Western Military Capability in Northern Europe 2020

Part II: National Capabilities

Eva Hagström Frisell and Krister Pallin (eds)
Albin Aronsson, Bengt-Göran Bergstrand, Robert Dalsjö, Johan Engvall, Jakob Gustafsson, Michael Jonsson, Diana Lepp, Viktor Lundquist, Björn Ottosson and Anna Sundberg

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Cover: Jonathan Nackstrand/AFP. US Marines prepare their M1 Abrams tank before taking part in an exercise to capture an airfield during Trident Juncture 2018, near the town of Oppdal, Norway.

Abstract

The conclusion of our analysis of Western military capability in Northern Europe in 2017 was that the West had several shortcomings compared to Russia when it came to high-intensity warfighting. Considerable resources and time would be required before the West could change the situation. In 2020, three years later, our wish was to enhance the analysis and perform a first-cut *net assessment* of the force balance between the West and Russia. The aim is to identify important characteristics of the force balance with respect to relative strengths and weaknesses. We also suggest some keys to improving the Western defence of Northern Europe.

Whereas Part I of the report covers the actual net assessment, Part II charts the base for Western military capability in Northern Europe, i.e. the defence efforts of eleven key Western states that play a significant role in the collective defence of the area. These countries are increasingly developing the capability for national and collective defence by filling hollow defence structures and modernising the armed forces. In comparison with 2017, force readiness has not changed significantly. However, the quality has improved in some respects, in particular through participation in NATO's enhanced Forward Presence, NATO's rapid response forces and multinational exercises.

Keywords: Denmark, Norway, Finland, Estonia, Latvia, Lithuania, Poland, Germany, France, United Kingdom, United States, security and defence policy, military expenditures, armed forces, assessment, military capability.

Sammanfattning

Slutsatsen av vår analys av västlig militär förmåga i Nordeuropa 2017 var att det fanns flera brister i jämförelse med Ryssland vad gäller högintensiv krigföring. Bedömningen var att väst skulle behöva avsätta betydande resurser och tid för att ändra på situationen. Tre år senare, år 2020, var vår önskan att förbättra analysen och genomföra en systematisk värdering avseende styrkebalansen mellan väst och Ryssland. Syftet är att identifiera viktiga särdrag i balansen avseende relativa styrkor och svagheter. Vi drar också några viktiga slutsatser för arbetet med att förbättra det västliga försvaret av Nordeuropa.

Medan del I av rapporten innehåller den samlade värderingen av styrkebalansen, behandlar del II basen för västlig militär förmåga i Nordeuropa, dvs. försvarssatsningarna i elva västländer som spelar en framträdande roll i det kollektiva försvaret av området. Dessa länder utvecklar alltmer förmågan till nationellt och kollektivt försvar genom att fylla upp ihåliga försvarsstrukturer och modernisera sina väpnade styrkor. I jämförelse med 2017 har förbandens beredskap inte förändrats signifikant. Däremot har kvaliteten förbättrats i vissa avseenden, framförallt genom deltagande i Natos framskjutna närvaro, Natos snabbinsatsstyrkor och multinationella övningar.

Nyckelord: Danmark, Norge, Finland, Estland, Lettland, Litauen, Polen, Tyskland, Frankrike, Storbritannien, USA, säkerhets- och försvarspolitik, militärutgifter, väpnade styrkor, värdering, militär förmåga.

Abbreviations

A2/AD	Anti-access and Area Denial
AAMDC	Army Air & Missile Defense Command (USA)
ABCT	Armored Brigade Combat Team (USA)
AEF	Air Expeditionary Force (USA)
AEW&C	Airborne Early Warning and Control
AFV	Armoured Fighting Vehicle
AOR	Area of Responsibility
APC	Armoured Personnel Carrier
ARG	Amphibious Ready Groups (USA)
ARRC	Allied Rapid Reaction Corps (NATO)
ASW	Anti-submarine Warfare
ATACMS	Army Tactical Missile System
ATC	Army Training Command (USA)
AWACS	Airborne Early Warning and Control Systems
BALTNET	Baltic Air Surveillance Network and Control System (NATO)
BAP	Baltic Air Policing (NATO)
BCT	Brigade Combat Team (USA)
CBRN	Chemical, Biological, Radiological and Nuclear
CAB	Combat Aviation Brigade (USA)
C-CBRN	Counter Chemical, Biological, Radiological and Nuclear
CONUS	Continental USA
CROWS-J	Common Remote Operated Weapons Station-Javelin (USA)
CSDP	Common Security and Defence Policy (EU)
CSG	Carrier Strike Group (USA)
DABS	Deployable Air Base Systems (USA)
DDG	Guided Missile Destroyer (NATO)
DoD	Department of Defense (USA)
DRRS	Defense Readiness Reporting System (USA)
ECS	Expeditionary Combat Support (USA)
EDF	European Defence Fund (EU)
EDI	European Deterrence Initiative (USA)
eFP	enhanced Forward Presence (NATO)
EI2	European Intervention Initiative
ELINT	Electronic Intelligence
EUBG	European Union Battlegroups
EUCOM	US European Command
EW	Electronic Warfare
FBG	Finnish Border Guard
FCAS	Future Combat Air System
FDF	Finnish Defence Forces
FOC	Full Operational Capability
FREMM	*Frégate européenne multi-mission* (France; European multi-purpose frigate)
FTTTS	Full-time Trade Trained Strength

FY	Fiscal Year
GFMAP	Global Force Management Allocation Plan (USA)
GIUK	Greenland-Iceland-UK (as in the GIUK Gap)
GMLRS	Guided Multiple Launch Rocket System
HET	Heavy Equipment Transporters
HIMARS	High Mobility Artillery Rocket System
HQ	Headquarters
IFV	Infantry Fighting Vehicles
INF Treaty	Intermediate-Range Nuclear Forces Treaty
INFSA	Integrated Naval Force Structure Assessment (USA)
IOC	Initial Operational Capability
IRF	Immediate Response Force (USA)
ISR	Intelligence, Surveillance and Reconnaissance
ISTAR	Intelligence, Surveillance, Target Acquisition and Reconnaissance
JASSM	Joint Air-to-Surface Standoff Missile
JDAM	Joint Direct Attack Munition
JEF	Joint Expeditionary Force (UK)
JEF M	Joint Expeditionary Force Maritime (UK)
JHC	Joint Helicopter Command (UK)
JLTV	Joint Light Tactical Vehicle
LHA	Landing Helicopter Assault (USA)
LHD	Landing Helicopter Dock (USA)
LRASM	Long Range Anti-Ship Missile
MAGTF	Marine Air-Ground Task Force (USA)
MAJCOM	Major Commands (USA)
MALD	Miniature Air-Launched Decoy
MARAD	Maritime Administration (USA)
MAW	Marine Aircraft wing (USA)
MBT	Main Battle Tank
MCPP–N	Marine Corps Pre-positioning Program Norway (USA)
MCWS	Medium Caliber Weapon System (USA)
MDC2	Multi-Domain Command and Control (USA)
MLRS	Multiple Launch Rocket System
MNC	Multinational Corps (NATO)
MND	Multinational Division (NATO)
ME	Military Expenditures
MEF	Marine Expeditionary Force (USA)
MoD	Ministry of Defence (UK)
MPA	Maritime Patrol Aircraft
MRAV	Multi-Role Armoured Vehicle
MSC	Military Sealift Command (USA)
NASAMS	National/Norwegian Advanced Surface to Air Missile System
NDAA	National Defense Authorization Act (USA)
NDS	National Defense Strategy (USA)
NDVF/KASP	National Defence Volunteer Forces/*Krašto apsaugos savanorių pajėgos* (Lithuania)
NORDEFCO	Nordic Defence Cooperation
NPR	Nuclear Posture Review (USA)

NRF	NATO Response Force
NRI	NATO Readiness Initiative
NSS	National Security Strategy (USA)
OAR	Operation Atlantic Resolve (USA)
PGM	Precision-guided Munitions
PiS	*Prawo i Sprawiedliwosc* (Poland; Law and Justice Party)
PJHQ	Permanent Joint Headquarters (UK)
QRA	Quick Reaction Alert
RAF	Royal Air Force (UK)
RM	Royal Marines (UK)
RFA	Royal Fleet Auxiliary (UK)
RSOMI	Reception, Staging, Onward Movement and Integration
SAS	Special Air Service (UK)
SCAF	*Système de Combat Aérien du Futur* (France; Future Combat Air System)
SBS	Special Boat Service (UK)
SDB	Small Diameter Bomb
SDSR	Strategic Defence and Security Review (UK)
SEAD	Suppression of Enemy Air Defences
SLOC	Sea Lines of Communication
SOF	Special Operations Forces
SOCEUR	Special Operations Command Europe (USA)
SPH	Self-propelled Howitzer
SSBN	Sub-surface Ballistic Nuclear Submarine
SSN	Sub-surface Nuclear Attack Submarine
StratCom	Strategic Command (UK)
TRADOC	Training and Doctrine Command (USA)
TSC	Theater Sustainment Command (USA)
TSP	Theatre Security Package
UAV	Unmanned Aerial Vehicles
USAFE	US Air Forces in Europe
USAREUR	United States Army Europe
USMC	United States Marine Corps
USNAVEUR	United States Naval Forces Europe
USSOCOM	US Special Operations Command
VJTF	Very High Readiness Joint Task Force (NATO)
WMD	Weapons of Mass Destruction
WOT	*Wojska Obrony Terytorialnej* (Poland; Territorial Defence Forces)

Military units

Army

Army Group/Front	2 armies or more/Ground force of a region
Army	2–4 army corps, personnel strength 100,000 or more
Army Corps	2 divisions or more, personnel strength 20,000–50,000
Division	3–6 brigades, personnel strength 6000–25,000
Brigade	1–2 regiments/3-6 battalions, personnel strength 3000–6000
Regiment	2–5 battalions, personnel strength 1000–3000
Battalion	3–6 companies/squadrons, personnel strength 300–1000
Company/Squadron	2–6 platoons, personnel strength 80–250

Helicopter

Brigade/Regiment	2 battalions or more
Battalion	2–3 squadrons/companies
Squadron/Company	8–16 helicopters

Navy

Fleet	Two task forces or more/Maritime force of a region
Task force	2 flotillas or more, including major warships, for example a carrier or a cruiser
Flotilla	2 squadrons or more
Squadron	2–6 ships

Air Force

Air Force/Air Army	2 groups or more/Air force of a region
Group	2 wings or more
Wing/Regiment	2–4 squadrons
Squadron	12–24 aircraft

NB: The intervals above should been seen as normal variations, taking into account both Russian and Western practice, but other partitions often occur. Furthermore, the denominations vary between countries, and in some cases, the terms above are used for other purposes, including base, training and administrative entities. The terms “group” or “task force” are common for all sorts of formations designed for a particular mission. Larger formations – typically brigades, flotillas, or wings and above – include considerable support assets. Normally, these assets are only partly included organically in the manoeuvre units and the compositions vary considerably.

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1. Introduction

Eva Hagström Frisell and Krister Pallin

In addition to measures adopted to strengthen Western collective defence in multilateral organisations, such as NATO and the EU, or in regional and bilateral settings, as discussed in Part I of this study, the individual countries in Northern Europe have begun a political and military transformation to adjust to the new security situation. Most countries in Northern Europe now put a premium on the task of national and collective defence. National armed forces are seeking to regain the capability to fight inter-state wars and overcome capability gaps resulting from previous decades of force reductions and a focus on crisis management operations.

In the short term, Western allies and partners try to fill existing force structures with personnel and materiel as well as to improve planning and training for high-intensity warfare against a peer competitor. In the medium to long term, five years and beyond, there is also an ambition to expand the force structures and to be able to conduct larger joint war operations. Modernisation within the ground forces in the coming years includes, for example, the upgrading or acquisition of main battle tanks, armoured fighting vehicles, artillery and ground-based air defence systems. Within the navy and air forces, new generations of fighter aircraft, surface combatants, submarines, precision-guided munitions, and air defence are being invested in. In many countries, considerable long-term development of capabilities for space and information operations, including cyber (*computer network operations*) and electronic warfare is also underway.

Improving the general readiness of forces is another main priority. However, earlier cutbacks, ageing weapon systems, lack of maintenance, difficulties in recruiting and retaining personnel and, in some countries, high operational demands continue to affect negatively the availability of forces. As concluded in 2017, these shortcomings will take significant time and effort to overcome. In comparison with the situation in 2017, the number of forces available at short notice has not changed significantly, while the quality has improved in some respects, particularly through participation in NATO's enhanced Forward Presence, NATO's high readiness forces and initiatives, and multinational exercises. The countries in the region have also developed logistics and host nation support capabilities to facilitate reinforcements, although much remains to be done.

1.1 Aim

As collective defence stands and falls on the fighting power provided by the nations' armed forces, Part II of this study on Western Military Capability in Northern Europe in 2020 charts eleven key Western countries with respect to security and defence policy, military expenditures, armed forces and national military capability. The aim is to provide an overview and assess the national military capabilities of countries that may have a significant role in the collective defence of Northern Europe in the event of a Russian armed attack.

This means that we have focused the study on northern NATO countries that are in proximity to Russia, i.e. Denmark, Norway, Estonia, Latvia, Lithuania and Poland. The major players in NATO, i.e. the United States, United Kingdom, France and Germany, are included for their prominent role in the Alliance's assurance and deterrence measures on the eastern flank. Finland, a non-NATO member, has also been devoted a chapter, due to geography and its partner status. Sweden has no chapter in Part II, but figures in the analysis in Part I.

The analysis focuses on the situation in 2020, but also discusses the reforms that are planned and potential developments towards 2025.

1.2 Structure of the chapters

Each chapter's first section highlights the general direction of security and defence policy in each country and the political support for current defence efforts. It analyses the country's main priorities

concerning threats, tasks and partners. The section also addresses the main direction of ongoing military reforms.

The second section charts the trends in military expenditures between 2000 and 2020, and makes estimates towards 2025. It comments on the military expenditures' share of GDP and the distribution of costs, in particular the relative share of investments in equipment. The section also summarises spending plans for the coming five years, including a note on the possible effects of the Coronavirus pandemic.

The third section focuses on the armed forces. It addresses their main task and overall force structure, including joint functions, such as command and control and logistics. Thereafter, the main manoeuvre units and combat support services in the army, navy and air force are outlined. The section analyses ongoing reforms and planned modernisation efforts as well as the level of readiness and major shortcomings. It also comments on general developments and shortcomings in the fields of personnel and materiel.

In the fourth and final section, an assessment of the national military capability is made. The assessment focuses on manoeuvre forces that would be available, respectively, for operations at short notice, within one week and, with longer time for preparations, within three months. It also briefly notes how developments up to 2025 might influence the future military capability.

1.3 Graphs and tables

The section on military expenditures includes a graph with outturn data for 2000–2020 and estimates for the following years, up to 2025. As defence expenditures are defined differently in different countries, the graphs in this report build on NATO figures, as calculated by NATO Headquarters and published in press releases, and may therefore differ from those provided in national defence budgets.[1] The NATO definition includes outlays for pensions and most paramilitary forces, which often fall under a country's ministry of the interior, but excludes spending for civil defence.[2] For Finland, the only non-NATO country analysed in this part of the report, we have attempted to calculate the military expenditures in accordance with the NATO definition.[3]

The graphs show military expenditures at constant prices in US Dollars and as a percentage of GDP. The column for each year also illustrates the distribution between the four major cost categories stipulated by NATO. The estimates for the period 2021–2025 are based on national budget and policy documents and economic statistics published by the International Monetary Fund (IMF) in its *World Economic Outlook* (WEO) reports.[4]

The economic decline caused by the coronavirus pandemic has made it more complicated to estimate future expenditures. In short, everything else being equal, a fall in the GDP will show an increase of military expenditures as a percentage of GDP. This has meant that the share of GDP has increased in many countries in 2020, with unchanged or even lower outlays on defence. Conversely, the share may decline in 2021, if there is an economic recovery. Hence, when looking at the graphs, a reader should rather look at the trends and not too much at particular years. It may also be interesting to compare the crisis in 2020 and beyond with the global financial crisis in 2008–2009.

The section on the armed forces contains a table that presents an overview of numbers and status with respect to personnel and materiel. The associated table is – with some variations – generally limited to major combat equipment, in line for example with the Treaty on Conventional Armed Forces in Europe (CFE Treaty), i.e. main battle tanks, armoured combat vehicles, heavy artillery pieces, attack helicopters, and combat aircraft. In addition, larger surface

1 NATO only publishes outturn data, not projections for coming years, although the figures for the current year are marked as an estimate, meaning that they may be revised in future press releases. It is by amalgamating data in several press releases that the graphs have been drawn. See NATO, 'Information on defence expenditures', 22 October 2020.

2 Since "defence expenditures" may also include civilian defence outlays related to a country's ministry of defence, the term "military expenditures" is used in this report instead.

3 This definition is also quite close to the definition used by SIPRI; for the three Baltic countries, calculations based on SIPRI data have been used for the years 2000–2003, as NATO has no data for the years prior to their membership. See SIPRI, 'SIPRI Military Expenditure Database'.

4 These reports and the database used for the calculations are available on the IMF website. See IMF, 'The World Economic Outlook (WEO) Databases', 13 October 2020.

combatants, submarines, transport aircraft and air defence batteries are included, when applicable.

At the end of each chapter, a table is provided on the national force structure in 2020, including examples of reforms towards 2025, and an assessment of forces available at short notice. The assessment focuses on manoeuvre units within the army, air force, and navy. Support units are, in general, assumed to have the same readiness as their parent organisation, while the availability of independent support and specialist units have not been assessed. Higher commands/staff are considered to function at short notice if they are fully operational. A map provides an overview of national forces, mainly operational staffs and manoeuvre units, and their basing.

1.4 A note on military units

The national armed forces under study are treated from an outsider's perspective, meaning that national military denominations have at times been translated into more universal descriptions of military units.

Within the armies, the classification we employ requires that armoured units, to be designated as such have a large share of tank units (50 per cent or more), while mechanised units require fewer tank units (30 per cent or more) or a large share of armoured fighting vehicles. Units that have a large share of armoured personnel carriers on wheels, with lighter weapons, and no tanks, are classed as motorised. The rest of the manoeuvre units within the army are considered different forms of infantry. This includes elite forces with offensive tasks, even if many units have light armoured vehicles: for example, airborne and marine infantry as well as ranger and commando units – if they are not explicitly part of special forces. As for the navies, the category of surface combatants includes large corvettes up to cruisers as well as aircraft and helicopter carriers and major assault ships.

As for unit sizes, national official denominations have been used in the country analyses, although the contents may vary greatly between similar units within the same armed forces and, systematically, between countries. Sometimes this is mentioned in the text, sometimes not, due to lack of space or information. For an indication of unit structures and sizes in current military usage, including variations, see section on Military units above.

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SIPRI. 'SIPRI Military Expenditure Database'. https://www.sipri.org/databases/milex. Accessed 31 October 2020.

2. Denmark

Viktor Lundquist

Danish defence policy is to a large extent characterized by cross-party understanding and cohesion. The current defence orientation originates from an agreement between the largest parties – both from government and opposition – in the Danish parliament. This tradition of consensus-seeking decision-making between the larger parties generates stability in key issues, such as NATO membership and defence spending. The Danish Armed Forces are currently undergoing a transformation towards deterrence and regional defence. This shift derives from a more hostile and confrontational Russia, but equally originates from new NATO and US demands. Due to the past decades' pronounced focus on expeditionary operations outside Europe, the Danish capability to act and contribute in the case of a high-intensity conflict in the vicinity is restrained. The Danish Armed Forces also face difficulties with retainment of educated personnel, maintenance of key materiel and logistics, and pursuit of military training.

2.1 Security and defence policy

NATO is the cornerstone of Danish security and defence policy, and Denmark strives to be recognised as an active and important member of the Alliance.[1] This differs fundamentally from the role of a reluctant ally during the Cold War, when Denmark for many years was described as a free rider, wanting NATO protection but unwilling to pay for it.[2] However, with the collapse of the Soviet Union and a significantly less threatening East, Denmark feared that the US would lose interest in the military alliance Danish security depended on, which generated a desire to prove its value to Washington and to improve its status within NATO.[3] In the ensuing years, Denmark succeeded in this mainly by active participation in multiple allied missions in high-intensity conflict zones, such as Syria, Afghanistan and Iraq. This new orientation changed the entire structure of the Danish Armed Forces and led to the dismantling of practically every aspect of the territorial defence capabilities. At the same time, Denmark, through its frequent and reliable participation in allied international missions, strengthened both its self-image as a core NATO member and its relationship to the US.

In recent years, the dynamic within NATO has changed. Firstly, Donald Trump's taking office as president has revived US demands of increased defence spending among NATO members. Furthermore, NATO members in general and the US in particular have shown a fading interest in faraway international missions, thus making Denmark's inclinations less relevant. Secondly, a more hostile and assertive Russia is once again destabilising its own 'near abroad', which has generated NATO insistence on enhanced efforts of deterrence and defence at home – capabilities that Denmark is now gradually, but also a bit hesitantly, rebuilding.

This changed focus is evident in the most recent Danish defence agreement, which was settled in broad parliamentary unity, in 2017. The agreement, covering the period 2018–2023, entails increased spending in order to provide the Danish Armed Forces with capability to combat threats both regionally and far away. This is also motivated by Denmark's desire to meet NATO requirements and to maintain its position as a core member state. The agreement introduces a wide range of initiatives to be pursued before 2024, for example the completion of a new deployable brigade ready to take part in collective defence and the final delivery of

1 Danish Ministry of Defence, 'Denmark in NATO'.

2 Jakobsen, Peter Viggo, 'Denmark in NATO, 1949–2019', in *NATO and transatlantic relations in the 21st century: Foreign and security policy perspectives* (London and New York: Routledge, forthcoming).

3 Jakobsen, Peter Viggo, 'Military strategy-making in Denmark: Retaining "Best Ally" status with minimum spending', in Matlary Haaland, Janne and Johnson, Rob (eds.), *Military strategy in the twenty-first century: The challenge for NATO* (London: Hurst Publishers, forthcoming).

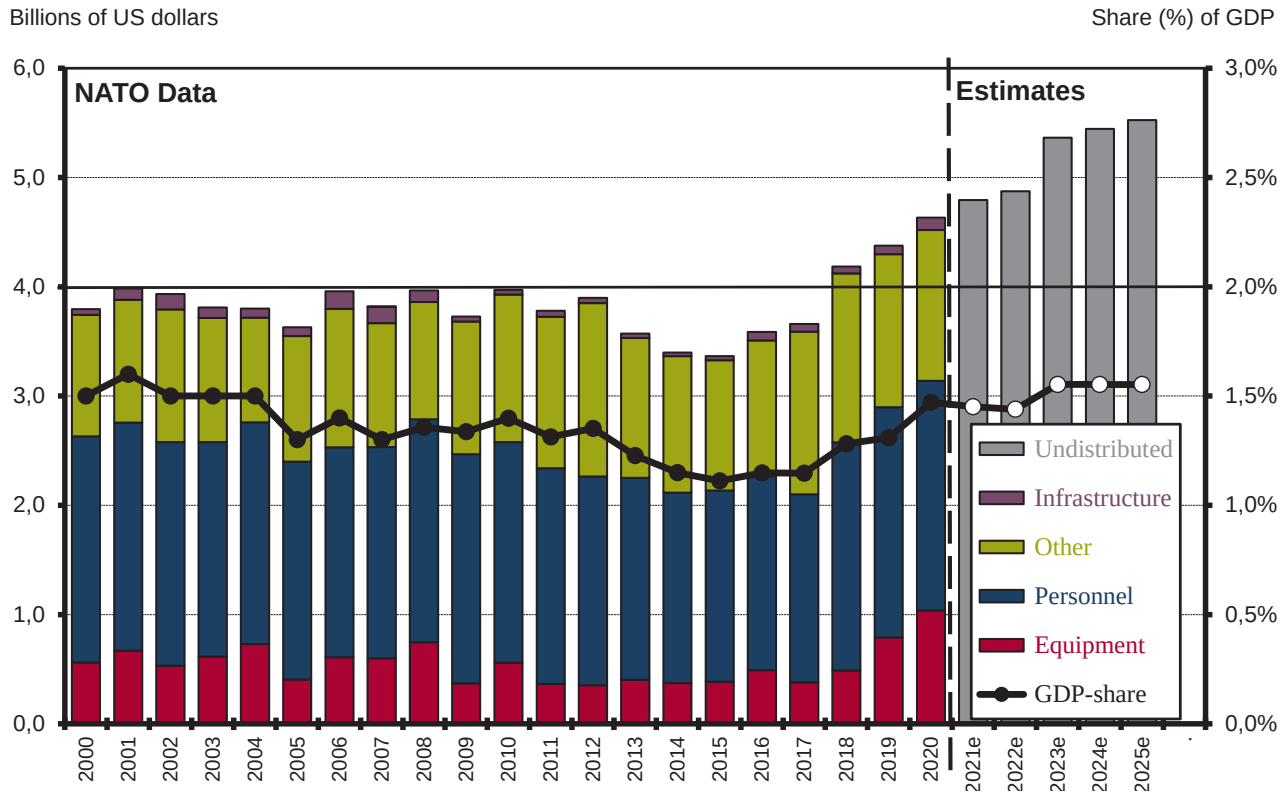


Figure 2.1 The military expenditures of Denmark 2000–2025: Billions of US dollars/2015 prices (columns) and as share (%) of GDP (curved line)

Source: Bergstrand, Bengt-Göran, *NATO military expenditures,* Working Document (Stockholm: Swedish Defence Research Agency – FOI, October 2020).

NB: Estimates based on the Defence Agreement in January 2019 and the August 2020 defence budget stipulating that Denmark "will have a military expenditure/GDP share of 1.5% in 2023" (and then assumed to remain at this level in 2024–25).

F-35A fighter aircraft. The regional dimension is further evident as the agreement allocates resources for increased presence and surveillance in the Arctic, as well as for the establishment of a new light infantry battalion, primarily intended to solve national security tasks, for example contributing to border controls or supporting the police.[4]

Denmark participates in several NATO operations and force pools, such as the enhanced Forward Presence (eFP) and NATO Response Force (NRF). Denmark is also partner in the multinational corps headquarters (MNC-NE HQ) in Szczecin, together with Germany and Poland, and the newly established multinational divisional headquarters (MND-N HQ), partly in Karup, Denmark and partly in Adazi, outside Riga, along with Latvia and Estonia. Additionally, Denmark has in later years committed to a number of defence cooperation frameworks, such as the UK Joint Expeditionary Force (JEF), the French-led European Intervention Initiative (EI2), and the Nordic Defence Cooperation (NORDEFCO). Denmark is an EU member state, but has an opt-out from cooperating on security and defence issues. Nevertheless, Denmark supports the strengthening of the EU as a global security and defence actor and will not prevent closer defence cooperation between the other EU members.[5]

2.2 Military expenditures

Between 2000 and 2012, Danish military expenditures were relatively stable in real terms, at a level just below USD 4 billion, in 2015 prices. However, in

4 Danish Ministry of Defence, *Defence Agreement 2018–2023.*
5 Danish Ministry of Defence, 'EU – The Danish defence opt-out'.

the aftermath of the financial crisis, in 2008, Danish military expenditures were reduced by approximately 15 per cent to a low of USD 3.4 billion, in 2015. In 2016, the expenditures started to increase, to reach and pass USD 4 billion, in 2018.[6]

Danish decision-makers have been, and continue to be, hesitant about meeting NATO's requirements on spending 2 per cent of GDP on defence. Whilst still wanting to keep American security guarantees, the Danish outlook has instead been to "commit more, not spend more". During the years of out-of-area operations, this was seen as a way of getting closer to NATO and the US without having to drastically increase spending.[7]

The current defence agreement, presented in October 2017, included an increase intended to bring the Danish defence budget to a 20 per cent higher level in real terms by 2023.[8] However, the agreement was criticised for only generating a defence spending of 1.10 per cent of GDP and, due to pressure from NATO and the US, an additional agreement was reached in January 2019. The latter included a reinforcement of the Danish defence budget by an additional DKK 1.5 billion, beyond the original increase of DKK 4.8 billion, a growth that was supposed to generate a defence budget of 1.5 per cent of GDP by 2023.[9] However, due to the uncertain economic impact of the Covid-19 pandemic, it is unclear whether these ambitions will be met. Denmark is benchmarking its defence spending with other key allies within NATO and, if other members cut or postpone spending with reference to the Covid-19 pandemic, then Denmark will probably do the same. If other allies stay the course, then Denmark is likely to do so as well. In that case, the GDP drop caused by the pandemic could render relatively higher military expenditures, in terms of per cent of GDP. However, the economic impact of the pandemic might also well affect the defence spending in the longer run and become a justification for not going beyond 1.5 per cent after 2024.

The current agreements thus mark a shift in Danish military expenditures, as they will not only revert to the same level as between 1970–2010, but also actually go well past it, in real terms. At the same time, a substantial part of this increase is state budget reallocations of expenditures, such as military pensions, which hence will not contribute to increased combat power.[10] During the defence agreement period, Denmark also intends to follow NATO's guideline of investing 20 per cent of the defence budget on new equipment.[11] This represents a marked shift from the approximate 10 per cent spent on equipment in 2009–2018, and procurement increased both in 2019 and 2020, to 22.4 per cent, in 2020.[12] These increases can to a degree be explained by some expensive one-off purchases, and whether the 20 per cent ambition will survive in the next defence agreement remains uncertain.

2.3 Armed forces

The Defence Command Denmark is the Danish joint military command and the supreme military authority of the Danish Armed Forces. It is located in Copenhagen, with the Ministry of Defence, and is led by the Chief of Defence. The Defence Command holds a Joint Operations Staff, the Special Operations Command, the Joint Arctic Command, and the three service staffs: the Army Command, the Navy Command and the Air Command.[13]

The Danish Armed Forces currently has approximately 14,500 employees, of which a majority are professional soldiers, but also annually trains 4200 conscripts, mostly for four months. The latest defence agreement stipulates a larger intake of conscripts, with up to 500 more every year, and that

6 Hagström Frisell, Eva and Eriksson, Pär and Jonsson, Michael, 'Norden', in Pallin, Krister (ed.), *Västlig militär förmåga: En analys av Nordeuropa 2017* (Stockholm: Swedish Defence Research Agency – FOI, 2018), p. 50–51.

7 Jakobsen, 'Denmark in NATO'.

8 Danish Ministry of Defence, *Defence Agreement 2018–2023.*

9 Danish Ministry of Defence, *Supplemental agreement for the Danish defence 2018–2023.*

10 News Øresund, 'Danmark avsätter mer resurser till försvaret efter press från Trump", 31 January 2019.

11 Danish Ministry of Defence, *Supplemental agreement.*

12 NATO, *Defence expenditure of NATO countries (2009–2016)*, 13 March 2017; NATO, *Defence Expenditure of NATO Countries (2013–2020),* 21 October 2020.

13 Danish Defence, 'Defence Command Denmark', 26 February 2019.

the number of those who serve longer than four months will increase. The agreement further specifies that national service henceforth is to be focused on skills that would be required in the event of a war or national crisis, rather than focusing solely on expeditionary capability.[14]

Army

The total strength of the Danish Army is approximately 7100 soldiers, but it is supposed to increase by 1000 soldiers by 2023, primarily in order to be able to completely man the 1st Brigade.[15] The Army is organised in two brigades, but is currently unable to operate at the brigade level.

The 1st Brigade is the Army's professional brigade, and holds three mechanised and one reconnaissance battalion. The unit provides international mission training and can hence, if ordered, establish battle groups and other task forces for such deployment.[16] It is developing its combat support and combat service support, and was planned to be capable of deploying in full by 2023.[17] However, there are reports of considerable delays due to a lack of materiel and personnel. The personnel growth will partly be achieved by the introduction of three motorised infantry companies and supporting functions, manned by conscripts and reservists.[18]

The 2nd Brigade holds some professional units tasked with the defence of the Danish territory, but is primarily a training brigade. Apart from the training battalions, it holds the army's only armoured battalion, as well as a reconnaissance battalion and the new light infantry battalion.[19] The 2nd Brigade is not intended to be able to deploy as one operational unit.

The development of the army is among the prioritised areas in the current defence agreement. However, the army faces several challenges, some of which are unlikely to be solved with the proposed changes. The army has continuous problems with manpower, several units lack personnel and the increase of conscripts and prolonged national service is unlikely to change this. The main issue is not the recruitment of new soldiers, but rather to retain educated personnel. Another major challenge is the lack of proper military training. Instead of focusing on capability and readiness for high-intensity conflict, the armed forces in general, and the army in particular, are often used for other tasks, mainly police support, such as border controls and guard duties.[20] Another impediment to sufficient training is challenges connected to the maintenance and availability of equipment. As an example, in 2019 reportedly less than half of the tanks were operational, which presented a barrier to proper training as well as readiness.[21] In February 2020, the first of a total of 44 modernised Leopard 2A7 tanks were delivered to the Danish Army.[22]

Navy

The Danish Navy is organised in three naval squadrons. The 1st Squadron's focus is national operations in the Arctic region. The main capacity for naval support to international operations is gathered within the 2nd Squadron, including the *Iver Huitfeldt*-class frigates and the *Absalon*-class frigates, which have been used in operations in Libya and Syria and as a part of NATO's Standing Naval Forces. The 3rd Squadron is primarily dedicated to national operations and maritime surveillance.[23]

The defence agreement of 2018–2023 contains several initiatives to strengthen the Danish naval capability, for example by equipping the *Iver Huitfeldt*-class frigates with SM-2 air defence missiles. The aim is to build a capability to protect and defend naval forces and coastal areas against hostile aircraft, and enable the frigates to deploy to international

14 Danish Ministry of Defence, *Defence Agreement 2018–2023.*

15 International Institute of Strategic Studies, *The military balance 2020* (London: Routledge, 2020), p. 98; Forsvaret, 'Historisk dag for Hæren: Ny brigade indviet', 10 January 2019.

16 Forsvaret, '1. Brigade', 2 October 2019.

17 Interview, Copenhagen, March 2020.

18 Danish Ministry of Defence. *Defence Agreement 2018–2023.*

19 Forsvaret. '2. Brigade'.

20 Interview, Copenhagen, March 2020.

21 Jakobsen, Peter Viggo and Rynning, Sten. 'Denmark: happy to fight, will travel'. *International Affairs,* vol. 95, no. 4, 2019: p. 886.

22 Forsvaret, 'Nye kampvogne ruller ind på kasernen', 5 February 2020.

23 Danish Defence, 'The Royal Danish Navy', 25 March 2019.

Table 2.1 Personnel and materiel in the Danish Armed Forces

Personnel/Materiel	Numbers in 2020	Planned reforms towards 2025
Personnel[a]		
Regular force	14,500	To be increased to 14,000
Conscripts[b]	4200	To be increased to 4700
Territorial defence forces	44,000 (volunteers in Home Guard)	
Reserves	-	
Materiel[c]		
Tanks	44 (Leopard 2)	Will be upgraded from A5 to A7 standard.
Armoured combat vehicles	44 (CV90)	
Heavy artillery pieces	6 (M109)	Being replaced by 19 CAESAR in 2020.
Attack helicopters	-	
Surface combatants	9 (3 *Iver Huitfeldt*-class frigates, 4 *Thetis*-class frigates, 2 *Absalon*-class command and support ships)	*Iver Huitfeldt*-class frigates being equipped with SM-2 air defence missiles, and are eventually to be equipped with SM-6 missiles. *Absalon*-class frigates being provided with sonar equipment to detect submarines.
Submarines	-	
Combat aircraft	44 (F-16)	To be replaced by 27 F-35A.
Transport aircraft	4 (C-130)	Increase of transport aircraft crew.
Air defence batteries	-	

NB: a. International Institute of Strategic Studies, *The military balance 2020* (London: Routledge, 2020), **b.** NATO, *NATO Defence Planning Capability Review 2019/2020 Denmark Overview*, 14 October 2020, p. 2. **c.** Forsvarsministeriet, Materiel- og indkøbsstyrelsen. 'Forsvarets materiel'.

missions with area air defence. Furthermore, preparatory work will commence to acquire long-range SM-6 missiles, in order to provide complete frigate capacity that will meet NATO's force goals on maritime area air defence.[24] The agreement also contains initiatives to strengthen the Danish ability to conduct anti-submarine warfare by equipping the *Absalon*-class frigates and Seahawk helicopters with sonar and anti-submarine torpedoes.[25]

Air Force

The Danish Air Force holds an Air Staff, three different types of tactical air wings and an Air Control Wing with command and control facilities and radars. The three tactical air wings consist of six squadrons: 2 fighter squadrons (with F-16 Fighting Falcon), 1 air transport squadron (with C-130 Hercules) and 3 helicopter squadrons (with EH-101 Merlin, MH-60R Seahawk, and AS550 C2 Fennec).[26]

Among the most notable developments in the upcoming years is the acquisition of 27 F-35A Joint Strike Fighters, which will replace the ageing F-16 fighter fleet. This initiative will be the most expensive modernisation programme in the history of the Danish Armed Forces.[27] The defence agreement of 2018–2023 also intends to increase the transport aircraft potential by adding new flight crews to the four C-130s.[28]

24 Danish Ministry of Defence, *Defence Agreement 2018–2023.*

25 Interview, Copenhagen, March 2020.

26 Danish Defence, 'The Royal Danish Air Force', 25 March 2019.

27 Forsvarsministeriet, Materiel- og indkøbsstyrelsen, 'Fra F-16 til F-35, Opgaver', 4 September 2018; Szymański, Piotr, *Overstretched? Denmark's security policy and armed forces in light of the new Defence Agreement,* OSW Commentary, no. 266, 2018: p. 7.

28 Danish Ministry of Defence, *Defence Agreement 2018–2023.*

The ongoing transition from F-16s to F-35As is challenging, and will affect both readiness and military capability. In recent years, Denmark has continuously deployed F-16s in international operations, such as the Baltic air policing. However, due to the introduction of F-35As, it will not be until 2027 that the Air Force has the same number of combat aircraft available again.[29] Furthermore, the size of the fighter fleet will decrease from 30 operational F-16s to 20 operational F-35As, which has raised concerns about whether the Air Force will be able to carry out their expected level of tasks. Of the 20 continuously operational F-35As, six are to be used for training, which will leave only 14 F-35As for operational duty.[30]

Personnel and materiel

Leaving the increased defence budget and planned reforms aside, the Danish Armed Forces face several challenges in the upcoming years. The main long-term challenge relates to recruitment and retention, as the army to a large extent, and the navy and air defence to some extent, all have problems with military manpower. Several units lack personnel, and reforms in conscription and national service will not be sufficient to resolve this problem.

Another worrying concern involves the challenges in maintaining key materiel in readiness, which along with the lack of proper military training due to having other assignments, is a barrier to military capability development. The expensive acquisition of F-35As, along with the planned investments in the Arctic, may also risk hollowing out other parts of the Armed Forces, which are also in need of new and upgraded materiel.[31]

2.4 Assessment of military capability

Over the past decades, Denmark has developed an efficient military capability for out-of-area operations, an effort that no longer seems as valuable. This has resulted in armed forces too small and light for its tasks, a development that now must be compensated for when Denmark is reorganising its armed forces towards territorial and collective defence. Arguably, the most distressing challenge facing the Danish Armed Forces relates to a general lack of military manpower. In addition to this, the deficiencies in training and in readiness of equipment weaken Danish military capability.

The political line of limited defence spending is continuing, and although the Danish Armed Forces are accustomed to producing results with relatively small means and to balancing both national political demands and NATO pressure, the lack of proper spending and retention will eventually take their toll.

In the case of a conflict in the vicinity of Denmark, such as the Baltic Sea region, the majority of the available and operational Danish warfighting capabilities are located within various NATO operations. Within a week, Denmark should be able to muster a mechanised company that is part of the eFP battlegroup in Estonia, at least half a squadron of fighters, including aircraft allocated to the NATO Readiness Initiative (NRI) in 2020 and one *Absalon*-class frigate that forms part of the Standing Naval Forces of the NRF. Beyond this, Denmark would likely have one company from each combat battalion of the 1st Brigade, one to two frigates, and at least half a special operations company available.

It should be noted that the readiness of the Danish Armed Forces varies significantly from year to year, as Denmark's NATO commitments are shifting. In 2021, Denmark will contribute to the NRI with a full combat battalion as well as two frigates, which will have some impact on Danish readiness.[32]

After three months, the deployable capabilities do not change significantly. The main improvement is the somewhat stronger Army contributions, as the Danish Army is supposed to have a full combat battalion ready within 30 days. Beyond this, additional air power contributions could also be deployed within three months.

Despite the ongoing transition to regional defence, the Armed Forces do not have any significant collective defence capabilities ready to deploy.

29 Jakobsen and Rynning, 'Denmark: happy to fight, will travel', p. 892.
30 Interview, Copenhagen, March 2020.
31 Hagström Frisell, Eriksson, and Jonsson, 'Norden', p. 58–59.
32 Forsvarsministeriet, 'Orientering om danske tilmeldinger til NATO Readiness Initiative og NATO Response Force', 9 September 2019.

Moreover, even in 2024, when the 1st Brigade is intended to be fully manned and deployable as a whole, the Army's high readiness capability will continue to be limited, as the brigade will need a 180-day notice if it is to be deployed in full. However, its battalions are expected to be available within 30 days, and single companies are to have a higher readiness.

If needed, Denmark would most likely make every effort to meet its stated readiness commitments, as Denmark still has a strong desire to prove itself as a core NATO member. But besides the concerns of a general personnel shortage, challenges in logistics and mobility would also affect Danish contributions to resolving a conflict in the Baltic Sea region.

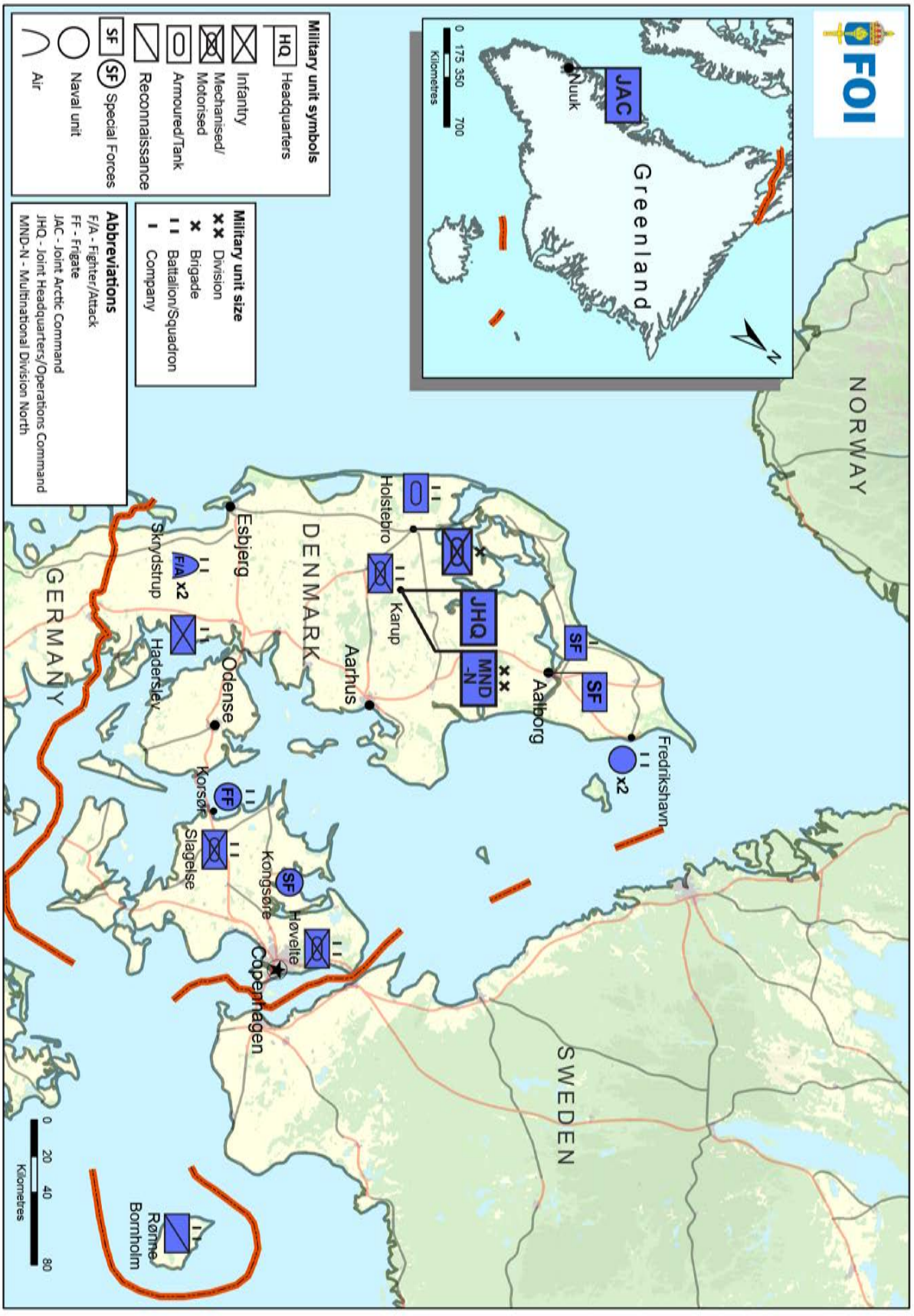
As previously described, the current defence agreement includes several initiatives intended to strengthen Danish capability to combat threats both regionally and far away.

