by adequate infrastructure, a moderate alliance structure, and acceptable levels of regional political stability. The U.S. military is adequately placed.
- **4. Favorable.** A favorable operating environment includes good infrastructure, strong alliances, and a stable political

environment. The U.S. military is well placed for future operations.

5. Excellent. An extremely favorable operating environment includes well-established and well-maintained infrastructure; strong, 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 that provide insight into the strength or health of an alliance include whether the U.S. trains regularly with countries in the region, has good interoperability with the forces of an ally, and shares intelligence with nations in the region.
- b. Political Stability. Political stability brings predictability for military planners when considering such things as transit, basing, and overflight rights for U.S. military operations. The overall degree of political stability indicates whether U.S. military actions would be hindered or enabled and 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: 4—Favorable
- Infrastructure: 4—Favorable

Leading to a regional score of: Favorable

## **Operating Environment: Europe**

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

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