The most notable developments in the upcoming years are the acquisition of F-35As and making the 1st Brigade fully deployable.When completed, these efforts will make the Danish Armed Forces much more able to contribute to both national and NATO collective defence.However, the current difficult situation for Danish defence is likely to continue for some years. The Danish unwillingness to reach NATO's guideline of spending 2 percent of GDP on defence is weakening the bond that grew, some decades ago, between Denmark and the US, while the perception of Denmark as a contributing core member in NATO is at risk of shifting once again. NATO, with the US in particular, is increasingly emphasising that all members must take responsibility and spend more, and the earlier Danish idea of being vindicated by committing more instead of spending more might very well not be enough during the 2020s.[33]

Table 2.2 Force structure of the Danish Armed Forces

	Organisation 2020	Planned reforms towards 2025	Assessment of forces available at short notice
Joint	Defence Command Joint Arctic Command Special Operations Command		At least half a special operations company.
Army	1st mechanised brigade (3 mechanised battalions, 1 intelligence and reconnaissance battalion, 1 artillery group, 1 armoured engineer battalion, 1 logistics battalion, 1 command support battalion) 1 armoured battalion 1 reconnaissance battalion 1 light infantry battalion	1st brigade ready to be deployable by 2023. Increased number of professional soldiers.	1-4 companies or units ready within 7-14 days One combat battalion ready within 30 days.
Navy	3 naval squadrons	Capability to take part in anti-submarine warfare by equipping some frigates with sonar.	1-3 frigates
Air Force	2 fighter squadrons 1 air transport squadron 3 helicopter squadrons 1 air control wing	F-16s to be replaced by F-35As.	Half a squadron of F-16s.

33 Interview, Copenhagen, March 2020.



Map 2.1 Overview of Danish armed forces and their basing

NB: Design by Per Wikström. The map covers only operational headquarters and manoeuvre forces.

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3. Norway

Jakob Gustafsson

With the re-emergence of great power competition and increased geopolitical tension, Norway is returning to the geopolitical position it held during the Cold War: that of "NATO in the North", carefully balancing deterrence and reassurance in its relations with Russia. This "dual policy" entails being NATO's eyes and ears in the high north, while also cooperating with Russia in areas of mutual national interest, such as fisheries management, energy, and search-and-rescue. In recent years, Norway has increased its military presence in its north, enhanced its surveillance capabilities to uphold situational awareness, and strengthened its ability to receive Allied reinforcements.

3.1 Security and defence policy

While Norway never abandoned the national dimension of defence after the Cold War, it did downsize its Armed Forces and engage more frequently in international operations. Simultaneously, however, Norway sought to increase NATO's focus on collective defence at home, especially after the Russo-Georgian War, in 2008.[1]. This emphasis was strengthened severely following Russia's annexation of Crimea. The 2016 Long-term Defence Plan concluded that previous plans belonged to a "different time", and established deterrence and the ability to uphold Norwegian sovereignty, territorial integrity and self-determination as top priorities.

NATO's collective defence has long been the cornerstone of Norwegian security, with the Norwegian Armed Forces tasked to avert and handle lower-level incidents and crises, and resisting a major attack until reinforcements arrive. In line with this, Norway aims to strengthen NATO's collective defence, secure sufficient national military capabilities to trigger and receive NATO reinforcements in a crisis, and pull its weight with regard to force contributions to Alliance initiatives and operations.[2] The clear majority of Norway's political parties stand behind this long-standing, overarching, security policy.

In addition to NATO, Norway has striven for strong bilateral ties to the US.[3] Norway has also sought a wider network of defence cooperation, including with the UK, the Nordic countries and the Netherlands and Germany. Norway takes part, alongside the latter two, in NATO's eFP battlegroup in Lithuania and is procuring submarines in cooperation with Germany. Additionally, Norway is part of the UK-led Joint Expeditionary Force and the French-led European Intervention Initiative.[4]

1 Jonsson, Pål, *The debate about Article 5 and its credibility: What is it all about?* (NATO Defense College, May 2010), p. 4.

2 Det Kongelige Forsvarsdepartement: Prop. 151S, *Kampkraft och bærekraft – Langtidsplan for Forsvarssektoren,* 2016, p. 5, 22–23; and Hennum, Alf Christian and Nyhamar, Tore, 'A Norwegian outlook', in *Strategic Outlook 7,* FOI-R--4456--SE (Stockholm: Swedish Defence Research Agency – FOI, 201). Also see Wrenn, Yennie Lindgren and Græger, Nina, 'The challenges and dynamics of Alliance policies: Norway, NATO and the High North', in Wesley, Michael (ed.), *Global allies: Comparing US alliances in the 21st century* (Canberra: ANU Press, 2017), p. 103, on Norway's efforts to be seen as a valuable ally. While Norway is heavily dependent on NATO reinforcements in case of major war, there are scenarios and crises that Norway would want to handle without NATO involvement, so as to avoid possible (mis)perceptions of escalation and to retain freedom of action.

3 This relationship has been characterised an "alliance within the alliance" and includes prepositioned US Marine Corps (USMC) equipment on Norwegian soil. While Norway's dual policy of deterrence and reassurance has seen it refrain from permanently hosting NATO troops in peacetime, the US Marine Corps (USMC) started six-month rotations of some 300 marines to Norway for exercises and training in 2017. The number was later increased to about 700 marines before new USMC priorities changed the program to shorter-term deployments with a lighter footprint in 2020. See Norwegian Ministry of Defence. *Unified Effort.* Expert Commission on Norwegian Security and Defence Policy. 2015, p. 36 and Browne, Ryan. 'US to end deployment of US Marines in Norway after boosting it in 2018 amid Russian tensions'. *CNN*. 7 August 2020. For more details, see chapter 12 United States.

4 In Norwegian thinking, Norway is not likely to be the main front in a confrontation with Russia. Thus, NATO's few high-readiness forces will most likely deploy to other regions. The bilateral ties to the US, but also possibly the UK and the Netherlands, are meant to facilitate reinforcements to Norway in such a scenario. See Hilde, Paal Sigurd, 'Bistand fra NATO og allierte: Norge utløser artikkel 4 og 5', in Larssen, Ann-Karin and Lage Dyndal, Gjert (eds.), *Strategisk ledelse i krise og krig: Det norske systemet* (Oslo: Universitetsforlaget, 2020).

Norway is not a member of the EU, but has access to the internal market.

Norwegian strategic thinking primarily evolves around the country's northern parts, which in a crisis could be exposed, given the strategic importance for Russia of the Barents region, to Russian aggression. [5] Increased Russian activity in these areas underlines the importance in Norway of situational awareness, air surveillance and maritime security assets. Years of focus on out-of-area operations brought about good capabilities for stability operations, but also a lean force unsuited for high-intensity warfare. In addition, underfunded defence plans led to many shortfalls in personnel, logistics, maintenance, spare parts and ammunition. Since 2017, Norway has worked to improve availability and readiness by addressing these shortfalls, rather than expanding the force structure.[6] Additionally, a number of legacy systems are currently in the process of replacement, including fighter jets, submarines, maritime patrol aircraft, main battle tanks and artillery.

In April 2020, the conservative-liberal government submitted a new proposal for a Long-term Defence Plan. In general, the proposal continues the implementation of current reforms. It broke with the traditional four-year outlook, describing instead defence developments until 2028, with most of the relatively few reforms placed at the later end. Citing the lack of near-term initiatives and clarity on future developments within the Navy, the parliamentary opposition rejected the proposal. Furthermore, the proposal fell well below the Chief of Defence's 2019 recommendations. The government presented a revised proposal that addressed some of these concerns through for example more ambitious recruitment goals in 2021, a change that gained parliamentary approval in December 2020.[7]

3.2 Military expenditures

After a temporary rise and fall in 2002–2005, Norwegian military expenditures were more stable in the following ten years. During this period, the increases in the defence budget followed economic growth, and military expenditures as a share of GDP consequently remained the same, at approximately 1.5 per cent. The distribution between various categories of expenditures was also remarkably stable.

Military expenditures have risen steadily since 2014. In absolute terms and 2015 prices, they increased from USD 5.9 billion in 2014 to USD 7.4 billion in 2019. As a share of GDP, expenditures rose from around 1.5 per cent in 2014 to 1.8 per cent in 2019. Although Norway is committed to and reached NATO's target of spending 2 per cent of GDP on defence in 2020, it has not stated this as an explicit policy goal.

Equipment expenditures have nearly doubled since 2014, from USD 1.2 billion to USD 2.2 billion in 2019, i.e. to nearly 30 per cent of the defence budget. A large part of this rise is related to the purchase of 52 new F-35A fighter aircraft. The F-35 programme implies that Norway will continue to have high expenditures on equipment for a number of years to come. Since 2017, to address the recurrent problem of underfinanced force structures, Norwegian long-term defence plans have taken into account cost escalations specifically associated with military materiel.[8]

The new Long-term Defence plan, presented in 2020, included plans to increase the military expenditures by NOK 16.5 billion, to NOK 75.5 billion in 2028, in 2019 prices, a 27 per cent rise from 2020, and equivalent to an average annual increase by 2.8 per cent, up to 2028. This suggests that in 2024–25 Norway will stay at the NATO tar-

5 Norwegian authorities assess that Russia, to protect its Kola Peninsula-based Northern Fleet, nuclear second-strike capabilities and access to the Atlantic, could seek to activate its purported "bastion concept" by establishing sea control in the Barents region and sea denial along the Greenland-Iceland-UK (GIUK) Gap. For Norway, this could mean Russian attacks on surveillance and defence facilities in Finnmark, efforts to deny NATO and Norwegian presence near the Kola Peninsula, or an occupation of Norwegian territory; see Tamnes, Rolf, 'The significance of the North Atlantic and the Norwegian contribution', *Whitehall Papers,* vol. 87, no. 1, 2016; and Hilde, 'Bistand fra NATO'.

6 Norwegian Ministry of Defence, *Capable and sustainable*, 2016.

7 Det Kongelige Forsvarsdepartement: Prop. 62S, *Vilje til beredskap – evne til forsvar,* 2020; and Skårdalsmo, Kristian, 'Bakke-Jensen får forsvarsplan i retur fra Stortinget', *Aftenposten,* 19 May 2020; and Det Kongeliga Forsvarsdepartement: Prop 14S, *Evne til forsvar – vilje til beredskap,* 2020

8 Det Kongelige Forsvarsdepartement: Prop. 151S, *Kampkraft och bærekraft,* p. 40.

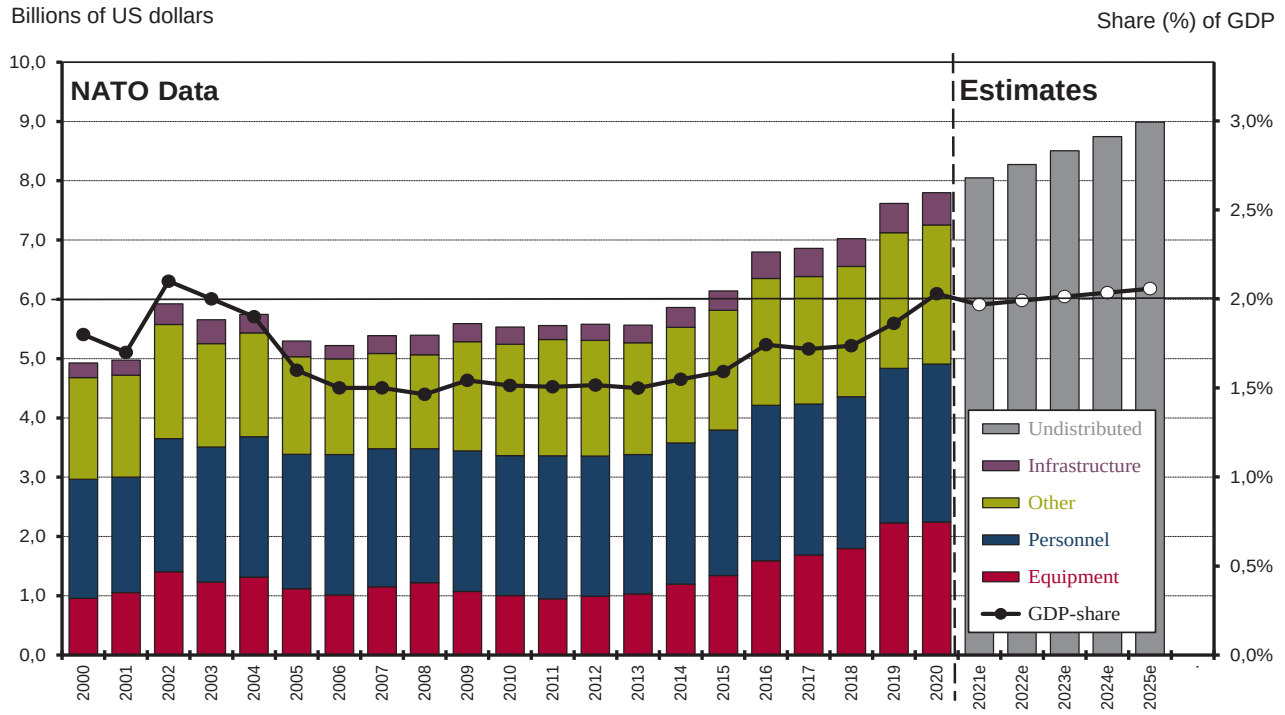


Figure 3.1 The military expenditures of Norway 2000–2025: Billions of US Dollars/2015 prices (columns) and as share (%) of GDP (curved line)

Source: Bergstrand, Bengt-Göran, *NATO military expenditures,* Working Document (Stockholm: Swedish Defence Research Agency – FOI, October 2020).

NB: Estimates based on the Long-term defence plan, presented on 17 April 2020.

get of 2 per cent of GDP, partly as a result of the decline in GDP caused by the coronavirus pandemic, as shown by the graph above.

However, the plan also proposes that NOK 2 billion will be released from cost-saving measures, prompting the Chief of Defence to warn against overly optimistic assumptions.[9] Commenting on the unsure economic future, the prime minister established that the defence budget will not be compromised, and that the government will allocate more funds to compensate for the relative weakness of the Norwegian currency, if necessary.[10]

3.3 Armed forces

The Norwegian Armed Forces have nine main tasks, related to both national and international security. The tasks include enforcing Norwegian sovereignty and authority, upholding deterrence and, ultimately, the defence of Norwegian and allied territory. Furthermore, the Armed Forces survey Norway's vast territories and protect civil society and commercial interests, such as shipping. Internationally, the Armed Forces participate in multinational crisis management operations and contribute to international cooperation on security and defence within the UN and NATO frameworks.[11]

9 Det Kongelige Forsvarsdepartement: Prop. 62S, *Vilje til beredskap,* p. 47, 123.

10 Solberg, Erna, 'Regjeringen presenterer den nya langtidsplanen for Forsvaret', Speech at press conference, 17 April 2020.

11 Det Kongelige Forsvarsdepartement: Prop. 62S, *Vilje til beredskap*, p. 23–25

The Norwegian Armed Forces consist of the Army; Navy, with the Coast Guard; Air Force and Home Guard. The Norwegian Joint Headquarters, situated in Reitan in the middle of the west coast of Norway, commands operations. As the defence of Norway is planned to be led by NATO, Norway seeks close cooperation, coordination and interoperability between its national headquarters and NATO's command structure.

Army

The Norwegian Army consists of approximately 8100 soldiers. Of these, 3700 are professionals and 4400 conscripts.[12] The Army headquarters are stationed in Bardufoss. The Army is built around the mechanised Brigade North. In addition, Norway has a light infantry battalion, in Oslo, an intelligence battalion, and a Border Guard battalion, on the Norwegian-Russian border.

Brigade North's units are primarily stationed in the northern towns of Bardufoss, Skjold and Setermoen. It consists of two mechanised battalions, a light infantry battalion, and a number of support units, including artillery, engineer, and combat service and support battalions. The brigade is tasked with delaying an aggressor, and denying him terrain, until reinforcements arrive. The light infantry battalion is being reorganised into a mechanised battalion, primarily by dividing the existing equipment of the two mechanised battalions.[13]

The brigade's personnel is a mix of conscripts and professionals, except for the fully professional high-readiness Telemark Battalion, which has served in many international operations. The battalion is not co-located with the rest of the brigade. Instead, it is based in Rena, some two hours north of Oslo. The Telemark Battalion and attached support companies from the brigade make up a high-readiness battlegroup.[14] In recent years, the brigade's lack of readiness and equipment have been a matter of discussion. It currently lacks air defences, which it will receive before 2023 (NASAMS High Mobility Launcher). While Norway furthermore aims to procure a man-portable air defence system (MANPADs) by 2025, it is seemingly primarily intended for units in Porsanger, as described below.[15]

Since 2017, Norway has been part of NATO's eFP battlegroup in Lithuania, most often contributing a mechanised company from the brigade, with rotations every six months. Norway's presence in Lithuania is decreased during years of greater Norwegian contributions to the NATO Response Force (NRF). From 2019 to 2022, Norway is contributing a mechanised company with some 120 personnel, which is reduced to 50 personnel during NRF years.[16]

In addition to the sole brigade, Norway re-established a land forces HQ in the northern municipality of Porsanger in 2018, in an effort to increase its presence and situational awareness along the Norwegian-Russian border. The HQ commands both the Border Guard battalion and Home Guard units, with more advanced equipment, and a mechanised battalion currently being established. Conscripts and personnel transferred from other army units man this nascent battalion, which means it does not represent an actual increase in personnel.[17]

The Norwegian Home Guard's main tasks include territorial defence, protection of critical infrastructure and facilitating allied reinforcements. Its personnel are former conscripts and professionals. Some 3000 out of its 40,000 personnel make up mobile high-readiness units, with more advanced equipment and more frequent exercises.[18]

12 International Institute for Strategic Studies – IISS, *The military balance 2020* (London: IISS, 2020), p. 132.

13 Forsvarets Forum, 'Slik ser brigadesjefen for seg Brigade Nords framtid', 4 February 2020.

14 Norwegian Armed Forces, 'Telemark bataljon', 11 February 2019.

15 Johnsen, Alf Bjarne, 'NATO-sjefens ønskeliste til regjeringen: En fullverdig norsk brigade', *Verdens Gang,* 14 February 2018; and Kasbergsen, Morten, 'Overtok bataljon med kampluftvern', *Nye Troms*, 18 June 2018; and Det Kongelige Forsvarsdepartement: Prop 2S, *Vidareutviklingen av Hæren og Heimevernet,* 2017, p. 17.

16 Norwegian Government Offices, 'Regjeringen øker innsatsen i internasjonale operasjoner', 10 July 2018; and Forsvarets Forum, 'Til stede på Natos østflanke: – Gjør oss tryggere', 17 December 2019.

17 Norwegian Armed Forces, 'Viktig satsing i nord', 20 April 2020; and Norwegian Armed Forces, 'Hæren styrkes i Finnmark', 10 January 2019.

18 Det Kongelige Forsvarsdepartement: Prop. 151S, *Kampkraft och Bærekraft,* p. 68.

Navy

The Royal Norwegian Navy, which includes the Coast Guard, employs approximately 3900 sailors, of which some 1800 are conscripts.[19] The Navy's main tasks include resisting armed aggression, keeping sea lines of communication open for goods and allied reinforcements and, if needed, re-establishing Norway's territorial integrity, in cooperation with NATO.[20] The Navy's main base is located in the southwestern city of Mathopen. The main available platforms are 4 Nansen-class frigates, 6 Skjold-class corvettes and 4 Ula-class tactical submarines. [21] Additionally, the Navy has a number of vessels for logistics and mine countermeasures, and a coastal ranger company.

The Sortland-based Norwegian Coast Guard has 13 vessels for upholding Norwegian sovereignty and authority, including, for example, fisheries inspection, handling oil spills and border control. Eight of the vessels, some of which can carry helicopters, are lightly armed (57mm cannon).[22]

The Navy's main systems will reach the end of their life cycles around 2030. Four new submarines are to be developed by the end of the decade. The next generation of surface combatants, that is, the replacement for the current force of frigates and corvettes, was not covered by the 2020 Long-term Plan proposal, and is subject to further study in the years to come. However, the proposal did prolong the use of the current corvettes, which earlier had been slated for decommissioning around 2025, as it is said that the F-35 will fulfil their naval strike tasks. The Navy is still struggling to keep all vessels operational, as maintenance, spare parts and sufficient crewmen are lacking, a situation that the 2016 Long-term Plan was meant to address.[23]

Air Force

The Air Force consists of approximately 3600 airmen, 1000 of whom are conscripts.[24] Its main task is upholding control of Norwegian airspace. It is in a state of flux with the ongoing reception and integration of 52 F-35A fighter jets, of which 25 were delivered by 2020, and the replacement of six P-3C Orion maritime patrol aircraft with five P-8 Poseidons.[25] Currently, the Air Force maintains a fighter squadron of F-16s and a forming squadron of F-35s.

The integration of new fighter jets will see the Air Force taking on a greater role in supporting other service branches. Moreover, it entails a need for updated infrastructure and changes to air force bases. As opposed to the dispersal concept employed during the Cold war, the main base in Ørland will host the majority of the Norwegian fighter jets, with Evenes as a forward operating base. Thus, the need for advanced air defences is obvious, with the Chief of Defence calling for a doubling of NASAMS systems and procurement of long-range anti-ballistic missile systems.[26] The 2020 Long-term Plan proposal included upgraded sensors for the NASAMS systems and procurement of shorter-range missiles to protect air bases and other critical infrastructure for allied reinforcements, but deferred the introduction of longer-range systems.[27]

In addition to the main systems, Norway has 18 Bell helicopters for tactical transports, 2 electronic warfare aircraft and a variety of missiles and bombs, including, for the fighter aircraft, Sidewinders, IRIS-T, AMRAAM and JDAMs. However, the quantities of the latter are unclear. There have been reports that the training and exercise levels are too low and that there is a shortage of pilots and technicians, which the introduction of F-35s is likely to exacerbate.[28]

19 International Institute for Strategic Studies, *The military balance 2020,* p. 133.

20 Det Kongelige Forsvarsdepartement: Prop. 151S, *Kampkraft och Bærekraft,* p. 58.

21 Norway has 6 Ula-class submarines but, while waiting to receive their replacements, two will be decommissioned; see Det Kongelige Forsvarsdepartement: Prop. 151S, *Kampkraft och Bærekraft*, p. 60.

22 Norwegian Armed Forces, Kystvakten, 24 February 2020.

23 Eide, Ole Kåre and Furrevik, Gro Anita, 'På jakt etter volum', *Forsvarets Forum,* 12 September 2017. Norway had five frigates until HNoMS Helge Ingstad was lost in an accident in 2018. The corvettes will make up for the capability gap created by this loss.

24 IISS, *The military balance 2020*, p. 132.

25 Dalløken, Per Erlien, 'Flere jagerfly til Ørland: Nå har Norge mottatt halve F-35-flåten', *Teknisk Ukeblad*, 26 May 2020.

26 Olsen, Dag Tangen, 'Forsvarssjefen vil ha mer luftvern'. Norges Forsvarsforening, 1 April 2020.

27 Det Kongelige Forsvarsdepartement: Prop. 62S, *Vilje til beredskap*, p. 91

28 Bentzrød, Sveinung Berg, 'Kampflyene koster 268 milliarder kroner. Nå fryktes det at det ikke er nok piloter til å fly dem', *Aftenposten,* 7 March 2019; and Hjort, Christian Bugge, 'Det utdannes for få teknikere til Luftforsvaret', Norges Forsvarsforening, 23 March 2020.

Table 3.1 Personnel and materiel in the Norwegian Armed Forces

Personnel/Materiel[a]	Numbers in 2020	Planned reforms towards 2025
Personnel		
Regular force	23,250[b]	550 more professionals [c]
Conscripts	8050	700 more conscripts [d]
Territorial defence forces	40,000	
Reserves	-	Currently in development[e]
Materiel		
Tanks	52 (Leopard 2A4)[f]	To be replaced from 2025[g]
Armoured combat vehicles	502[h] (112 CV9030 [i], 315 M113, 75 XA-186/200 Sisu)	
Heavy artillery pieces	26 (2 K9 Thunder, 24 M109A3GN)	M109s to be replaced by 24 K9.[j]
Attack helicopters	-	
Surface combatants	10 (4 Fridtjof Nansen-class frigates[k], 6 Skjold-class corvettes).	
Submarines	4 (Ula tactical)[l]	
Combat aircraft	60 (35 F-16, 25 F-35A[m])	52 F-35A
Transport aircraft	4 (C-130J)	
Air defence	3 batteries NASAMS II[n]	

NB: a. Numbers, if not otherwise stated are from IISS, *The military balance 2020,* p. 131–133, **b**. Of which some 8050 are conscripts, **c**. Norwegian Government Offices, 'Svar på spørsmål fra utenriks- og forsvarskomiteen oversendt i brev av 30. april 2020 vedr. Prop. 62 S (2019–2020), 2020', p. 1., **d**. Ibid, **e**. Det Kongelige Forsvarsdepartement: Prop 2S, *Vidareutviklingen av Hæren og Heimevernet*, p. 21, **f**. According to media reports, some 30 are operational; see Army Recognition, 'Norway to choose between upgrading Leopard 2A4NO or buying a new tank', 7 March 2019 , **g**. Norwegian Government Offices, 'Svar på spørsmål', p. 6, **h**. Excluding 140 AUVs and 25 HMT Extendas, **i.** Mostly IFVs, but also command post and reconnaissance versions, **j.** Yeo, Mike, 'Norway orders K9 howitzers in latest win for South Korean arms industry', *Defense News,* 20 December 2017, **k**. While IISS lists these as destroyers, Norway calls them frigates; see Norwegian Armed Forces, Fridtjof Nansen-class, 28 June 2016, **l.** Norway has 6 Ula-class submarines but, while waiting to receive their replacements, two will be decommissioned; see Det Kongelige Forsvarsdepartement: Prop. 151S, *Kampkraft och Bærekraft,* p. 60, **m.** Dalløken, Per Erlien, 'Flere jagerfly til Ørland', **n.** Following upgrades in 2019, Norway calls the system NASAMS III; see Norwegian Armed Forces, 'NASAMS III', 23 April 2020.

Personnel and materiel

In 2020, the Norwegian Armed Forces consists of 23,250 active service personnel, including about 8000 conscripts. However, readiness suffers from inadequate manning levels and strained resources, prompting political discussions of how to attract and retain personnel. In 2014, the Chief of Defence warned that the lack of personnel detrimentally affected endurance. Since then, the number of active service personnel has decreased from 25,800 to 23,250.[29] To increase readiness, operational units will no longer train conscripts, and conscript service will be more diversified, regarding length: that is, 12 months as standard and 16 months for key posts. The object is to lessen the burden on operational units and use conscription more effectively in support of readiness. A conscription system more geared towards operations than training

29 Bentzrød, Sveinung Berg, 'Forsvarssjefen: Forsvaret har for få soldater', *Aftenposten,* 22 April 2014. For personnel numbers in 2014, see IISS, *The military balance 2014* (London: IISS, 2014), p. 124. Comparisons over time might be misleading, however, as data reporting procedures may have changed. Furthermore, it is likely that the readiness and availability of today's force structure is better, and that personnel has been shifted from administrative positions to operational units.

decreases the need for reservists to replace conscripts in case of mobilisation, at least initially. Instead, an active reserve to fully man units in case of war will be created. Implementation of these reforms started within the Army in 2017, and the 2020 Long-term Plan proposal suggests expanding it to all service branches.[30]

3.4 Assessment of military capability

As a consequence of the deteriorating European security situation and reduced warning times, Norway has attempted to adapt its Armed Forces towards increased readiness and firepower. This is evident in the changes to the conscription system and the ongoing procurements of modern artillery and main battle tanks as well as in the efforts to address shortfalls in logistics and maintenance. During this transition, military representatives have been candid on the effects of years of under-financed defence decisions and the concomitant problems, in particular low readiness and inadequate force numbers.[31]

Given one weeks' notice, the Norwegian army can muster up to a mechanised battalion-sized battlegroup with artillery, other combat support and combat service support units attached, and parts of the Border Guard battalion and Oslo-based light infantry battalion. Depending on how far along their training conscripts are, some additional units could possibly be mobilised. In addition, around half of the special forces are probably available, as are the rapid reaction forces and parts of the regular forces of the Home Guard.

The core battalion of the battlegroup is fully professional and has extensive combat experience from international operations. In the case of a limited aggression, it should be able to delay an aggressor, especially if the Air Force is able to provide close air support. In the event of a more serious attack, however, the lack of volume and army air defences complicates the picture, especially as the sole air defence battalion should be preoccupied with protecting airports and allied reinforcement areas. Successful defence depends on Norway being able to move army units to its northernmost region of Finnmark, which the limiting terrain and enemy action may impede. While the mechanisation of the brigade's light infantry battalion has benefits, it also means that the flexibility of less terrain-dependent light infantry units, more capable of dispersed operations and with lighter logistical footprints and faster transports, is lost.[32]

As noted by the Norwegian Chief of Defence, the core battalion is frequently on stand-by for NATO operations and, if deployed abroad, may leave few units for national defence. Even the occasional deployment of a mechanised company from Telemark Battalion to Lithuania, which in the past have involved nine tanks and a number of armoured vehicles, could represent a loss of about a quarter of the available high-readiness mechanised units.[33]

The Norwegian Navy has a number of highly capable systems but suffers from a lack of crews, spare parts and maintenance.[34] Furthermore, recurring delays and maintenance issues in the introduction of on-board NH90 helicopters hamper ASW capabilities.[35] At short notice, the Navy could probably stand up 1–2 Nansen-class frigates, 2–3 Skjold corvettes and 1–2 submarines.

Assessing the Air Force's short-time readiness is difficult, as it is currently in a state of flux through the change of fighter aircraft. However, media reports in 2014 claimed that approximately 12–15 F-16s were immediately available.[36] While the actual numbers may be higher, the on-going replacement of F-16s should mean that they are given less priority in daily operations. The Air Force is further

30 Det Kongelige Forsvarsdepartement: Prop. 62S, *Vilje til beredskap*, p. 52. For example, there will no longer be periods where all conscripts are at the start of their training simultaneously.

31 It is likely that many countries face the same problems as Norway, but are not as frank as Norwegian officials are about them.

32 Bjørningstad, Bjørnar M. and Sandnes Becker, Mathias, 'Norge trenger lettinfanteri!', *Stratagem,* 10 April 2019.

33 Norwegian Armed Forces, *Et styrket forsvar - Forsvarssjefens fagmilitære råd 2019, 2019*, p. 28; and Fjellestad, Anders, 'Beroliger Litauen', Norwegian Armed Forces, 18 September 2017.

34 There are for example only five crews for the four frigates at present. See Norwegian Government Offices. 'Svar på spørsmål fra utenriks- og forsvarskomiteen oversendt i brev av 30. april 2020 vedr. Prop. 62 S (2019–2020)', 2020, p. 31.

35 Eide, Ole Kåre and Furrevik, Gro Anita, 'På jakt etter volum'; and Norwegian Government Offices, 'Svar på spørsmål fra utenriks- og forsvarskomiteen oversendt i brev av 13. mai 2020 vedr. Prop. 62 S (2019-2020)', p. 11

36 Bentzrød, Sveinung Berg, 'Forsvarssjefen'.

strained by a lack of personnel, exercises and base support.[37] Tentatively, some 15–20 F-16s and 5–10 F-35As would be available within a week.

Given the lack of volume, the units already deployed abroad, and transport times, Norway would struggle to deploy any combat units to a contingency elsewhere in Northern Europe within a week. If needed, and if the situation at home allows for it, maritime surveillance aircraft and a small detachment of fighter aircraft might be an exception.

Given three months' notice, additional naval assets can most likely be added, and about ten more F-16s. The army should be able to stand up large parts of Brigade North, either by intensive combat training of conscripts and/or by mobilising reservists to augment units. However, the maintenance and personnel rotations required to sustain operations over time, and the lack of additional personnel in the not yet fully developed reserve system, indicate that the overall picture may not be markedly different for any of the service branches.[38]

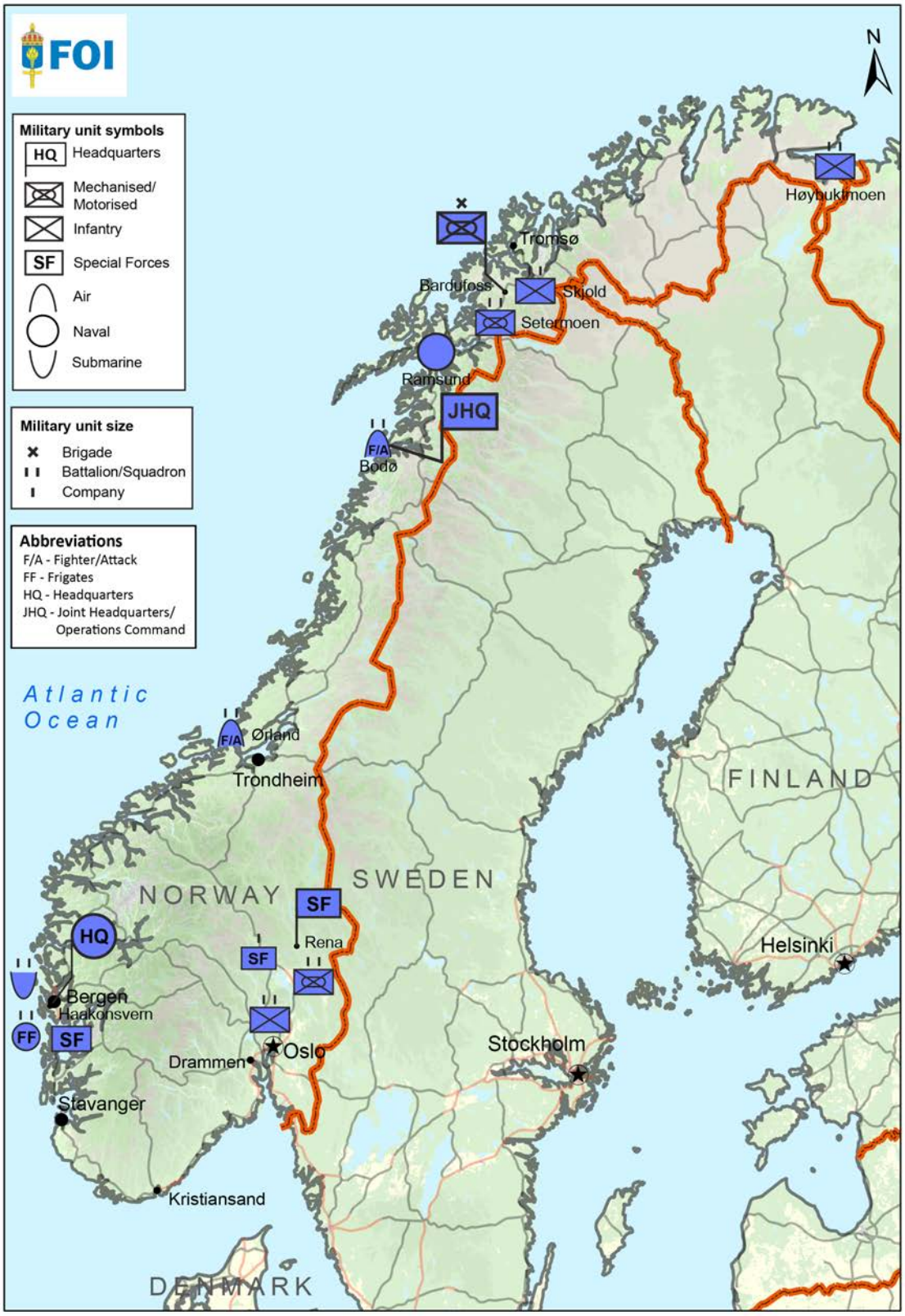
Within five years, the Norwegian Army will have received and integrated new self-propelled howitzers, short-range air defence for the army brigade, and counter-battery radars; continued work on two new mechanised battalions; and come further in the development of its active reserve concept. No particular developments are planned for the Navy until 2025, whereas the Air Force will have received all F-35As and reached the projected fully operational capability.

37 Eide, Ole Kåre and Førland Olsen, Øyvind, 'Et voldsomt løft', *Forsvarets Forum,* 24 October 2017.
38 It is furthermore unclear to what extent such a mobilisation has been prepared and exercised.

Table 3.2 Force structure of the Norwegian Armed Forces

	Organisation 2020[a]	Planned reforms towards 2025	Assessment of forces available at short notice
Joint	Joint operational headquarters Cyber defence force Special forces Command (1 naval special forces unit, 1 army special forces unit)		Around half of the special forces units
Army	1 mechanised brigade (2 mechanised battalions, 1 light infantry battalion, support units) 1 light infantry battalion (King's Guard) 1 intelligence battalion 1 light infantry (Border Guard) battalion 11 Home Guard districts Joint units[b]	Light infantry battalion, to be mechanised. Short-range air defence battery by 2023.[c] Mechanised battalion being established in Porsanger.	Up to 1 mechanised battalion with support units attached. Parts of border guard battalion and King's Guard battalion.
Navy	1 frigate squadron 1 corvette squadron 1 mine-counter measures squadron[d] Coastal Rangers (1 ISR company)		1–2 frigates 2–3 corvettes 1–2 submarines
Air Force	1 fighter squadron (F16AM/BM) 1 fighter squadron (F-35A (forming) 1 electronic warfare squadron 1 transport squadron 1 search-and-rescue squadron 1 maritime patrol squadron 3 transport helicopter squadrons (1 forming) 1 air defence battalion	Additional air defence battalion.[e]	1 squadron F-16s and half a squadron of F-35s.

NB: a. Numbers, if not otherwise stated, are from IISS, *The military balance 2020,* p. 131–133, **b.** The army's joint resources consist of an engineer battalion, a logistics battalion, a transport battalion, a CBRN company and military police, **c.** Kasbergsen, Morten, 'Overtok bataljon med kampluftvern', *Nye Troms,* 18 June 2018, **d.** Kasbergsen, Morten, 'Overtok bataljon med kampluftvern', *Nye Troms,* 18 June 2018, **e.** Dalløken, Per Erlien, 'Luftforsvaret gjør seg klare til et nytt Nato-oppdrag med F-35', *Teknisk Ukeblad,* 7 September 2020.



Map 3.1 Overview of Norwegian armed forces and their basing

NB: Design by Per Wikström. The map covers only operational headquarters and manoeuvre forces.

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4. Finland

Michael Jonsson

An increasingly assertive and aggressive Russia has prompted a shift in Finnish security and defence policy. While still militarily non-aligned, Finland has significantly increased its military cooperation with the US, Sweden and other like-minded countries. The Finnish Defence Forces (FDF) have continuously maintained territorial defence as their overarching mission and are following a long-term modernisation plan. But, following Russia´s annexation of Crimea, the FDF has prioritised readiness, through the creation of standing high-readiness units and improved readiness within some mobilising units, and stepped up the frequency of its participation in international exercises. Given its history, there is broad political consensus on security and defence policy in Finland. Hence, the significant increases in military expenditures needed to finance the replacement of its fighter jets and main naval vessels have moved ahead as planned, in spite of the economic crisis brought on by the Covid-19 pandemic.[1]

4.1 Security and defence policy

Finland's security and defence policy has traditionally been shaped by the legacy of World War II – when the country faced the Soviet Union in two brutal wars – and its geography, sharing a 1300 km-long land border with its eastern neighbour. During the Cold War, this led to a balancing act in security policy, between avoiding provocation of the Soviet Union and staunchly upholding its Nordic identity and will to defend the country. After the fall of the Soviet Union, Finland's balancing changed swiftly towards the West, as Finland acquired 64 F-18 C/D Hornets from the US in 1992 and joined the European Union, in 1995. The FDF have continuously maintained their focus on territorial defence, with the aim of independently defending its entire territory over time. To achieve this, Finland has maintained universal male conscription and, above all, a sizable mobilising army.

During the last few years, Finland has shifted its security policy of military non-alignment, with expanded bi- and multilateral military cooperation.[2] The FDF cooperates closely with its Swedish counterpart, with the aim of being capable of operating jointly in crisis or war. In December 2019, the respective chiefs of defence signed a common military strategic concept.[3] Bilateral cooperation with the US has expanded, and is intended to develop further.[4] In 2016, a national study on NATO membership concluded that Finland would receive the most benefit if it joined together with Sweden, but that the risk for a crisis with Russia would be significant.[5] Instead, Finland has opted for closer cooperation with NATO and the US, including in exercises such as Arrow 18 in Finland, Red Flag 2018, in the US, and Northern Wind 2019, in Sweden. The NATO option, however, remains on the table and public opinion, which favours staying outside the Alliance, would nevertheless probably be amenable if the government were to advocate membership.[6]

Given the steady course the FDF has been kept on since the end of the Cold War, Finnish defence policy clearly favours evolution over revolution. That said, a government Defence White Paper from 2017

1 Finland, Finnish Ministry of Defence, 'Försvarspropositionen tryggar försvarsförmågan även i framtiden', 17 September 2020.

2 Pesu, Matti, *What non-alignment? Finland's security and defence policy stems from partnerships,* FIIA Briefing Paper 227, (Helsinki: FIIA, November 2017).

3 Sweden, Försvarsmakten, 'Sverige och Finland undertecknar militärstrategiskt koncept', 18 December 2019.

4 Finland, *Statsrådets försvarspolitiska redogörelse,* Statsrådets kansli 6/2017, p. 6; Sweden, Regeringen, *Trilateral statement of intent among the Department of Defence of the United States of America and the Ministry of Defence of the Republic of Finland and the Ministry of Defence of the Kingdom of Sweden,* 8 May 2018.

5 Finland, Ministry of Foreign Affairs, *The effects of Finland's possible NATO membership: An assessment,* Helsinki: Ministry of Foreign Affairs, April 2016.

6 Järvenpää, Pauli. 'Finland and NATO: So close, yet so far', ICDS, 22 April 2019.

described a sharply deteriorating security situation, with lowered thresholds for the use of force, shortened early warning and a blurring of the line between peace and conflict.[7] Hence, Finland has nominally expanded its wartime armed forces. The FDF has also developed high readiness units to bridge the capability gap between the peacetime organisation and the mobilised wartime organisation. The readiness units are trained and equipped for quick response to a range of threats, from hybrid to military contingencies of smaller scale. [8]

In keeping with the 2017 Defence White Paper, the Finnish army has been modernised, for example by acquiring self-propelled howitzers, additional rocket artillery ammunition and main battle tanks (MBTs), while ordering counter-battery radars. Its doctrine has also had to be adapted, based on lessons from the conflict in Ukraine.[9] Lastly, the main task of the FDF has shifted from training to both readiness and training, with notable results. While in 2014 readiness was the Achilles heel of the Finnish army, by 2017 it could reportedly put significant forces on a war footing within hours.[10] The readiness system has since been further developed and the high-readiness troops have demonstrated their capabilities in exercises.[11] Hence, whilst the FDF has undergone significant reforms – particularly within the army – since 2017, it has kept a steady direction, guided by the plan laid out in the Defence White Paper.

4.2 Military expenditures

During 2012–2015, Finland gradually reformed and downsized its armed forces, motivated by growing costs for materiel and exercises, and a modest decrease in defence spending.[12] This gradually caused a growing need for modernised equipment, particularly within the army, and more exercises for the reserves.[13] Since 2015, the Finnish defence budget has increased, also modestly. Starting in 2021, it will instead increase drastically, as the costs of acquiring 4 naval vessels (Squadron 2020, with a budget of EUR 1.3 billion) and 64 new fighter jets (the HX Fighter Program, with a EUR 7–10 billion budget) will begin to be paid. Taken together, they will push the Finnish defence budget above 2 per cent of GDP until at least 2023.[14]

According to the plans of the Finnish Ministry of Finance for 2021–2024, the Defence Ministry's budget will increase from EUR 3.2 billion in 2020 to EUR 4.9 billion in 2021 and remain at this level during 2022–2023, hence increasing by over 50 per cent from 2020 to 2021.[15] If Finland was a NATO member, it would meet both NATO's target to spend 2 per cent of GDP on defence and the requirement to spend at least one-fifth of its defence expenditures on equipment. From 2018 to 2020, the acquisition budget increased from EUR 517 million to EUR 790 million, or from 21 per cent to 29 per cent, of the total defence budget.[16] The increase in expenditures from 2020 to 2021 consists mainly of EUR 1.5 billion annually to finance the acquisition of multirole fighter jets, hence tripling the Finnish materiel budget.[17]

7 Finland, *Statsrådets försvarspolitiska redogörelse,* p. 5.

8 Jonsson, Michael and Engvall, Johan, *Guardians of the north – The Finnish army improves readiness and mobility to counter hybrid threats,* FOI Memo 6481, (Stockholm: Swedish Defence Research Agency – FOI, September 2018).

9 Cranny-Evans, Samuel, 'Defence in depth: Finland continues to modernize to counter Russian threat', *Jane's Defence Weekly,* 15 January 2020; Jonsson, Michael and Gustafsson, Jakob, *Färdplan för tillväxt: erfarenheter för Sverige från den finska försvarsmaktens reformer för ökad beredskap, operativ förmåga och uthållighet,* FOI Memo 7105, (Stockholm: Swedish Defence Research Agency – FOI, August 2020).

10 Salonius-Pasternak, Charly, *Securing Finland: The Finnish Defence Forces are again focused on readiness,* FIIA Comment 13, 18 May 2017.

11 Jonsson and Engvall, 'Guardians of the north', p. 3–4.

12 Finland, Riksdagens kansli 4/2014, *Försvarets utmaningar på på lång sikt – Slutrapport från den parlamentariska utredningsgruppen,* (Helsingfors: Riksdagens kansli, 2014), p. 16.

13 Finland, *Statsrådets försvarspolitiska redogörelse,* p. 11.

14 Salonius-Pasternak, *Securing Finland.*

15 Finland, Ministry of Finance, *Planen för de offentliga finanserna för 2021–2024,* 16 april 2020; Finland, Finansministeriet, Statens budgetpropositioner, Statsbudgeten 2021, Förvarsministeriets förvaltningsområde, table, 'Förvaltningsområdets anslag 2019-2021.

16 Finland. Ministry of Defence, 'Defence budget 2020'.

17 Finland, Ministry of Finance *Planen för de offentlig finanserna,* p. 20–21.

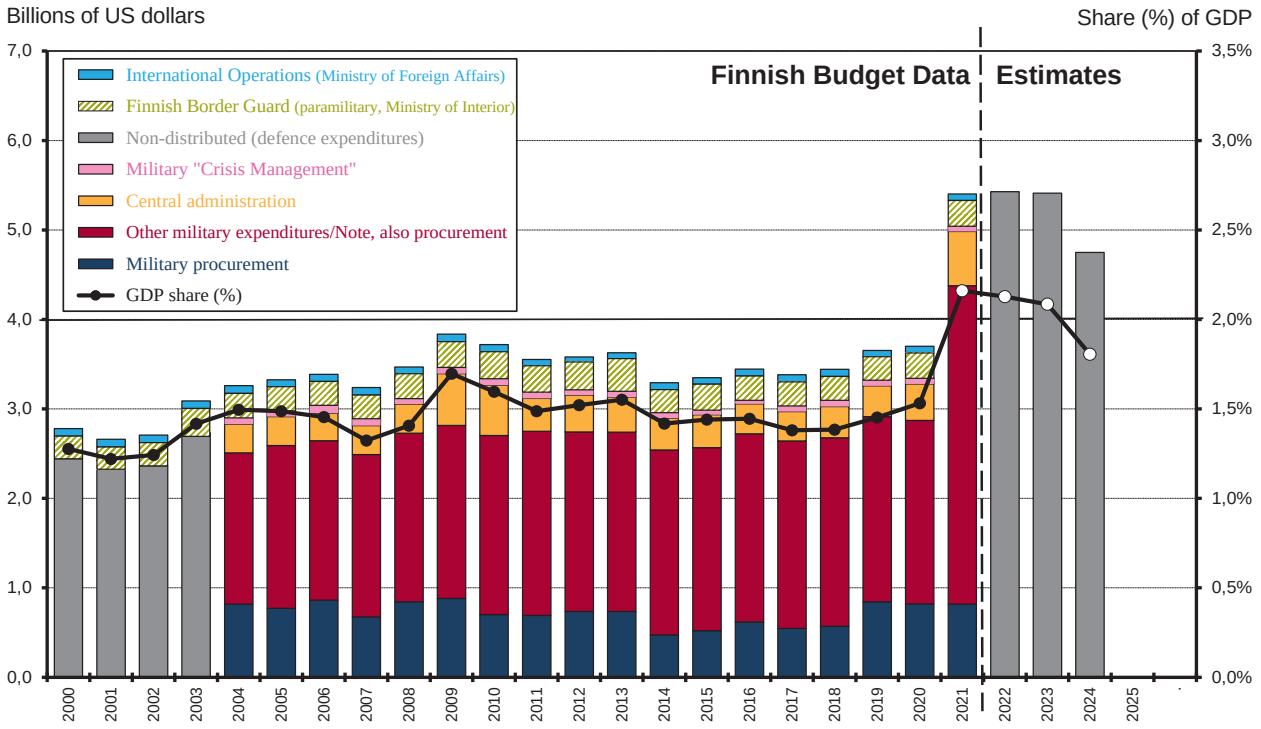


Figure 4.1 The military expenditures of Finland 2000–2025: Billions of US dollars/2015 prices (columns) and as share (%) od GDP (curved line)

Source: Bergstrand, Bengt-Göran, *NATO military expenditures,* Working Document (Stockholm: Swedish Defence Research Agency – FOI, October 2020).

NB: Estimates based on "Plan for Public Finances for 2021–2024". The figure presents an estimate of Finland's defence spending in line with the NATO definition used for all other countries in this report. Expenditures for the paramilitary Finnish Border Guard, or FBG (striped green), and for international operations (light blue) have therefore been included.

4.3 Armed forces

According to the Military Balance, the FDF have a peacetime active personnel of 21,500, of which 8,600 are full-time employees and 13,000 conscripts.[18] The reserve consists of 216,000 personnel, divided between 170,000 in the army, 20,000 in the navy and 26,000 in the air force.[19] In 2017, the wartime organisation of the FDF expanded from 230,000 to 280,000 personnel. This was done in part by including in the personnel count the paramilitary Finnish Border Guard, or FBG, which have 14,200 personnel once mobilised, and the FDF mobilisation organisation.[20] The Commander of the FDF leads the organisation from the Defence Command in Helsinki.

Army

The Finnish army is currently organised into the Army Command and eight brigade-level units, as illustrated in Table 1 below.[21] The sharp tip of the army's spear is comprised of the manoeuver troops, which have materiel such as main battle tanks (Leopard 2A6), infantry fighting vehicles (CV90 and BMP-2M) and rocket artillery (M270 MLRS).

18 International Institute of Strategic Studies, *The military balance 2020* (London: Routledge), p. 101–102. According to the FDF website, the peacetime personnel is approximately 12,000 in domestic duties, of which some 4000 are civilians; see Finland, Finnish Defence Forces, 'About us', 23 March 2020.

19 International Institute of Strategic Studies, *The Military Balance 2020*, p. 101.

20 bid.; Jonsson and Engvall 'Guardians of the north', p. 1.

21 Finland, Finnish Defence Forces, 'Army units'.

The manoeuver troops represent approximately 20 per cent of the army and include 2 mechanised brigades, 2 armoured regiment battlegroups, 1 special forces battalion and 1 helicopter battalion.[22]

Beyond this, the army consists of 60 percent regional troops – primarily light infantry, with some limited mechanised/motorised elements – whose primary mission is regional defence, and 20 percent local troops, who mainly provide defence in depth and secure mobilisation.[23] The army has been the primary recipient of new materiel since 2017 and is home to a majority of the high-readiness units, including company-size units based at the three largest brigade-level units. It claims to have improved its readiness, firepower and mobility, as requested in the parliamentary report of 2014.[24] The army's limited procurement budget, however, means that the need for modernised materiel is particularly acute within the regional and local troops, a need that can only gradually and partially be met.

Navy

The Finnish Navy consists of the Navy command, in Turku, three operational units – the Coastal Fleet, the Coastal Brigade and the Nyland Brigade – and the Naval Academy.[25]

The surface combatants include Rauma- and Hamina-class fast-attack missile craft, Hämenmaa-class minelayers and Katanpää-class mine-hunter vessels. The Finnish Navy has no submarines.[26] Nyland Brigade trains marine infantry in an amphibious role, while the Coastal Brigade has fixed-position artillery and anti-ship missiles.[27] The navy is acquiring four multi-role corvettes of Pohjanmaa class, with final delivery by 2028. While the Rauma and Hämeenmaa classes will be decommissioned as the Pohjanmaa class enters service, 4 Hamina vessels will be modernised by 2021, including air defence and anti-submarine warfare (ASW) capabilities.[28]

Air Force

The Finnish Air Force consists of the Air Force Command and three operational units – the Karelia Air Command, the Lapland Air Command – both on Quick Reaction Alert (QRA) – the Satakunta Air Command and the Air Force Academy. Readiness levels for the Air Force are high, which has been repeatedly demonstrated during incidents of foreign aircraft violating Finnish airspace.[29] Its main equipment includes 62 multi-role fighters, F/A-18 C/D Hornet, which have undergone two mid-life updates since they were acquired in the 1990s, and now also carry long-range precision munitions (Joint Air-to-Surface Standoff Missile, JASSM), with a range of 350 km.[30] The ground-based air defence, organised under the army, are armed primarily with a medium-range missile system (NASAMS 2). Acquisition of a system with longer reach is currently underway.[31] In 2025–2030, a new fighter aircraft will replace the F/A-18 through the HX fighter program, with the final decision expected in 2021.[32]

Personnel and materiel

On a yearly basis, 22,000 conscripts and 18,000 reservists are trained in Finland.[33] Readiness, availability and time needed for mobilisation generally pose greater challenges than filling the units *per se*,

22 C.f. Jonsson and Engvall, 'Guardians of the north', p. 1; and IISS, *The military balance,* p. 102.

23 C.f. Finland, Finnish Defence Forces, 'Finnish Army in 2020 – Readiness sustained at every moment'.

24 Finland, Finnish Defence Forces, 'Finnish army's spearhead capabilities in 2020'; Cf. Finland, *Försvarets utmaningar,* p. 4, 8.

25 Finland, Finnish Defence Forces, 'Brigade-level units'.

26 IISS, *The military balance 2020*, p. 102.

27 Ibid.; Häggblom, Robin, 'Reach out and touch someone – at 40 km', *Corporal Frisk,* 11 September 2019.

28 Finland, Försvarsmakten, 'Marinen tog emot den första robotbåten av Hamina-klass som genomgått livstidsförlängning', 15 January 2020.

29 Draper, Lucy, 'Russia violates Finnish airspace for the sixth time in a year', *Newsweek,* 7 October 2015.

30 Finland, Finnish Defence Forces, *Air force units;* Defense News, 'Global Vendors Size up Finland's Multibillion-Dollar Defense Upgrades', 26 January 2017

31 Helsinki Times, 'Iltalehti: Finland quietly preparing to acquire new surface-to-air missiles', 7 January 2020; Häggblom, Robin, 'Different approaches to managing the long-range ballistic and cruise missile threat', in Jonsson, Michael and Dalsjö, Robert (eds.), *Beyond bursting bubbles: Understanding the full spectrum of the Russian A2/AD threat and identifying strategies for counteraction,* FOI-R--4991--SE (Stockholm: Swedish Defence Research Agency – FOI, June 2020).

32 Finland, Ministry of Defence, 'The HX fighter program'.

33 Finland, Finnish Defence Forces, 'About us'; IISS, *The military balance 2020,* p. 101.

Table 4.1 Personnel and materiel in the Finnish Defence Forces

Personnel/Materiel	Numbers in 2020	Planned reforms towards 2025
Personnel[a]		
Regular force	8,500	
Conscripts	13,000[b]	
Reserves	216,000	Total wartime organisation 280,000, including the FBG and other joint functions.[c]
Materiel		
Tanks	100 (Leopard 2A6)	100 Leopard 2A4 held "in store"
Armoured combat vehicles	212 (102 CV9030FIN, 110 BMP-2M)	110 BMP-2 modernised to -2M standard (weapons, armour, etc)[d]
Heavy artillery pieces	802 (175 self-propelled, including 8 K9 Thunder; 74 self-propelled 2S1 122mm Gvozdika; 41 MRLS 227mm M270, 34 122mm RM-70 18 120mm XA-361 AMOS; and 627 towed 120-155mm).[e]	In total, 48 K9 Thunder have been purchased, with IOC in 2020. A Heavy Armoured Howitzer Battery will be created.[f]
Attack helicopters	-	
Surface combatants	8 (4 Hamina-class fast-attack missile vessels, 4 Rauma-class fast-attack missile vessels).	Rauma replaced by Pohjanmaa 2025–2028, Hamina modernised by 2021. [g]
Submarines	-	
Combat aircraft	62 (F/A-18CD)	Will be replaced during 2025–2030
Transport aircraft	9 (3 C-295M; 6 PC-12NG)	
Air defence batteries	7 (5 Crotale, 2 NASAM 2)	Finland is currently procuring a ground-based long-range air defence system. [h]

NB: a. Unless where otherwise specified, this table is based on IISS, *The military balance 2020,* p. 101–103. During 2017, it was decided that the FDF wartime organisation would be expanded to 280,000, including the FBG. **b.** Ibid., p. 101. Annually, approximately 22,000 conscripts are trained – of which a majority are trained for 165 days – divided over two contingents. Officers, NCOs and those with "especially demanding" duties are trained for 347 days. **c.** IISS, *The military balance 2020*, p. 101. 18,000 reservists undergo refresher training annually, total obligation 80 days (150 for NCOs, 200 for officers up to age 50). **d.** Army Recognition, 'Finland to get new guns'. **e.** This section is based on the so-called FDF Vienna document; Finland, Finnish Defence Forces, "Confidence- and security building measures'; in reporting 802 artillery pieces, this source differs somewhat relative to IISS, which reports 699. Also see Häggblom, Robin, '"The best artillery in Europe"', Corporal Frisk, 19 January 2017. **f.** Finland, 'Self-propelled howitzer K9 Thunder'. **g.** Finland, 'Marinen tog emot'. **h.** Häggblom, 'Different approaches to managing', p. 132–133.

since reservists man approximately 90 per cent of the wartime army.[34] The main acquisitions since 2017 include self-propelled artillery (48 K-9) and 100 Leopard 2A6 MBTs, alongside munitions to its MLRS rocket artillery systems and counter-battery radars. Smaller changes include modernising 110 infantry vehicles (BMP-2M).[35]A key question is what will become of the 100 Leopard 2A4 currently "in store", with indications that they will be kept in service in varying capacities.[36]

Since 2017, the FDF has not grown dramatically in numbers or units. Instead, it has improved its readiness – through the establishment of high-readiness troops, but also through its improving

34 Finland, *Försvarets utmaningar,* p. 4.
35 Army Recognition, 'Finland to get new guns for BMP-2MD infantry fighting vehicles', 16 February 2018.
36 IISS, *The military balance 2020*, p. 102; Cranny-Evans, 'Defence in depth'.

speed of mobilisation[37] – and sharpened its capabilities, primarily within the army. Further capability improvements can be expected, as the army materiel becomes operational, and the modernisation of 4 Hamina-class missile vessels is completed in 2021.[38] Increased numbers of exercises – domestic as well as international – have also improved operational capability and particularly interoperability. Since 2017, Finland has participated in some 80–90 international exercises and training activities annually[39] and a large exercise, Arctic Lock, will be held in 2021.[40] Arctic Lock was originally intended to have large-scale international participation, but the Covid-19 pandemic has recently forced a change of plans.

As a result of its continuous focus on territorial defence, the mobilised Finnish army is considerably larger than other armies in Scandinavia. Given its conscription model, readiness and early warning are critical elements and have been a major priority since 2017.[41] Today, there seems to be a shift towards endurance and consolidation, including hiring more trainers, putting the self-propelled artillery K-9 and other new materiel into operational service, and replacing air defence and coastal artillery.[42]

4.4 Assessment of military capability

The 2017 Defence White Paper claimed that by 2021, 'a majority of the troops can be equipped and trained at a level that is satisfactory considering their missions'.[43] While perhaps not entirely fulfilled across the entire spectrum of troops, the Finnish army has made clear improvements. With sizable mechanised units, modern tanks, a strong artillery and improvements in its situational awareness and command and control the Finnish army, once mobilised, is a capable fighting force for the defence of its territory.[44] In a large-scale, high-intensity, drawn-out conflict, its considerable size, reserves and stores would be clear assets, even if a dearth of modern equipment within the local and regional army troops remains an issue.[45]

In the Finnish Navy, the coastal artillery and the marine infantry brigade present defensive assets, as do the mine-laying and anti-ship capabilities. However, the demilitarised islands of Åland and dependence on sea lines of communication (SLOCs) present vulnerabilities. In the Gulf of Finland and the southern Baltic Sea the lack of submarines limits the range of options available, even as the ASW capabilities of the Hamina-class are being modernised.[46] The Gabriel V anti-ship missile will expand range and options[47] and the eventual introduction of the Pohjanmaa-class will bring improvements to several capabilities.

For the air force, the forward presence of Russian long-range air defence systems, cruise and ballistic missiles represents a threat that must be dealt with.[48] That said, its dispersed basing concept and long-range precision capabilities make the Finnish Air Force very adept at operating in a highly challenging environment. In the short term, the air defences will be complemented and sufficient stocks of munitions and missiles secured.[49] In 2025–2030, the replacement of the F/A-18 C/D Hornets looks likely to provide a major leap in capabilities, once fully operational.

At short notice, the Finnish army is likely to primarily have available its high readiness troops, the three readiness battalions, the special forces battalion, the helicopter battalion, the air defence regiment

37 Jonsson and Engvall, *Guardians of the north,* p. 3–4.

38 Finland, Försvarsmakten, 'Marinen tog emot'.

39 Finland, Finnish Defence Forces, 'Försvarsmaktens plan för internationella övningar under 2017 har godkänts', Huvudstaben, 25 November 2016.

40 Finland, Försvarsmakten, 'Förberedelserna för huvudkrigsövningen Arctic Lock 21 har börjat', 2 December 2019.

41 Salonius-Pasternak, *Securing Finland.*

42 Häggblom, 'Reach out and touch someone'; Häggblom, Robin, 'Different approaches to managing the long-range ballistic and cruise missile threat', in Jonsson and Dalsjö, *Beyond Bursting Bubbles,* p. 123–148.

43 Author's translation; Finland, *Statsrådets försvarspolitiska redogörelse,* p. 16.

44 Cranny-Evans, 'Defence in depth'; Jonsson and Gustafsson, *Färdplan för tillväxt.*

45 Cf. Finland, *Statsrådets försvarspolitiska redogörelse,* p. 12.

46 Finland, Försvarsmakten, 'Marinen tog emot'.

47 Naval News, 'Finnish navy lifts veil on its future anti-ship missile: The Gabriel V', 14 December 2019.

48 This is indirectly recognised in the Defence White Paper, insofar that (to translate and paraphrase), "in the event of a crisis the free access to the air and naval space in the Baltic Sea region is contested"; Finland, *Statsrådets försvarspolitiska redogörelse,* 10.

49 Finland, *Försvarets utmaningar på lång sikt,* p. 22–23; Häggblom, 'Different approaches to managing'.

and the full-time employees of the FBG. In addition, some of the light infantry brigades should be able to muster a battalion each. The outcome would be much dependent on the phase of training the conscripts have reached and, probably, at least on some reinforcements with reservists. The Navy has good readiness, but far from every naval vessel will be immediately available and operative at any given moment. Given short notice, this could comprise two fast-attack missile vessels (Hamina/Rauma), 1 mine-hunter coastal vessel (Katanpää) and 2–3 minelayers (Hämeenmaa/Pansio). Depending on the conscription training cycle, parts of the marine infantry from the Nyland Brigade may also be available. Within the air force, the Karelia and Lapland Air Commands have high readiness, with the F-18. Precise availability of F-18s is difficult to assess, but, given seven days' notice, the air force is estimated to be able to muster around 24–36 fighter aircraft.

Given three months' notice, the number of Finnish army units available is likely to increase significantly. The manoeuver troops would likely be prioritised, meaning that the remainder of two mechanised brigades and two armoured battle groups will have been added, together with an artillery brigade.[50] Over time, the regional troops – including 9 light-infantry brigades, plus 7 engineering regiments – would also mobilise.

In the navy, the available vessels are likely to increase to 5–6 fast-attack missile vessels (Hamina/Rauma), 2 mine-hunter coastal vessels (Katanpää) and 3–4 minelayers (Hämeenmaa/ Pansio), while the rest of the Nyland Brigade will be mobilised. Availability of fighter aircraft will likely increase to 36–48. During the 2020–2025 period, developments in the FDF will be centred on making acquired materiel fully operational, and finalising on-going modernisation and reforms. This includes improving ASW capabilities for the Hamina-class; fielding the K9 in a Heavy Armoured Howitzer Battery; making the acquired counter-battery radars fully operational; fielding the Gabriel V anti-ship missile on naval and vehicle platforms; expanding the high-readiness units; acquiring new mid-range ground-based air defences; and probably fielding the Leopard 2A4 tanks in new unit configurations. In 2025–2030, developments will instead mean qualitatively new capabilities, rather than a gradual change in extent or numbers. 2 Hämeenmaa-class minelayers and 4 Rauma-class fast-attack missile vessels will be replaced by 4 Pohjanmaa corvettes. The Pohjanmaa will have medium-range air defences, anti-ship missiles (Gabriel V), soft-kill self-defence, mine-laying and ASW capabilities.[51] Alongside this, the 64 F/A-18 C/D Hornets will be replaced by the winner of the HX Fighter Program procurement. The requirement is for a multirole aircraft, with both air-to-air and air-to-ground weapons, but also suppression of enemy air defences (SEAD) and intelligence, surveillance, target acquisition and reconnaissance (ISTAR) capabilities. Preliminarily, electronic warfare (EW) and/or ISTAR can be expected to improve significantly, given existing tenders.[52] Phasing in the Pohjanmaaclass (2025–2028) and the winning contender of the HX Fighter Program means that both the Finnish Air Force and Navy will replace their main platforms during the latter part of the 2020s. While there is a plan for the transition, it will nonetheless be a major undertaking, complex and with numerous potential pitfalls. Hence, even in a fair-weather scenario, the FDF will face an exceptional situation during the transition period.

50 While the IISS lists mechanised units as brigades, there are indications that the Finnish Army plans to fight in regiment-level battlegroups, "allowing them to solve missions independently or as part of larger task forces"; see Häggblom, Robin, 'Finland has a plan for Russia's little green men', *Foreign Policy,* 15 August 2020; also c.f. Cranny-Evans, 'Defence in depth'; Jonsson and Gustafsson, *Färdplan för tillväxt.*

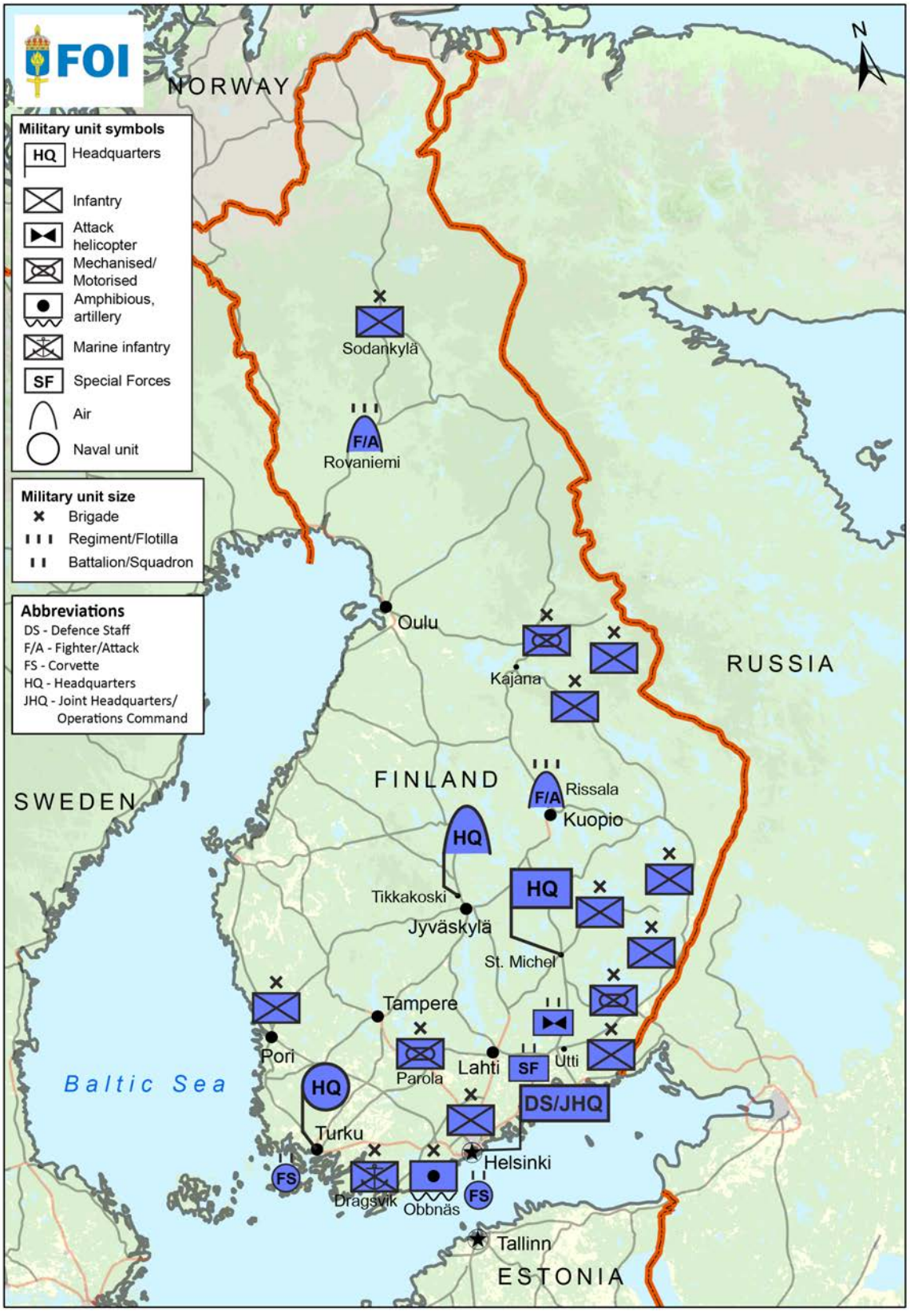
51 Ibid.

52 Hoyle, Craig, 'Finland's HX contest heats up, as evaluations advance', *Flight Global,* 5 February 2020.

Table 4.2 Force structure of the Finnish Defence Forces

	Organisation 2020[a]	Planned reforms towards 2025	Assessment of forces available at short notice
Joint	FDF Command The Defence Forces Logistics Command.		
Army	2 mechanised brigades 2 armoured regiment battlegroups 9 light infantry brigades [b] 1 special forces battalion 1 helicopter battalion 7 engineering regiments 1 artillery brigade 3 signals battalions 1 air defence regiment [c] Some logistics units	Same as IISS 2017, differs from other sources.[d] Heavy armoured howitzer battery will be established.[e]	7 companies high-readiness troops[f] 2-4 mechanised battalions 3-4 infantry battalions At least half special forces battalion 1 helicopter battalion 1 air defence regiment
Navy	1 naval brigade[g] 3 support elements 1 coastal brigade 1 marine infantry brigade Staff- and logistics-resources		Approximately half of the total number of ships Up to 1 marine infantry battalion
Air Force	2 fighter/ground attack squadrons (F/A-18C/D) Staff and base units[h]		Approximately half of the total number of aircraft

NB: a. Unless where otherwise specified, this table is based on IISS, *The military balance 2020,* p. 101–103. **b.** IISS lists 3 "jaeger" brigades, and 6 "light infantry" brigades. As the term "jaeger" is used differently in Finland than in most comparable countries, these categories are listed jointly here as 9 light infantry brigades. **c.** IISS, *The military balance 2020,* p. 102. **d**. C.f. Jonsson and Engvall, *Guardians of the north*, p. 1, which reported one mechanised brigade, one motorised brigade, two mechanised battle groups and two motorised battle groups. **e**. Finland, Finnish Defence Forces, 'Self-propelled howitzer K9 Thunder – from research to procurement programme'. **f.** As reported in Finland, Finnish Defence Forces, 'Confidence- and security building measures. Annual exchange of military information, Finland. Valid as of 01/01/2020', 1 January 2020, p. 12. **g.** IISS, *The military balance 2020,* p. 102. Consists of 8 fast-attack missile vessels (4 Hamina, 4 Rauma); 10 mine countermeasures vessels (including 3 Katanpää), and 5 minelayers (2 Hämeenmaa, 3 Pansio), and an assortment of smaller and support vessels. **h.** As reported in Finland, 'Confidence- and security building measures', p. 8.



Map 4.1 Overview of Finnish armed forces and their basing

NB: Design by Per Wikström. Based on an assessment of possible deployment of units, as the Finnish Defence Forces order of battle is not publically available. The map covers only operational headquarters and manoeuvre forces.

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5. Estonia

Jakob Gustafsson

Estonian defence policy and planning is still heavily influenced by the Second World War and the decades of Soviet occupation that followed. Having successfully escaped the post-Soviet sphere and established itself as a Western liberal democracy, Estonian security relies on its EU membership and NATO's collective defence. Its historical experiences are evident in two fundaments of Estonian security and defence policy. Firstly, Estonia will fight back, no matter the odds. Secondly, Estonia seeks to avoid facing a threat alone, and is thus eager to uphold NATO cohesion and close bilateral ties to in particular the US and the United Kingdom.[1] As is the case for all the Baltic States, Estonia's threat perception is dominated by concerns regarding Russia's increased assertiveness and military modernisation.

5.1 Security and defence policy

Despite contributing forces to out-of-area operations after its 2004 accession to NATO, Estonia never abandoned its Finland-inspired defence model of a mobilising conscription-based army. Equally, Estonia did not cut its defence spending as drastically as Lithuania and Latvia in the aftermath of the 2008 financial crisis. Thus, the adaptation towards deterrence and defence at home following Russia's annexation of Crimea, while challenging, was not as dramatic as for other Allies.

Successive Estonian governments have given priority to strengthening national defence. Generally, there is consensus between the political class and the rest of society on the importance of a capable defence, including spending at least two per cent of GDP on it. Issues related to the Russian-speaking minority's rights and citizenship status are contentious, and affect the Russo-Estonian relationship, as Russia seeks to exploit existing divides and portray itself as the defender of the minority.[2]

As a military conflict – deemed possible, albeit improbable – would affect all parts of society, Estonia's defence revolves around a concept of comprehensive defence, which includes military and non-military capabilities alike.[3] While still relying on a conscript army in order to ensure the necessary volume with a population of only 1.3 million, Estonia has given priority to rapidly usable capabilities, including intelligence and early warning, since 2014. To ensure both readiness and volume, Estonia seeks to complement its sole professional battalion with rapid mobilisation of its sizable army and territorial defence reserves.

Ultimately dependent on NATO's collective defence for its security, Estonia works to deepen NATO and EU solidarity, strengthen NATO's collective defence and deterrence and promote its presence in Estonia's vicinity. To accommodate this, the country seeks, for example, to upgrade its capabilities for reception of and support to foreign forces, including the relevant infrastructure. Relatedly, Estonia sees its bilateral relationship with the US as vital to its security. However, Estonia is very clear on the need to be able to defend itself – or at least hold out – while awaiting reinforcements.

Apart from NATO and the US, the 2017 deployment of a UK-led eFP battlegroup has facilitated close cooperation with the UK – founded already in joint operations in Afghanistan - which Estonia seeks to deepen further. While the US and UK remain the most important partners, concerns about their future European presence has led Estonia to broaden its military cooperation. As the sole participating Baltic country, Estonia is part of the

1 Praks, Henrik, 'Estonia's approach to deterrence: Combining central and extended deterrence', in Vanaga, Nora and Rostoks, Toms (eds.), *Deterring Russia in Europe: Defence Strategies for Neighbouring States* (Abingdon: Routledge, 2019), p. 147.

2 The Russian-speaking minority makes up about 25 per cent of Estonia's population. See Praks, 'Estonia's approach,' p. 153; and Chivvis, Christopher S. et al., *NATO's northeastern flank: Emerging opportunities for engagement,* RAND, 2017, p. 120–22, 128.

3 The concept revolves around six pillars: military defence, civilian support, international action, domestic security, guaranteeing the continued operation of state functions, and psychological defence.

French-led European Intervention Initiative (EI2), and at present Estonian special forces and a mechanised infantry platoon are participating in French operations in Mali. [4] Equally, Estonia supports closer defence cooperation and capability development within the EU, and seeks closer security cooperation with the Baltic and Nordic states, especially Finland.[5] On several occasions, the Estonian Chief of Defence has spoken of the need for greater Baltic operational cooperation by giving greater priority to regional defence planning, as compared to today's mostly national focus.[6]

Some words are due – and apply equally to Estonia, Latvia and Lithuania – on Baltic cooperation. The three states excel at synchronising their positions towards outside actors, such as NATO, and the general Baltic attitude is that deeper cooperation has operational and economic benefits. They have also launched a number of joint projects over the years but with mixed results. The most successful initiatives, such as the Baltic Defence College, the Baltic Air Surveillance Network, the Baltic Naval Squadron and the Baltic Battalion, stem from the 1990s, when external actors encouraged cooperation and contributed financially.[7]

Since then, national differences have often hindered closer cooperation. The notion that small states with similar threat perceptions and modernisation plans should cooperate closely notwithstanding, the reality of legal obstacles, unsynchronised budget cycles, disparate procurement processes and complicated logistics remains. The increased attention to the need for regional defence planning might serve as a stepping-stone.[8]

Such regional planning may be facilitated by the regional NATO commands created in recent years. Latvia hosts the still-forming forward element of the joint Danish-Latvian-Estonian NATO Multinational Division North Headquarters (HQ), to which Latvia's and Estonia's eFP battlegroups and national forces can be subordinated. Lithuania and Poland, and their respective eFP forces, are tied to Multinational Division Northeast HQ in Elblag, Poland. These HQs, in turn, are subordinate to NATO Multinational Corps Northeast HQ in Szczecin, Poland, creating a clear NATO command.[9] It is unclear how far towards operational capability the Latvian HQ is, and what impact Lithuania's being subordinated to the Polish, not Latvian-Estonian, HQ has on regional defence planning. As the HQs become fully operational, the eFP battalions may be more closely integrated, which NATO officials have called for. [10]

Furthermore, all Baltic states lack satisfactory air defences. The Baltic Air Surveillance Network and Control System (BALTNET), which, as part of NATO's air and missile defence, gathers radar data from all Baltic states to produce a Recognized Air Picture, will be upgraded with separate national control centres in 2020. Currently, the centre in Lithuania, in Karmelava, is the only one.[11] As all Baltic states are in need of longer-range air defences, but lack the budgetary means to procure such systems, a possible solution could lie in using

4 Furthermore, France is part of the Estonian eFP battlegroup. Embassy of Estonia in London, The Prime Ministers of Estonia and the UK discussed defence cooperation and digitalisation, 7 August 2019; and Szymański, Piotr, *Seeking an additional reassurance: The EU and France in Estonia's security policy,* (Warsaw: Centre for Eastern Studies, 2020).

5 Riigikogu, *National Security Concept of Estonia,* 2017, p. 3–12.

6 Herem, Martin, 'Estonian chief of Defence Forces: Regional cooperation as the main enabler', *Defense News,* 2 December 2019.

7 The Baltic navies cooperate within the Baltic Naval Squadron, (initiated in 1998, aiming to develop mine countermeasures capabilities, interoperability and upholding readiness. Since 2015, Estonia has not contributed national capabilities to the squadron, but the format is utilised as a Baltic contribution to the Standing NATO Mine Countermeasures Group One. See 'JFC Brunssum Public Affairs Office, Week 18 Northern Europe Operational Update', 1 May 2020; and LETA/BNS/TBT Staff, 'BALTRON command changeover ceremony to take place in Lithuania's Klaipeda', *Baltic Times,* 8 January 2020.

8 Nikers, Olevs et al., 'Defense and deterrence: Expert assessment, in Nikers, Olev and Tabuns, Otto (eds.), *Baltic Security Strategy Report* (Washington, D.C: Jamestown Foundation, 2019), p. 2–17; and Mehta, Aaron, 'Does major joint military procurement really work in the Baltics?', *Defense News,* 27 October 2019.

9 Stoicescu, Kalev and Järvenpää, Pauli, *Contemporary deterrence: Insights and lessons from enhanced Forward Presence* (Tallinn: International Centre for Defence and Security, 2019), p. 8–9; and Estonian Ministry of Defence, 'Headquarters Multinational Division North inaugurated in Latvia', 11 March 2019.

10 Kaldoja, Evelyn, 'NATO general: battalions have been developing like three puddles', *Postimees*, 12 August 2019.

11 Lithuanian Ministry of Defence, 'Baltic Ministers of Defence signed an agreement on strengthening joint airspace surveillance in Brussels', 24 October 2019.

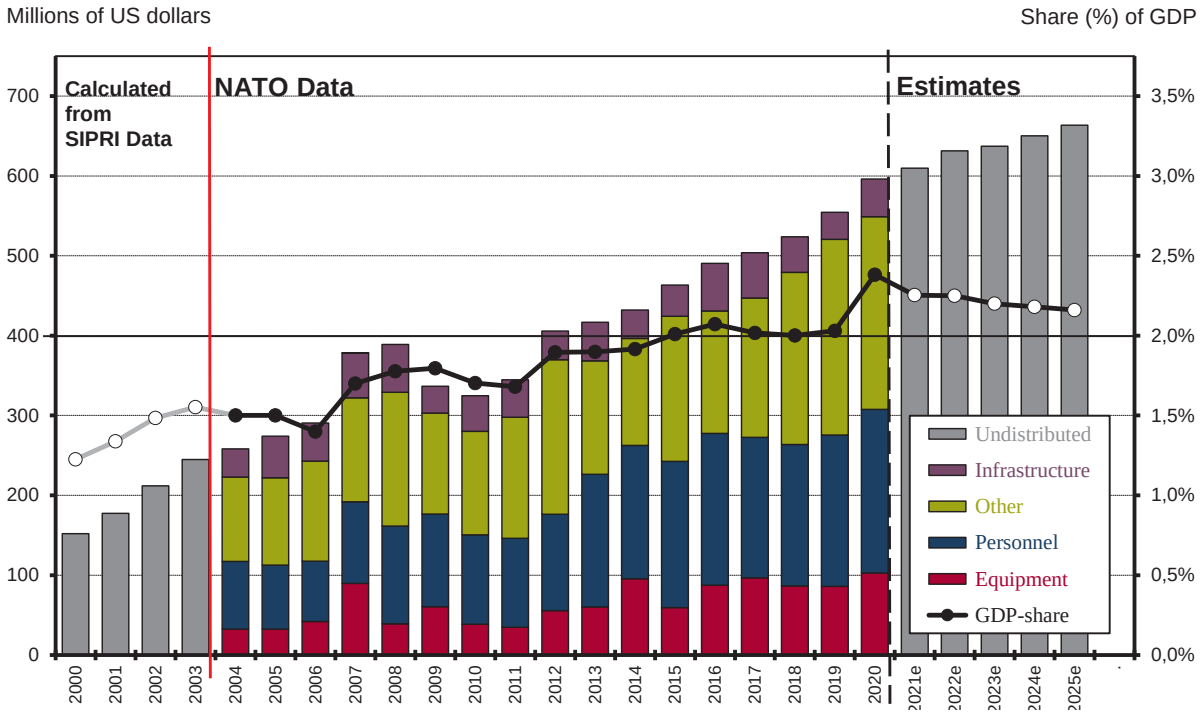

Figure 5.1 The military expendititures of Estonia 2000–2025: Millions of US Dollars/2015 prices (columns) and as share (%) of GDP (curved line)

Source: Bergstrand, Bengt-Göran, *NATO military expenditures,* Working Document (Stockholm: Swedish Defence Research Agency – FOI, October 2020).

NB: Estimates based on budget data for 2021 and on the assumption that Estonia will spend around 2.2% of GDP on defence in 2022-2025.

BALTNET to ensure adequate airspace surveillance and interoperability for Allied air defences to utilise, should the need arise. Equally, if budgets allow, future cooperation on coastal defence is possible.

5.2 Military expenditures

There are large similarities between both economic and military developments in the Baltic countries, Estonia, Latvia and Lithuania. The financial crisis in 2007–08 hit the three countries severely, with GDPs falling 15 to 20 per cent and leading to drastic cuts in government spending, including defence. The Russian aggression against Ukraine in 2014 compelled them to revise their policies and rapidly increase their military expenditures; each of the countries now allocate more than 2 per cent of their GDP to defence.

Until 2008, Estonia, as illustrated by Figure 5.1 steadily increased its defence budget, from USD 152 million in fixed 2015 prices and a GDP share of 1.2 per cent in 2000, to USD 389 million and a GDP share of 1.8 per cent in 2008. In 2010, Estonia reduced its defence budget by 17 per cent, to USD 325 million in 2010, before increasing anew in 2011. Since then, military expenditures have again been rising steadily. In comparison with Latvia and Lithuania, Estonia's defence budget was less severely impacted by the financial crisis, and during a shorter period.

In a long-term perspective, the reductions following the financial crisis are consequently more of a dent on a trend line of steadily increasing expenditure. Estonia reached NATO's two percent target in 2014–15. Since then, the country has spent at least 2 per cent of its GDP on defence. In 2020, Estonia used 17.4 per cent of its military expenditures for equipment purchases.

Estonia has an explicit policy, reiterated in several policy documents, of allocating at least two per cent of GDP for defence, including the coming

years.[12] The graph gives the future Estonian defence budgets in years 2020–2025 and the projections for 2021 are based on Estonian defence budget data.[13] With the decline in the GDP, caused by the coronavirus pandemic, military expenditures as a percentage of GDP will increase to higher levels in 2020–2021. The projections for the following years are therefore based on the assumption that the expenditures as a share of GDP will gradually decline during 2022–2025, and lie at a level which on average is more comparable to the situation before the pandemic but still well above 2 per cent.

5.3 Armed forces

The Army and the National Guard heavily dominate the Estonian armed forces. The Navy and Air Force primarily hold supporting roles, tasked with surveillance and enabling Allied reinforcements. The Commander of the Estonian Defence Forces, with support from the General Staff, commands operations.[14]

Army

The Estonian Army contains 1500 professionals and some 2400 conscripts. It is organised around two brigades.[15] The 1st Infantry Brigade's headquarters are in Tapa. The unit is currently undergoing partial mechanisation through the introduction of CV9035 infantry fighting vehicles (IFVs) in the Scouts Battalion, and the transfer of the existing Patria armoured personnel carriers (APCs) to its other infantry battalions. The personnel of the subunits are a mix of professionals, conscripts and reservists, with the exception of the fully professional Scouts Battalion.[16] The brigade's wartime tasks include securing Tallinn and defending against aggression in the Narva area, north of Peipus Lake, and amphibious landings along the Gulf of Finland.[17]

The eFP Battlegroup is integrated with the 1st Brigade and reportedly has a credible role in the Estonian defence plan. Compared to other eFP contingents, the British-led unit is the least multinational, which probably reduces issues related to interoperability and national caveats.[18] As with all eFP units, their main function is deterrence, but the unit also contributes high-readiness units and some high-end capabilities, including tanks, IFVs and self-propelled howitzers.[19]

The 2nd Infantry Brigade's headquarters are located in Tartu and its peacetime units, an infantry battalion and a combat service support battalion, are located in Võru. This reserve-based brigade is motorised and contains the same type of units as the 1st, with the addition of an extra infantry battalion and an extra artillery battalion. While the brigade is not yet fully developed, it is operational with regard to main combat equipment and personnel. Tasked with defending against incursions south of Peipus Lake, it is mainly intended to perform defensive actions, as opposed to the nascent manoeuvre capabilities of the 1st Brigade.[20] Estonia aims to have a fully operational motorised light infantry brigade by 2026.

Defence League

The Estonian National Guard, the Defence League (*Kaitseliit*), forms a vital part of national defence. The organisation consists of some 26,000 volunteers, of which about 15,000 make up military units under

12 Defence ministers from the three Baltic countries also issued a joint declaration in June 2020 that, even though they are suffering from the corona pandemic, they will maintain and not reduce their defence allocations. See Baltic Times, 'Baltic states commit to not reducing defence spending', 16 June 2020.

13 Postimees, 'Estonian parliament approves 2020 state budget', 11 December 2019; ERR News, 'Defense spending to rise to €645.4 million in 2021', 30 September 2020; and Baltic News Network, 'Estonian military funding planned to reach 2.29% of GDP', 30 September 2020.

14 Republic of Estonia Defence Forces, 'Kaitseväe juhataja', 24 November 2020.

15 International Institute for Strategic Studies. *The military balance 2020* (London: IISS, 2020) p. 100.

16 While conscripts are not used for readiness tasks, it is not unfeasible that they would be utilised for guard duties.

17 Gustafsson, Jakob, Granholm, Niklas and Jonsson, Michael, *Färdplan för tillväxt: Erfarenheter för Sverige från arméstridskrafternas tillväxt i Litauen och Estland,* FOI Memo 6832 (Stockholm: Swedish Defence Research Agency – FOI, 2019), p. 16.

18 Stoicescu and Järvenpää, *Contemporary Deterrence*, p. 2, 9; and Clark, Robert, Foxall, Andrew and Rogers, James, 'United Kingdom as a framework nation', in Lanoszka, Alexander, Leuprecht, Christian and Moens, Alexander. *Lessons from the Enhanced Forward Presence, 2017-2020,* (NATO Defense College, November 2020), p. 28

19 Szymański, Piotr, *The multi-speed Baltic states: Reinforcing the defence capabilities of Lithuania, Latvia and Estonia* (Warsaw: Centre for Eastern Studies, 2015), p. 23.

20 Nutov, Mirjam, 'Kolonel: et 2. jalaväebrigaad poleks lihtsalt piiritulp, on ressursse juurde vaja', *Estonian Public Broadcasting,* 18 February 2018.

the command of professional army officers. There are 15 battalions, one in every Estonian county, and some of them include high-readiness companies. About half of the Defence League has wartime tasks corresponding to those of the regular army, whereas the other half performs traditional territorial defence tasks, such as protecting critical infrastructure and ensuring mobilisation, and supporting Allied reinforcements. Since 2013, the Defence League's equipment has been modernised to resemble the regular army's, including the integration of new systems, for example anti-tank missiles (Javelin). Equally, a larger share of personal equipment is now stored in members' homes, increasing the organisation's readiness.[21]

Navy

The small Estonian Navy's main task is sea surveillance and mine countermeasures. Some 200 professional sailors and 100 conscripts serve in the Navy. Modernisation, including upgraded navigation and command and control systems, of the three *Sandown*-class minehunters started in 2018. The Navy is to receive two patrol boats and a mobile sea surveillance radar before 2024.[22] All the Baltic states' mine countermeasures vessels are slated for decommissioning around 2025. This has fuelled discussions on possible cooperation regarding capabilities beyond minehunting, including minelaying, unmanned vehicles, anti-submarine warfare (ASW) and coastal defence.[23]

Air Force

The small Air Force is fully professional and consists of some 400 personnel. Its primary tasks include air surveillance and operating Ämari Air Base. The air base hosts the Estonian echelon of NATO's Baltic Air Policing mission. It operates around the clock and in a crisis situation would play a significant role in enabling reinforcements to Estonia. The Estonian air defence battalions are organised by the Army; there are no such units in the Air Force. These units provide short-range air defence via man portable missiles (Mistral) and anti-aircraft cannons (ZU-23-2), both systems being integrated with Saab Giraffe AMB radars.

Procurement of longer-range air defence, currently a key vulnerability, has been discussed for years. However, a comprehensive air defence system is complex and expensive. A possible solution might lie in a concerted effort from the Baltic states to develop the necessary infrastructure for integration with NATO air defence systems. Estonia exercises forward air control and close air support capabilities with allies such as the UK and the US.[24]

Personnel and materiel

The Estonian defence forces rely heavily on conscripted personnel between the ages of 18–27. Every year, some 3200 conscripts, or about a third of the annual male cohort, are trained for either 8 or 11 months, depending on category. In 2019, 43 per cent of the conscripts were volunteers.[25] With the dire demographic numbers looming over all Baltic countries, representatives worry about future manning levels. The lack of lower-grade officers, NCOs and specialists, as well as forthcoming retirements, represent further challenges.

Traditionally, Estonia procures used equipment on government-to-government contracts. This trend is visible in most recent procurements, including the 44 CV9035 IFVs, 18 K9 howitzers and Javelin anti-tank missiles. The initially ordered 12 K9 howitzers are scheduled for delivery in 2020–2021.[26] In 2019, Estonia procured Spike-LR anti-tank missiles to

21 Latvian Information Agency, 'Estonia: Kaitseliit's Saaremaa district to stage antitank exercise, 26 October 2018; and Estonian Ministry of Defence, *Foreword of the Ministry of Defence Development Plan 2021–2024*.

22 Naval Technology, 'Babcock completes upgrade work on Estonian Navy minehunter', 4 February 2019; and Estonian Ministry of Defence, *Introduction to the Military Defence Action Plan 2020–2023.*

23 Lange, Heinrich et al., *To the seas again: Maritime defence and deterrence in the Baltic region* (Tallinn: International Centre for Defence and Security, 2019), p. 30.

24 Harper, Christopher et al., *Air Defence of the Baltic states (*Tallinn: International Centre for Defence and Security, 2018); and Royal Air Force, 'Coningsby Typhoons train in Estonia, 3 November 2017; and Lotz, Matthew, 'Estonian JTACs take lead in historic training', U.S. Air Forces in Europe and Air Forces Africa, 15 November 2014.

25 See Estonian Ministry of Defence, 'Estonian National Defence Development', 2020.

26 Wright, Helen, 'Paper: More military equipment to be bought from South Korea', *Estonian Public Broadcasting,* 3 October 2019.

Table 5.1 Personnel and materiel in the Estonian Armed Forces

Personnel/Materiel	Numbers in 2020	Planned reforms towards 2025
Personnel		
Regular forces	3500	~3800 by 2026[a]
Conscripts	3200	3800 by 2024[b]
Territorial defence forces	15,800	
Reserves	12,000	
Materiel		
Tanks	-	
Armoured combat vehicles	44 IFVs (CV9035) 136 APCs (56 XA-180 Sisu, 80 XA-188 Sisu)	
Heavy artillery pieces	24 FH-70 (155mm, towed) 18 D-30 (122mm, towed)	18 K9 self-propelled howitzers
Attack helicopters	-	
Surface combatants	-	
Submarines	-	
Combat aircraft	-	
Transport aircraft	3 (2 An-2 Colt, 1 M-28 Skytruck)	
Air defence	Man-portable: Mistral, ZU-23-2 guns	

NB: a) Interviews, Tallinn, April 2019. **b)** Estonian Ministry of Defence, Foreword. Originally, Estonia planned for 4000 conscripts per year from 2022, but this target is unlikely to be met. See Kund, Oliver, 'Increasing the number of conscripts hits a glass ceiling', *Postimees*, 30 May 2019.

complement its current stock of Milan, Javelin and Carl-Gustav anti-tank systems.[27]

The modernisation of the 1st Brigade has brought about considerable acquisitions of advanced equipment. However, critics claim that the implications and costs for infrastructure, storage and maintenance were underestimated and will strain resources in the years ahead.[28] Apart from big-ticket items, Estonia has given priority to personal equipment, such as flak jackets and night-vision aids. Importantly, EUR 75 million were spent on ammunition in 2019, with a further 172 million planned for 2020–2023.[29]

5.4 Assessment of military capability

The main priorities in Estonian defence modernisation are mechanisation, readiness, infrastructure and ammunition. Storage, maintenance facilities, campgrounds and exercise areas have expanded to accommodate the newly acquired equipment and the expanded force structure, including the allied presence. The focus on readiness is particularly evident in the emphasis on intelligence and early warning and the efforts to fully man and equip the force structure.

Since 2014, Estonia has doubled the average number of national exercises and has been participating more frequently in international exercises.[30] Facing the inherent trade-offs between a mobilising army and short-notice readiness, these exercises have in recent years included several snap exercises, to test the effectiveness of mobilisation. Some exercises entail 24–48 hours' notice. Reportedly, a 2019 snap exercise involved an infantry battalion's mobilising, moving and reaching tactical positions in less than 40 hours. Additionally, Exercise Siil (Hedgehog) tests the reserve system at large. In 2015, it included the

27 Whyte, Andrew, 'Estonia signs $40 Million anti-tank weaponry procurement', *Estonian Public Broadcasting,* 21 June 2019.

28 Interviews, Tallinn, April 2019.

29 Estonian Ministry of Defence, *Introduction to the Military Defence Action Plan 2020-2023.*

30 Roughly, the average number of national exercises 2009–2013 was 7. From 2015–2018, the average was 17, with the 27 exercises held in 2018 as an outlier. Regarding international exercises, the average increased from 43 to 74 during the same periods. See Estonian Ministry of Defence, 'Estonian National Defence Development'.

mobilisation of the entire 1st Brigade and, in 2018, the mobilisation of large parts of the Defence League. NATO Allies have been part of both iterations.[31]

Given a week's notice, the Estonian army should be able to mobilise the 1st Brigade and parts of the still-forming 2nd Brigade. Roughly, this amounts to one mechanised and two motorised battalions, supported by a battalion of towed artillery from the 1st Brigade, and 1–2 reduced light infantry battalions lacking armoured transportation and an artillery battalion equipped with older, towed artillery from the 2nd Brigade. All battalions, except for the mechanised, are reserve-based. Their quality, however, benefits from soldiers' having undergone training recently, as conscripts are part of the 'rapid response capability' of wartime units for up to four years after completing their education. Equally, units educated together enter the reserve as one.[32]

The eFP Battlegroup is probably the only unit capable of offensive actions and, until Estonia integrates its K9 howitzers, the only unit with modern artillery. While all eFP-framework countries in the Baltics express that they are combat-ready and would act together with local forces if the need arises, the nations may have different caveats and political constraints that extend lead times. [33] In that sense, Estonia benefits from hosting the least multinational battlegroup and, probably, from London's being less likely than others to impose restrictions on its forces.[34] Equally, some 10–15 territorially-bound reduced battalions of the Defence League would augment the regular army.

Taken together, and if given time to prepare terrain, mining and other fieldwork, these units should be able to disrupt, delay and inflict losses on an enemy, especially as Estonian planners are likely to have a good understanding of possible angles of attack. The confined terrain north of Peipus Lake is well suited for delaying actions and anti-tank warfare, where both regular army units and the Defence League have a number of capable systems. The 2nd Brigade is less mobile than the 1st, likely reducing its tasks to static defensive positions south of Peipus Lake. Lacking adequate protection, it is vulnerable to artillery and long-range strikes.

The lack of air defences, other than man-portable systems, constitutes a key vulnerability for all ground units, their mobilisation and movements. It is thus vital whether Western airpower will have started operations. Equally, if so, Estonian units can strive to channel enemy forces into appropriate targets and provide target data.

Within a week, the Estonian Navy can likely muster two mine countermeasures vessels. The Air Force would concentrate on keeping Ämari Air Base operational, but be vulnerable to long-range strikes, given the lack of air defence capabilities.

Given three months, the overall picture is roughly the same for the Navy and Air Force. Regarding land forces, the entire 2nd Brigade and the Defence League would likely be fully mobilised. Furthermore, three months of extensive preparations of terrain and combat training would improve the quality of units and their chances of staving off aggression.

In 2025, Estonia will have received K9 howitzers, markedly increasing the Army's firepower and range. The 2nd Brigade will have come further towards full operational capability. As the largely reserve-based army is vulnerable to rapidly emanating threat, it is likely that the number of professional or high-readiness units have been or will be expanded to address this. Equally, plans for coastal defence are taking shape, with Estonia looking for joint procurement with regional partners.[35]

31 Herem, 'Estonian chief'; and Peek, Kuno, '"Hedgehog," Estonia's biggest military exercise of all time – does every quill really count?', *International Centre for Defence and Security Studies,* 9 March 2015; and Cavegn, Dario, 'Large-scale military Exercise Siil starting Wednesday', *Estonian Public Broadcasting,* 2 May 2018.

32 Estonian Government Information Portal, 'Reservist trainings', 18 December 2019.

33 Stoicescu and Järvenpää, *Contemporary Deterrence,* p. 9.

34 For example, in 2020, the Lithuanian Chief of Defence pointed out that London and Berlin see some things differently, and that this is reflected in military decisions regarding the eFP battlegroups. See Kaldoja, Evelyn. 'Commander of the Lithuanian Armed Forces: Abolition of compulsory military service big mistake, *Postimees,* 30 January 2020.

35 Sprenger, Sebastian, 'Estonia moves to fortify its coastline with missiles and sea mines', *Defense News,* 1 October 2020.

Table 5.2 Force structure of the Estonian Armed Forces

	Organisation 2020[a]	Planned reforms towards 2025	Assessment of forces available at short notice
Joint	Headquarters Special Forces Military Police Support Command Logistics Battalion Cyber Command		
Army	1 mechanised (light) brigade[b] (1 mechanised battalion, 2 motorised battalions, 1 artillery battalion, 1 combat engineer battalion, 1 combat service support battalion, 1 air defence battalion, 1 reconnaissance company, 1 anti-tank company). 1 motorised brigade[c] (same structure as above). 15 territorial defence battalions	1 additional infantry battalion, 1 additional artillery battalion by 2026	1 mechanised (light) brigade 1–2 light infantry battalions 10–15 reduced battalions
Navy	Mine countermeasures squadron	Undergoing modernisation	2 mine countermeasures vessels
Air Force	Ämari Air Base unit[d] Air surveillance wing Transport squadron Transport helicopter squadron		

NB: a) If not stated otherwise, see IISS, *The military balance 2020*, p. 100–101. **b)** All units except the mechanised battalion are reserve-based. **c)** Reserve-based. **d)** Republic of Estonia Defence Forces, Air Force.

Map 5.1 Overview of Estonian armed forces and their basing

NB: Design by Per Wikström. The map covers only operational headquarters and manoeuvre forces.

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6. Latvia

Jakob Gustafsson

Latvia's long history of Soviet occupation shapes its security and defence policy. Since regaining independence in 1991, Latvia has sought to establish itself as a Western liberal democracy, firmly integrated in Western structures and in the European security architecture. Its 2004 NATO accession and post-2008 economic turmoil led to a reduction of the Armed Forces and gave priority to out-of-area operations, as the threat from Russia was primarily seen as economic and political. Since 2014 and the expressed return of a territorial military threat, Latvia has markedly increased its defence spending, strengthened its land forces and developed allied support, including the eFP and an improved capability to receive further allied reinforcements.[1]

6.1 Security and defence policy

Since 2014, there has been political unity on the importance of increased defence spending and the allied presence in Latvia. Russia's annexation of Crimea served as a catalyst for a renewed focus on national defence, as opposed to the earlier era of expeditionary operations, although the latter was meant to ultimately secure allied support to Latvia in the case of threats from Russia.[2] The change of policy provided funding and implementation of defence reforms long in the making. Deterrence, both by increasing national military capabilities and by ensuring NATO presence on Latvian soil and adequate infrastructure to receive reinforcements, became the priority of Latvian security and defence policy. Now, apart from NATO and the bilateral Latvian-US relationship, Latvia also seeks close cooperation with the UK, its Baltic neighbours, Poland, Canada and Germany.[3]

The 2016 State Defence concept has guided Latvia's efforts to strengthen deterrence. It introduced Russia as the main threat and NATO as the cornerstone of Latvian security. In addition to strengthening NATO cohesion and collective defence capabilities, it gave priority to the development of the land forces, including the sizable National Guard. Given Russia's demonstrated ability to launch military attacks at short notice, Latvia must be able to respond to threats rapidly. Additionally, infrastructure that facilitates the reception of NATO reinforcements and host nation support is vital. Reflecting Latvia's total defence aims, the concept underlines that national defence is the responsibility of every Latvian citizen and emphasises that Latvia can defend itself against a militarily superior aggressor.[4]

The State Defence concept was updated in 2020. In general, the new version confirms the direction from 2016, stating that increased Latvian military capabilities and the deployment of NATO's eFP battlegroup have enhanced deterrence. While the concept notes a limited US appetite for global engagements, the country remains Latvia's most important partner. [5]

Since 2014, Latvia has embarked upon a major reform of its land forces. The country has modernised equipment and improved manning levels, readiness and mobility, instead of markedly expanding

1 Chivvis, Christopher S. et al., *NATO's northeastern flank: Emerging opportunities for engagement,* (RAND, 2017), p. 152; Rostoks, Toms and Vanaga, Nora, 'Latvia's security and defence post-2014', *Journal on Baltic Security,* vol. 2, no. 2, 2016, p. 71–72.

2 The social-democratic Harmony Party, popular among Latvia's roughly 25 per cent Russian-speaking minority, is an exception, but has never been part of government and its support has decreased since 2014. See Chivvis, et al., *NATO's northeastern flank,* p. 134–144; 156.

3 Rostoks and Vanaga, 'Latvia's security', p. 72–74; and Vanaga, Nora, 'Latvia's defence strategy', in Vanaga, Nora and Rostoks, Toms (eds.), *Deterring Russia in Europe: Defence strategies for neighbouring states* (Abingdon: Routledge, 2019), p. 171–174; and Saeima, *Nacionālās drošības koncepcija,* 26 September 2019. For more details on Baltic cooperation, see chapter on Estonia.

4 Saeima, *Valsts aizsardzības koncepcija,* 2016, p. 8–12.

5 Latvian Ministry of Defence, *Valsts aizsardzības koncepcija*, 2020, p. 5–7; 20.

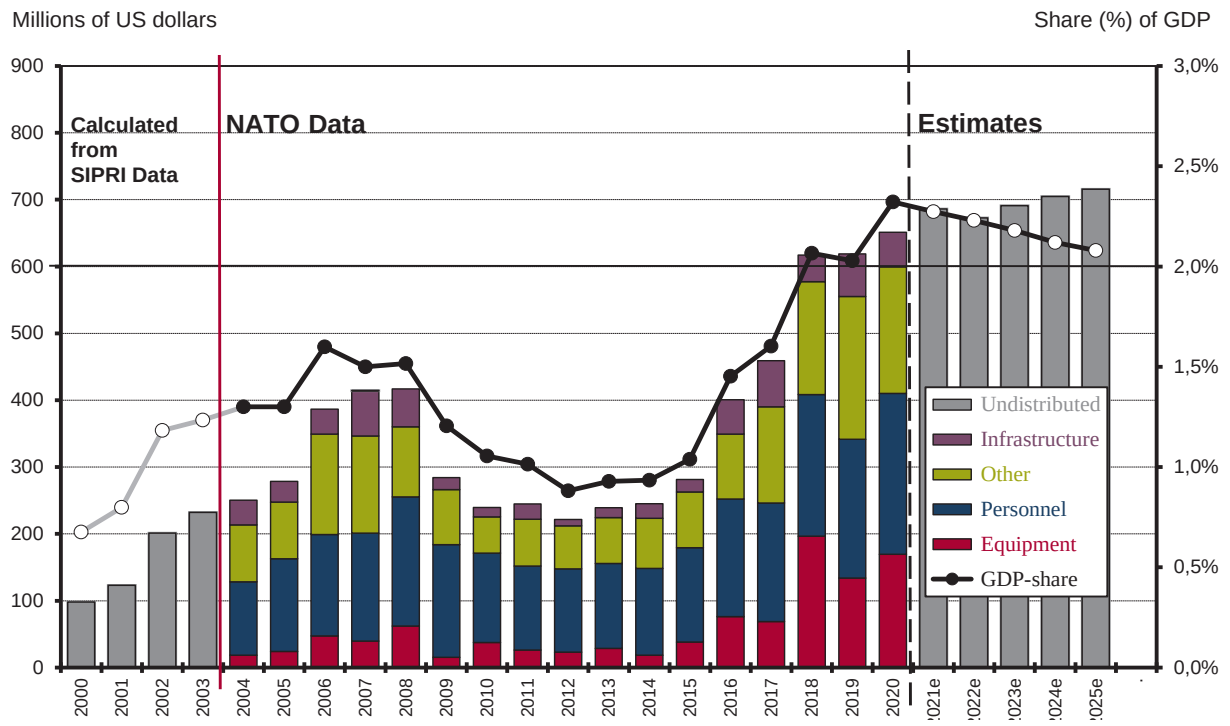

Figure 6.1 The military expenditures of Latvia 2000–2025: Millions of US Dollars/2015 prices (columns) and as share (%) of GDP (curved line)

Source: Bergstrand, Bengt-Göran, *NATO military expenditures,* Working Document (Stockholm: Swedish Defence Research Agency – FOI, October 2020).

NB: Estimates based on budget data for 2021 and on the assumption that Latvia will spend around 2.15% of GDP on defence in 2022 – 2025.

forces. These priorities reflect Latvia's hesitant stance towards conscription as well as the assessment that there would not be time for large-scale mobilisation in case of conflict.[6]

6.2 Military expenditures

There are large similarities in both the economic and military developments in the Baltic countries, Estonia, Latvia and Lithuania. The financial crisis in 2007–08 hit the three countries severely, with GDPs falling 15 to 20 per cent, leading to drastic cuts in government spending, including defence. The Russian aggression against Ukraine in 2014 compelled them to revise their policies and rapidly increase their military expenditures, and all three countries now allocate more than 2 per cent of their GDP to defence.

Latvian military expenditures have thus varied considerably since 2000. They rose sharply from USD 100 million in 2000, and a GDP share of 0.7 per cent, to USD 417 million in 2008, and a GDP share of 1.5 per cent; see graph below. The expenditures were then drastically cut to USD 240 million in 2010, remaining roughly at this level up to 2014. The reductions had then lowered the GDP share to a level below 1 per cent, but the new increases raised the share to 2 percent in 2018, meaning that military expenditures – as illustrated by the graph – rose about 2.5 times, from USD 245 million in 2014 to USD 627 million in 2018. Importantly, much of the increase was used for equipment, marked with red in the graph, which rose tenfold, from USD 19 million in 2014 to USD 196 million in 2018. In 2019/20, Latvia used 24 per cent of its military

6 Szymański, Piotr, *The multi-speed Baltic states: Reinforcing the defence capabilities of Lithuania, Latvia and Estonia* (Warsaw: Centre for Eastern Studies, 2015), p. 14–15.

expenditures of EUR 634 million for equipment purchases.[7]

In various policy documents, Latvia has made a commitment to spend 2 per cent of GDP on defence.[8] During the coming five years 2020/21–25, Latvian military expenditures are expected to continue to increase steadily, albeit at a less dramatic pace than they did during the noted years 2015–18. The projection of military expenditures for 2021 is based on Latvian defence budget data.[9] With the decline in the GDP, caused by the corona pandemic, expenditure as share of GDP will increase to higher levels in 2020–2021. The projections for the following years are therefore based on the assumption that expenditures as a percentage of GDP will gradually decline during 2022–2025, and lie at a level which on average is comparable to the allocations made to defence before the outbreak of the coronavirus.

6.3 Armed forces

The Latvian Armed Forces consist of the standing forces and the National Guard (*Zemessardze*). The former comprise the army's lightly mechanised brigade, the navy and the air force. The National Guard is part of the Armed Forces but mainly staffed by volunteers commanded and trained by army officers. Given the regular army's modest size, the four National Guard brigades are a vital part of Latvia's defence and Host Nation Support.

Army

The professional army brigade is stationed in Ādaži, about 25 kilometres northeast of Riga. Its 1500 soldiers are professionals, ensuring high readiness.[10] It comprises two lightly mechanised battalions, a forming artillery battalion, a combat-support battalion and a combat service support battalion. The brigade has received most of the advanced equipment procured since 2014. This includes about 120 used but modernised CVR(T) armoured fighting vehicles (AFV) and 47 used M109A5 self-propelled howitzers. The brigade is establishing a third infantry battalion, manned mainly by National Guard soldiers.[11] While the army reserves number some 3000, the number of units in relation to the number of soldiers suggests that there are vacancies to address.

The Canada-led eFP battlegroup, deployed to Latvia since 2017, is reportedly fully integrated into the mechanised brigade and an integral part of the national defence plan.[12] As with the other eFP-units, the deployment primarily serves to increase deterrence and signal Alliance cohesion, but also contributes capabilities that the Latvian army lacks, most notably a handful of main battle tanks. However, as of 2017, a lack of adequate infrastructure has limited deployment options, for example of heavy artillery, for the eFP-battlegroup.[13] The Canada-led battlegroup is the most multinational, which could exacerbate issues related to national caveats. Additionally, the US rotates units to Latvia for training and deterrence, as part of its European deployments. As an example, in 2019 this included a detachment of 13 Black Hawk helicopters and 150 soldiers, and a subsequent deployment of 70 soldiers and 12 Abrams tanks.[14]

National Guard

Latvia is modernising and strengthening the combat readiness of the long underfunded National Guard and its 8350 soldiers. The structure, formerly built

7 Saeima, *Nacionālās drošības koncepcija*.

8 Defence ministers from the three Baltic countries also issued a joint declaration in June 2020 that, even though they are suffering from the corona pandemic, they will maintain and not reduce their defence allocations. See Baltic Times, 'Baltic states commit to not reducing defence spending', *Baltic Times,* 16 June 2020.

9 Latvian Ministry of Finance, *1.pielikums "2021., 2022. un 2023.gada valsts budžeta bāzes kopsavilkums"*, 2020.

10 International Institute for Strategic Studies – IISS, *The military balance 2020*, p. 122.

11 Sargs, 'Zemessargs ar brūno bereti – dienests jaunizveidotajā 3. kājnieku bataljonā', 27 February 2020.

12 Stoicescu, Kalev and Järvenpää, Pauli, *Contemporary deterrence: Insights and lessons from enhanced Forward Presence* (Tallinn: International Centre for Defence and Security, 2019), p. 8–9; and Rostoks, Toms, 'Latvia as a host nation', in Lanoszka, Alexander, Leuprecht, Christian and Moens, Alexander, *Lessons from the Enhanced Forward Presence, 2017–2020,* (NATO Defense College, November 2020), p. 56–58.

13 Szymański, *The multi-speed Baltic states*, p. 23. For a discussion on regional defence planning and NATO command and control arrangements for Baltic forces and eFP battlegroups, see the chapter on Estonia.

14 Andžāns, Māris, 'Latvian defence: Gradually advancing', in *Latvian foreign and security policy yearbook 2020* (Riga: Latvian Institute of International Affairs, 2020), p. 123. While the combat power of such deployments is negligible, the deterrent value of American presence is high. See chapter on the US for more details on its rotational presence in Europe.

around three military districts, has been reorganised into four brigades with territorial areas of responsibility, more closely integrating the command and control of the regular army and the National Guard.[15] Professional army officers lead and train the mainly volunteer soldiers, who go through three weeks of basic training upon entering service and then train for up to 30 days annually. Latvian officials stress that the National Guard is fully integrated with the Armed Forces, creating a force structure of a total of five brigades. Their headquarters are located in Riga, Valmiera, Rēzekne and Kuldiga.[16]

From 2014 to 2018, Latvia spent EUR 70 million to finance more frequent exercises and improve the mobility, personal equipment and manning levels of the National Guard. Its core tasks remain territorial defence, delaying actions and protecting critical infrastructure. In line with the closer integration between the Army and the National Guard, professional units, including one combat-support battalion and one combat support company, are being created within the National Guard brigades, in strategically located areas in the country's east and north. These employ self-propelled howitzers, man-portable air defence missiles (FIM-92 Stinger) and anti-tank missiles (Spike). Additionally, the National Guard has developed 18 high-readiness units since 2015, which probably amounts to a company from each battalion. A personnel increase, to 12,000, was expected to follow the structural changes but has yet to materialise, suggesting that vacancies remain.[17]

Navy

The small navy consists of 500 sailors and is headquartered at Liepaja. It consists of a mine countermeasures squadron of five Alkmaar-class minehunters and a patrol boat squadron of five Skrunda-class vessels. The coast guard's six coastal patrol boats are part of the naval forces.[18]

Air Force

The Air Force consists of 500 airmen.[19] Lacking fighter jets, the Latvian Air Force's main task is air surveillance and securing allied reinforcements. Its capability to support the ground forces' mobility will improve in the coming years, as four Black Hawk helicopters are added to the handful of older transport airplanes and helicopters currently in use.[20] Since 2017, the Air Force has received sophisticated radars (TPS-77 and AN-MPQ-64F1) and new man-portable air defence systems (Stinger and updated RBS-70), increasing early warning and its capability to provide point defence, support ground forces and protect critical infrastructure. However, the lack of longer-range air defence remains a key vulnerability. Latvia, including its National Guard, exercises Close Air Support and Joint Terminal Attack Control with NATO allies such as the US.[21]

Personnel and materiel

Judging from the information in the IISS report, *The Military Balance 2020*, the Latvian Armed Forces have increased from 5310 active servicemen to 6900, including professional National Guardsmen, since 2014.[22] The increase of some 1600 personnel is primarily driven by 'Joint Staff' personnel, which may explain why Latvia has not established a third professional infantry battalion or otherwise expanded the force structure, except for the nascent artillery battalion. However, the numbers do not show improvements in the readiness, availability and capabilities of existing personnel.[23] Officials assess that the Armed

15 Nikers, Olevs, 'Latvia strives to modernize its command and control', *Jamestown Foundation,* 4 April 2016.

16 Rebo, Eero, 'Cooperation with Latvia', *Estonian defence forces yearbook 2017*, 2018, p. 25.

17 Zemessardze, 'Vidzemē uzsāk veidot profesionālā dienesta apakšvienības', 17 February 2020; and Szymański, Piotr and Gotkowska, Justyna, *The Baltic states' territorial defence forces in the face of hybrid threats, (*Warsaw: Centre for Eastern Studies, 2015), p. 4, 8; and Rostoks and Vanaga, 'Latvia's Security and Defence Post-2014', p. 81–82.

18 IISS, *The military balance 2020*, p. 122.

19 Ibid., p. 123.

20 Latvian Public Broadcasting, 'Latvia in line to buy four Black Hawk helicopters' 6 August 2018.

21 Whitlock, Chase, 'Northern Strike – Joint training strikes Michigan', *Citizen-Soldier,* 24 October 2017.

22 International Institute for Strategic Studies – IISS, *The Military Balance 2015,* 2015, p. 111; and IISS, *The military balance 2020,* p. 122.

23 This kind of comparison might be misleading, as the source material may differ between years. NATO statistics, however, correspond well, showing an increase from 4600 to 6400 (professional National Guardsmen excluded) during the same period. However, the 2019 numbers are an estimate. See Andžāns, 'Latvian Defence', p. 122.

Table 6.1 Personnel and materiel in the Latvian Armed Forces

Personnel/Materiel[a]	Numbers in 2020	Planned reforms towards 2024
Personnel		
Regular force	6000	8000 by 2024[b]
Territorial defence forces	8350	10,000 by 2024[c]
Reserves	3000	
Materiel		
Tanks		
Armoured combat vehicles	123 CVR(T)s (different versions).	82 additional CVR(T)s
Heavy artillery pieces	47 M109A5 23 K-53 (towed) 25 M120 mortars	
Attack helicopters		
Surface combatants		
Submarines		
Combat aircraft		
Transport aircraft	4 An-2 Colt 2 PZL Mi-2 Hoplite helicopters	4 Black Hawk helicopters
Air defence	24 L/70 (40mm) Man-portable: RBS-70, Stinger	

NB: a. Data, if not stated otherwise, is from IISS, *The military balance 2020,* p. 122-–123, **b.** Latvian Ministry of Defence, *Valsts aizsardzības koncepcija,* p. 24, **c**. Ibid. However, Latvia has struggled to meet previous goals.

Forces could easily use 9000 active service members, but recruitment is hindered by demographics, emigration and private sector competition. Thus far, discussions on introducing conscription in order to remedy the recruitment problems have concluded that the costs would outweigh the benefits.

As part of the army brigade's mechanisation, Latvia has received and integrated the 47 M109A5 self-propelled howitzers procured in 2017, as well as the 123 modernised British CVR(T) tracked combat vehicles. Some CVR(T)s will field 30mm cannons and Spike anti-tank missiles. Latvia has ordered 82 additional CVR(T)s, to be modernised domestically.[24] In 2020, Latvia procured the SitaWare Battle Management System, for frontline support to tactical commanders, a system also used by the US, Lithuania and Germany.[25]

Additionally, Latvia has striven to secure ammunition stocks for its howitzers and anti-tank weapons, an improvement that is hindered by inadequate storage facilities. Equally, infrastructure and maintenance for the advanced equipment is lacking, as evidenced by the sending of CVR(T)s to the UK for repairs.[26] From 2019 to 2022, Latvia will spend EUR 50 million on infrastructure annually. Latvia has prioritised the barracks, warehouses and maintenance facilities at Ādaži military base, where most of the professional soldiers and the eFP battlegroup are stationed. Other priorities include the facilitating of allied reinforcements, including changes to the reception capabilities at Lielvārde airbase, training areas and shooting ranges.[27]

24 LETA, 'NBS saņēmuši visas 2014. gadā parakstītajā līgumā paredzētās kāpurķēžu izlūkošanas mašīnas CVR(T)', *Sargs.lv*, 26 October 2020.

25 Latvian Armed Forces, 'National Armed Forces sign command and control software supply contract', 20 January 2020.

26 Andžāns, 'Latvian Defence', p. 121; and LETA/TBT Staff, 'Repairs of CVR(T)s supplied to Latvian Army Still Conducted in UK', *Baltic Times,* 4 November 2019; and Interview, April 2020.

27 Latvian Ministry of Defence, 'Latvia plans to invest the average of €50 million a year in the development of military infrastructure over the next four years', 26 February 2019; and Rostoks and Vanaga, 'Latvia's security and defence post-2014', p. 82. Host-nation support (HNS) refers to 'civil and military assistance rendered in peace, crisis, and war by a Host Nation to allied forces and NATO organisations, which are located on or in transit through the Host Nation's territory'.

6.4 Assessment of military capability

Overall, Latvia's trajectory towards modern and ready armed forces continues. The pivot from out-of-area operations to territorial defence, aimed at capable self-defence while awaiting NATO reinforcements, remains. The top priorities and challenges are likely to remain mechanisation, fully manning the army brigade, readiness and modernising the National Guard during the coming years. Additionally, infrastructure development is vital to accommodate the advanced equipment acquired and the increased effort to deliver sufficient host-nation support to NATO allies.

Latvian planning includes scenarios that involve weeks of advance warning, but mainly presuppose that the time for preparations will be very short, perhaps 24 hours.[28] Given a week's notice, the two lightly mechanised battalions, a battery of self-propelled artillery from the still forming artillery battalion, and the towed artillery of the combat-support battalion should be available, in addition to the Canada-led eFP battlegroup. These are all stationed just north of Riga and primarily tasked with securing the capital during an invasion, while the invader's movement is delayed and disrupted by the National Guard. Although the newly procured howitzers and CVR(T) vehicles come with greater firepower and protection, Latvia still lacks sufficient amounts of protected vehicles, which reduces its capability for offensive and mobile actions.[29] In this, the eFP battlegroup could provide important mobility.

Equally, as for all Baltic states, the lack of air defences is a key shortcoming that, apart from leaving army units vulnerable to aerial attack, makes allied reception infrastructure and ammunition depots vulnerable. All the Baltic states have procured artillery and armoured vehicles since 2014. Latvia has arguably opted for the least capable variations, but has on the other hand already received most of its equipment, which introduces firepower and ranges formerly unavailable.

Given the National Guard's territorial responsibility, an aggressor's line of advance determines which units are most relevant. Given a week's notice, its high-readiness units, potentially a company from each battalion, and parts of remaining units, should have time to mobilise and prepare for defence. Its main engineering capabilities, however, are concentrated to a battalion of the 2nd Brigade, which could be a vulnerability for succeeding with fortification and destruction in time. It is unclear how far along the recently created professional units are in their development, but their new indirect fire and anti-tank capabilities will constitute – when they are operational – a marked improvement. Nonetheless, its high-readiness units, specialised in mine-laying and engineering, should be able to contribute to the delaying of and infliction of losses on an enemy, especially in Latvia's densely forested north and east.[30] Additionally, these units can restrict an aggressor's freedom of movement and provide targeting for allied airpower.

The Navy and Air Force are primarily tasked with ensuring the arrival of allied reinforcements by keeping sea lines of communications and Lielvārde airbase open. Given a week's notice, the air defence battalion and at least parts of the mine countermeasures and patrol boats squadrons could be mustered, but their operational impact would likely be limited, albeit dependant on the nature of the aggression.

Within three months, the available units have become roughly the same, with the addition of fully mobilised National Guard brigades. The units' capabilities would also most certainly have improved, through an extended period of combat training and preparations.

During the coming years, Latvia is likely to fine-tune the reforms launched since 2014 by increasing personnel, adding infrastructure, developing maintenance capabilities for the equipment procured, and strengthening Host Nation Support. For example, Latvia will develop decentralised equipment and

28 Interview, April 2020.

29 This might be addressed through the joint programme, with Finland and Estonia, launched in 2020, in which the countries cooperate to develop a common armoured wheeled vehicle system from Patria 6x6 chassis. See Finnish Ministry of Defence, Estonia joins the development programme for sustained army mobility enhancement with Finland and Latvia, 6 April 2020.

30 Nikers, Olevs, 'A year in review: Baltics steadily grow their armies', 18 January 2018.

ammunition storage that will contribute to more efficient mobilisation and reduce the vulnerability to long-range strikes.[31] Additionally, the recently launched armoured vehicle project is likely to provide the remaining battalions of the army brigade with appropriate transportation. However, the impact of the economic fallout of the coronavirus pandemic remains to be seen. Officials assess that future plans could be delayed a year or two, but also point out that recruitment could become easier.[32]

Table 6.2 Force structure of the Latvian Armed Forces

	Organisation 2020 [a]	Planned reforms towards 2025	Assessment of forces available at short notice
Joint	Joint headquarters Special forces		
Army	1 Army headquarters 1 mechanised (light) brigade (2 mechanised (light) battalions 1 infantry battalion (forming) 1 artillery battalion (forming) 1 combat support battalion 1 combat service support battalion)[b] 4 national guard brigades (13 infantry battalions, combat-support battalions)		2 mechanised (light) battalions 1 combat-support battalion 1 self-propelled artillery battery 18 high-readiness companies, parts of remaining units
Navy	1 naval forces headquarters 1 mine countermeasures squadron 1 patrol boat squadron Coast guard		Parts of the mine countermeasures and patrol boat squadrons
Air Force	1 air force headquarters 1 transport squadron 1 air defence battalion 1 radar squadron		Air defence battalion

NB: a. If not stated otherwise, see IISS, *The military balance 2020*, p. 122–123, **b**. The support battalions are listed as HQs by IISS, but not by the Latvian Armed Forces and officials.

31 Latvian Ministry of Defence, 'Latvia plans to invest the average of €50 million'.
32 Interview, April 2020.

Map 6.1 Overview of Latvian armed forces and their basing

NB: Design by Per Wikström. The map covers only operational headquarters and manoeuvre forces.

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7. Lithuania

Jakob Gustafsson

Together with its Baltic neighbours, Lithuania is among NATO's most vulnerable allies in case of Russian aggression. Russia's 2014 annexation of Crimea prompted sizable increases in Lithuanian defence spending and capabilities, and a renewed focus on ever-closer security and defence partnerships.[1] Although the largest of the Baltic States, Lithuania's armed forces remain small due to economic and demographic constraints, but its teeth have been sharpened significantly during the past years. The build-up of military capabilities has enjoyed broad political support.

7.1 Security and defence policy

Before 2014, Lithuanian security policy was internationally oriented and, while watchful of developments in Russia, did not foresee any direct military threats. After its 2004 NATO accession, Lithuania heeded Alliance calls to give priority to expeditionary capabilities over territorial defence. Post-2014, the picture is markedly different, with deterrence and increased national military capabilities taking the front seat.[2] The 2017 National Security Strategy and the 2016 Military Strategy identify Russia as the main threat to Lithuanian security, with reference to the former's aggressive policies, annexation of Crimea, power projection, build-up of offensive capabilities and conduct of exercises in Lithuania's vicinity. In light of this, Lithuania gives priority to the development of national defence and its ability to receive allied reinforcements.

Equally, Lithuania seeks to strengthen NATO's collective defence and EU unity, and to develop closer relations with the US, the Baltic states, the Nordic states and Poland. The country sees NATO and bilateral US presence as guarantors of Lithuanian security, but points to the need for a capable national defence until reinforcements arrive. In line with this, Lithuania has committed to significantly expanding and modernising its land forces, developing host nation support capabilities and regional cooperation. The military strategy underlines that the armed forces must be able to respond to threats rapidly and act independently.[3]

To achieve this, Lithuania has launched a number of reforms to improve in particular readiness, manoeuvre and firepower capabilities. In 2015, Lithuania reintroduced conscription and as a consequence a mixed model for manning the armed forces, which utilises professionals, volunteers and conscripts. Thus, Lithuania has opted for a middle-road solution in comparison to Latvia's professional army and Estonia's mostly conscript army. The force structure was reorganised to make the peacetime structure resemble the wartime structure and by reducing the reliance on mobilisation. Furthermore, Lithuania is procuring advanced equipment such as self-propelled howitzers, infantry fighting vehicles and mid-range air defence.

Continuity has prevailed since 2017, as these reforms are still being implemented, with emphasis on manning and modernising the first brigade. Since the deployment of the German-led eFP battlegroup to Lithuania, in 2017, bilateral cooperation with Germany, hardly mentioned in the security concept or military strategy, has gained prominence.

1 Chivvis, Christopher S., et al., *NATO's northeastern flank: Emerging opportunities for engagement,* (RAND, 2017), p. 116.

2 Janeliūnas, Tomas, 'The deterrence strategy of Lithuania: In search of the right combination, in Vanaga, Nora and Rostoks, Toms (eds.), *Deterring Russia in Europe: Defence strategies for neighbouring states* (Abingdon: Routledge, 2019); and Szymański, Piotr and Gotkowska, Justyna, *The Baltic states' territorial defence forces in the face of hybrid threats,* (Warsaw: Centre for Eastern Studies, 2015), p. 2.

3 Seimas, *National Security Strategy,* 2017; and Lithuanian Ministry of Defence, *The Military Strategy of the Republic of Lithuania,* 2016. For details on Baltic cooperation, see chapter on Estonia.

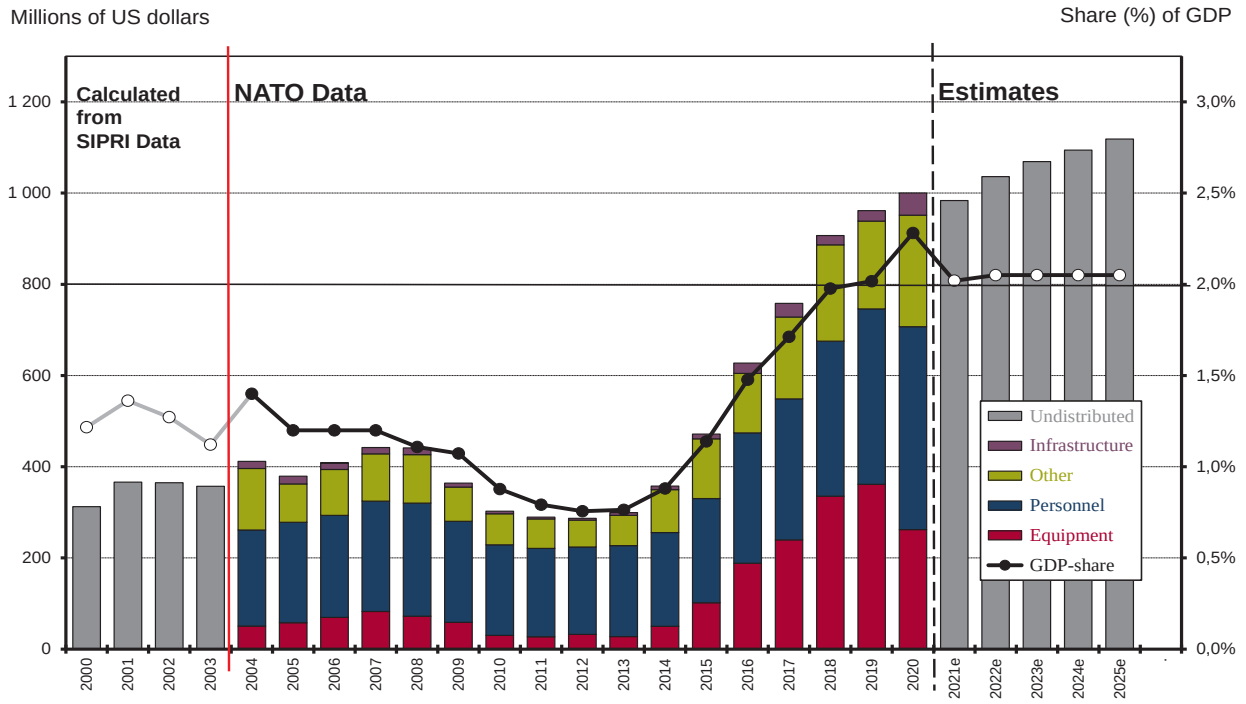


Figure 7.1 The military expenditures of Lithuania 2000–2025: Millions of US Dollars/2015 prices (columns) and as share (%) of GDP (curved line)

Source: Bergstrand, Bengt-Göran, *NATO military expenditures,* Working Document (Stockholm: Swedish Defence Research Agency – FOI, October 2020).

NB: Estimates based on budget data for 2021 and on the assumption that Lithuania will spend around 2,05% of GDP in defence in 2022 – 2025.

The first brigade is now affiliated to a German army division. Equally, Lithuanian-Polish cooperation has increased since 2017.[4] The most important ally, however, remains the US.

7.2 Military expenditures

As noted in the chapters on Estonia and Latvia, the three Baltic countries have large similarities in both economic and military developments. The three countries were severely hurt by the global economic crisis in 2008–2009 and they therefore made drastic cuts in public spending, including defence. The Russian aggression against Ukraine, in 2014, compelled them to revise their policies and rapidly increase their expenditures, and all countries now allocate more than 2 per cent of their GDP to defence.

A difference, however, is that prior to the 2008 financial crisis, Lithuania increased its military expenditures at a more modest pace than its Baltic neighbours. Military expenditures rose from USD 312 million in 2000 to USD 441 million in 2008. This increase was largely at par with Lithuania's rate of economic growth. The GDP share remained stable during these years, with an average of 1.2 percent of GDP allocated to defence. After the financial crisis, Lithuanian military expenditures fell to USD 303 million in 2010 and a GDP share of 0.9 per cent. Military expenditures remained at roughly the same level from 2010 to 2013.

Following Russia's annexation of Crimea, Lithuania changed its policy and began a drastic increase in military expenditures, aiming at a GDP share of 2 per cent in 2018. The expenditures more-than doubled, from USD 357 million in 2014 to USD 907 million in 2018. As part of the modernisation of the armed forces, the extra funds were

4 Lithuanian Ministry of Defence, 'We are entering a new stage of cooperation with our strategic ally Poland, Minister of National Defence R. Karoblis says', 29 January 2020. For example, Lithuania's brigades are affiliated to NATO Multinational Division Northeast Headquarters in Poland. For more on this, see this report's chapter on Estonia.

primarily spent on equipment. These investments rose by a factor of 13, from a low of USD 28 million in 2013 to USD 361 million and 38 per cent of the military expenditures in 2019, although the share shrunk to 27 per cent in 2020.

In 2018, the six major parties of the Lithuanian parliament agreed to increase military expenditures further, aiming at spending 2.5 per cent of GDP on defence in 2030.[5] The timetable for the increase is not clear, however, and the coronavirus pandemic may hinder the plans. The projections for 2021 are based on Lithuanian defence budget data.[6] With the decline in the GDP, caused by the corona pandemic, military expenditure as a share of GDP will increase to a higher level in 2020. For 2021, the defence budget stipulates the same amount in nominal terms as in 2020, meaning that expenditure will decrease in real terms in 2021. The projections for the following years are based on the assumption that military spending as a share of GDP will in 2021–2025 lie at a level above 2 per cent, which on average is comparable to the allocations made to defence before the outbreak of the coronavirus.[7]

Apart from the budgetary strains from Covid-19, Lithuania must also strike the right balance between personnel, equipment, infrastructure and maintenance. The past years' extensive procurement will in particular increase costs for maintenance, included in the 'other 'category in the graph, as well as infrastructural needs, all which need to be handled during the coming years.[8]

7.3 Armed forces

The Lithuanian armed forces are led by the Chief of Defence, supported by a defence staff which is situated in Vilnius. Like its Baltic neighbours, the Lithuanian Armed Forces are primarily made up of land forces. The land forces, comprising the regular army and the National Defence Volunteer Forces/*Krašto apsaugos savanorių pajėgos* (NDVF/KASP), field approximately 13,000 soldiers, of which some 4500 are professionals. The Navy has around 700 personnel, whereas the Air Force consists of approximately 1300 personnel. The 3700 conscripts serve in all branches, but primarily within the land forces, which has some 2400 conscripts.[9]

Army

The Army's peacetime structure consists of two brigades, an engineering battalion, a logistics battalion and the volunteer NDVF/KASP.

The 1st Brigade – the lightly mechanised Iron Wolf Brigade – has received the major share of the modern equipment procured in recent years, whereas the 2nd Brigade is inheriting its older equipment. The brigade consists of about 65 per cent professionals and 35 per cent conscripts. Primarily based in Rukla, its wartime tasks include defending against attacks proceeding through Latvia and Belarus. The brigade maintains higher readiness than the 2nd Brigade, and two of its battalions make up the core of the rapid response force that was created in 2016. The German-led eFP battlegroup is integrated with the brigade.[10]

The 2nd Brigade – the motorised Griffin Brigade – was set up and assigned two infantry battalions in 2016. Since then, the Lithuanian Army has created and assigned an additional infantry battalion and an artillery battalion to the brigade. Currently, it consists of about 45 per cent professionals and 65 per cent conscripts, but has some way to go regarding manning levels and equipment. The brigade is supposed to defend against incursions from Kaliningrad and secure the port in Klaipėda, the city where it is mainly based.[11]

5 Lithuanian Government Offices, 'Agreement on the guidelines for the Lithuanian defence policy signed', 10 September 2018.

6 Lithuanian Radio and Television (LRT), 'Lithuanian defence budget to stay above NATO 2-percent threshold', 15 October 2020.

7 Defence ministers from the three Baltic countries also issued a joint declaration in June 2020 that their countries, even though they are suffering from the coronavirus pandemic, will maintain and not reduce their defence allocations. Baltic Times, 'Baltic states commit to not reducing defence spending', 16 June 2020.

8 Jermalavicius, Tomas, 'To draft or not to draft: Defence policy choices in Lithuania and Latvia', International Centre for Defence and Security, 14 February 2017.

9 Republic of Lithuania. Annual exchange of information on defence planning (draft), *OSCE Vienna Document 2011*, 2020, p. 7.

10 Gustafsson, Jakob, Granholm, Niklas and Jonsson, Michael, *Färdplan för tillväxt: Erfarenheter för Sverige från arméstridskrafternas tillväxt i Litauen och Estland,* FOI Memo 6832. (Stockholm: Swedish Defence Research Agency – FOI, 2019), p. 6.

11 Gustafsson, Granholm, and Jonsson, *Färdplan för tillväxt,* p. 6 .

The 3rd Brigade, also created in 2016, is reserve-based and is unlikely to be operational before 2024. Currently, only its staff functions have conducted exercises. It will consist of reservists under command of officers from military schools and other headquarters. Based in Vilnius, it likely has the task of defending the capital. As the aim of the reintroduced conscription system primarily seems to be manning units and upholding readiness, the 3rd Brigade might be intended to make use of the surplus of trained conscripts that is likely to emerge.

US units from the rotational brigade stationed in Poland occasionally deploy to Lithuania for exercises and deterrence. In 2019, longer-term deployments started, with an armoured US battalion of some 500 soldiers staying for six months, followed by a similar deployment in November 2020.[12]

The volunteer 5250-strong NDVF/KASP, or National Guard, is organised in six territorial units and constitutes an active reserve for regular army units. It also has wartime tasks, which include protecting of critical infrastructure, creating delaying actions and providing host nation support.

Navy

The small Lithuanian Navy consists of a patrol ship squadron and a mine countermeasures squadron. Its primary tasks are sea surveillance and keeping ports and sea lines of communication open. The ships of the navy, including the formerly Norwegian and Danish patrol boats with only a 76 mm gun, lack heavy weaponry.

Air Force

The Lithuanian Air force is tasked with air surveillance and air defence and maintaining the Šiauliai Air Base, which is prepared for use by NATO allies and hosts the Lithuanian echelon of NATO's Baltic Air Policing initiative. For short-range air defence, Lithuania has procured the Polish GROM man-portable air defence system, in addition to its Stinger and RBS-70 systems. Furthermore, it will receive two batteries of NASAMS 3 air defence by the end of 2020, making Lithuania the sole Baltic country with mid-range air defences.[13] With NASAMS seemingly intended to provide air defence for the 1st Brigade, Šiauliai Aair Base is likely protected by RBS-70 and Stinger, with GROM used as organic air defence in army units.[14] Lithuania hopes for US and NATO support concerning air defence, which remains a vulnerability for all Baltic States. Lithuania exercises close air support and joint tactical air control with allies.[15]

Personnel and materiel

The reintroduction of conscription and accelerated recruitment efforts have improved manning levels markedly. Since 2014, professional service members have increased from approximately 8000 to approximately 11,000 and volunteers from around 4500 to 5100. In addition, some 3500 conscripts are trained annually. A vast majority of conscripts serve voluntarily. Careful not to lose support for conscription, Lithuania has changed the call-up age, from 19–26 to 18–23.[16] Roughly, 25 per cent of conscripts proceed to professional service upon completion of conscription service.

12 The 2019 deployment ended up lasting longer than six months, due to the coronavirus pandemic; see Vandiver, John, 'US tanks and troops headed to Lithuania for lengthy deployment', *Stars and Stripes,* 25 September 2019; and BNS/TBT Staff, 'Another US battalion set to arrive in Lithuania for six months in November – ministry', *Baltic Times,* 22 September 2020.

13 Lithuanian Ministry of Defence, 'Lithuanian Air Force experts begin testing NASAMS medium-range air defence system', 3 October 2019. Lithuania intends to integrate its system with Polish Patriot batteries; see Larter, David B., 'On the borders of Putin's Baltic fortress, Lithuania cheers local build-up of US forces', *Defense News,* 14 October 2019.

14 BNS/TBT Staff, 'Lithuania's new chief of defense hopes to step up IFV, artillery system procurement – BNS interview', *Baltic Times,* 20 July 2019.

15 442nd Fighter Wing Public Affairs, 'Whiteman reservists, A-10s Arrive in Estonia, *Warrior,* 29 July 2016.

16 Lithuanian Radio and TV, 'Lithuania lowers conscription age', 12 December 2019.

Table 7.1 Personnel and materiel in the Lithuanian Armed Forces

Personnel/Materiel[a]	Numbers in 2020	Planned reforms towards 2025
Personnel		
Regular force	10,750[b]	11400 –15600 by 2024[c]
Conscripts	3700	
Territorial defence forces	5150	
Reserves	5150 + 1200[d]	
Materiel		
Tanks		
Armoured combat vehicles	256 APCs (234 M113A1, 22 M577)	88 IFVs (Boxer)[e]
Heavy artillery pieces	34 (16 self-propelled PzH 2000, 18 towed M101) 57 mortars: 20 2B11, 37 M/41D	
Attack helicopters		
Surface combatants		
Submarines		
Combat aircraft		
Transport aircraft	3 C-27J	
Air Defence	GROM, RBS-70, Stinger	2 batteries of NASAMS 3 mid-range air defence

NB: a. Personnel numbers are from the Lithuanian MoD and represent the numbers for 2019. See Lithuanian Ministry of Defence, 'Skaičiai ir faktai'. Materiel numbers, if not otherwise stated, are from from IISS, *The military balance 2020*, **b**. The Armed Forces also employs 2788 civilians, **c**. Jakucionois, 'Lithuania plans to expand', **d**. The territorial defence forces – NDVF/KASP – make up the active reserve. In addition, there is a "prepared reserve" of some 19,000 soldiers (former professionals and newly educated conscripts), of which some 1200 underwent refresher training in 2019, **e**. 15 Boxer IFVs scheduled for delivery in 2019 were delayed; see BNS/TBT Staff, 'Delivery of Boxers to Lithuania delayed due to identified defects', *Baltic Times,* 27 December 2019,

However, a shortage of junior officers, non-commissioned officers and specialists remains a headache. As for all Baltic States, demographics pose a challenge to recruitment and to expanding the force structure in the years ahead, as the number of 18–23 year olds has decreased significantly and the financial crisis caused many young people to emigrate.

The procurement efforts started in 2014 have come a long way. The 1st Brigade has, for example, received 9 of 16 used but upgraded Panzerhaubitze 2000 self-propelled howitzers, tripling its effective range of fire.[17] Other procurements include the already mentioned GROM air defence system and Javelin anti-tank missiles. Deliveries have started on Lithuania's biggest ever acquisition, 88 new Boxer infantry fighting vehicles (IFVs), equipped with a 30mm cannon and Spike long-range anti-tank missiles. With the IFVs and NASAMS, Lithuania broke with the traditional practice of primarily buying used equipment.[18] The same applies for the 2019

17 Interview, June 2020. Lithuania has procured 21 howitzers in total, 16 of which are intended for combat operations. All will be delivered by 2021. While most howitzers have been delivered and the artillery battalion has been certified as capable of operating them, they are unlikely to be fully operational. See Jarocki, Michal, 'Lithuanian PzH2000 in live-fire tests', *MilMag*, 25 April 2019; and Lithuanian Armed Forces; 'Units of the MIB Iron Wolf and the NATO enhanced Forward Presence Battalion Battle Group are combat-ready', 17 November 2019.

18 Gustafsson, Granholm and Jonsson, *Färdplan för tillväxt,* p. 7–9. However, the NASAMS launchers were used.

procurements of 200 all-terrain, armoured, Joint Light Tactical Vehicles (JLTV) and six Black Hawk UH-60M helicopters, from the US.[19]

The expanded force structure and more advanced equipment have caused bottlenecks in other areas, such as infrastructure, logistics and command and control, as well as markedly increased maintenance costs.[20] Infrastructural limitations negatively impact exercises, living quarters and host-nation support capabilities. Lithuania is investing heavily in infrastructure to address this. Furthermore, it is setting up an additional logistics battalion for the 2nd Brigade and upgrading its Battle Management System, for frontline support to tactical commanders, and thereby strengthening command and control, situational awareness and interoperability with allies.[21]

7.4 Assessment of military capability

The Lithuanian Armed Forces are still implementing the major reforms launched post-Crimea. The reintroduced conscription and establishment of a second brigade have increased manning levels and readiness. Equally, the procurement of advanced equipment has increased firepower, protection and mobility. However, modernisation takes time, and the three major procurements – IFVs, self-propelled howitzers and mid-range air defence – are not yet fully operational. Importantly, procurement of big-ticket items has been complemented by much-needed efforts to fill up ammunition stocks, including anti-tank missiles.[22]

Lithuania's efforts to strengthen readiness and reduce its reliance on mobilisation have paid off. The 1st Brigade's four battalions and parts of the six territorial defence battalions from NVDF could be available within a week. It is furthermore possible that some units of the 2nd Brigade are available within a week, but their usefulness and possible tasks are dependent on how far along their training conscripts are. This latter is also true for some parts of the 1st Brigade. However, there are differences in capability between the two brigades: the 1st has a higher proportion of professionals than the 2nd, exercises more and has fewer vacancies.

The 1st Brigade should be able to delay and inflict losses on a mechanised enemy advancing from Latvia or Belarus, at least if given time to prepare the defence. The relatively open Lithuanian terrain is suitable for tank warfare, which makes the anti-tank capabilities it has stocked up on essential.[23] Their ability to conduct offensive actions is absent, however, until IFVs and self-propelled howitzers (SPH) are properly integrated. Given successful mobilisation of the main parts of the 2nd Brigade, it may be able to slow down incursions from Kaliningrad and secure the port in Klaipėda, at least for some time. The current lack of artillery and air defence is a key vulnerability, as it is in Latvia and Estonia; the armed forces will rely heavily on early support by other allies, from the air. While Lithuania has a greater variety of air defence systems than its Baltic neighbours, which possibly could make it somewhat more resilient to aerial attack, such an abundance of different systems also holds implications for education and logistics.

In addition to national forces, the eFP battlegroup contributes combat power at short notice. The battlegroup employs some 1000 soldiers and 500 vehicles, including main battle tanks, armoured infantry fighting vehicles and self-propelled howitzers.[24] Germany has traditionally complicated rules of engagement, and the fact that Berlin designates the deployment a 'training activity' has raised questions concerning its value if deterrence turns to defence.

19 Lithuanian Ministry of Defence, 'Contract on acquisition of armoured all-terrain vehicles for the Lithuanian Armed Forces has been signed', 21 November 2019; and Lithuanian Ministry of Defence, 'The Lithuanian Armed Forces has taken a decision to procure new UH-60M Black Hawk utility helicopters', 18 October 2019.

20 Gustafsson, Granholm and Jonsson, *Färdplan för tillväxt,* p. 9.

21 Systematic's SitaWare, which has also been procured by, e.g., Germany and Latvia. Lithuanian Ministry of Defence, 'Lithuanian Armed Forces to install a wider-scope battle management system', 14 February 2020.

22 Judson, Jen, 'In Russia's growing shadow, Lithuania modernizes its defenses', *Defense News,* 16 July 2019.

23 As the NDVF/KASP is equipped with AT-4 and Carl Gustaf anti-tank weapons, tanks could be interdicted before reaching the lowlands of central Lithuania. Additionally, NDVF/KASP soldiers have operated Stinger MANPADs alongside US special forces in exercises; see Trevithick, Joseph, 'U.S. special ops and Lithuanian reservists practiced waging guerilla war against Russia', *The Drive,* 12 March 2018.

24 Lithuanian Military Digest, '7th rotation of the NATO eFP Battalion Battle Group begins service', No. 2, 2020, p. 2. Additionally, the battlegroup provides expertise that can ease the introduction of the modern equipment procured, and it makes more advanced exercises possible.

However, German representatives and the Lithuanian Chief of Defence are adamant that the battlegroup and Lithuanian forces would respond to a military threat together, even if the North Atlantic Council has not reached a decision.[25] In the same spirit, Germany has established and exercised a national reinforcement concept for the battlegroup, and its role in the Lithuanian defence plan has become clearer.[26]

Given a week's notice, the Navy would likely be able to muster its mine countermeasures and patrol ship squadrons in an effort to keep sea lines of communication open. The air defence battalion would be preoccupied with protecting Šiauliai Air Base from aerial attack. Given the lack of full-spectrum air defences, its capability to interdict fighter jets is limited.

With three months' notice, the overall picture remains roughly the same, with the addition of two more battalions from the second brigade. The quality of army units, not least conscript soldiers, would likely have increased through combat training and more time for preparations of terrain and field works. A key question is whether the 3rd Brigade can be mobilised and properly equipped. At present, this seems unlikely, as only its staff functions have exercised, and the prepared reserve, from which reserves will be drawn, was only recently set up.

Until 2025, introduction of capable IFVs, mid-range air defence and self-propelled howitzers will markedly improve the Lithuanian defence. Having absorbed this, there are long-term plans for long-range anti-tank missiles and additional IFVs.[27] This will have to be weighed against the challenges of funding, demographics and infrastructural needs. Political support for increased defence spending has been nearly unanimous, but cannot be taken for granted in the coming years, when for example the economic impact of the coronavirus pandemic becomes clear, the life-cycle costs of modern equipment kick in, and other public sectors compete for limited resources.

Lithuania must also handle the transition from a largely static army to a modernised and mobile one. This entails education, training, and adapting the concept of operations and command structure to the new equipment and units. For example, the new howitzers are tracked and have three times the range of their predecessors, while the trucks acquired to transport their ammunition are wheeled, which could prove a tactical limitation in Lithuanian terrain.[28] Additionally, the lack of adequate full-spectrum air defence is likely to be addressed in the years ahead, most probably through regional and NATO initiatives.

25 Stoicescu, Kalev and Järvenpää, Pauli, *Contemporary deterrence: Insights and lessons from enhanced Forward Presence* (Tallinn: International Centre for Defence and Security, 2019), p. 7; and Beniusis, Vaidotas, 'NATO batallion in Baltics would be ready to act', *Lithuanian Radio and TV*, 6 February 2020.

26 Brauss, Heinrich and Carstens, Nikolaus, 'Germany as a framework nation', in Lanoszka, Alexander, Leuprecht, Christian and Moens, Alexander, *Lessons from the Enhanced Forward Presence, 2017–2020,* (NATO Defense College, November 2020), p. 65–66.

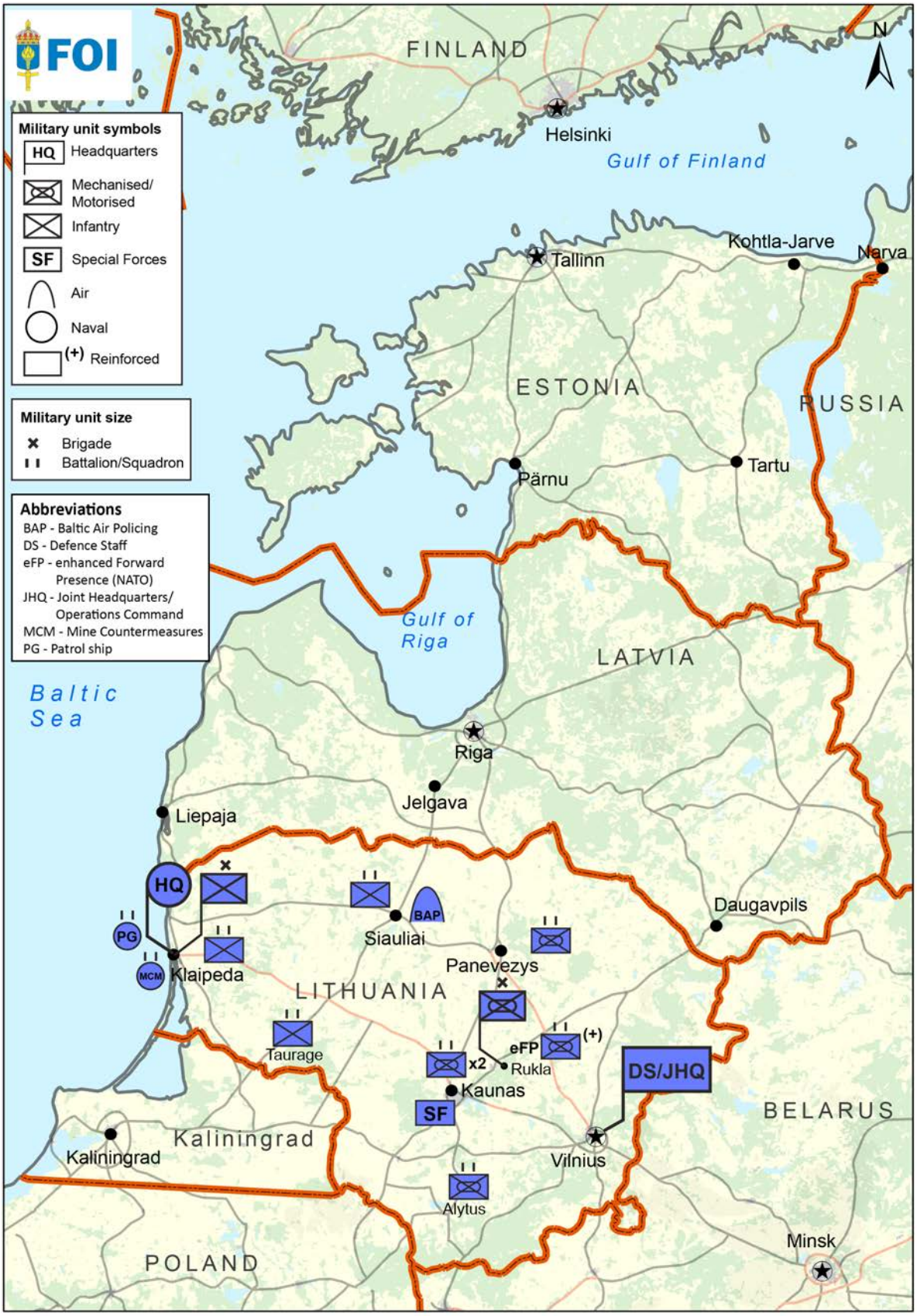
27 Judson, Jen, 'Lithuania's new Boxer combat vehicle packs a punch', *Defense News,* 15 July 2019.

28 BNS, 'Lithuanian military purchasing 25 Arocs trucks for €10m', *Lithuanian Radio and TV,* 21 January 2020.

Table 7.2 Force structure of the Lithuanian Armed Forces

	Organisation 2020[a]	Planned reforms towards 2025	Assessment of forces available at short notice
Joint	1 Defence staff 1 logistics battalion 1 special operations group (1 jaeger battalion, 1 counter-terrorism unit, 1 combat diver unit) 1 military police battalion		
Army	Land Forces HQ 1 mechanised (light) brigade (4 mechanised (light) battalions, 1 logistics battalion, 1 artillery battalion, 1 eFP battlegroup [b]) 1 motorised brigade (3 infantry battalions, 1 artillery battalion) (1 reserve brigade) 1 engineer battalion 6 territorial defence battalions	Logistics battalion for second brigade to 2024[c]	3–4 mechanised (light) battalions of the 1st Brigade, with support 1–2 infantry battalions of the 2nd Brigade 6 territorial defence companies (reinforced)
Navy[d]	1 patrol ship squadron 1 mine countermeasures squadron		Up to 1 patrol ship squadron Up to 1 mine countermeasures squadron
Air Force	1 aviation base[e] 1 air defence battalion		1 air defence battalion

NB: a. Unless otherwise stated, see International Institute for Strategic Studies – IISS, *The military balance 2020* (London: IISS, 2020), **b**. Logistics battalion not listed in *The military balance;* see Lithuanian Military Digest, 'Flag of the Mechanised Infantry Brigade Iron Wolf – in the hands of new commander', No. 12, 2019, p. 8, **c**. Jakucionois, Saulius, 'Lithuania plans to expand troops and set up new battalion', *Lithuanian Radio and TV*, 6 November 2019, **d**. Lithuanian Armed Forces, 'Naval flotilla', **e**. Lithuanian Armed Forces, 'Air base of the Lithuanian Air Force'.



Map 7.1 Overview of Lithuanian armed forces and their basing

NB: Design by Per Wikström. The map covers only operational headquarters and manoeuvre forces.

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8. Poland

Diana Lepp

Since the Russo-Georgian War in 2008, the possibility of an armed conflict with Russia has been Poland's main security concern. Even though the likelihood of an armed attack on Polish territory is considered low, Polish decision-makers argue that the country would likely become involved in a military conflict arising in Poland's immediate vicinity.[1] Poland is also afraid of the decomposition of the international and regional order, underpinned so far by the US, and the increasing tensions in transatlantic relations. Membership in NATO has since Poland's accession in 1999 been considered the cornerstone of Polish defence policy. Poland has long advocated an increased focus on deterrence and defence within the Alliance, rather than international operations and missions. Poland is one of a few NATO countries that reaches the goal of investing 2 per cent of GDP annually on defence, while the current government intends to further increase the level of defence spending. Additionally, the government is determined to modernise the equipment used by the Polish Armed Forces, as a majority of the materiel is obsolete or inadequate for other reasons. However, despite ambitious plans, modernisation programmes are often delayed.

8.1 Security and defence policy

In May 2020, Poland adopted the *National Security Strategy of the Republic of Poland*, replacing a previous act from 2014. The strategy recognises Russia as Poland's main threat and a long-term challenge, due to the modernisation of Russia's armed forces, the intensive schedule of military exercises, and the Kremlin's foreign policy that undermines the current international order.[2]

Poland's ruling party, the national-conservative Law and Justice, *Prawo i Sprawiedliwosc* (PiS), was elected in the Parliamentary elections in October 2015 and re-elected four years later. Once in power, PiS criticised the former government's defence policy, in particular what it termed overly expensive and inadequate material acquisitions, insufficient prioritisation of the eastern flank, and weakened military ties with the United States. Against this background, PiS have emphasised strengthening and modernising national defence capabilities, collective defence within NATO, and consolidating strong bilateral ties with the US, in order to improve Poland's deterrence and territorial defence capacity.[3]

Furthermore, PiS have attached great importance to the procurement of defence equipment from domestic industry. At present, approximately 60 per cent of the budget for procuring and modernising military equipment is allocated to Polish industry.[4] Although conveying strong messages of change, Poland has problems in pursuing reforms, with frequent delays in the modernisation programmes, in part because of domestic industrial considerations. The PiS government has further been criticised for controversial firings of senior officers within the Armed Forces and accused of attempting to ideologise Poland's Armed Forces and make it party-dependent.[5]

In 2018, the Polish Ministry of National Defence announced the establishment of a fourth

1 The International Institute of Strategic Studies (IISS), *The military balance 2020* (London: Routledge, 2020), p. 77.

2 Ministry of National Defence, *National security strategy of the Republic of Poland,* 2020, p. 6.

3 Interview, Stockholm, May 2020; Defence24, 'Polish Ministry of Defence: changed priorities', 27 April 2016; Hagström Frisell, Eva and Sundberg, Anna, *Polen – en nyckel i försvaret av NATO:s östra flank*, FOI-R--4310--SE (Stockholm: Swedish Defence Research Agency – FOI), 2016, p. 13–14.

4 Interview, Stockholm, May 2020.

5 Palowski, Jakub, 'Rok połowicznej modernizacji', *Defence24,* 30 December 2019; Wasik, Zosia and Buckley, Neil, 'Poland's military shake-up has critics up in arms', *Financial Times,* 17 May 2017.

division within the Polish land forces, the 18th Mechanised Division. With its command located in Siedlce, the 18th division will strengthen the military presence in eastern Poland.[6] In January 2020, Poland and Lithuania agreed to assign one brigade each to NATO's Multinational Division North-East in order to enhance the defence of the Suwalki Gap.[7] Since 2017, Poland has hosted a US mechanised brigade, as well as one multinational battalion-sized battlegroup, within the framework of NATO's enhanced forward presence (eFP). In 2019, Poland and the US signed a joint declaration to increase US military presence in Poland and in 2020 they reached an agreement on enhanced defence cooperation. The US presence of approximately 4 500 rotational troops in Poland is planned to be strengthened with 1 000 troops dispersed across the country. The Polish military infrastructure will be expanded to accommodate up to 20,000 US troops. The US presence includes a US Corps HQ (Forward), a US Division Headquarters (Forward), a mechanised brigade, an air force port of debarkation, a remotely piloted aircraft squadron, a combat aviation brigade, a combat sustainment support battalion and Special Forces. The Corps HQ in Poznan will provide command and control for American ground forces on NATO's eastern flank.[8]

8.2 Military expenditures

Polish military expenditures have more than doubled over the last two decades, from USD 5.2 billion in 2000 to USD 12.1 billion in 2020.[9] Ruling parties have been obliged to ensure that Poland's defence spending remains at a consistent level or increases. Through a law passed in 2001, Poland decided to allocate no less than 1.95 per cent of the previous year's GDP to national defence per annum.[10] In 2015, Poland decided to meet NATO's guidelines of investing 2 per cent of GDP on national defence. According to the budgetary deal of 2020, the defence expenditure limit will reach approximately USD 13.07 billion (nearly 50 billion Polish Zloty, PLN). This constitutes an increase of almost 11.5 per cent compared to 2019, and is equivalent to a level of 2.1 per cent of GDP.[11]

In April 2017, a new bill was adopted, committing Poland to gradually increasing the share of GDP spent on national defence to 2.5 per cent by 2030.[12] According to the new National Security Strategy, Poland will strive to have reached this level of defence spending by 2024. However, the document is not legally binding.[13] It remains to be seen how the ongoing Covid-19 pandemic will affect Poland's military expenditures – the economic decline meant a temporary rise in the share to 2.3 per cent in 2020 – but it is likely that the Polish government will make the necessary budget corrections without cutting defence spending, as defence is an important political priority. The projections in the graph are based on the assumption that Polish military expenditures will represent 2.5 per cent of GDP not in 2024, but one year later, in 2025, which means that military spending will rise by a third, from USD 12.1 billion in 2020 to USD 16.25 billion in 2025.[14]

A *Technical Modernisation Plan* concerning procurement and modernisation programmes for

6 IISS, *The military balance 2020*, p. 79.

7 Poland's contribution is the 15th Mechanised Brigade.

8 U.S. Embassy and Consulate in Poland, *Joint declaration on defense cooperation regarding United States force posture in the Republic of Poland*, 12 June 2019; Government of Poland, 'US division headquarters (forward) created in Poznań', 4 October 2019; Government of Poland, 'New U.S.-Poland enhanced defense cooperation agreement signed', 15 August 2020.

9 As the graph shows, Polish military expenditure is rising steadily, in an almost linear manner; it may be added that the temporary rise in 2015 was used for paying older purchases not accounted for, thereby also increasing the share for "equipment". The increases have also been higher in recent years than previously. From 2000–2013, military expenditures increased at an average rate of around 3 per cent, while since 2014 and up to 2020 the annual rate of increase has been more than twice as high, around 7 per cent.

10 Government of Poland, *Law of 25 May 2001 on the restructuring, technical modernization and financing of the Polish Armed Forces in the years 2001–2006,* 25 July 2001.

11 Szopa, Maciej, 'Poland increases defence expenditure by over 11% in 2020', *Defence24*, 20 January 2020; Palowski, Jakub, 'Prawie 50 mld na obronę w 2020 roku, Wzrost o ponad 11,5 proc', *Defence24,* 20 August 2019.

12 Defence24, 'Poland about to increase its defence expenditure up to the level of 2.5% of GDP: A new bill introduced', 24 April 2017.

13 Ministry of National Defence, *National security strategy,* p. 18.

14 Such a rise in 2020–2025 suggests that Polish military expenditures will increase at a rate around 6.1 per cent annually, or at a lower pace than in 2014–2020.

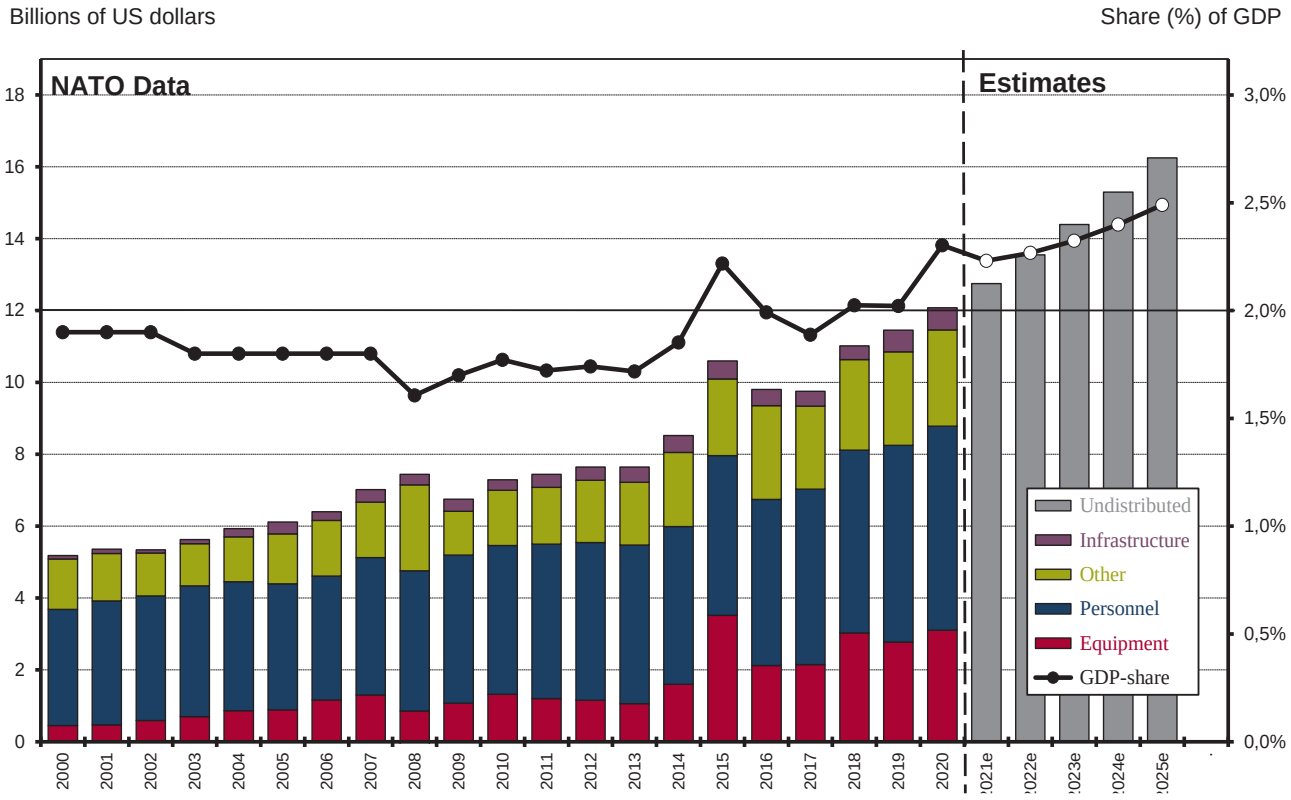


Figure 8.1 The military expenditures of Poland 2000–2025: Billions of US dollars/2015 prices (columns) and as share (%) of GDP (curved line)

Source: Bergstrand, Bengt-Göran, *NATO military expenditures,* Working Document (Stockholm: Swedish Defence Research Agency – FOI, October 2020).

NB: Estimates for 2021 – 2025 based on the assumption that Poland will spend 2.5% of GDP on defence in 2025.

Poland's Armed Forces was first launched in 2012, and has been gradually revised since. In October 2019, the Polish Ministry for National Defence released a plan for 2021–2035, with a budget of USD 133 billion (PLN 524 billion).[15] In order to realise this objective, Poland would need to allocate an increasing part of the total defence budget for modernisation, from the current level of approximately 29 per cent to 40 per cent in 2035.[16] Additionally, this would require a constant GDP growth over the coming years. Consequently, there are challenges that may impede planned modernisation projects. The financial consequences brought on by the Covid-19 pandemic could force the Ministry for National Defence to postpone some modernisation programmes. The current *Technical Modernisation Plan* includes approximately 15 programmes, covering all defence branches. A priority within the modernisation plan is the "Harpia Programme", the procurement of fifth-generation fighter aircraft. Other important objects in the plan are new air-and-missile defence, submarines and attack helicopters.[17]

8.3 Armed forces

The Polish Armed Forces have three main tasks. The first is national defence and the fulfilment of alliance obligations under Article 5. The second is to contribute to international security and stabilisation processes. The third is to support Poland's internal security and assist the Polish society in the event of a crisis.[18]

15 Wilk, Remigiusz, 'Poland unveils Technical Modernization Plan for 2021–35', *Jane's Defence Weekly,* 14 October 2019.

16 Dmitruk, Tomasz, 'Modernizacja Techniczna Sił Zbrojnych RP w 2019 roku', *Nowa Technika Wojskowa*; Republic of Poland, Ministry of National Defence, 'Key figures on the Polish MoND budget for 2020'.

17 Lesiecki, Rafał, 'Harpia, Kruk and Narew – PLN 185 billion to cover the modernization of the Polish military', *Defence24,* 1 March 2019; Ministerstwo Obrony Narodowej, 524 miliardy złotych na modernizację Wojska Polskiego do 2035 roku, 10 October 2019; Bergstrand, Bengt-Göran, *NATO Military Expenditures*, Working Document (Stockholm: Swedish Defence Research Agency – FOI, October 2020).

18 Republic of Poland, 'Polish Armed Forces'.

In 2009, Poland suspended compulsory military service and the Armed Forces are henceforth manned by professionals. Poland's military personnel number 155,500. This includes all five defence branches, that is, the Army, Navy, Air Force, Special Forces and the Territorial Defence Force, as well as the national reserve force, with 3000 part-time volunteers within the branches, 8000 cadets undergoing training, and 4000 within preparatory service.[19]

Army

The Army is described as the core of Poland's Armed Forces, numbering approximately 50,700 soldiers.[20] When the newly established 18th Mechanised Division is operational in a few years, the land forces will consist of four divisions, three mechanised and one armoured. Two of the divisions, the 11th and 12th, are situated in western Poland, in former Soviet/German bases. The third division, the 16th, is located in Elblag, south of the Kaliningrad border, with additional heavy forces deployed near Warsaw. The 18th Division is located even further east, in Siedlce. The divisions are in general organised in three mechanised or armoured brigades, consisting of inter alia three armoured/mechanised/motorised battalions, one self-propelled artillery group, one anti-aircraft group and one logistics battalion. At division level, there are also units for extra combat support, such as one air defence regiment and one artillery regiment. In addition to these heavy formations, there are various independent units in other parts of Poland, such as one airborne brigade and one air cavalry brigade.

Garrisoning units where there is existing infrastructure can have operational drawbacks. To date, Poland's eastern regions have had the lowest concentration of military presence, and the creation of the 18th Division is a direct consequence of the altered threat perception with respect to Russia. The 18th Division is planned to reach full combat readiness in 2026. It will consist of three brigades: the 1st Armoured Brigade, the 21st Podhale Rifles Brigade and one new brigade, the 19th Mechanised Brigade.[21]

The Polish Army possesses a large amount of heavy equipment, including approximately 600 main battle tanks (MBT), making the Polish tank fleet one of the most numerous in Europe, and 1600 infantry fighting vehicles. A majority of the equipment used by the Army is upgraded Soviet-era equipment, which results in reduced combat capability and interoperability problems with NATO forces operating other and more modern systems. Poland's most modern MBTs, which make up about 40 per cent of the stock, are the Leopard 2A4/5 tanks. There have been plans since 2015 to modernise the Leopard 2A4 tanks, but the measures have repeatedly been delayed. As for other modern armoured combat vehicles, Poland has about 350 KTO Rosomak infantry fighting vehicles.[22]

Poland's artillery is being modernised by the acquisition of 120 self-propelled, tracked-gun howitzers (AHS Krab), and 20 rocket launchers (High Mobility Artillery Rocket System, HIMARS) with up to 1650 Guided Multiple Launch Rocket Systems (GMLRS), with a 70-kilometre range. The order also includes 30 MGM-140 Army Tactical Missile System (ATACMS) missiles, with a 300-kilometre range, which would be a significant addition to the Polish arsenal.[23]

Within the framework of Poland's Technical Modernisation Plan, a further priority is the improvement of Poland's medium- and short-range air-and-missile defence assets under the Wisla (medium-range) and Narew (short-range) Programmes. Within the Wisla Programme's first phase, Poland signed a USD 4.75 billion contract (PLN 16.1 billion) for the Patriot air-and-missile defence system, in March 2018. The contract comprises

19 Republic of Poland, Ministry of National Defence, 'Key figures on the Polish MoND budget for 2020'.

20 Ibid.

21 Republic of Poland, 'Defence Minister Błaszczak decided to create a new mechanized division', 9 September 2018; Republic of Poland, 'Nowa dywizja Wojska Polskiego'.

22 IISS, *The military balance 2020*, p. 80; Palowski, Jakub, 'Polish Leopard 2PL upgrade delayed, costs on the rise', *Defence24,* 19 February 2020.

23 SIPRI Arms Transfers Database, information generated 9 November 2020; Lentowicz, Zbigniew. 'Dalekosiężne kraby zajmują pozycję', *Rzeczpospolita,* 29 October 2019; Lesiecki, Rafał. 'Pierwszy dywizjon HIMARS za 414 mln dolarów. Umowa w środę', *Defence24,* 10 February 2019.

two batteries of the PAC-3 Patriot system, including 16 missile launchers, 208 PAC-3 MSE missiles and additional equipment. The deliveries are scheduled for 2022. The second phase includes an additional six Patriot batteries, as well as short-range SkyCeptor anti-missile rockets, which are part of the Narew Programme. However, current funding does not seem to cover the second phase: procurements that are crucial for the effectiveness of the future Polish air-and-missile defence.[24]

In January 2020, the Polish Army took over the lead of NATO's Very High Readiness Joint Task Force (VJTF). The main contributing unit is the 21st Podhale Rifles Brigade, supported by units from Poland's 12th Mechanised Division, the 3rd Transport Aviation Wing, Special Forces, logistics experts, and counter chemical, biological, radiological and nuclear threats (C-CBRN) specialists. The VJTF is supposed to be ready to respond and start deployment within days, with a ground element of around 6000 soldiers, 3000 being from Poland.[25] In October 2020, parts of the VJTF deployed to Lithuania as a part of NATO exercise Brilliant Jump 2020.[26] Additionally, in 2020 Poland contributes to NATO's enhanced Forward Presence (eFP) battlegroup in Latvia by providing one armoured company equipped with inter alia PT-91 Twardy battle tanks.[27]

Navy

The Polish Navy numbers approximately 7000 active sailors, and an additional 1300 within the naval aviation, organised into two separate flotillas.[28] The 3rd Ships Flotilla, in Gdynia, is the Navy's primary tactical unit. The unit's main assets are two tactical submarines, two *Pulaski*-class (ex-*Oliver Hazard Perry*) frigates, and a smaller number of patrol ships, coastal combatants and reconnaissance vessels. The 8th Coastal Defence Flotilla, stationed in Swinoujscie, is responsible for mine clearance and anti-submarine operations, with approximately 35 vessels at its disposal.[29]

The Polish Navy has for many years suffered from underinvestment and slow procurement processes. Of all the defence branches, the Navy has the lowest percentage of modern equipment, and the average age of many ships exceeds 30 years.[30] The Navy's most modern combat vessel is a Kormoran II minehunter, operated by the 8th Coastal Defence Flotilla. Currently, the Navy has two operational tactical submarines (*Kobben*-class) from the 1960s; these will be removed from service in the next couple of years. The acquisition of new-generation submarines has been discussed within the Ministry of National Defence for years, and is included in the *Technical Modernisation Plan* under the 'Orka Programme'. However, as procurement of the next generation of submarines is not likely in the near future, Poland will probably acquire a number of second-hand submarines as an interim solution. In late 2019, the Polish Ministry of National Defence announced plans to purchase these submarines from Sweden. The submarines in question are two A17 Södermanland-class boats from 1987 and 1990, and modernised in 2003 and 2004.[31] Due to the capability gaps of the Polish Navy, it is the land-based Coastal Missile Unit, operating two batteries of Kongsberg's Naval Strike Missile, that is responsible for most coastal defence tasks.[32]

Air Force

The Polish Air Force numbers 16,800 airmen deployed in approximately ten bases in Poland.[33] The main parts of the Polish Air Force are organised in two tactical wings, the 1st Tactical Aviation Wing,

24 Judson, Jen, 'Former Polish defense minister presses for answers on fate of US Patriot buy', *Defence News,* 20 May 2019; Zięba, Ryszard, *Poland's Foreign and Security Policy.* 2020, p. 20.
25 NATO, 'Poland takes charge of NATO high readiness force', 30 December 2019.
26 SHAPE, 'NATO exercise brilliant jump II 2020 gets underway', 28 September 2020.
27 Republic of Poland, 'Polski kontyngent na Łotwie'.
28 Republic of Poland, 'Key figures'.
29 IISS, *The military balance 2020,* p. 135; Wojsko Polskie, '3. Flotylla Okrętów'; Wojsko Polskie, '8 Flotylla Obrony Wybrzeża'.
30 Biedroń, Robert, 'Stanowisko kandydatów na urząd Prezydenta RP w sprawie Marynarki Wojennej', *Portal Stoczniowy,* 5 May 2020.
31 Jarocki, Michal, 'Poland sets out new modernisation priorities', *European Security and Defence,* 19 November 2019.
32 IISS, *The military balance 2020,* p. 80.
33 Republic of Poland, 'Key figures'.

located in Swidwin, and the 2nd Tactical Aviation Wing, in Poznan. The Air Force has approximately 100 fighter aircraft, including three squadrons of multi-role fighters (various versions of F-16), two squadrons of interceptors (MIG-29) and one squadron of strike aircraft (SU-22). Since 2017, the Air Force has acquired some 70 Joint Air-to-Surface Standoff Missiles (JASSM) stealthy cruise missiles, and another 70 JASSMs with extended range.[34]

The MiG-29 fleet was grounded from March to November 2019, following a series of incidents in the last couple of years. Both the MiG-29 and the even older Su-22 have limited combat capability, and will likely be removed from service.[35] In February 2020, Poland signed a USD 4.6 billion contract (PLN 17.9 billion) to acquire 32 F-35A fighter aircraft from the US, with deliveries scheduled to begin in 2024. However, the purchase has been criticised for draining resources from other modernisation projects, such as the Wisla and Narew Programmes.[36] The Polish Air Force periodically leads NATO's Baltic Air Policing (BAP), and between January and May 2020, 150 airmen and four F-16 fighter aircraft were deployed at the Ämari air base, in Estonia.[37]

Special Forces

Poland's Special Forces consist of five units and numbers 3500 soldiers. The Special Forces have a variety of typical skills for these units and probably a high readiness to operate, whether in peace, crisis, or war. One of the units (Grom) received four S-70i Black Hawk helicopters from Lockheed Martin's offshoot, Sikorsky, in December 2019.[38]

Territorial defence forces

In 2015, the newly elected PiS government established the Territorial Defence Forces (Wojska Obrony Terytorialnej, WOT) as a fifth branch of the Polish Armed Forces. Unlike the other defence branches, the WOT is being directly led, during its build-up, by the Ministry for National Defence, and not by the Chief of the General Staff of the Polish Armed Forces. The WOT consists of both volunteers, without previous experience in the Armed Forces, and professional soldiers. Its main tasks are to conduct defensive and delaying operations in cooperation with regular forces or as independent units, protect local communities during crisis or war, and promote patriotic values to increase the population's resilience.[39] During the ongoing Covid-19 pandemic, the WOT have assisted the Polish Border Guard and the police, verifying quarantines and contributing to ensure border control.

In early 2020, the reported strength of the WOT amounted to approximately 29,000 soldiers, of which 4000 are professionals.[40] The WOT is planned to be fully staffed by 2026, with an expected force of 53,000 soldiers. The forces will be organised in 17 light infantry brigades, one in each of Poland's provinces, with the exception of two in Poland's largest province, Masovia.[41]

Despite the WOT's contributing to the creation of a larger Armed Forces, critics have expressed that only a professional army can ensure Poland's security. They argue that soldiers in the WOT do not possess real combat power nor heavy equipment, and that in the event of an armed conflict there will be many unnecessary physical losses among volunteer

34 IISS, *The military balance 2020*, p. 135; Michta, A., Andrew. 'Poland', in *The handbook of European defence policies and armed forces.* Meijer, Hugo (ed.). Oxford: Oxford University Press, 2018, 135; SIPRI Arms Transfers Database, information generated 9 november 2020.

35 IISS, *The military balance 2020*, p. 80; Jarocki, Michal, 'Poland sets out new modernisation priorities', *European Security and Defence,* 19 November 2019; *Defence24,* 'Polish MiG-29 crashed. Pilot successfully ejected', 4 March 2019.

36 Palowski, Jakub, 'Polskie F-35: skok jakościowy czy kosztowna wyspa nowoczesności?' *Defence24.* January 29, 2020.

37 The Republic of Poland. 'Misja Baltic Air Policing', 3 January 2020.

38 Wilk, Remigiusz, 'Poland's GROM special forces unit receives Black Hawk helicopters', *Jane's Defence Weekly,* 20 December 2019.

39 Goniewicz, Krzysztof, Goniewicz, Mariusz and M. Burkle, Frederick, 'The Territorial Defence Force in disaster response in Poland: Civil-military collaboration during a state of emergency', *Sustainability,* 2019, p. 2; IISS, *The military balance,* p. 79; Sliwa, Zdzislaw, 'Poland NATO's East European frontline nation', in Vanaga, Nora and Rostoks, Toms (eds.), *Deterring Russia in Europe: Defence strategies for neighbouring states,* (London: Routledge, Taylor & Francis Group, 2019) p. 217–235.

40 Republic of Poland, 'Key figures'.

41 Wojska Obrony Terytorialnej. 'FAQ'; IISS, *The military balance 2020*, p. 79.

Table 8.1 Personnel and materiel in the Polish Armed Forces

Personnel/Materiel	Numbers in 2020	Planned reforms towards 2025
Personnel		
Regular force	126,500	200,000 by 2026 (including TDF)
Territorial Defence Forces	29,000	53,000 soldiers between 2021–2026
Reserves	3000	
Materiel		
Tanks	606 (142 Leopard 2A4, 105 Leopard 2A5, 232 PT-91 *Twardy*, 127 T-72)	Leopard 2A4, upgraded to 2PLN standard by 2023[a]
Armoured combat vehicles	1 611 (1 252 BMP-1, 359 KTO Rosomak)	
Heavy artillery pieces	Self-propelled: 419 (2S1 *Gvozdika*, M-77 *Dana*, *Krab*). Multiple rocket launcher: 197 (M-21, RM-70, WR-40 *Langusta*)	A squadron of HIMARS will be delivered by 2023[b]
Attack helicopters	28 (Mi-24D/V Hind D/E)	
Surface combatants	2 (*Pulaski*, ex-US *Oliver Hazard Perry*)	
Submarines	2 Sokol, ex-NOR Type 207,	
Combat aircraft	95 (29 MiG-29, 18 Su-22, 48 F-16)	32 F-35A, deliveries will begin in 2024
Transport aircraft	46 (5 C-130E Hercules, 16 C295M, 23 M-28 Bryza TD, 1 Gulfstream G550, 1 737-800)	
Air defence batteries	Long-range: (fixed) 1 S-200C Vega (SA-5 Gammon) Short-range: (self-propelled) 17 S-125 Neva SC (SA-3 Goa)	Two batteries of the PAC-3 Patriot system, delivered in 2022

NB: a. Palowski, Jakub, 'Polish Leopard 2PL upgrade delayed, costs on the rise', *Defence24*, 19 February 2020, **b.** Lesiecki, Rafał, 'Pierwszy dywizjon HIMARS za 414 mln dolarów, Umowa w środę', *Defence24*, 10 February 2019.

soldiers. Critics have also highlighted that the WOT are overly costly and may drain the command and expert personnel of the regular armed forces, which is already facing personnel shortages.[42]

Personnel and materiel

In general, the Polish Armed Forces suffer from a shortage of military personnel. A Polish Army division should consist of 15,000 soldiers, but the units now only have two-thirds of the required personnel, that is, around 10,000 soldiers.[43] The Navy and Air Force are in a somewhat better condition, but overall, they also lack personnel. The ambition is to increase the Armed Forces' active personnel strength to 200,000, by 2026.[44] However, taking into consideration the current shortages, this ambition will likely be difficult to achieve within this time frame.

Overall, the Polish Armed Forces have large amounts of equipment of generally inferior status and about 75 per cent of the basic equipment is estimated to be obsolete. Consequently, it is expensive to maintain the equipment, and many equipment types have a lack of spare parts.[45] Although the Polish Ministry for National Defence is dedicated to modernising the equipment of Poland's Armed Forces, there seems to be a lack of planning regarding the integration of the new systems, making it difficult to ensure a balanced development.

8.4 Assessment of military capability

With approximately 105,000 regular soldiers within the Armed Forces, and an additional 29,000 within the Territorial Defence Forces, Poland has a relatively large number of military personnel compared to

42 Dojwa-Turczynska, Katarzyna, 'The territorial defence forces as the fifth type of the armed forces of the Republic of Poland', *Science & Military Journal,* Vol. 13, No 2, 2018.

43 Interview, Stockholm, May 2020.

44 Ministry of National Defence, *The defence concept of the Republic of Poland*, 2017, p. 53.

45 Biedroń, Robert, 'Stanowisko kandydatów'.

other NATO countries. Approximately 30,000 of the Armed Forces personnel have real field experience, due to Poland's participation in NATO out-of-area missions. However, territorial and collective defence in Europe would mean another type of mission, strategic environment and opponent.

Poland's geostrategic position implies that in the event of a conflict in Poland's immediate vicinity, a majority of the Polish Armed Forces will remain within Polish territory. In the northeast, Poland borders the Russian enclave of Kaliningrad, home of Russia's Baltic fleet and multiple Russian anti-access and area denial (A2/AD) capabilities. East of Kaliningrad is the "Suwalki Gap", a 115-kilometre-long land border between Poland and Lithuania. The Suwalki Gap is NATO's only ground access to the Baltic region and the shortest route between Kaliningrad and Belarus, and consequently of strategic importance for both NATO and Russia.

The core of Poland's Armed Forces is the Army, whose armoured and mechanised units can be used to deter advances by Russian mechanised forces in Poland or the region. In addition, Polish forces can tie down Russian forces based in Kaliningrad, preventing them from contributing to a Russian campaign elsewhere. However, the Polish Army suffers from problems with the modernity and availability of many of its units. Units operating Cold War-era equipment are at best suited for static defensive tasks. The units equipped with Leopard 2 tanks and KTO Rosomak IFVs/APCs may at least in part be capable of mobile and offensive operations, depending on combat support and training level.

Our assessment is that 1–2 mechanised battalions per division, from the now three operational divisions, may be ready to deploy and respond within a week. In 2020, the Polish readiness is at better than normal, due to the brigade-sized contribution to the VJTF. Consequently, the short-notice contribution in 2020 could consist of 6 –9 armoured or mechanised battalions. In addition, 1–2 airborne/air assault battalions should be available.

Poland's Special Forces have a higher level of readiness and the capacity to carry out various operations in the early stage of a conflict, and 2–4 companies could be ready to deploy and respond at short notice.

The Navy and Air Force have more limited roles within the Armed Forces. Especially the Navy has been neglected for many years and operates numerous outdated vessels, raising the issue of how many of them would be available and useful in an armed conflict. However, the Kormoran II minehunters and the land-based Coastal Missile Unit may make useful contributions, even at short notice.

The Polish Air Force is in somewhat better shape, and the F-16 fighter aircraft, equipped with JASSMs and other precision-guided munitions, have expanded Poland's air-to-ground strike capabilities. Our assessment is that one to two squadrons of F-16 fighter aircraft would be available within a week. The remaining Soviet-era fighter aircraft (MiG-29s and Su-22s) are not in optimal condition, and their short-term contribution might at most be a half a squadron of each type.

The newest defence branch, the Territorial Defence Force, has only been operational for a brief period and is not fully manned. As of this year, it can at best only organise some local resistance and assist local communities in the event of an armed conflict. The overall assessment is that within three months, Poland should be able to activate approximately half of its Armed Forces. The Armed Forces only have a small reserve pool, and no conscripts. In addition, there are several issues concerning equipment that cannot be solved within three months. The general shortage of military personnel and the high percentage of outdated equipment are imminent disadvantages for Poland's current military capability.

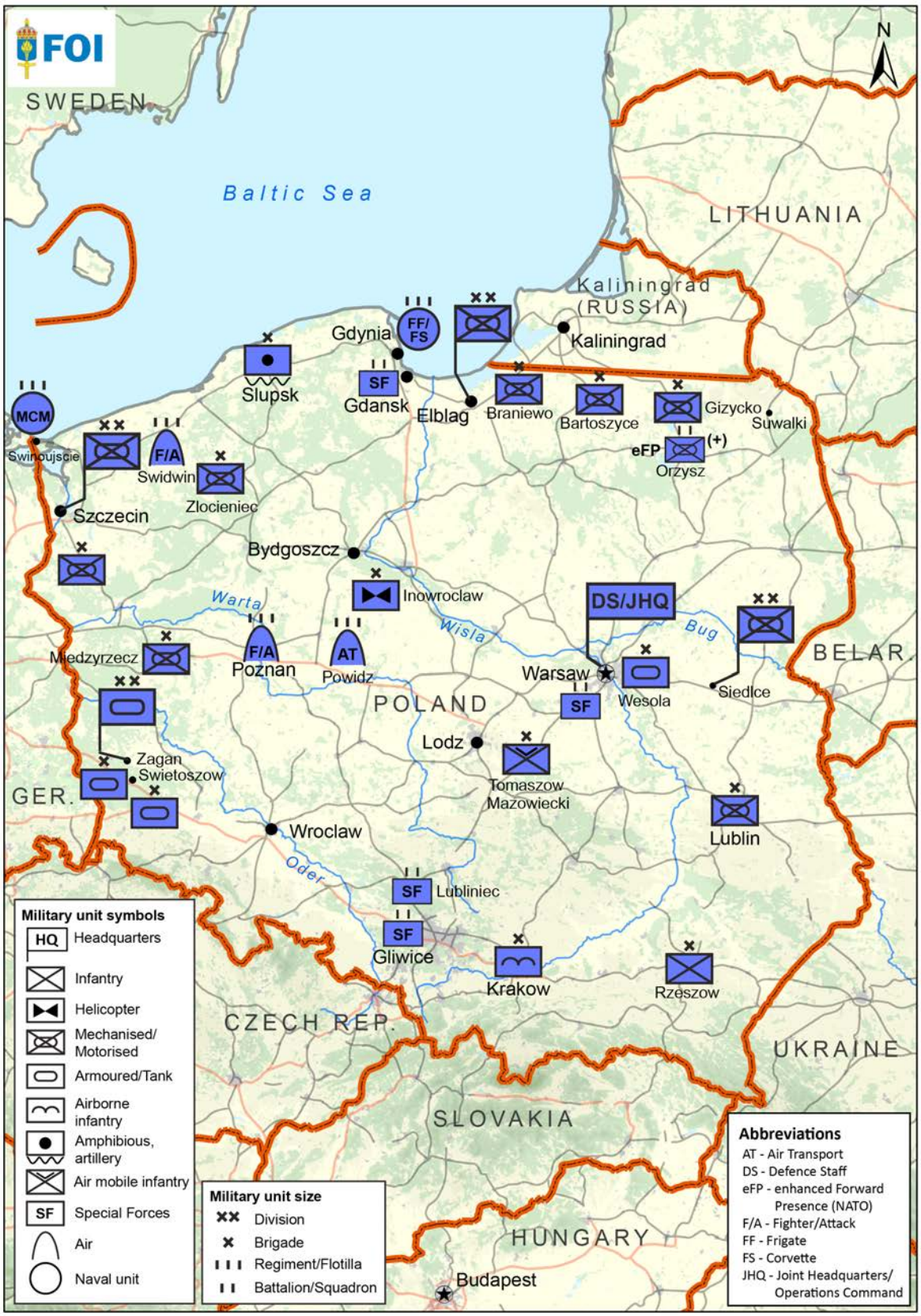
There are ambitious plans for the development of Poland's Armed Forces in the next five years. The 18th Division is scheduled to reach combat readiness by 2026. Its establishment, together with Poland's bilateral cooperation with Lithuania and increased US presence in Poland, would boost deterrence and the defensive capacity on the eastern flank. However, the greatest potential for Poland's contribution to NATO collective defence probably lies in raising the modernity and readiness of existing units. The *Technical Modernisation Plan* will, if realised, enhance Poland's deterrence and capacity to conduct major combat operations.

The big uncertainties are funding and the general process of modernisation, in particular with respect to procurement of equipment. One example is the next generation submarines, another is the expected delay of the second phase of the Wisla and Narew programmes, due to the purchase of the F-35A fighter aircraft. Even though the fifth-generation fighter aircraft will improve the Polish Air Force's capability to handle Russian A2/AD capabilities, a complete missile defence is required to defend the fighter aircraft and the air bases from which they operate.

Table 8.2 Force structure of the Polish Armed Forces

Organisation 2020	Organisation 2020	Planned reforms towards 2025	Assessment of forces available at short notice
Joint	Operational HQ		3000 soldiers VJTF
Army	Operational HQ 11th Armoured Division (2 armoured brigades, 1 mechanised brigade, 1 anti-aircraft regiment, 1 artillery regiment, 1 logistics regiment) 12th Mechanised Division (3 mechanised brigades, 1 artillery regiment, 1 air-defence regiment, 1 logistics regiment) 16th Mechanised Division (2 mechanised brigades, 1 armoured brigade, 1 artillery regiment, 1 air-defence regiment 1 logistics regiment) 18th Mechanised Division (1 mechanised brigade, 1 armoured brigade – previously part of the 16th division, 1 infantry brigade, 1 logistics regiment) 1 airborne brigade 1 air cavalry brigade 1 aviation brigade	Establishment of a third mechanised division (the 18th) in 2018–2026. Two phases of formation 1) 2018–2021: organisation of a division staff and a command battalion. 2) 2021–2026: creation of support units, including a reconnaissance battalion, artillery regiments, anti-aircraft and logistics regiments.	1 armoured company in eFP (Latvia) 6–9 armoured/ mechanised battalions, including VJTF in 2020. 1–2 airborne/ air assault battalions Up to half an attack helicopter battalion
Navy	Operational HQ 1 naval flotilla (1 warship squadron, 1 submarine squadron, 1 support ships squadron, 1 coastal missile unit) 1 coastal defence flotilla (1 transport and mine ship squadron, 2 minesweeper squadrons, 1 anti-aircraft squadron)		Half a naval flotilla Half a coastal defence flotilla 1 surface combatant 1 mine-hunter ship 1 submarine
Air Force	Operational HQ 2 tactical aviation wings (6 fighter squadrons) 1 transport aviation wing 1 radio-technical (radar) brigade 1 air defence missile brigade		1–2 fighter squadrons (F-16) 1 fighter squadron (MiG-29, Su-22)
Special Forces	Operational HQ 5 units (Grom, Nil, Formoza, Agat, Kommandos)		2–4 companies
Territorial Defence Forces	5 established brigades	17 light infantry brigades, by 2021[a]	6 companies

NB: **a.** Ministerstwo Obrony Narodowej, 'Struktura i zadania'.



Map 8.1 Overview of Polish armed forces and their basing

NB: Design by Per Wikström. The map covers mainly operational headquarters and manoeuvre forces.

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9. Germany

Eva Hagström Frisell

The changing geopolitical environment has prompted a reassessment of German security and defence policy. While still closely tied to multilateral institutions, Germany has the ambition to assume greater responsibility for international security. The German Armed Forces have started a process of modernisation and transformation towards the task of collective and territorial defence. However, previous drawdowns and cutbacks have resulted in significant personnel and materiel shortages, which will take time to overcome. Since the federal elections in 2017, the political parties of the coalition government are more divided on security and defence issues at the same time as they undergo a leadership transition, which makes it difficult for Germany to assume the responsibility of a major European power in the field of security and defence.

9.1 Security and defence policy

The new geopolitical environment characterised by increasing competition between great powers and weakened multilateral institutions is challenging the basics of German security and defence policy. Having pursued a culture of restraint towards military operations abroad since the founding of the Federal Republic of Germany in 1949, in 2014 German political leaders argued that Germany, due to its political and economic strength, should take greater responsibility for international security. This ambition was reiterated in the 2016 *White Paper on German security policy and the future of the Bundeswehr* (the German Armed Forces), and has resulted in enhanced German engagement on NATO's eastern flank and in international military operations.[1] However, the support of the political parties for this policy direction dropped already in the federal elections of September 2017. The mounting divisions between the Christian Democrats and the Social Democrats in the current coalition government and the leadership crisis of the major political parties make it difficult for Germany to agree on a joined-up strategy to handle the present challenges.[2]

German security and defence policy rests on a firm belief in multilateral organisations and the rules-based international order. While the 2016 White Paper enumerates several challenges to German security, it highlights that Russia is calling the European security order into question through its actions and military modernisation, which has prompted a response from both NATO and the EU.[3] NATO solidarity remains fundamental to German security and the Bundeswehr has taken active part in NATO's assurance and deterrence measures on the eastern flank, including a leading role in NATO's enhanced Forward Presence (eFP) in Lithuania. NATO's defence planning forms the basis for national defence modernisation efforts and has prompted multinational capability development and the setting-up of multinational force structures. Germany has been part of integrated military units, with France and the Netherlands, since the end of the Cold War; the Franco-German Brigade was established in the late 1980s and the German-Netherlands Corps in the middle of the 1990s. The Czech Republic, Romania and Lithuania have recently affiliated army brigades to the German force structure, while Germany and Poland are in the process of cross-affiliating units.[4]

Germany is also a longstanding supporter of defence integration in the EU. Germany wants to strengthen the EU's ability to act and has proposed the creation of a European Defence Union, to serve

1 Germany, The Federal Government, *White Paper 2016 on German security policy and the future of the Bundeswehr.*

2 Puglierin, Jana, 'Stuck in a holding pattern', *Berlin Policy Journal*, 29 August 2020.

3 Germany, *White Paper* 2016, p. 31–32.

4 Hagström Frisell, Eva and Sjökvist, Emma. *Military cooperation around framework nations: A European solution to the problem of limited defence capabilities.* FOI-R--4672--SE (Stockholm: Swedish Defence Research Agency – FOI, 2019), p. 15–25; and Müller, Björn. '"Affiliations" – Shaping Europe's defence at NATO's eastern flank – are sluggish business', *Pivot Area,* 22 April 2020.

as a political framework for recent EU defence initiatives. However, contrary to French ambitions of European strategic autonomy, Germany stresses that EU defence efforts should be complementary to and contribute to a stronger European pillar in NATO.[5]

Since 2014, the German Armed Forces have changed direction, away from the downsizing and restructuring of the previous defence reforms. The reform launched in 2011 put a cap on the number of personnel in the Bundeswehr and halted conscription as the basis for recruitment. It introduced the concept of "dynamic availability management", which inter alia meant that only 70 per cent of the required materiel should be at the disposal of the Bundeswehr's units. The remainder would be transferred between units before exercises and international engagements. These measures, together with cuts in maintenance and spare parts, resulted in low levels of readiness in the Bundeswehr and "hollow" force structures.[6]

In recent years, the Ministry of Defence has attempted to reverse the downward trends in the areas of finances, personnel and materiel. In 2018, the new concept of the Bundeswehr defined the task of collective and territorial defence as a basic requirement for staffing and equipping the Bundeswehr's units.[7] However, the operational readiness of the Bundeswehr remains low and continues to be an issue of concern for the Ministry of Defence.[8]

9.2 Military expenditures

After having fallen by about a third after the end of the Cold War, when Germany was a frontline state, German military expenditures remained relatively stable from 2000 to 2014. Germany did not reduce its military expenditures in the aftermath of the financial crisis of 2008, but, as a share of GDP, the military expenditures decreased from 1.5 per cent in 2000 to 1.2 per cent in 2014. Since reaching a low point in 2014, the military expenditures have steadily increased. Between 2014 and 2020, the military expenditures grew by a third, from USD 39.3 billion to USD 52.9 billion, equivalent to an average annual growth rate of more than 5 per cent. Germany also increased its investment in equipment during this period, from 13 per cent of overall defence expenditures in 2014 to 17 per cent in 2020.

However, considering Germany's political and economic weight, Germany has received repeated criticism from NATO and the US, particularly President Donald Trump, for not spending enough on defence. The German military expenditures' share of GDP, at 1.4 per cent in 2019, is considerably lower than that of the United Kingdom, 2.1 per cent, and France, 1.8 per cent. While the Christian Democrats reiterate their support for NATO's defence investment pledge of 2014, the Social Democrats question it and want to take Germany's spending in the fields of development cooperation and the reception of refugees into account in the debate on burden-sharing.[9] There is also a debate between those who want to raise the defence budget and those who argue that such increases should not risk Germany's financial stability. In 2019, the Minister of Defence, a Christian Democrat, declared Germany's ambition to spend 1.5 per cent of GDP on defence by 2024 and 2 per cent by 2031, a goal that was not endorsed by the Finance Minister, a Social Democrat.[10]

These political circumstances make it somewhat difficult to estimate German military expenditures in coming years. Incidentally, with the economic decline caused by the coronavirus pandemic in 2020, Germany is allocating about 1.6 per cent of its GDP to defence this year, as illustrated by the graph. Budget plans suggest that military expenditures will be stable in real terms in 2021, which, together with an economic recovery, will reduce the

5 Bundesministerium der Verteidigung, 'Speech by Federal Minister of Defence at the Bundeswehr University Munich', 7 november 2019.

6 Hagström Frisell, Eva, 'Tyskland', in Pallin, Krister (ed.), *Västlig militär förmåga: En analys av Nordeuropa 2017* (Stockholm: Swedish Defence Research Agency – FOI, 2018), p. 125.

7 Bundesministerium der Verteidigung, *Die Konzeption der Bundeswehr,* 3 August 2018.

8 For example, in February 2020, Defence Minister Kramp-Karrenbauer launched a new initiative for operational readiness; see Bundesministerium der Verteidigung, 'Rede von Kramp-karrenbauer: "Bundeswehr fit machen für die Zukunft"', 6 February 2020.

9 Delcker, Janosh, 'Schulz to Trump: Forget about 2 percent defence spending', *Politico,* 10 April 2017.

10 Bundesministerium der Verteidigung, 'Speech by Federal Minister of Defence'.

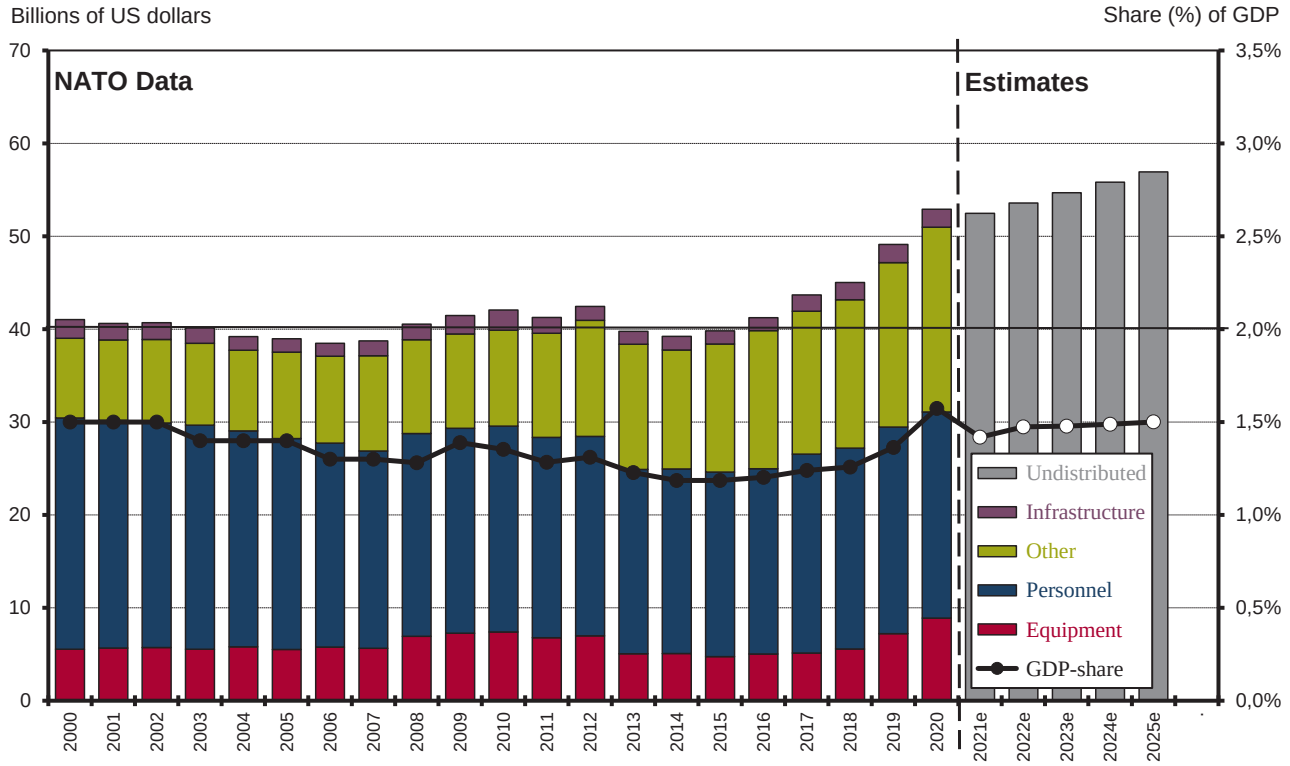


Figure 9.1 The military expenditures of Germany 2000–2025: Billions of US dollars/2015 prices (columns) and as share (%) of GDP (curved line)

Source: Bergstrand, Bengt-Göran, *NATO military expenditures,* Working Document (Stockholm: Swedish Defence Research Agency – FOI, October 2020).

NB: Estimates based on budget data for 2021 and on the assumption that Germany will (again) spend around 1.5% of GDP on defence in 2025.

share of GDP to 1.4 per cent in 2021.[11] The forecast for 2022–2025 is then based on the assumption that Germany will (again) spend 1.5 per cent of GDP on defence in 2025, meaning that military expenditures will rise at a rate around 1.4 per cent annually, or at a rate less than a third of the rate of increase characterising 2015–2020, and amount to about USD 57 billion, in 2025.[12]

9.3 Armed forces

According to the 2018 concept of the Bundeswehr, the German Armed Forces should be able to undertake the tasks of collective and territorial defence, international crisis management, homeland defence and national crisis management, international cooperation with partners, and humanitarian and disaster relief.[13] NATO's requirements for collective defence

11 Bundesministerium der Finanzen, *Eckwertebeschluss der Bundesregierung zum Regierungsentwurf des Bundeshaushalts 2021 und zum Finanzplan 2020 bis 2024,* Section VI and table Bundeshaushalt 2021 und Finanzplan 2020 bis 2024, March 2020.

12 Regarding the possibility of allocating 2 per cent of GDP to defence in 2031, the following comment could be made. If we assume that German GDP would increase by 1.28 per cent annually in the years 2025–31 – the rate the IMF forecasted as the average growth rate for the years 2020–24, before the coronavirus pandemic – Germany would have a GDP of around USD 4212 billion in 2031. Allocating 2 per cent of GDP to defence would then provide military expenditures of about USD 84 billion in 2031, suggesting that military expenditures between 2025–2031 must rise around 6.6 per cent annually, or at a rate even higher than in the years 2015–2020.

13 Bundesministerium der Verteidigung. *Die Konzeption der Bundeswehr,* p. 19–20.

drive the modernisation efforts and the Bundeswehr plans to return to fully equipped operational units in three steps. By 2023, the ambition is to have one fully manned and equipped brigade on stand-by for NATO's Very High-Readiness Joint Task Force (VJTF); by 2027, one modernised mechanised division; and, by 2031, three combat-ready mechanised divisions.[14] Early indications are, however, that these targets will be difficult to meet due to persisting materiel shortages and the fact that the Bundeswehr in the coming years will continue to shift materiel between units prior to exercises and deployments.[15]

The force structure of the Bundeswehr is divided into three main services – Army, Navy and Air Force – and three joint support services – Joint Support Service, Joint Medical Service and Cyber and Information Domain Service. The joint support services host a significant number of soldiers and combat service support capabilities, for example six logistics battalions, which in other countries form part of the three main services (see Table 9.2). The Joint Support Service also plays a prominent role in ensuring support to other NATO countries that are transiting troops through Europe. The Bundeswehr's command structure has not, until now, been tailored for collective and territorial defence; Germany relies on multinational command structures for these tasks, while the Bundeswehr's international missions are run by the Joint Operations Command, in Berlin-Gatow.[16]

Army

The personnel strength of the German Army is 63,500 soldiers. The main units are one light rapid reaction division and two mechanised divisions, the 1st and the 10th.[17] The rapid reaction division consists of two air mobile brigades in Germany and the Netherlands, the special operations forces command, two transport helicopter regiments with NH-90 helicopters and one attack helicopter regiment with Tiger helicopters. Parts of the division are tasked to be at high readiness nationally for rapid deployments to international operations or evacuation operations of German citizens. In the second half of 2020, the division forms the core of a multinational EU Battlegroup, having approximately 2500 soldiers from the 26th Parachute Regiment at high readiness.[18] In June 2020, however, the case of lingering far-right extremism within the special operations forces led to the disbanding of one of four combat companies and the halting of the participation of the remaining force in international operations and exercises until reforms had been undertaken to address the problem.[19]

The 1st Mechanised Division is made up of units based in northern Germany and the Netherlands. The division contains three mechanised brigades in Germany and one in the Netherlands, one artillery, one combat engineer, and one telecommunications battalion. The 10th Mechanised Division draws on units based in southern Germany and France. The division consists of two mechanised brigades, one mountain infantry brigade, the Franco-German infantry brigade and three artillery battalions. As a rule, the brigades consist of three to four manoeuvre battalions, one armoured reconnaissance battalion, one combat engineering battalion and one sustainment battalion. In total, the German Army has five armoured battalions equipped with Leopard 2A6/A7 tanks and nine mechanised battalions with armoured combat vehicles, Marder and Puma. The current modernisation plan aims to increase the number of tanks, armoured vehicles and artillery pieces in the German Army. As a first step, the Ministry of Defence has decided to gradually form a sixth armoured battalion, equipped with modernised Leopard 2A7 tanks, in the 10th Division.[20]

14 Bundesministerium der Verteidigung, 'Fähigkeitsprofil der Bundeswehr: Ein Schritt nach dem anderen', 16 December 2019; and 'Chapter Four: Europe', in International Institute of Strategic Studies, *The military balance,* (London: Routledge), 2020, p. 75.

15 'Ausrüstung und Personal: Bundeswehr zweifelt an eigener Einsatzfähigkeit', *Der Spiegel,* 20 December 2019.

16 Wiegold, Tomas, 'Straffere Bundeswehr-Führung für Landes- und Bündnisverteidigung: Luftwaffe plant Umstrukturierung', *Augen Geradeaus! blog*, 11 February 2020.

17 For information on the organisation of the German Army, see Bundeswehr, 'Heer'.

18 Bundeswehr, 'Eingreiftruppe der EU ist einsatzbereit', 19 May 2020.

19 Bennhold, Katrin, 'Germany disbands Special Forces group tainted by far-right extremists', *New York Times*, 1 July 2020.

20 Winter, Chase. 'German army forms sixth tank battalion', *DW,* 6 December 2018.

The two mechanised divisions have in recent years increasingly contributed to NATO's deterrence and defence posture on the eastern flank. The 10th Division has since 2017 provided successive half-year rotations of the core of the eFP battlegroup in Lithuania. The contribution amounts to 450 soldiers, including heavy materiel such as Leopard 2 tanks and armoured combat vehicles.[21] The 1st Division was in 2019 responsible for Germany's contribution of a reduced brigade to the VJTF and, in 2020, during the stand-down period of the VJTF, the 9th Mechanised Brigade, in Münster, is held at 30-days' readiness. The 37th Mechanised Brigade of the 10th Division had the same role in 2015 and will take on the responsibility for the VJTF, for the second time, in 2023.[22] The German contributions to the VJTF in 2015 and 2019, however, revealed that there is a need to shift a large amount of material and equipment from other parts of the Bundeswehr to the units on standby, which will most likely remain the case in the preparations for the VJTF in 2023.[23]

Navy

The German Navy employs approximately 17,000 sailors and airmen. The navy is organised in two flotillas and one maritime air command.[24] The 1st Flotilla has its home ports on the Baltic Sea coast, in Kiel, Eckenförde and Warnemünde. It hosts the navy's smaller ships and submarines that operate in coastal waters, including 5 corvettes, 10 mine countermeasures ships, 3 submarines and 4 support ships. The navy's special operations forces command and the marine infantry battalion also form part of the flotilla. The 2nd Flotilla is based on the North Sea coast, in Wilhelmshaven. It consists of the navy's larger vessels, including 10 frigates and 4 support ships. The maritime air command is located in Nordholz and consists of two maritime air squadrons operating maritime patrol aircraft (P-3C Orion) and maritime helicopters for anti-submarine warfare, search and rescue, and transport (Sea Lynx and Sea King).

In recent years, the German Navy has suffered from overstretch, due to increasing operational engagements, combined with personnel and materiel shortages. The navy regularly takes part in NATO's standing maritime groups in the Baltic and Mediterranean Seas and in several UN and EU operations. In 2020, a German submarine was for the first time placed under NATO command, to contribute to the assurance measures in the Baltic Sea.[25] The wide-ranging operational commitments have led to enhanced needs for maintenance. At the same time, old platforms are phased out, while their replacements are delayed. In 2020, the first of a total of 18 NH90 Sea Lion helicopters, which will replace the ageing Sea King, was delivered.[26] By 2021, a total of four new frigates, for stabilisation operations (F-125), are scheduled to be delivered.[27] Between 2023 and 2026, five additional corvettes (K-130) will be delivered to handle delays in the development of the new multi-role frigate (MKS 180). The German Navy furthermore cooperates with the Netherlands to obtain access to their larger Joint Support Ships and to train the German marine infantry battalion together with the Netherlands Marine Corps.[28]

Air Force

The German Air Force has approximately 28,000 airmen. The Air Force Command in Cologne-Wahn is responsible for the training and development of the units of the German Air Force, while the Air Operations Center, in Kalkar-Uedem, exercises the

21 Wiegold, Tomas, 'Kommandowechsel beim NATO-Bataillon in Litauen: "Marienberger Jäger" stellen siebte Rotation', *Augen Geradeaus!* blog, 6 February 2020.

22 Fiorenza, Nicholas, 'German Panzergrenadierbrigade 37 prepares for digitalisation', *Jane's,* 23 January 2020.

23 Bartels, Hans-Peter, *Presentation of the 60th annual report of the Parliamentary Commissioner for the Armed Forces,* 29 January 2019.

24 For information on the organisation of the German Navy, see Bundeswehr. 'Marine'.

25 Bundeswehr. '"U33" von Ostsee-Aufklärungsfahrten zurück', 25 May 2020.

26 Manarache, Martin, 'German Navy accepts first NH90 Sea Lion maritime helicopter', *Naval News,* 2 June 2020.

27 Vavasseur, Xavier, 'Second F125 Baden-Württemberg-Class frigate delivered to Germany', *Naval News,* 3 March 2020.

28 Hagström Frisell, 'Tyskland', p. 127.

operational command of units when they take part in exercises or operations.[29] The latter is co-located with NATO's air operations centre, which also hosts several operational collaborations in the air domain.

The German Air Force is organised in 6 tactical air wings (4 with Eurofighter aircraft and 2 with Tornado aircraft), 3 transport wings (with Airbus A400M, Transall C-160 and various transport aircraft), 1 special operations forces helicopter squadron and 1 air defence wing armed with Patriot batteries. Each of the tactical air wings can muster the equivalent of two squadrons. Germany also takes part in a multinational multi-role tanker unit, which gives access to additional aircraft for transports, medical evacuations and air-to-air refuelling. Furthermore, the air force has one mobile air defence group armed with short-range batteries for base protection, based in the Netherlands.

The German Air Force patrols the German air space, contributes to NATO's integrated air defence and undertakes international operations. The air force regularly provides rotations of 4–5 fighter aircraft to Baltic Air Policing (BAP). In recent years, the material readiness of the air force has been considerably low due to ageing aircraft, delays in the introduction of new platforms and cutbacks of maintenance and spare parts. Recent reports also claim that there is a shortage of combat pilots.[30]

Since 2018, the air force has started to develop the multi-role capability of the Eurofighter, by equipping the aircraft with laser-guided air-to-ground munition (GBU-48). In the coming years, Germany also needs to decide on the replacement of the ageing Tornado attack aircraft, which is a dual-use aircraft capable of carrying US nuclear weapons, as part of NATO's nuclear sharing. The Tornado is reaching the end of its life cycle and maintenance costs will increase significantly after 2025. In April 2020, the Ministry of Defence presented plans to split the order between 93 Eurofighter and 45 F/A-18 (30 E/F Super Hornets for the dual-use, and 15 EA-18G Growler for the electronic warfare role). However, as for all major acquisition programmes, the German Parliament has to approve the decision and leading Social Democratic parliamentarians have questioned Germany's continued participation in NATO's nuclear sharing.[31]

Personnel and materiel

The trend reversals in the fields of personnel and materiel announced by the Ministry of Defence are so far hardly noticeable. The total number of personnel in the Bundeswehr has increased slightly since 2016 and amounted to 184,000 soldiers in January 2020.[32] The increase in personnel numbers is mainly a result of prolonging the service of staff on time-limited contracts and not of an increase in the recruitment of new soldiers. The number of voluntary service members remains low, at approximately 9000 soldiers, compared to the stated ambition of 15,000. The major challenge in the recruitment of new soldiers and officers lies in the high competition from the labour market. The Bundeswehr has particular trouble recruiting IT specialists, mechanics and medical staff.[33] The ambition of the Ministry of Defence is to increase the total number of soldiers to 203,000 by 2025.[34]

The availability of materiel in the Bundeswehr is another problem. Although the reports on the readiness of specific weapon systems are no longer public, the overall level of materiel readiness was reported to be 70 per cent in 2019, which is the same level as in 2017 and 2018, and no improvement from the policy direction of 2011. The practice of shifting material and equipment between units before deployments gives a higher material readiness in units committed to NATO or to international operations. The highest levels of materiel readiness – over 70 per cent – are reported for Leopard 2 tanks, the Boxer armoured personnel carrier, frigates and

29 For information on the organisation of the German Air Force, see Bundeswehr. 'Luftwaffe'.

30 Witting, Folker, 'German Air Force short on pilots, not planes', *DW,* 4 September 2019.

31 Gotkowska, Justyna, G*ermany's compromise plans: the Super Hornet combat aircraft for nuclear sharing,* OSW Analyses, 27 March 2020; and Mützenich, Rolf. 'Germany and nuclear sharing: In these critical times funds are limited and we must have a serious debate on every expense – including military expenses', *International Politics and Society,* 15 May 2020.

32 Bundeswehr, 'Personalzahlen der Bundeswehr', January 2020.

33 Hagström Frisell, 'Tyskland'; and interview, Berlin, March 2020.

34 Bundeswehr, 'Die Trendwende Personal'.

Table 9.1 Personnel and materiel in the German Armed Forces

Personnel/Materiel	Numbers in 2020	Planned reforms towards 2025
Personnel[a]		
Regular force	175,000	Plans for a total force of 203,000 by 2025.
Voluntary force	9000	
Reserves	29,000[b]	
Materiel [c]		
Tanks	245 (225 Leopard 2A6, 20 Leopard 2A7)	84 additional Leopard 2 tanks to be modernised by 2023.
Armoured combat vehicles	558 (383 Marder, 268 Puma)	
Heavy artillery pieces	162 (121 PzH 2000, 41 MARS I and II)	12 PzH 2000 and 18 MARS I to be modernised by 2021.
Attack helicopters	51 Tiger	
Surface combatants	15 (1 F-122 frigate, 4 F-123, 3 F-124, 2 F-125, 5 K-130 corvettes)	2 new F-125 frigates to be delivered by 2021. 5 new K-130 corvettes to be delivered in 2023-2026.
Submarines	3 (212A)	
Combat aircraft	225 (140 Eurofighter, 85 Tornado)	
Transport aircraft	57 (12 Transall C-160, 32 A400M, 5 A310 MRTT, 2 A340, 2 A319, 4 Global 5000)	Transall C-160 will be replaced by a total of 53 A400M by 2026.
Air defence batteries	16 (14 Patriot, 2 Mantis)	

NB: a. Personnel numbers from January 2020; Bundeswehr, Personalzahlen, **b.** 'Chapter Four: Europe', p. 109, **c.** The numbers reflect the reported total stock of weapon systems in Germany. However, only a part of these systems are at the disposal of the Bundeswehr's units and of the latter only 30–70 per cent are reported to be available for operations. The numbers are based on the latest publicly available report on the material readiness of the major weapon systems of the Bundeswehr, from 2017, or updated information available at the Bundeswehr website. Bundesministerium der Verteidigung, *Bericht zur materiellen*.

the Eurofighter fighter aircraft. The lowest levels of readiness – below 40 per cent – are reported for new weapon systems that experience problems during their introduction, for example the Puma armoured fighting vehicle, the A400-M air transport aircraft, the special operation forces helicopter and the NH90 transport helicopter. The materiel readiness of ageing weapons systems, which require frequent maintenance, such as the maritime patrol aircraft P-3C Orion and the fighter/attack aircraft Tornado, is below 50 per cent. Keeping in mind that the numbers of platforms are lower in the navy and the air force, the lack of spare parts and maintenance capability has a more prominent effect on the operational capability of these services.[35]

The former Parliamentary Commissioner for the Armed Forces, Hans-Peter Bartels, has for several years highlighted the Bundeswehr's problems of materiel readiness. In his latest report, he claimed that the whole system of procurement and maintenance of the Bundeswehr needs to be fundamentally reformed. The centralised structures and processes introduced in the previous period of downsizing are not fit for the purpose. They cannot ensure rapid rearmament and robust maintenance.[36]

9.4 Assessment of military capability

The German Ministry of Defence has started a process of transformation to staff and equip the Bundeswehr for the task of territorial and collective defence. The modernisation is planned to take place in steps towards 2031. The German Army, Navy and Air Force are already taking part in NATO's deterrence and defence measures on the eastern flank

35 Bundesministerium der Verteidigung, 'Neuer Bericht zur Materiellen Einsatzbereitschaft vorgelegt', 5 December 2019.

36 Bartels, *Presentation of the 60th annual report;* and Bartels, Hans-Peter, *Presentation of the 61st annual report of the Parliamentary Commissioner for the Armed Forces,* 28 January 2020.

and in several international operations. In addition, Germany has significant combat service support capabilities and can provide support to allies transiting through Europe. However, persisting personnel and materiel shortages negatively impact the operational readiness of the Bundeswehr.

The German short notice operational capability is comprised of a mix of units already deployed to the Baltics, on standby for NATO and the EU, or placed at high readiness nationally. In the army, during the second half of 2020, the light rapid reaction division has a parachute regiment, including helicopters, at high readiness for the EU Battlegroup. The division is also tasked to maintain a capability to deploy up to 1000 soldiers within three days, most likely made up of one battalion from the air-mobile brigade and one reduced battalion of special operations forces, supported by attack and transport helicopters.

The 1st Division has a reduced mechanised brigade on 30-days' readiness in 2020, as part of the Immediate Follow-On Forces Group of the NRF, while the 10th Division has a reduced mechanised battalion deployed to Lithuania, as part of eFP. Considering that the 10th Division regularly provides rotations to the eFP Battlegroup and is preparing to stand up one full brigade for the VJTF in 2023, it would likely be able to muster two additional mechanised battalions within a week. The access to combat support capabilities and the readiness of the remaining units in the two mechanised divisions is uncertain.

In total, this suggests that 2–3 air-mobile infantry battalions and 3–4 mechanised battalions would be available at their home bases within one week. Since 2017, the Bundeswehr has enhanced its capability to move forces to the Baltics through the regular eFP rotations, and practised the rapid deployment of the VJTF to Norway and Poland. Considering Germany's role as a logistics hub of NATO, the access to combat service support and logistics is judged to be satisfactory, nationally. However, the lack of political willingness to commit to the use of force and the German Parliament's inability to take rapid decisions in a conflict situation may impede a quick mobilisation of forces.

The German Navy regularly takes part in NATO's standing maritime groups and international missions. Taking into account that the overall level of material readiness of Germany's frigates is approximately 70 per cent, but that they are simultaneously engaged in international operations in the Mediterranean, less than half – and in some cases more likely one third – of the total number of ships would be available in one week. This suggests that the German Navy would be able to deploy a maximum of 3–4 frigates, 1–2 corvettes, 4–5 minehunters, 1–2 submarines, 2–3 maritime patrol aircraft (P-3C Orion) and 10–12 maritime helicopters (Sea Lynx and Sea King), including support ships.[37]

The German Air Force undertakes regular rotations of 4–5 fighter aircraft to the Baltics as part of NATO's air policing mission, contributes to NATO's integrated air defence and takes part in international operations. Considering that the level of material readiness varies significantly between different systems, with the highest availability of the Eurofighter and the lowest availability for the A400M and the special operations forces helicopters, less than half – and in some cases more likely one-third – of the total number of aircraft would be available within one week. This suggests that the German Air Force would be able to deploy a maximum of 2–3 fighter squadrons (Eurofighter), 1–2 attack squadrons (Eurofighter and Tornado), half a squadron of reconnaissance aircraft (Tornado), 2–3 air transport squadrons (A400M, Transall C-160, MRTT and various aircraft for personnel transport), half a special operations forces helicopter squadron and 2–3 air defence groups (Patriot and Mantis).[38] Some of these aircraft would likely have to ensure the defence of German airspace.

With longer time for preparations, up to three months, larger parts of the German force structure would be available. The ambition of the modernisation of the German Army is to have three

37 The assessment is based on the average operational readiness of the major weapon systems of the Bundeswehr, in the latest publicly available report, from 2017, or updated information available at the Bundeswehr website; Bundesministerium der Verteidigung, *Bericht zur materiellen Einsatzbereitschaftder Hauptwaffensysteme der Bundeswehr 2017,* 26 February 2018.

38 Ibid.

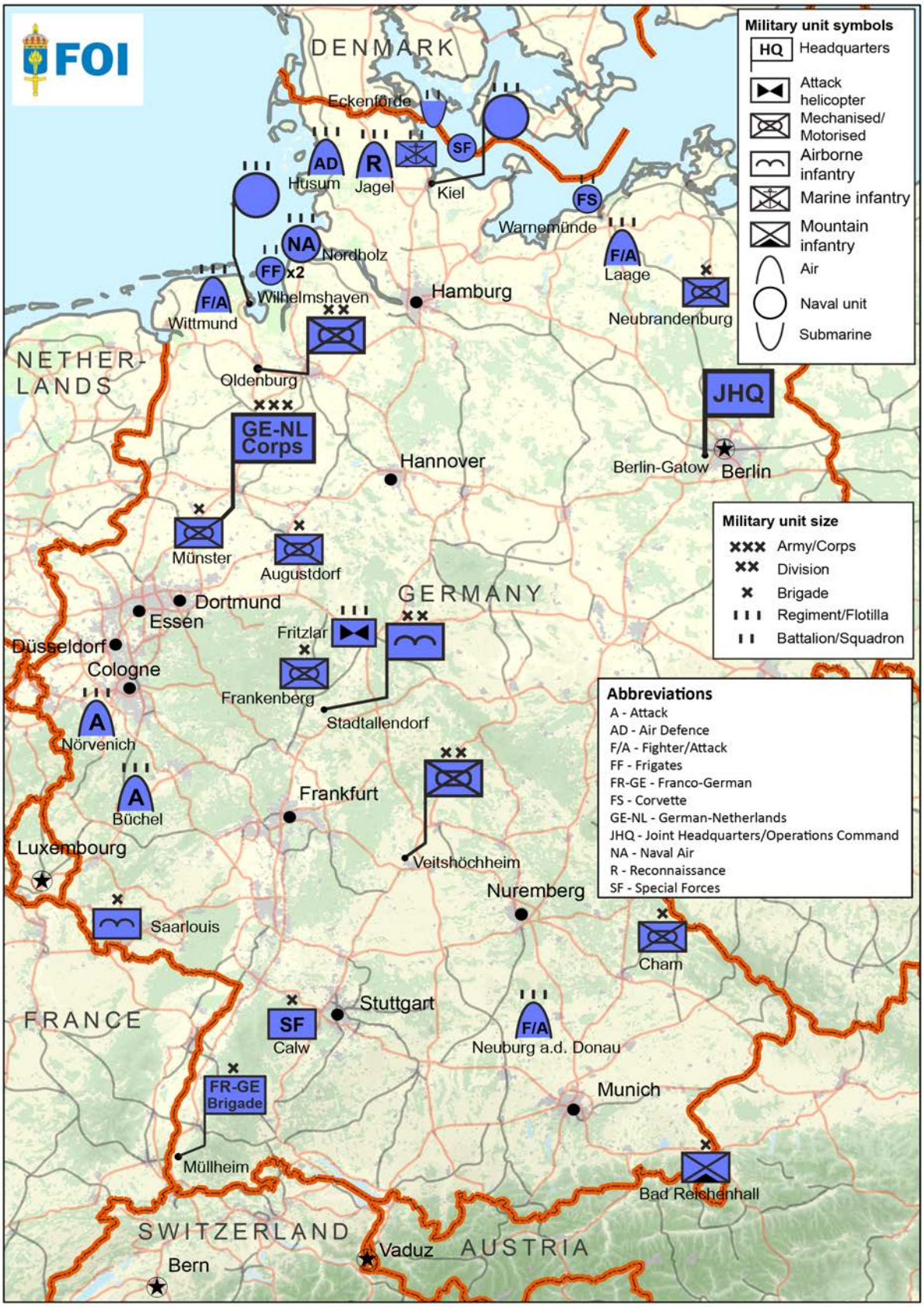
combat-ready armoured divisions within three months by 2031. This suggests that today only parts of the army would be available within three months, perhaps a maximum of two brigades in each division, whereas only one brigade would have full capability. The available capabilities in the navy and the air force would perhaps rise to half of the total number of ships and aircraft in three months. However, many of the personnel and materiel shortcomings would take longer than three months to overcome. In a sustained effort, the available ships and aircraft would furthermore have to rotate and regularly undergo maintenance.

The future development of Germany's military capability depends on how the trend reversals launched by the Ministry of Defence in the areas of finances, personnel, and materiel will progress. The ongoing reforms require a fundamental transformation of mind-set towards the task of territorial and collective defence, including strengthened command and control structures and logistics support. The planned changes in the coming five years include the ambition of having one fully-equipped brigade at high readiness for the VJTF in 2023, setting up one new tank battalion, acquiring five new corvettes, and developing the air-to-ground attack capability of the Eurofighter. The replacement of the Tornado dual-use attack aircraft will most likely take place after 2025. The planned reforms will improve, but not significantly increase, the number of forces available at short notice. Further modernisation efforts are contingent on sustained political and financial support. It is not certain, however, that the parties in the current or future coalition governments will be able to agree on raising the defence budget to 1.5 per cent of GDP by 2024 and to 2 per cent of GDP in 2031.

Table 9.2 Force structure of the German Armed Forces

	Organisation 2020	Planned reforms towards 2025	Assessment of forces available at short notice
Joint	Joint Operations Command Joint Support Service (6 logistics battalions, 1 special engineer regiment, 3 military police regiments, 2 NBC battalions) Joint Medical Command Cyber and Information Domain Service (6 IT battalions, 4 electronic warfare battalions, 1 centre for geo-information)	1 additional logistics battalion from 2020.	
Army	Rapid Response Forces Division (1 air-mobile brigade, 1 special operations forces command, 1 attack helicopter regiment, 2 transport helicopter regiments) 1st Mechanised Division (3 mechanised brigades, 1 armoured battalion (in the Netherlands), 1 artillery battalion, 1 combat engineer battalion, 1 telecommunications battalion) 10th Mechanised Division (2 mechanised brigades, 1 mountain infantry brigade, 2 infantry battalions (in the French-German Brigade), 3 artillery battalions)	1 additional armoured battalion from 2021.	1 air-mobile battalion on stand-by for EU Battlegroups in the second half of 2020. 1.5 air-mobile battalion and special operations forces at high readiness Up to 1 attack helicopter battalion 1–2 mechanised battalions on 30-days' readiness for NRF. Half a mechanised battalion deployed to eFP in Lithuania. 2 mechanised battalions on 30 days readiness or higher.
Navy	1st Flotilla (1 corvette squadron, 1 mine counter measures squadron, 1 submarine squadron, 1 special operations forces command, 1 marine infantry battalion, 1 support squadron) 2nd flotilla (2 frigate squadrons, 1 support squadron) Maritime Aircraft Command (1 maritime patrol squadron, 1 maritime helicopter squadron)	1 additional corvette squadron from 2026.	1–2 corvettes 4–5 minehunters 1–2 submarines 3–4 frigates 2–3 maritime patrol aircraft 10–12 maritime helicopters
Air Force	Air Operations Center Air Force Command[a] 3 fighter air wings 2 attack air wings 1 reconnaissance wing 3 air transport wings 1 tanker transport unit 1 special operation forces, helicopter squadron 1 air defence wing 1 air defence group (in the Netherlands)	Developing the capability of Eurofighter to conduct air-to-ground attacks.	2–3 fighter squadrons 1–2 attack squadrons Half a reconnaissance squadron 2–3 air transport squadrons 1–2 tanker aircraft Half a helicopter squadron 1–2 air defence groups

NB: a. Each of the air wings consists of several squadrons. The number of aircraft in each squadron varies between the type of aircraft. In the case of Germany, the fighter, attack and reconnaissance wings contain the equivalent of two squadrons of 15–20 aircraft each. The air transport wings consist of the equivalent of 1–3 squadrons of 8–12 aircraft each.



Map 9.1 Overview of German armed forces and their basing

NB: Design by Per Wikström. The map covers mainly operational headquarters and manoeuvre forces.

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10. France

Anna Sundberg

France is a major European military power that possesses nuclear weapons and holds a permanent seat on the UN Security Council. The country views its military power as an important instrument for exerting influence and has a military presence around the world, through permanent bases and various operations. However, attempting to maintain a global role has become increasingly difficult in times of budget deficits and defence budget cuts. Furthermore, France sees Islamic terrorism, rather than deterrence and defence in Northern Europe, as its most pressing priority.

10.1 Security and defence policy

In 2017, newly elected President Emmanuel Macron initiated a strategic defence and security review.[1] It updated the more extensive security and defence White Paper of 2013 and covered threats and challenges, main priorities, and the role and tasks of the armed forces.[2] The review was also an important input to the long-term defence plan and to the annual defence budget. The current long-term defence plan was adopted in the summer of 2018 and covers the period 2019–2025.[3] It entails strengthened defence efforts, the largest budget increase since the end of the Cold War and continued support for military operations.

The strategic defence and security review paints a grim picture of the security situation in France and abroad. The numerous terror attacks are highlighted in particular. A direct link is made between security in France and developments in two regions: the Middle East and the Sahara-Sahel, in Africa.

When it comes to priorities, Macron pursues a traditional French security and defence policy. The policy towards Russia is based on three parallel tracks: firstly, the need for an open dialogue, both bilaterally and in multilateral structures; secondly, continued EU sanctions and European cohesion; and thirdly, support to NATO reassurance measures. The recent attempts to reset relations with Russia have nevertheless been perceived as a shift, reflected in both words and action. According to some readings, France is softening its stance towards Russia, giving in to internal pressure, and for the sake of national economic and political interests. Illustrative examples are high-level meetings between the Russian president, Vladimir Putin, and Macron, the resumption of bilateral talks between the foreign and defence ministers, and French declarations on a European security architecture including Russia.[4]

President Macron has furthermore emphasised the European dimension in security and defence and often linked it to strategic autonomy and military capability. The traditional French message that Europe must take more responsibility for its security is motivated by the perception of an increasingly unpredictable US that Europe cannot rely on. Furthermore, Macron has questioned NATO's political relevance in extremely stark terms, referring to NATO as "brain-dead" and doubting the reliability of Article 5. According to the French view, a strong European pillar within NATO is fundamental. At the same time, France continues to perceive the US as an important ally

1 Ministère des Armées, *Defence and National Strategic Review 2017*, DICoD, Bureau des éditions, 2017.

2 *Le Livre blanc sur la défense et la sécurité nationale 2013*, Paris: Direction de l'information légale et administrative, 2013.

3 Ministère des Armées, *La Loi de programmation militaire 2019–2025*, 2018.

4 Philippe-Vieal, Olivier, 'Pourquoi la France change de stratégie avec la Russie', *L'Express,* 10 September 2019; *France Info*, 'Pourquoi France et Russie cherchent-elles à réchauffer leurs relations?', 9 September 2019; Thom, Francoise, 'France-Russie: les liasons dangereuses?', *Diploweb,* 15 February 2020.

of last resort and a strategic partner. NATO is still considered a key component of European security.[5]

According to current strategic documents, the French Armed Forces have three fundamental tasks: to provide nuclear deterrence, ensure defence and protection of national territory and interests, and undertake international operations. The security and defence policy is furthermore implemented through five so-called strategic functions – deterrence; protection; knowledge and anticipation; intervention; and prevention – each of which represents a method to achieve stated goals. The latest long-term defence plan particularly stresses the need to strengthen intelligence capabilities, enhance the capability to prevent international crises, and increase the presence in new domains of strategic competition, such as cyber defence. In order to uphold its special status as a leading European military power, France wants to maintain the level of ambition in all areas, including defence industry, military capability development, and operational capabilities. This means that France also prioritises its national defence industry to develop the most exclusive capabilities, such as aircraft carriers and nuclear weapons, in order to aim for a full-spectrum force.

10.2 Military expenditures

In the period 2010–2015/16, French military expenditures were relatively stable, at a level averaging USD 44 billion.[6] However, due to economic growth, the expenditures share of GDP gradually declined, from 2 per cent in 2009–2010 to 1.8 per cent in 2017. As a result of the internal security problems and a deteriorating situation in the Sahara-Sahel area, mentioned above, as well as the Russian aggression against Ukraine, French military expenditures have increased since 2015/16, to USD 48.8 billion in 2020.

According to the long-term defence plan, France aims to meet its NATO pledge to spend 2 per cent of GDP on defence.[7] Incidentally, with the economic decline caused by the coronavirus pandemic in 2020, France will temporarily be allocating more than 2 per cent of its GDP to defence during this year. The projections in the graph also show that the expected economic recovery will in 2021 reduce the share, after which a return to the previously planned increase will take place. Military spending will then increase at an annual average rate around 2.2 per cent in the years 2020–2025, or at a pace similar to that in 2016–2020, and amount to approximately USD 54.4 billion in 2025.

France has for some years already reached NATO's second goal of spending at least 20 per cent of its defence budget on equipment, with 26.5 per cent in 2020. In the long-term defence plan, a total of EUR 112.5 billion will be allocated to equipment for the period 2019–2023. For the latter period, 2023–2025, EUR 25 billion will be allocated to the renewal of the naval and airborne nuclear component. This constitutes a considerable defence burden that may affect other investments. At least 36 per cent of defence equipment projects are to be carried out in cooperation with European partners.[8]

10.3 Armed forces

The French Armed Forces have approximately 206,000 soldiers. This includes 9,000 soldiers of the Foreign Legion, spread over a dozen regiments, and 4,000 soldiers in the country's strategic nuclear forces, of which half are in the Navy and half in the Air Force. The operational reserve of the armed forces is made up of 38,500 soldiers, organised in the National Guard. In

5 Sundberg, Anna, *Frankrikes säkerhetspolitik och militära förmåga,* FOI Memo 6605 (Stockholm: Swedish defence Research Agency – FOI, 2018); and *Economist*, 'Emmanuel Macron warns Europe: NATO is becoming brain-dead', 7 November 2019; *Economist,* 'Emmanuel Macron in his own words', transcript in English, 7 November 2019.

6 The NATO definition stipulates that paramilitary forces should be included in military expenditures. Spending for the paramilitary Gendarmerie was therefore included in NATO statistics up to 2008, when it was decided that such spending should henceforth be excluded in the figures that NATO reports for France. This made the French military expenditures drop significantly in 2009.

7 Ministère des Armées, 'La Loi de programmation militaire 2019–2025 en 5 minutes', 2018; Maulny, Jean-Pierre, and Colomina, Pierre, 'Une loi de programmation militaire 2019–2025 aux objectifs contradictoires' (Paris: Institut de relations internationales et strategiques – IRIS), 2018; International Institute of Strategic Studies, *The military balance 2018*, (London: Routledge, 2018).

8 Ministère des Armées, 'La Loi de programmation militaire 2019–2025 en 5 minutes'; Baichère, Didier, 'Loi de programmation militaire #LPM: priorité aux soldats et à innovation', 8 February 2018.

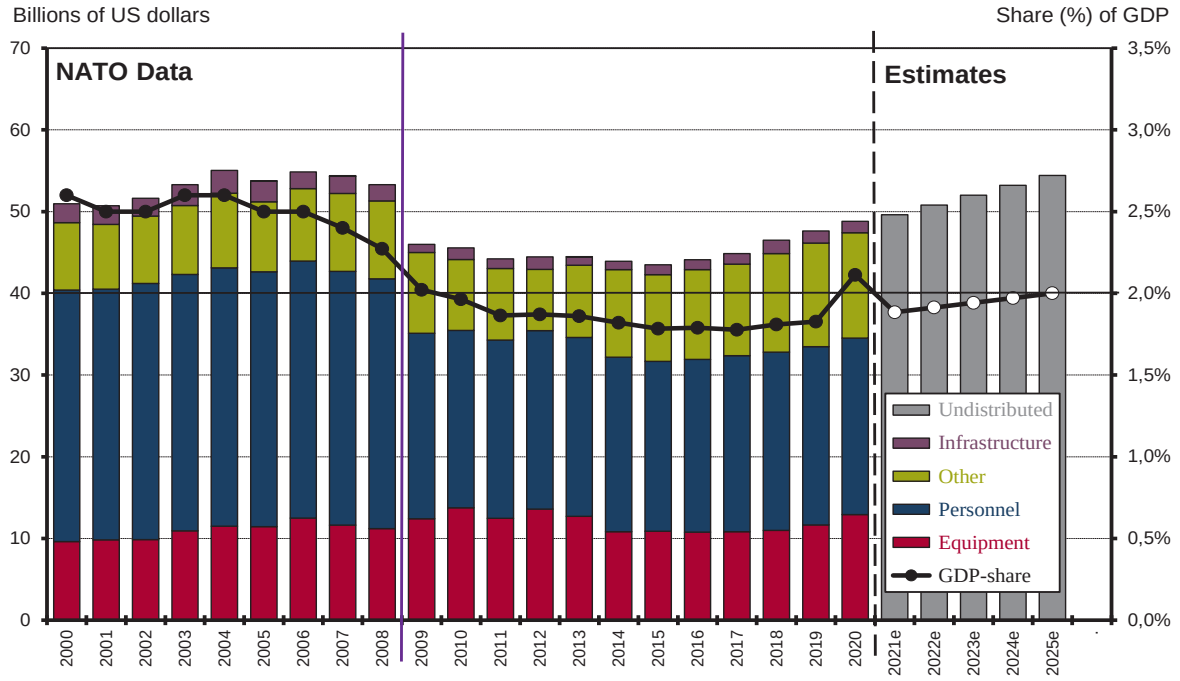


Figure 10.1 The military expenditures of France 2000–2025: Billions of US dollars/2015 prices (columns) and as share (%) of GDP (curved line)

Source: Bergstrand, Bengt-Göran, *NATO military expenditures,* Working Document (Stockholm: Swedish Defence Research Agency – FOI), October 2020.

NB: From 2009, data include only the deployable part of the Gendarmerie. Estimates based on budget data for 2021 on the assumption that France will spend 2.0% of GDP on defence in 2025.

addition, France has paramilitary forces, mainly in the national Gendarmerie, but also in the customs and coast guard, amounting to more than 100,000 active personnel, and 30–40,000 reserves.[9]

The national security operation Sentinelle, launched in January 2015 to address the pressing terrorist threat, has an authorised strength of 10,000 soldiers. In 2019, it was reduced to about 3,500 soldiers continuously deployed in the country, with about 3,500 additional soldiers on high readiness (48 hours), and another 3,000 in the strategic reserve.[10] According to French official sources, a total of 13,000 soldiers are on operational duty in France. In addition to the forces rotating in Operation Sentinelle, this includes the coast guard, air surveillance and special forces.[11]

French units are also found in other parts of the world. Firstly, France has five permanent bases abroad, four in Africa and one in the Middle East, employing a total of 3,700 soldiers. Secondly, France holds a total of 7,100 soldiers in five French territories outside of Europe. Finally, France takes part in various overseas operations, with a total of 6,500 soldiers.[12] France's rather small participation in NATO's assurance and deterrence measures on the eastern flank is regarded as a contribution to security, an opportunity to strengthen interoperability, and an expression of solidarity.[13]

9 International Institute of Strategic Studies, *The military balance 2020,* (London: Routledge, 2020) p. 104; Ministère des Armées, *Defence key figures 2019 Edition,* 2019.

10 Ministère des Armées, 'Opération Sentinelle', 2020.

11 Ministère des Armées, *Defence key figures 2019,* p. 24.

12 Ibid.

13 Permanent Representation of France in NATO, 'French troops deployed in Estonia within the framework of the enhanced Forward Presence (eFP) - April 2019', 12 August 2019; Ministère des Armées, 'France and the security challenges in the Baltic Sea region', «Your security is our security», Florence Parly, Minister for the Armed Forces, Helsinki, 23 August 2018.

Army

The total number of active soldiers in the Army amounts to 114,000.[14] The Army's peacetime organisation consists of approximately eighty regiments of varying size. The combat units of the French Army are organised in two manoeuvre divisions, the 1st division with headquarters in Besancon and the 3rd division with headquarters in Marseille, with approximately 25,000 soldiers each.[15]

The 1st division consists of four brigades; one mechanised, one marine infantry, one mountain infantry and the Franco-German infantry brigade, supported by one artillery, one engineer and one military working dog infantry regiment.[16] The major units of the 3rd division are two mechanised and one air mobile brigade supported by one artillery, one engineer and one CBRN-defence regiment.[17] In addition, the Army has some forty regiments, including combat support and training units organised under different commands (so-called commandements divisionaires). The units are spread across the country, at French bases abroad and on French territory outside of Europe.[18]

Since the start of Operation Sentinelle, in 2015, the Army has constantly been on very high readiness. In addition, the Army has air-mobile troops and special operations forces on standby for national and international purposes. The French Army also contributes to NATO's enhanced Forward Presence (eFP). The operation, called Mission Lynx, consists of a rotating mechanised company, totalling 300–400 soldiers. The French forces are based alternatively in Tapa, Estonia, and in Rukla, Lithuania. The materiel placed in the Baltic states comprises 4 Leclerc tanks, 14 armoured combat vehicles (VBCI) and 5 armoured personnel carriers.[19]

On paper, the Army has a broad capacity, for both international crisis management and national and collective defence. Its rapid reaction capability is attributed, among other things, to its presence on France's bases abroad and operational experience. The Army has approximately 220 Leclerc battle tanks, 4,800 armoured vehicles and 109 self-propelled artillery pieces (CAESAR and AU-F-1). However, the materiel and personnel in the army have been under severe strain in recent years due to the many and enduring operations. There are reports of worn equipment, exhausted staff and insufficient time for recovery, training and exercise. The scope for taking on new operations is considered to be limited.[20]

The French Army is preparing for future high-intensity conflicts against a peer competitor in Europe's neighbourhood at the same time as it continues to face low-intensity conflicts and a range of other adversaries in its international operations, for example in Mali. As a consequence, the army must strengthen its artillery, interoperability, air defence and command structure. This will most likely be a challenge, since manning levels are likely to be low, particularly in the heavy units that have not been in high demand in recent years. In 2023, the army plans to conduct an exercise at division level, comprising approximately 15,000–20,000 soldiers.[21] The long-term defence plan calls for the renewal of the Army's materiel, including equipment related to the soldiers' personal protection and safety, but also small-calibre ammunition and communication equipment. The defence plan further includes the purchase of more than 1,700 Jaguar and Griffon armoured vehicles, half of which are to be delivered by 2025.[22] France and Germany have agreed to proceed with the joint development of the next generation of tanks, replacing, in the case of France, the current Leclerc tanks, in service since the early '90s. However, the new tanks will only be ready for use from 2030.[23]

14 Ministère des Armées, *Defence key figures 2019*.

15 Ministère des Armées, 'Armée de terre'.

16 Ministère des Armées, 'L'Armée de terre, 1re division'.

17 Ministère des Armées, 'L'Armée de terre, 3e division'.

18 Ministère des Armées, 'L'Armée de terre, le niveau divisionaire'.

19 Ministère des Armées, 'Opérations, Mission Lynx'; Permanent Representation of France in NATO, 'French troops deployed in Estonia'; Sundberg, *Frankrikes säkerhetspolitik,* p. 25–28; Ministère des Armées, 'Dossier de presse: Mission Opérationnelle Lynx', May 2019.

20 Sundberg, *Frankrikes säkerhetspolitik*, p. 17–18.

21 Guibert, Nathalie, 'L'armée de terre française envisage de futurs affrontements «Etat contre etat»', *Le Monde,* 17 June 2020.

22 Mackenzie, Christina. 'French forces to get new batch of Jaguar, Griffon armored vehicles', *Defense News*, 23 September 2020.

23 Sprenger, Sebastian. 'France, Germany kick off race "for quantum leaps" in aircraft and tank tech', *Defense News,* 19 June 2018.

Navy

The Navy is comprised of approximately 35,000 sailors, 6,500 airmen in the Naval Aviation, and 2,000 Marines. The Navy's home ports are three major naval bases.[24]

France's largest naval base, in Toulon, on the Mediterranean coast, hosts approximately 70 per cent of the French fleet. Toulon is the home port of the Charles de Gaulle, France's aircraft carrier; its helicopter carriers (Mistral-class); more than half of France's destroyers and frigates; the attack submarines; several medium and smaller surface combat vessels; and a part of the naval commando soldiers, i.e. the Marines.[25]

France's second naval base is located in Brest, on the Atlantic coast. Brest is home port for frigates tasked with protecting the strategic submarines and the bulk of the mine clearance fleet. Brest also holds a command centre responsible for overseeing all operational aspects of the strategic naval force. The Navy's four nuclear ballistic missile submarines are based in L'Ile Longue, near Brest.[26]

The third naval base is Cherbourg, on the northern coast; it is the home port of a flotilla of patrol boats and a unit of mine-clearance divers, with support vessels. The navy runs the coast guard and has units on constant alert for this type of mission.

The navy also has four naval air bases with a total of 15 maritime air squadrons (flotilles).[27] The French Marines are distributed in ten locations in France, with a focus on the protection of other naval forces and maritime special operations. The main base of the force is in L'orient, on the Atlantic coast.

The French Navy has one aircraft carrier with on-board fighter jets, and three helicopter carriers. With regard to other surface combat vessels, the figures vary slightly, but the navy has approximately 11 destroyers and 11 frigates. In addition, France has 9 submarines, including 4 nuclear missile submarines (SSBN) and 5 nuclear-powered attack submarines (SSN). The naval aviation has 42 Rafale Marine fighter jets, 3 Hawkeye aircraft for combat command, and 22 Atlantique 2 maritime surveillance aircraft, as well as 22 NH 90/Caïman and 14 Lynx helicopters. The North Atlantic is attracting increasing interest in the light of Russian activities and the navy has stressed the need for regular naval presence. The Navy's nuclear missile submarines are already patrolling the area.[28]

The aim of the ongoing Navy reform programme, Horizon Marine 2025, is to renew the bulk of the materiel. In particular, the lack of frigates limits the ability to act, so that the plans include a modernisation of existing frigates and the acquisition of 3 new multi-role destroyers (FREMM). There is also a need to replace the dated patrol boat fleet. A process is to be initiated to replace the country's aircraft carrier within 20 years and, as part of the current long-term defence plan, four new attack submarines will be acquired.[29] There is also an urgent need for transport ships and tankers. Two new ships of this kind will be operational by 2025; two more are expected in 2030. Moreover, France needs to rely on civilian light helicopters to replace helicopters that have reached the end of their expected lifespan.[30]

Air Force

The French Air Force consists of about 40,500 airmen and operates 25 air bases around France. The air force is also present in Djibouti, in French territories outside of Europe, and in several international operations.[31]

The figures vary slightly from one source to another, but the Air Force fighter fleet is estimated at 220 aircraft, half of which are Rafale multirole aircraft, often described as the backbone of air defence, and half are the older Mirage 2000 aircraft. France currently has approximately 80 transport aircraft of

24 Ministère des Armées. 'Marine nationale'.

25 Cols bleus, Marine nationale. 'Dossier d'information marine', September 2016; Ministère des Armées, 'Marine nationale'.

26 Kristensen, Hans. M. and Korda, Matt, 'French nuclear forces', *Bulletin of the Atomic Scientists*, 75:1, 2019: p. 51–55.

27 Ministère des Armées, 'Marine nationale. Bases d'aéronautique navale'.

28 Ministère des Armées, 'Marine nationale 2016', p. 7. Ministère des Armées 'Marine nationale'.

29 Ministère des Armées, 'La LPM 2019–2025: le deuxième porte-avions n'est pas pour demain', 9 February 2018; Tran, Pierre, 'Macron signs French military budget into law. Here's what the armed forces are getting', *Defense news,* 16 July 2018.

30 Le Télégramme. 'Armées. De bonnes nouvelles pour la Marine', 9 February 2018.

31 Ministère des Armées, 'Armée de l'Air'.

various types.[32] The air force regularly contributes to the Baltic Air Policing (BAP) mission; in 2018, French fighter jets were based for the first time at Ämari air base, in Estonia.[33]

There are many reports of deficiencies in the French Air Force. Air refuelling capacity is a particular concern, but the need for more modern transport aircraft and fighter jets is also stressed. As regards air refuelling capacity, France plans to replace the 50-year-old aircraft (14 C-135FR and KC-135 Stratotankers) with new multirole aircraft (A-330 MRTT/Phénix), with one to be delivered in 2020. The original plan for 12 new planes has increased to 15, of which the extra three will be delivered in 2025–2030.[34] The new A-330 MRTT multirole aircraft will also strengthen the strategic airlift capability. Furthermore, the smaller transport aircraft, Transall C-160, which has been in service since the 1960s, is supposed to be replaced by 25 A400M aircraft by 2025. By 2019, 16 of these aircraft had been delivered and two more are expected in 2020.[35]

In addition to the joint development of the next-generation battle tank, France and Germany have agreed to develop a next-generation air combat system (Système de Combat Aérien du Futur, SCAF), by 2040. In the case of France, this programme intends to replace the Rafale fighter jets, but possibly also the Mirage 2000.[36] Under the current long-term defence plan, 28 new Rafale aircraft will be acquired and 55 Mirage 2000 aircraft will be upgraded by 2025.[37]

The air force has suffered from particularly low operational readiness of both aircraft and helicopters. According to several sources, less than half of the aircraft are fully operational and the situation has continued to worsen. In particular, the introduction of the A400M is experiencing problems. Moreover, the costs of maintenance and logistics have risen and a simplified maintenance process has been proposed to solve the problem.[38]

Personnel and materiel

France ended conscription in 1996. For several years, staff reductions and other rationalisations were carried out. Following the November 2015 terrorist attacks, the planned staff reductions were suspended. Instead, recruitment began, in particular in cyber defence and intelligence. The current long-term defence plan aims at an increase of 6,000 posts by 2025.[39]

For the French Armed Forces, the many and enduring operations have in recent years led to increasingly worn materiel. Therefore, the current long-term defence plan prioritises the renewal and replacement of equipment. Increased resources are allocated to maintenance at the same time as maintenance procedures are being reformed in order to match the high operational needs.

The materiel for the armed forces has traditionally been acquired nationally. France maintains a significant national defence industry, encompassing global defence companies and a large number of small and medium enterprises. France regards the defence industry as a strategic resource underpinning

32 Ministère des Armées, *Defence Key Figures 2019 Edition*' p. 27.

33 Ministère des Armées, 'Opérations, OTAN, Police du ciel'; Ambassade de France en Estonie, 'Enhanced Air Policing 2018: fin de mandat pour le détachement français'.

34 Tran, 'Macron signs'; Ministère des Armées, 'Projet de Loi de Finances, p. 22–23.

35 Tran, Pierre, 'France meets A400M milestone early', 22 March 2018; Ministère des Armées. 'Projet de Loi de Finances'; Ministère des Armées, '16e A400M: premier aéronef capable de larguer 16 tonnes de matériel en une seule fois'.

36 Sprenger, Sebastian. 'France, Germany kick'.

37 Tran, Pierre. 'Macron signs'.

38 Sources indicate that only one Caracal helicopter out of four, and one to two A400M aircraft out of a total of 15, are available. In the case of Rafale fighter jets, availability is around 49 per cent, and even less for other aircraft: 22 per cent of the C-130 transport aircraft, 25 per cent of the Tiger attack helicopters and 26 per cent of the Lynx helicopters; see Mulholland, Rory, 'Ground force: Half of France's military planes "unfit to fly"', *The Telegraph*, 16 December 2017; Ministère des Armées, 'Discours de Florence Parly, minister des Armées, sur le plan de modernisation du maintien en condition opérationnelle (MCO) aéronautique', 11 December 2017.

39 Sundberg, Anna, 'France – Between north and south, and everywhere', in Eellend, Johan, Rossbach Niklas H. and Sundberg, Anna, *The Russian wake-up call to Europe: French, German and British security priorities,* FOI-R--427--SE (Stockholm: Swedish Defence Research Agency – FOI, 2016), p. 48; Ministère des Armées. 'Projet de Loi Actualisation de la Programmation Militaire 2014/2019 – Dossier thématique', 2014; Ministére des Armées. 'La Loi de programmation militaire 2019–2025 en 5 minutes'.

Table 10.1 Personnel and materiel in the French Armed Forces

Personnel/Materiel	Numbers in 2020	Planned reforms towards 2025
Personnel		
Regular force	206,000	+ 6,000
Reserves[a]	38,500	
Paramilitary forces	100,000 (reserves: 30,000)	
Materiel		
Tanks	220 (Leclerc)	
Armoured combat vehicles	625 (VBCI)	
Heavy artillery pieces	145 (77 155 mm self-propelled canon, CAESAR, 32 AU-F-1, 12 155 mm towed artillery TR-F-1, 13 M270 MLRS)	
Attack helicopters	66 (Tiger)	
Surface combatants	26 (1 aircraft carrier, 3 amphibious assault ships, 11 destroyers, 11 frigates)	3 new destroyers (FREMM) by 2022 and update of existing frigates
Submarines	9 (4 SSBN , 5 SSN)	
Combat aircraft	220 (Rafale, Mirage 2000)	28 new Rafale aircraft and 55 upgraded Mirage 2000 aircraft by 2025
Transport aircraft	80 (mainly CN235, C130 Hercules, C160R Transall, A400M Atlas), 16 tanker aircraft (C135FR, KC135 and A330 MRTT Phénix)	

NB: a. Ministère des Armées, 'La Garde Nationale'.

national strategic autonomy. It is also a means to strengthen the country's international standing through arms exports. That said, the current long-term defence plan calls for enhanced European cooperation in the industrial development of new materiel, for example regarding UAVs, maritime patrol vessels, mine-countermeasures vessels and the already-mentioned cooperation with Germany regarding the next-generation tanks and air combat systems.[40]

10.4 Assessment of military capability

France has comparatively large armed forces, located both in France and across the world. France has distinguished itself from other European countries in recent years by having a large number of forces on high alert both nationally and in international operations, often in harsh conditions. In addition, France has important strategic resources, such as an aircraft carrier and nuclear weapons. However, demanding commitments coupled with budget restraints have stretched the armed forces. Furthermore, there are shortcomings in terms of both quality and operational readiness, while the room for manoeuvre in Northern Europe is limited by France's focus on security challenges in the south.

As far as NATO's ongoing efforts on the eastern flank are concerned, a continued, but limited, French involvement can be expected on the ground, in the air, and at sea. France has a mechanised company of 300-400 ground troops in the Baltic states as part of eFP. They would most likely be ready within a few days in a crisis situation. In addition, France has maritime components patrolling the North Atlantic and from time to time fighter jets within the Baltic air policing mission.

There is no indication of any plans to expand the French presence on the eastern flank. However,

40 Sundberg, *Frankrikes säkerhetspolitik*, p. 23–24.

a deteriorating security situation in the Baltic Sea region would almost certainly mean that resources would be distributed differently and that France, as an EU and NATO member, would increase its presence. Solidarity is a key concept for France and, in addition to NATO's Article 5 and collective defence, France has pushed for the operational use of Article 42.7 in the EU treaty on mutual assistance in case of an armed attack. In the event of a deteriorating security situation, it would be difficult for France to back away, given the stated French ambition that Europe should take more responsibility for security and defence. Moreover, by contributing to the security of Northern Europe, France can demonstrate that, regardless of geography, European security is the responsibility of the whole of Europe.

Apart from the forces abroad, the ground forces have 1.5 air mobile battalion and the equivalent of a battalion of special operations units placed at high readiness. In addition, there are 5 mechanised battalions at 30 days readiness or higher. Of the mechanised battalions, 2–3 would likely be available within a week. In addition, up to one battalion of mountain infantry and one battalion of marine infantry may be available. Considering the problems reported when it comes to maintenance and operational readiness of materiel, the navy and air force would likely have one-third of the units ready within a week. This means that the French Navy would be able to mobilise 1 helicopter carrier, 3–4 destroyers, 3–4 frigates, 1–2 attack submarines (SSN), 2 naval air squadrons, and 4–5 Marine units. The French Air Force would likely have 3–4 fighter squadrons, up to 1 tanker squadron, 2 air transport squadrons, and 1 helicopter squadron ready within a week. Furthermore, as France attaches great importance to its nuclear deterrent, 1–2 nuclear missile submarines (SSBN) and one squadron of airborne nuclear fighters would most likely be able to conduct deterrence operations at short notice.[41]

A limiting factor for France's ability to act, however, is that the French armed forces continue to be away on and burdened by other operations. Furthermore, France has strategic interests in other parts of the world and may choose to prioritise its involvement elsewhere. Strategic capability deficiencies, such as air refuelling, are another limiting factor that already have an impact on international operations. In connection with Mission Lynx – the French contribution to eFP – strategic movement has been identified as a challenge. The difficulties have mainly consisted of formalities at border crossings, which are considered to be temporary. The strategic movement capacity in Europe is otherwise claimed to be good in the army, supported by military heavy transport trucks and railway wagons.[42]

The French armed forces have extensive experience of rapid intervention and operations in war-like conditions. France also has a proven ability to support its forces in action. However, most of the operations have taken place in an operational context that in many ways is different from that of Northern Europe, with smaller and lighter formations, and where France's well-established network of permanent bases, available logistics and local knowledge are important cornerstones of its capability. The army has consequently started a process to regain the capability for inter-state combat in Europe's neighbourhood.

Another aspect to consider is the level of endurance. Although France is capable of quick, high-intensity operations, the French forces in longer operations will have to depend on the cooperation and support of other countries. In ongoing international operations, France is dependent on assistance, for example, in air refuelling and tactical transport. Furthermore, the aircraft carrier Charles de Gaulle needs both frigates and submarines as a protective shield, which is often provided by foreign countries.

Looking at the future development of the French military capability, there has been a positive trend, in terms of higher defence spending, since 2015, which according to the current long-term defence plan will continue until at least 2025, when France is to meet NATO's goal of spending 2 per cent of GDP on defence. Whether France will

41 On France and the nuclear deterrent, see Hautecouverture, Benjamin and Maitre, Emanuelle, *La France et la dissuasion nucléaire: le discours de l'Ecole de Guerre du president Macron,* Note numéro 03/20 (Paris: Fondation pour la Recherche Stratégique, 11 February 2020); Elysée. 'Discours du Président Emmanuel Macron sur la stratégie de defense et de dissuasion'. 7 February 2020.

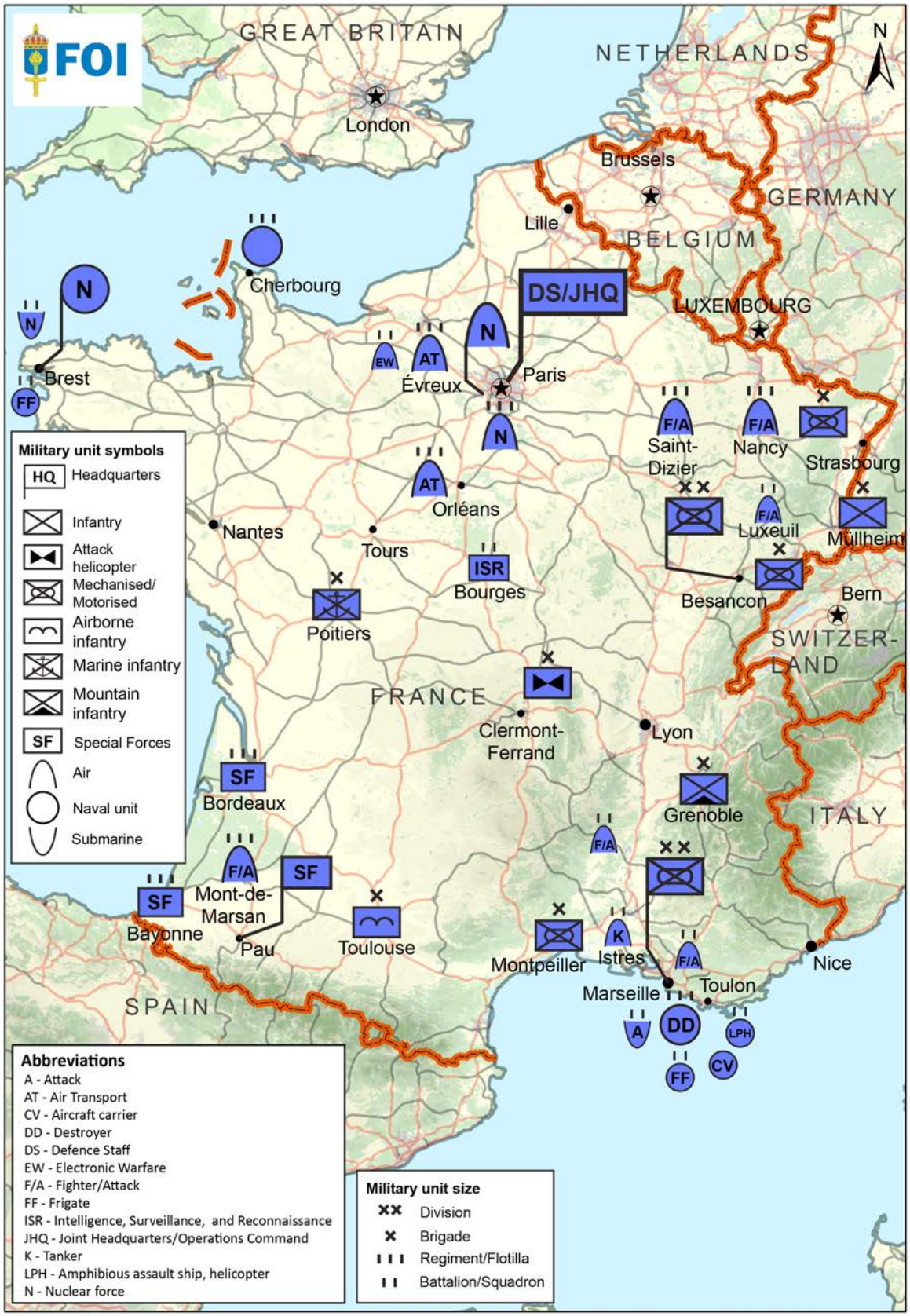
42 Sundberg, *Frankrikes säkerhetspolitik,* p 25–26; Ministère des Armées, 'Lynx 6: Un désangeagment réussi'.

reach this target in 2025 and be able to finance the planned equipment projects is still too early to say. Macroeconomic developments, the outcome of the 2022 presidential election and military strategic developments will influence the outcome. It is also clear that France is postponing major investments until the next president.

The land forces have been most affected by the tough pace of action and for the coming years the focus is on renewing their personal basic equipment, but also more than 1,700 armoured vehicles are to be purchased for the army. As far as the navy is concerned, the aim is to renew the bulk of the materiel, including through the modernisation of existing destroyers and frigates and the acquisition of new frigates and patrol vessels. As concerns the air force, the intention is to gradually replace both the air refuelling and transport aircraft. The Minister of Defence has also taken steps to increase the availability of French fighter aircraft, including througha simplified maintenance process. Although support for nuclear weapons is deeply entrenched in France and strongly associated with the notion of strategic autonomy, a domestic political debate is to be expected when they need to be modernised. The investment in conventional weapons could be set against future investment in nuclear weapons. France may also have to review its operational commitments in order to achieve a better balance between funds and ambition. It will take time for the cooperation initiatives, launched with among others Germany, to have an impact on the military capability.

Table 10.2 Force structure of the French Armed Forces

	Organisation 2020	Planned reforms towards 2025	Assessment of forces available at short notice
Joint	Strategic Nuclear Forces - Naval Strategic Forces Command (4 nuclear-powered ballistic missile submarines) - Air Strategic Forces Command (2 striker squadrons) Space Command (7 communication satellites) Cyber Defence Command Special Operations Forces Command (army, navy and air force special forces units)		 1–2 nuclear missile submarines 1 strategic striker squadron (Airborne nuclear component) 3–6 special forces companies
Army	1 st mechanised division (1 mountain infantry brigade, 1 marine infantry brigade, 1 mechanised brigade, 1 infantry brigade (French/ German Brigade), 1 artillery regiment, 1 engineer regiment, 1 military working dog infantry regiment) 3rd mechanised division (1 airborne brigade, 2 mechanised brigades, 1 artillery regiment, 1 engineer regiment, 1 CBRN-defence regiment) Light Aviation Command (1 air-combat brigade)	A total of 1,700 new armoured vehicles, half of which to be delivered before 2025	1 mechanised company deployed to eFP 2–3 mechanised battalions Up to 1 mountain infantry battalion Up to 1 marine infantry battalion 1.5 air combat battalions at high readiness nationally
Navy	3 naval bases (1 aircraft carrier, 3 helicopter carriers, 11 destroyers 11 frigates, 22 patrol and coastal combatants, 17 mine warfare/countermeasures, 5 attack submarines) 4 naval aviation bases (3 fighter squadrons, 1 anti-surface warfare squadron, 3 anti-submarine warfare squadrons, 4 maritime patrol squadrons, 1 airborne early warning/control squadron) Marines (14 manoeuvre units, 1 combat support unit, 1 combat service support unit)		1/3 of the available units or less: - 1 helicopter carrier - 3–4 destroyers - 3–4 frigates - 1–2 attack submarines - 1 air fighter squadron - 4–5 units of Marines
Air Force	Air Defence and Air Operations Command 9 fighter squadrons (Mirage 2000, Rafale) 2 strike squadrons (Rafale) 2 tanker squadrons (A330 MRTT, C-135FR) 7 air transport squadrons (A400M, Hercules C-130, Transall C-160, A310, A340) 4 helicopter transport squadrons 1 airborne early warning and control squadron 1 electronic warfare squadron 1 air defence squadron		1/3 of the available units or less: - 3–4 fighter/striker squadrons - 0.5–1 tanker squadron - 2 transport squadrons - 1 helicopter transport squadron



Map 10.1 Overview of French armed forces and their basing

NB: Design by Per Wikström. The map covers mainly operational headquarters and manoeuvre forces.

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11.The United Kingdom

Albin Aronsson

The United Kingdom remains a potent military power in Europe, and inter-state military conflict is recognised as a top threat.[1] The latest security and defence reviews have emphasised gearing the UK's armed forces towards great power competition, with Russia considered as the most immediate military concern. Compared to the Cold War, Britain's armed forces are much diminished, and under significant budget pressure, but the country retains a wide range of high-end capabilities that would become available in a conflict in Northern Europe.

11.1 Security and defence policy

The UK has endured political instability in recent years, but since the clear 2019 Conservative party election victory the country has a government with a strong mandate. The Covid-19 pandemic's economic toll was heavy in 2020, but little suggests the government will change as a result. However, Brexit divides the kingdom and the full consequences will only be apparent in some years. Security and defence policy has drifted into the background, with a lack of public debate, but is also less directly affected by Brexit than many other areas. There has been widespread disagreement, in the wake of the campaigns in Iraq and Afghanistan, regarding the interventionist policies pursued by governments since 2001. However, the support for an important UK role in European defence is generally intact.[2]

The UK has long tried to maintain a degree of global presence, but decreased financial means have made this challenging. With the promotion of the 'Global Britain' concept, the government re-established some naval presence 'East of Suez', but the naval support facility in Bahrain, for example, is largely symbolic.[3]

Defence reviews in recent years have emphasised the return of great power competition, with Russia and China considered to be antagonistic actors. In coming years, this focus will likely continue. Terrorism remains an important threat consideration, but as such now appears to be receding in the shadow of inter-state conflicts.

To maintain its great power status, the UK follows two guiding principles in its security policy: preserve the special relationship with the United States, and maintain the country's prominent position in NATO. The UK-US relationship has been strained in recent years, with some observers citing a lack of "common projects" between the countries as evidence of uncertainty in the relationship, especially for the future.[4] Other observers have argued that the UK should have military capabilities that allow it to act more autonomously, but given the UK's dependency on the US, this would require significant investment.[5] The main reason NATO is so important for Britain is the understanding that the country cannot go it alone, and that solidarity within the Alliance is of paramount importance.[6] The UK therefore remains an active NATO member and promotes reform within the Alliance.

The UK also cooperates with the EU, on for example the Common Security and Defence Policy (CSDP) and the European Defence Fund (EDF).[7] The country maintains significant defence

1 The UK has three levels of threats, where tier one (top) refers to the most dangerous threats.

2 See also Rossbach, Niklas and Engvall, Johan, *Säkerhetspolitiska konsekvenser av Brexit,* FOI Memo 6560 (Stockholm: Swedish Defence Research Agency – FOI, 2018).

3 Only one frigate is continually deployed there.

4 Freedman, Lawrence, 'RUSI Conference "Britain in a changing world"', RUSI, 10 February 2020.

5 Freedman, 'RUSI Conference'; Chalmers, Malcolm, *Taking control: Rediscovering the centrality of national interest in UK foreign and security policy,* Whitehall Report 1-20 (London: Royal United Services Institute–RUSI, 2020), p. 9; 'The special relationship: A weaker post-Brexit Britain looks to America', Economist, 30 January 2020; Barrie, Douglas, *UK defence review: Repent at leisure,* IISS, 31 January 2020, p. 2.

6 Ben Wallace, Ben, 'RUSI-held pre-election debate on defence, 28 November 2019'; HM Government, *National Security Capability Review* (London: Cabinet Office, 2018), p. 8.

7 Mills, Claire, *Brexit and UK defence: An explainer,* House of Commons, 2 June 2020, p. 6.

relationships with France and Germany, and the 'Five Eyes' intelligence community remains important, alongside the country's Commonwealth ties.[8]

The latest strategy document, the Strategic Defence and Security Review (SDSR), was published in 2015. Its main theme is to adjust the UK's security policy towards deterrence of and defence against state adversaries.[9] An important target is Joint Force 2025 – aiming the armed forces at being able to deploy an expeditionary force of 50,000 sailors and soldiers by 2025. Depending on the mission, this force would consist of a maritime task group centred on one of the new aircraft carriers with F-35B aircraft on board; one land division of three brigades; an air group of combat, transport and surveillance aircraft; and a special forces group.[10]

An interim defence review was published in 2018; its priorities were to improve current force readiness, and invest in new high-tech equipment, but apart from the announcement of a GBP 160 million Defence Transformation Fund, few details emerged.[11]

A new strategy is planned for 2021.[12] Reports indicate it will have four themes, among them alliances and great power competition. Despite announcements of a "radical" review, it seems unlikely its effects on the UK's defence posture will be ground-breaking.[13] The armed forces are in the midst of procuring several expensive new platforms, among them combat aircraft (F-35) and armoured vehicles, which strain the defence budget and will continue to do so in coming years.

11.2 Military expenditures

The UK is in the top ten of defence spenders in the world, but because of a mismatch between ambitions and funds, the MoD has been hard-pressed for many years. Since the early 2000s, military expenditures have mirrored the UK's involvement in Afghanistan and Iraq, so that with the downscaling of these wars, expenditures decreased. The financial crisis of 2008, and the government's austerity budgets, also took a heavy toll, with the result that the defence budget was close to falling under the NATO guideline of spending two percent of GDP. However, as a result of Russia's war in Ukraine, and an improved UK economy, military expenditures have increased modestly again from 2015. Before the Covid-19 pandemic, the government stated it would continue to meet the NATO guideline of spending two percent of GDP on defence, and the budget round of 2019 indicated a 2.6 percent real term increase annually.[14] It is an open question, however, whether such a high rate of increase will be reached and sustained during coming years.

The projection for 2021, below, is based on British defence budget data. With the decline in the UK's GDP caused by the pandemic and worsened by Brexit, expenditure as share of GDP will increase to higher levels in 2020–2021. The projections for the following years are therefore based on the assumption that military expenditure as a percentage of GDP will gradually decline, though remaining far higher than 2 per cent, during 2022–2025, and lie at a level that is comparable to the allocations made to defence before the outbreak of the corona virus. In November 2020, the government announced further increases of the defence budget by GBP 16.5 billion up until 2024. Together with a previous pledge, the latest announcement means the budget will rise about 10–15 percent in the coming years, and according to the government reach around 2.2 percent of GDP.[15] The spending of

8 See Lancaster House Treaties of 2010 for more on UK-France defence relationship, HM Government, 'Ten years of the Lancaster House Treaties'.

9 HM Government, *National Security Strategy and Strategic Defence and Security Review: A Secure and Prosperous United Kingdom* (London: The Stationary Office, 2015); Chalmers, Malcolm and Jesset, Will, *Defence and the Integrated Review: A Testing Time,* Whitehall Report 2-20 (London: RUSI, 2).

10 HM Government, *National Security Strategy*, p. 28–30.

11 Ministry of Defence, *Mobilising, modernising & transforming defence: A report on the Modernising Defence Programme,* 2018, 12.

12 This is the Integrated Review of Security, Defence and Foreign Policy.

13 HM Government, 'PM outlines new review to define Britain's place in the world', 26 February 2020; Chuter, Andrew, 'UK government to launch "radical assessment" of Britain's place in the world', *Defense News*, December 2019; Fisher, Lucy, 'Dominic Cummings wins fight for widest security review since Cold War', *The Times*, 26 February 2020.

14 HM Treasury, *Spending Round 2019,* p. 13.

15 HM Government, 'PM statement to the House on the Integrated Review', 19 November 2020; Chuter, Andrew, 'UK to boost defense budget by $21.9 billion. Here's who benefits – and loses out', *Defence News,* 19 November 2020.

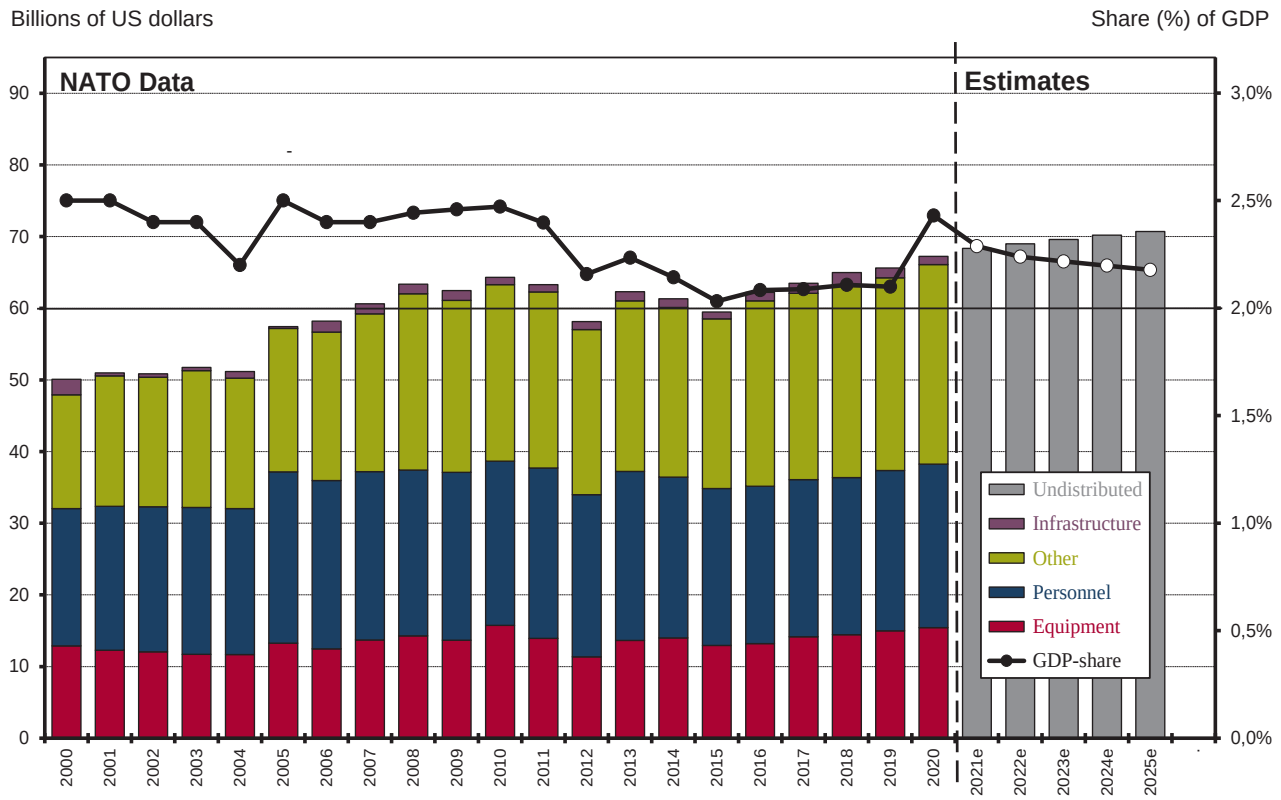


Figure 11.1 The military expenditures of the United Kingdom 2000–2025: Billions of US Dollars/2015 prices (columns) and as share (%) of GDP (curved line)

Source: Bergstrand, Bengt-Göran, *NATO military expenditures,* Working Document (Stockholm: Swedish Defence Research Agency – FOI, October 2020).

NB: Estimates based on budget data for 2021 and on the assumption that the UK will spend around 2.2% of GDP on defence in 2022–2025.

two percent of GDP on defence is considered important for the UK's international standing, especially regarding its relationship with the US, but also with the EU. The UK also meets the NATO guideline of spending at least 20 percent of the defence budget on equipment.

Nevertheless, the UK's political leadership has long been accused of harbouring strategic ambitions that are not matched by its willingness to adequately fund them. These ambitions require, for example, expensive assets for interventions overseas and nuclear deterrence, which consume a considerable share of the defence budget, particularly when they need to be modernised. Systemic underfunding has also been exacerbated by the MoD's arduous procurement process, which is often slow and inefficient. An "affordability gap" has steadilydeveloped in recent years, much worsened due to several ongoing large equipment acquisitions, planning for equipment updates, and exchange rate fluctuations.[16] The economic fallout from the 2020 Covid-19 pandemic seems likely to further widen the gap between ambitions and funding.[17] The government's November 2020 announcement has assuaged some of the fear of ending up underfunded. However, it is still uncertain how the new funding will affect force readiness and the availability of newer equipment and platforms, and to what extent the advertised reforms will be realisable.

16 National Audit Office, Comptroller and Auditor General, *The equipment plan 2018–2028,* HC 1621 Session 2017–2019, 5 November 2018 (London: National Audit Office, 2018); National Audit Office, Comptroller and Auditor General, *The equipment plan 2019–2029,* HC 111 Session 2019–2020, 27 February 2020 (London: National Audit Office, 2020).

17 Ripley, Tim and Shipman, Tim, 'Coronavirus: Financial crash could blow £4 bn in defence budget', *The Times,* 31 May 2020.

11.3 Armed forces

The armed forces' most important missions are to defend the UK and Overseas Territories, provide the nuclear deterrent, and reinforce international security and the capacity of allies, partners and multilateral institutions.[18]

The armed forces employ 132,000 regular personnel, spread across the country and a few overseas bases, and has 84,000 reserve personnel. The armed forces' professional head is the Chief of the Defence staff (CDS), who serves as the government's main military advisor, and head of operations. The main joint command is Strategic Command (StratCom), located in Northwood, outside London, with both operational and enabling responsibilities, including the Permanent Joint Headquarters, (PJHQ), Standing Joint Force Headquarters (SJFHQ), Directorate of Special Forces, Defence Intelligence, Defence Medical Services, and Joint Force Development, as well as a number of other support functions. The PJHQ commands joint military operations and provides policy-aware military advice to the MoD. In a contingency however, the SJFHQ, that provides operational level deployable command and control capability, would likely play a key role in the initial planning and deployment of forces.[19]

Army

The British Army employs approximately 73,000 soldiers, which is around 10 per cent below the 2015 personnel target.[20] The Army's HQ is located in Andover, in England's southwest. The Army is divided into the Field Army and Home Command, with the Field Army responsible for deployments and operations, while Home Command serves as an enabler to the field army, mainly through recruitment and training.[21]

The Army currently consists of three divisions: the 1st Division with light infantry, the 3rd Division with mechanised units, and the 6th Division with combat support. Outside the division structure, the 16th Air Assault brigade is the Army's rapid response force.

The 1st Division, headquartered in York, consists of six infantry brigades, one logistics brigade, and one specialised infantry group, spread out across the UK.[22] The division is made up of approximately 50 per cent regulars and 50 per cent reserves, and is not designed to be the first responding unit in a contingency. Only one brigade in the division is maintained at readiness. [23] The other brigades require mobilisation and extensive preparations before deployment. [24]

The 3rd Division, headquartered in Wiltshire, is the only UK division at continual operational readiness, with all brigades manned and equipped, in contrast to the 1st Division. The 3rd is made up of three mechanised brigades, one logistics brigade, and support units for artillery, logistics and air defence.[25]

The 6th Division, also headquartered in Wiltshire, provides combat support through its Intelligence Surveillance and Reconnaissance (ISR), Electronic Warfare (EW), and cyber warfare capabilities.[26] The division consists of two signal brigades, one ISR brigade, one brigade for psychological operations, and one specialised infantry group.[27] Within the division, one signal regiment supports the Army's high readiness units, such as the PJHQ's deployable Joint Forces HQ and the air assault task force.[28] Other units in the division that are comprised of regular soldiers, such as the artillery regiments and

18 HM Government, *National Security Strategy,* p. 28–30.
19 See Ministry of Defence, 'Strategic Command: About us', 2020; Strategic Command was previously called Joint Forces Command.
20 FTTTS (Full-time trade trained strength). Ministry of Defence, 'UK Armed Forces: Quarterly Service Personnel Statistics', 1 October 2019.
21 British Army, 'Command Structure'.
22 The specialised infantry group works closely with partner countries' forces. See British Army, 'Specialised Infantry Group'.
23 British Army, '1st (United Kingdom) Division'.
24 Defence Suppliers Directory, '1st (United Kingdom) division'.
25 British Army, '1st (United Kingdom) Division'.
26 British Army, '6th (United Kingdom) Division'.
27 The specialised infantry group works closely with partner countries' forces. See British Army, 'Specialised Infantry Group'.
28 British Army, '6th Division: 1st Signal Brigade'; British Army. '30 Signal Regiment'.

the military intelligence battalions, also likely have high readiness.[29]

The 16th Air Assault Brigade is the Army's airborne rapid reaction force, with light infantry, and its HQ in Colchester. The brigade's main responsibilityis to deliver a high-readiness battlegroup for worldwide deployment, and includes the 2nd and 3rd Parachute Battalions.[30]

Additionally, the Joint Helicopter Command (JHC) answers to the Commander Field Army. The JHC brings together the battlefield helicopters from the Army Air Corps, the Navy and the RAF, and is responsible for supporting the joint force with lift, reconnaissance, and attack capabilities.[31]

The Army's main materiel is comprised of the Challenger 2 Main Battle Tank (MBT), the Scimitar, Warrior and Mastiff Armoured Personnel Carriers (APC), and the AS90 155mm self-propelled artillery.

However, the Army faces an equipment modernisation challenge – currently procuring large numbers of platforms, and also updating legacy systems. The Army has ordered, for example, 508 Boxer MRAV (Multi-Role Armoured Vehicle) and 589 Ajax AFV (Armoured Fighting Vehicle). Initial operating capability with the Boxer vehicles is expected 2023, and with the Ajax vehicles in 2020, with delivery of the vehicles expected to finish in 2024.[32] The Army also plans to upgrade 380 of the Warrior IFVs, and probably 148 of the Challenger 2s.[33] The Challenger has not received a major upgrade since 1998, whilst comparable forces' MBTs have gone through several, and the upgrade aims to ensure use until 2035.[34] The government's November 2020 budget announcement indicated that some of the older platforms might be reduced in quantity, and the upgrades to the armoured vehicles appear likely to be affected by this.

The Joint Helicopter Command operates the AH-64D Apache attack helicopter, and various support helicopters. Fifty new Apache AH-64Es will enter service from 2022. The Army has short-range air defence in the form of the aging Starstreak and Rapier, but the new medium-range air defence system called Sky Sabre is planned to enter service in the early 2020s.[35] Sky Sabre will be operated by the 7th Air Defence Group, within the 3rd Division.[36]

In the 1990s and 2000s, the Army adjusted towards lighter expeditionary operations, and significantly downgraded many capabilities for high-intensity conflict, for example by reduced quantities of heavy materiel. Thus, as shown in Table 2 below, these platforms exist in modest numbers. Especially artillery is insufficient.[37] The Army was also extensively deployed in Africa and the Middle East, and additional funding did not match the extent of these commitments.

Since 2015, the Army has made a concerted effort at readjusting towards great power competition. Although it is likely the Army would be able to fill up selected units for a contingency, lower personnel numbers and less equipment suggest the army would be hard-pressed to sustain any operations at scale for any longer duration of time, especially against a peer competitor. The equipment modernisation process is also having a negative effect on the Army's overall capability. The new and updated platforms will be more capable than previous versions, but the lower numbers reveal the issue of insufficient mass for a high-intensity fight.

The Army's main challenge, now and in coming years, is to maintain and, if possible, increase force strength, and equip the forces with contemporary materiel. As the new fighting vehicles, Ajax and Boxer, start being delivered, some steps will

29 British Army, '6th Division: ISR Brigade'.

30 British Army, '16th Air Assault brigade'.

31 British Army, 'Joint Helicopter Command'.

32 Ministry of Defence, 'New high-tech Army reconnaissance vehicles built in Merthyr Tydfil', 28 August 2019; Coupe, Georgina, 'All the gen on the Ajax Military Vehicle, *Forces.net*, 21 October 2019; Ripley, Tim, 'Ajax deliveries to British Army delayed', *Jane's Defence Weekly*, 16 January 2020; HM Government, '£2.8bn armoured vehicle contract secured for British Army,' 5 November 2019.

33 Watling, Jack, 'Britain's declining tank numbers highlight a wider problem, RUSI, 2019.

34 Chuter, Andrew, 'Will the stars finally align to upgrade Britain's "obsolete" tanks?, *Defense News,* 5 June 2019.

35 Ministry of Defence, 'British Army's new air defence missile blasts airborne target by Baltic Sea'.

36 It is unknown how many units the UK will finally procure.

37 Watling, Jack, *The Future of Fires: Maximising the UK's Tactical and Operational Firepower* (London: RUSI, 2019).

be taken towards the envisaged 'strike brigades'.[38] However, as indicated above, the Army's modernisation challenge is significant, and even with the extra funding in 2020, it will most likely continue to just muddle through, rather than achieve any significant forward strides. Indicatively, in October 2020 the MoD revealed that the 2025 target of being able to deploy one full warfighting division has been delayed until the early 2030s.[39]

Navy

The Royal Navy employs approximately 29,000 sailors, of which 6000 are Royal Marines. The Navy's HQ is located at naval base Portsmouth, which is home to the fleet battle staff. The Navy is divided into the Surface Fleet, Submarine Service, Fleet Air Arm, Royal Marines (RM), and the Royal Fleet Auxiliary (RFA).

The Navy has three bases: Portsmouth, Devonport, and Clyde (Faslane). Portsmouth is the largest and most important base, with two-thirds of the Surface Fleet based there, including the two aircraft carriers, the *HMS Queen Elizabeth* and *HMS Prince of Wales*. The rest of the Surface Fleet is based at Devonport, and the submarine fleet at Clyde, in Scotland.[40] One frigate is also continually deployed to naval support facility Mina Salman, in Bahrain. The Fleet Air Arm supports the Navy, mainly through helicopters, and is located at two air stations at Culdrose and Yeovilton, both in southwest England.[41] The RFA is the civilian branch of the Navy, and provides logistics and operational support.[42]

The Royal Marines (RM) are the Navy's elite amphibious unit and consist of the 3rd Commando Brigade, with three battalions spread across the UK, and the RM's Special Forces unit, the Special Boat Service (SBS).[43] The battalions are kept at high readiness, and two out of three battalions are commonly deployed overseas, while one is on home soil.

Similar to the Army, the Navy is undergoing a large and expensive platform modernisation that pressures the defence budget. In the surface fleet, the current workhorses include the 13 Type-23 frigates, and the six comparatively new Daring-class destroyers, with service entry in 2013. The Type-23 frigates entered service primarily in the 1990s, and will retire in the early 2020s. The government has confirmed it will replace them with 8 Type-26 frigates, and 5 Type-31 frigates.[44]

The Navy has six attack submarines (SSN) and four ballistic missile submarines (SSBN), all of them nuclear-powered and the latter responsible for UK's nuclear deterrence. The Navy is replacing the old Trafalgar SSNs with the new Astute class, of which seven are planned to be built. The current Vanguard SSBNs are planned to be replaced by the Dreadnought class, but not until the 2030s.

The Navy plans to declare initial operating capability of the first of the new aircraft carriers, the *HMS Queen Elizabeth*, in late 2020. Her first operational deployment is planned for 2021 and she is then expected to carry one squadron of UK F-35Bs, and one squadron of US Marine Corps F-35Bs.[45] Full operating capability is expected in 2023, with two UK squadrons on board. The second carrier, the *HMS Prince of Wales,* is expected to reach initial operating capability in 2023. The Navy also has two amphibious assault ships, the Albion class, primarily for use by the Marines.

Regarding transport, The Royal Fleet Auxiliary (RFA), the civilian support fleet owned by the MoD, has several relevant vessels. Most important are the

38 The 2015 defence review envisaged establishing these new brigades to increase the UK's ability to deploy over long distances, but the delay in vehicle delivery has diverted focus from them. HM Government, *National Security Strategy,* p. 31; Chuter, Andrew, 'British Army admits more delays in fielding enough combat forces,' *Defense News,* October 12 2020.

39 Chuter, 'British Army admits'. In the 2015 strategy (SDSR), the readiness of this warfighting division is not mentioned.

40 Both the sub-surface nuclear attack (SSN) and the sub-surface ballistic nuclear (SSBN) submarines are based at Clyde.

41 In 2021, the Navy's 809 Air Squadron is planned to be the first naval squadron to operate the F-35B, which will serve on board the carriers. See Royal Navy, '809 Naval Air Squadron'.

42 Royal Navy, 'Royal Fleet Auxiliary'.

43 Royal Navy, 'Royal Marines'.

44 See HM Government, 'PM statement to the House'. The Type-26 frigate's main role is ASW and air defence, while the Type-31 is a general purpose frigate.

45 The UK has also announced that US Marine Corps F-35Bs might be aboard the UK carrier on its first deployment. Walker, Nigel et al., *Carrier strike strategy and its contribution to UK defence,* Debate Pack, CDP-0050 (2019), 25 February 2019 (London: House of Commons, 2019, p. 2–3.

three Bay-class amphibious ships that each can transport 24 Challenger 2 tanks and 350 ground troops.

Similar to the Army, the Navy has been heavily affected by the defence reviews of recent decades. Even in 2010, there were 71 surface vessels, but now only 60. The procurement process, too, has had an outsized effect on the service's health. Especially noteworthy is the submarine programme, and particularly the nuclear deterrent submarine, which is and will continue to press the Navy's and the wider MoD's budgets in coming years.[46] When full operating capability of the new aircraft carriers is achieved, the Navy may also face a new capacity gap, as it needs to field enough ships to escort the carriers. Although there are indications that other countries may try to help to fill capacity gaps with their own ships accompanying the new carriers, this may prove insufficient.[47] Additional procurement, as announced by the government in November 2020, may eventually remedy the Royal Navy's situation, but in the short-term, the recent years of high rates of cannibalisation of ships for spare parts in the current platform stock makes the likelihood that the Navy will actually have enough working ships to meet all its commitments seem modest.[48]

Air Force

The RAF employs approximately 30,000 airmen, with its HQ in High Wycombe, northwest of London. The RAF has over 30 air stations across the UK, and in Cyprus and Gibraltar, but most of these are small. Across these air stations, the RAF has 5 frontline squadrons of Eurofighter Typhoons, and one squadron of F-35Bs, all with 12 fighter aircraft in each unit. Additionally, the RAF has ISR, electronic intelligence (ELINT), maritime patrol (MPA), airborne early warning and control systems (AWACS), search and rescue, and tanker and transport aircraft. Several multi-role helicopters also make up the aircraft fleet.[49]

The RAF's combat aircraft include 153 Eurofighter Typhoons, and 18 F-35Bs. The RAF retired its Tornado jet fleet in 2018, and has received its final Typhoon jet.[50] The Tornado was a workhorse of the aircraft fleet, and its missions have now been transferred to the Typhoon and the F-35. The UK has announced it intends to buy a total of 138 F-35s, the first 48 being the B-variant.[51]

The transport aircraft fleet includes the A400M, the C-17, and C-130J. The A400M has experienced introduction and maintenance issues in recent years, and at one point, due to engine problems, only a few were airworthy.[52] Similar to the situation in Germany, however, it is likely that this has already improved.

The RAF supports the other services via its maritime surveillance P-8 Poseidon aircraft (2 in stock), and its ISR aircraft, of which 4 Sentinel and 5 Shadow.[53] ELINT is provided by 3 RC-135W aircraft, airborne early warning and control (AEW&C) by four E-3D Sentries. The RAF is procuring a total of nine P-8 for the MPA and anti-submarine warfare (ASW) role. The Sentinel is planned to be retired in 2021, due to budget savings, and it is unclear what will be able to replace it.[54] The E3-D is planned to be replaced by the E-7 Wedgetail, with first deliveries starting 2023.[55] The RAF also operates 9 Reaper unmanned aerial vehicles (UAV), which are planned to be replaced by the Protector UAV by 2024.[56]

The RAF shares many challenges with the other services. Since the early 1990s, the number

46 Ministry of Defence, *Defence Equipment Plan 2018;* Bond, David and Pfeifer, Sylvia, 'Nuclear Submarines threaten to sink UK defence budget,' *Financial Times*, 2 January 2019.

47 'Dutch warship to join HMS Queen Elizabeth on first operational deployment,' *Navaltoday.com,* 24 October 2018.

48 It is unclear whether or how much this has improved since the report's launch in late 2017. See National Audit Office, *Investigation into Equipment Cannibalisation in the Royal Navy*, 11 January 2017, p. 3.

49 International Institute for Strategic Studies (IISS), 'Chapter Four: Europe', in *The military balance 2020,* p. 157–162.

50 Jennings, Gareth, 'RAF receives final Eurofighter Typhoon,' *Jane's Defence Weekly,* 30 September 2019.

51 It is uncertain how many jets the UK will ultimately buy.

52 Nicholls, Dominic, 'RAF NATO row after "totally unacceptable" engine problems keep £2.6bn fleet on the ground, *The Telegraph*, 10 July 2019.

53 The Sentinel is due for retirement in coming years but it is still unclear what will replace it. Bronk, Justin, 'A case for replacing the RAF's Sentinel R.1 Fleet with additional P-8A Poseidon aircraft,' RUSI, 2020.

54 Bronk, 'A Case for Replacing'.

55 Chuter, Andrew, Britain to buy Wedgetail aircraft in nearly $2 billion deal, *Defense News,* 22 March 2019.

56 Chuter, Andrew and Stevenson, Beth, Britain chooses basing for Protector drone, even as acquisition details evolve, 13 July 2018.

Table 11.1 Personnel and materiel in the British Armed Forces

Personnel/Materiel	Numbers in 2020	Planned reforms towards 2025
Personnel[a]		
Regular force	132,000 (144,000)[b]	
Reserves	84,000	
Materiel[c]		
Main battle tanks	227 Challenger 2	Modernisation/update in coming years. Decision in 2021.
Armoured combat vehicles	1,339 (201 CVR Scimitar, 769 Warrior, 396 Mastiff[d])	589 Ajax armoured infantry vehicles ordered, delivery by 2024.[e]
Heavy artillery pieces	89 AS90 155mm self-propelled gun 35 M270B1 MLRS	
Attack helicopters	50 AH-64D Apache	New AH-64Es will enter service from 2022.[g]
Surface combatants	22 (1 aircraft carrier, 2 amphibious assault ships, 6 destroyers, 13 frigates)	2nd aircraft carrier will be ready for operations by 2023. 8 new Type-26 frigates to enter service in mid-2020s. Type 31-frigates delayed to 2027.
Submarines	6 SSN (3 Astute, 3 Trafalgar), 4 SSBN (Vanguard)	4 Astute-class SSN being built, will enter service continually in 2020s.
Combat aircraft	171 (18 F-35B[h], 153 Eurofighter Typhoon[i])	UK has announced it intends to buy a total of 138 F-35s, the first 48 being the B-variant. [j]
Transport aircraft	Heavy: 28 (20 A400M, 8 C-17 Globemaster) Medium: 14 C-130J Hercules Light: 4 BAe-146 Air-to-air refuelling: 9 MRTT Voyager (Airbus A-330)[k]	
Air defence	74 (60 FV4333 w. Starstreak, 14 Rapier)	Sky Sabre – new SAM to enter service by early 2020s. [f]

NB: a. All personnel numbers from Ministry of Defence, 'UK Armed Forces: Quarterly Service Personnel Statistics', 1 October 2019. **b.** SDSR 2015 personnel targets in parentheses. **c.** Unless stated otherwise, figures from IISS, The military balance 2020, p. 157–162. **d.** Armament: 40mm grenade launcher. **e.** Coupe, Georgina, 'All the gen'. **f.** Ministry of Defence, 'British Army's new air defence missile'. **g.** Ministry of Defence, '£293 million deal for Apache fleet'. **h.** It's not certain how many of these are fully operational. **i.** Of 153 Typhoons, 104 are "in service", that is, in active fleet management. 49 aircraft are "in sustainment". Ministry of Defence, 'UK Armed Forces: Equipment and Formations 2019', Table 7 (Excel file). **j.** The number of jets the UK will ultimately buy is uncertain. **k.** The RAF can draw on five more Voyagers from the so-called "surge fleet", which are currently serving as civilian aircraft. See Royal Air Force, 'Voyager'.

of combat aircraft has been roughly halved, and its personnel reduced by around 60 per cent.[57] The operational demands on the service, however, have continually been high.[58] The combat aircraft now in the RAF's inventory, coupled with the precision-guided munitions (PGM) they carry, give the RAF a sharp end.[59] However, the RAF's small mass suggests it could probably not sustain itself for long, perhaps not even for a limited conflict, against a great power. Additionally, it appears the

57 Gunzinger, Mark et al., *Towards a tier one Royal Air Force,* Center for Strategic and Budgetary Assessments (CSBA), 2019, p. 25.
58 Gunzinger, *Towards a Tier One,* p. 25.
59 Ibid., p. 28.

service has insufficient stocks of ammunition, has suffered cannibalisation for parts on some aircraft, and has not trained enough for a high-intensity conflict.[60] The high operational tempo has also eroded its readiness, and if the tempo is maintained, will continue to do so.[61] The RAF is also facing significant costs in maintaining and upgrading its current platform stock, whilst also procuring new aircraft, especially the F-35.

Notwithstanding the above, the RAF appears to be in a better position than the other services. Its most significant challenge in coming years appears to be to receive, test and successfully integrate the new F-35, which although late, appears to be on track for delivery. Other challenges include pilot recruitment and retention issues, of which both may further strain the service's readiness.[62] The government's 2020 announcement that the RAF will house a new Space Command, which is to launch rockets from Scotland from 2022, might present an added organisational challenge, as the service has to allocate personnel and resources to it.[63]

Personnel and materiel

The armed forces suffer issues related to personnel recruitment and retention, and consequently force readiness. All services are below their set targets for personnel strength. The Army has been affected the most, in October 2019 being 10 per cent under strength. The Navy and Marines are five per cent, and the RAF six per cent under strength.[64] As recruitment failed its targets, the figures have worsened every year since 2012. Retention is also proving difficult, as more people continuously leave than enter the armed forces. [65]

The armed forces also have vacancies in critical roles such as engineers, pilots, and intelligence analysts. Without improvement, these could prove damaging to the forces' ability to deploy and complete their missions in coming years. The 2020 Covid pandemic may add further difficulties in training and retention.[66]

The extensive equipment modernisation programmes that all three services are experiencing, as detailed above, will continue to put pressure on the defence budget. The 2020 budget announcement indicated a focus on emerging technology, including the need to remove some older platforms. This means some equipment programmes are in peril of being cancelled or cut in the coming years.

11.4 Assessment of military capability

For several decades, the gaps between on one hand British security policy and military ambitions and on the other hand funding have widened. This has had significant effects on all three armed services. Nevertheless, Britain retains many war-fighting capabilities, but the current force may be described as hollow, with the services in possession of highly capable equipment, but too few platforms and personnel to operate at scale or the capacity to sustain itself for any longer period. Notwithstanding the above, what would the UK be able to muster in the event of a contingency in Northern Europe?

Despite global ambitions, the UK prioritises Europe – demonstrated by increased military presence in Northern Europe in recent years, through deployments and exercises. Consequently, in case of conflict in the area, the UK would most likely do its outmost to contribute forces in a substantial way.

For a short-notice contingency, the Army could draw forces from the 16th Air Assault Brigade rapid response force, the 3rd Mechanised Division, the UK's contribution to NATO's enhanced forward presence (eFP) in Estonia and Poland, and some support from the 6th Division. The brigade of the 1st Division that is held at readiness would not be able to respond at short notice.Within one week, the Army could likely contribute the following:

60 Ibid, p. 44.
61 Ibid, p. 42.
62 Of 153 Typhoons, 104 are in service (in active fleet management). 49 aircraft are in sustainment. See Ministry of Defence, 'UK Armed Forces: Equipment and formations 2019', 8 August 2019, Table 7.
63 HM Government, 'PM statement'.
64 Ministry of Defence, 'UK Armed Forces: Quarterly service personnel statistics', 1 October 2019, p. 6.
65 National Audit Office, *Ensuring sufficient skilled military personnel,* 2018, p. 18–25.
66 Allison, George, 'British Army suspends basic training due to COVID-19', *UK Defence Journal,* 23 March 23 2020.

- From 16th Air Assault Brigade: 1–2 battalions light infantry, with 105mm artillery and logistics support.[67]
- From 3rd Division: 2–3 battalions mechanised infantry including support units from 6th Division.[68]
- From 1st Division: up to 1 light infantry battalion from brigade held at readiness.
- From 6th Division: 1 battalion of a signal regiment, and up to 1 battalion of an artillery regiment, with some logistical support.[69]
- From eFP: approximately 1 battalion of mechanised and light infantry units.[70]
- From the Joint Helicopter Command: 1–2 squadrons of attack helicopters.
- From 7th Air Defence Group: some short-range air defence, although this is uncertain. [71]

The UK-based mechanised infantry, due to its heavier equipment, would be more dependent on transport possibilities and thus slower to theatre than the other units. The heavy equipment would not be entirely dependent on sea or air transport, as exercises have been conducted to transport heavy tanks (MBTs) through the English Channel. However, the Army has few Heavy Equipment Transporters (HET), which would limit transportation abilities by land.[72]

The RAF prides itself on its ability to respond quickly to contingencies, and maintain, by international standards, a large number of aircraft available.[73] For example, out of 153 Typhoons, 104 are in active service, with the rest in sustainment (modernisation and long-term maintenance). The newly received F-35Bs have flown in Syria, and although they have not so far actively engaged targets, are deemed active for service.

Within one week, The RAF could thus likely contribute:

- From the UK: 2-3 squadrons of Typhoon aircraft (24–36 aircraft) and possibly 1 squadron of F-35Bs (12 aircraft).[74]
- From the UK: 3–4 ISR aircraft, 2 AWACS aircraft, 4–5 tanker/transport aircraft, 9–14 transport aircraft (A400M, C-17).
- From NATO's Baltic Air Policing: Any available aircraft. In summer 2020, 4 Typhoons were stationed in Lithuania.

The Navy has suffered long maintenance delays, and cannibalisation on its current platform stock. Nevertheless, in a contingency, the service would likely aim to centre its contribution on its Joint Expeditionary Force Maritime (JEF M).[75] The JEFis usually composed of one command ship, one supporting surface vessel (amphibious assault ship, frigate or destroyer), and one or two logistics ships.[76] In the event of crisis, and a one-week notice, however, the Navy could probably put together:

- 1 command ship
- 1–2 destroyers
- 2–3 frigates
- 1–2 auxiliary ships

67 The 16th air assault brigade is held at very high, or for some units, higher readiness. See Elite UK forces, '16 Air Assault Brigade'; British Army, '7 Royal Horse Artillery'.

68 At least in 2020, the 3rd Division maintains one brigade at high readiness. The 20th Armoured Brigade is held at high readiness, available to the UK and NATO from April 1, 2020, but the brigade 'origin' of the two battalions may vary in the future. See British Army, '20th Armoured Infantry Brigade'.

69 British Army, '30 Signal Regiment'; British Army, '5 Regiment Royal Artillery'.

70 In 2020, two mechanised regiments and one light infantry regiment are responsible for the eFP deployment, but all their units are not present simultaneously. British Army, 'Deployments Baltics: Enhanced Forward Presence'.

71 British Army, '3rd (UK) Division: 7th Air Defence Group'.

72 Watling, Jack, 'Britain's declining tank numbers'; Bunkall, Alistair 'Army moves tanks through Channel Tunnel on secret exercise', *Sky News*, 19 January 2017.

73 Woody, Christopher, 'The British Air Force just got new fighter jets, but there are doubts about whether its fleet is ready to fight', *Businessinsider.com*.

74 The squadron of F-35Bs have flown in Syria, and although they have not so far actively engaged targets, are deemed available for operations. See Ministry of Defence, 'UK Armed Forces: Equipment and Formations 2019', Table 7; Nicholls, Dominic, 'Britain's new F35 stealth jets used on operations for the first time', *The Telegraph,* 25 June 2019. The UK's recent announcement that two squadrons would be made available to the NATO Readiness Initiative further supports this assessment. Fiorenza, Nicholas, 'NATO improves its readiness', *Jane's Defence Weekly,* 12 April 2019.

75 HM Government, 'UK further commits to NATO and European security through JEF Readiness Declaration and deployment of Typhoons to Lithuania', 12 February 2020.

76 Assessment based on previous deployments and participation in exercises. The JEF M did its inaugural deployment in 2016, and has since also participated in exercises in the Baltic Sea.

- 1–3 attack submarines (SSN)
- If needed, 1–2 SSBNs.
- From the Marines: 1 battalion from the 3rd Commando Brigade. [77]

In the Joint Force 2025 target (mentioned above), the Navy envisaged centring a maritime task force on the carrier *HMS Queen Elizabeth*. However, due to that ship's vulnerability to anti-ship missile strikes, it is unlikely the carrier would participate significantly in such a force.

Regarding command and control, the UK could perhaps contribute one national division HQ.[78] The Allied Rapid Reaction Corps (ARRC) is held at high readiness for NATO operations, but it would be unlikely to be able to deploy within one week.[79]

In a three-month perspective, there are significant uncertainties in estimating how much the armed forces could contribute, due to the sparse information available on force readiness, and the significant political considerations that would enter. Notwithstanding the above, the Army could likely provide the following:

- From 16th Air Assault Brigade: 2 more light infantry battalions, including support elements, such as more artillery that has not yet been deployed.[80]
- From 3rd Division: 1 mechanised brigade with support, and perhaps 3–4 mechanised battalions from the other brigades.[81]From 1st Division: 2–3 light infantry battalions from the brigade held in readiness.[82]
- Limited artillery and logistics support, although quantities are uncertain.

Moreover, the RAF could possibly contribute two more squadrons of fighter aircraft. The remaining functional squadrons would likely be saved for homeland defence. At this point, however, the RAF would also likely have significant issues with supply of ammunition.[83]

The Navy could bring back ships from global deployments, and possibly bring out a few ships from maintenance. In that case, four to six more surface ships could be available. The remaining submarines would perhaps be kept in reserve. The Marines could likely also contribute one more commando battalion.

In the coming years, the armed forces will continue to work towards the goals set in the 2015 defence review, especially regarding the ability to deploy an expeditionary force of around 50,000. The 2021 review might produce a new 2030 joint force target, but the extent to which that would be different is uncertain.

77 Royal Navy, 'Royal Marines'.

78 Ministry of Defence, 'UK Armed Forces: Equipment and formations 2019', Table 6 (Excel file).

79 The ARRC is a rapidly deployable land HQ available for NATO operations. A UK commander leads it, supported by mainly British forces. See NATO, 'Allied Rapid Reaction Corps: About us', 6 March 2020. The ARRC was also due to deploy to continental Europe as part of the exercise Defender Europe 2020. See British Army, 'Exercise Defender Europe 2020'.

80 Elite UK Forces, '16 Air Assault Brigade'.

81 British Army, '3rd (UK) Division'.

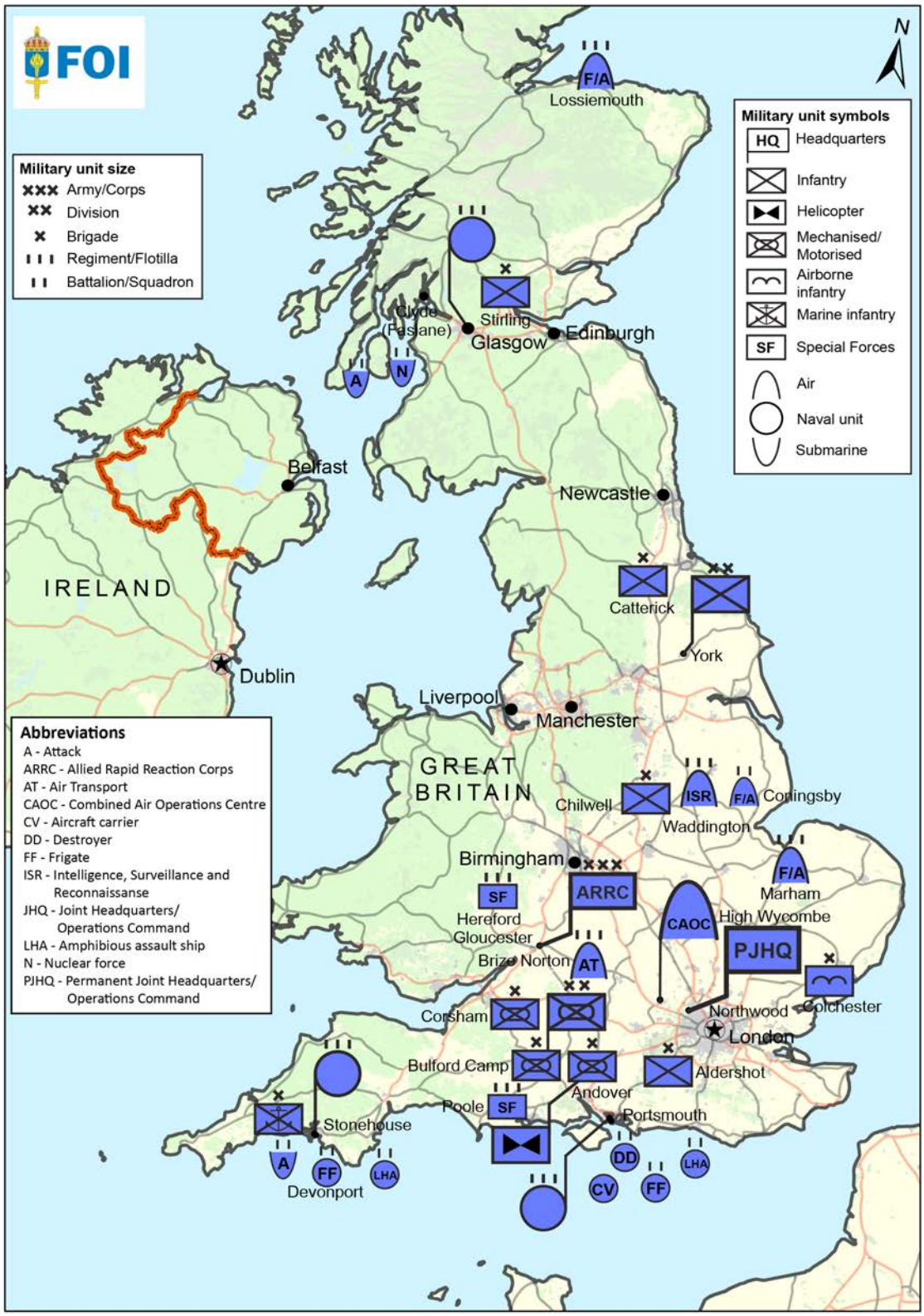
82 As the 1st Division is not at continual operational readiness, it is unlikely it could provide more troops within three months, but larger parts could start mobilisation.

83 Gunzinger, T*owards a Tier One*, p. 25.

Table 11.2 Force structure of the British Armed Forces

	Organisation 2020	Planned reforms towards 2025	Assessment of forces available at short notice
Joint[a]	HQ Strategic Command (PJHQ)[b] Allied Rapid Reaction Corps (ARRC) – Land Space (Satellites 8: 1 NATO-4B; 3 Skynet-4; 4 Skynet-5) Joint Helicopter Command Army: 4 regiments, 1 regiment combat support Navy: 1 squadron attack, 1 squadron transport Air Force: 5 squadrons transport Special forces directorate (3 army regiments, 1 marine regiment, air and joint support units)	A Space Command, placed under the RAF, will be established. Army: 1–2 squadron attack helicopters	2–3 special forces companies
Army	1 infantry division (4 light infantry brigades, 2 logistics brigades, 1 air defence group)[c] 1 mechanised division (3 mechanised brigades, 1 artillery brigade, 1 logistics brigade)[d] 1 combat support division (2 signal brigades, 1 ISR brigade, 1 info ops brigade, 1 specialised infantry group)[f] 1 air assault brigade (2 parachute battalions, 1 air assault battalion)[g]	Joint Force 2025 target: 1 warfighting division.	Up to 1 battalion 3–4 battalions, including eFP in Estonia.[e] 1 signal battalion, half a battalion of artillery and logistical support. 1–2 battalions.
Navy	3 Naval bases (1 aircraft carrier, 6 destroyers, 13 frigates, 6 SSN and 4 SSBN submarines) Fleet Auxiliary (3 Landing Ship Docks, 6 tankers, 1 primary casualty ship) Naval Aviation (5 squadrons ASW) Marines (1 Commando brigade: 3 battalions)[i]	Joint Force 2025 target: 1 Maritime Task Group.	Total: 4–6 surface combatants, 3–5 submarines (1–3 SSN, 1–2 SSBN).[h] 1–2 auxiliary ships 1 battalion with support
Air Force	RAF Air Command[j] 7 fighter/FGA squadrons 1 squadron ASW/MPA (forming) 3 squadrons ISR 1 squadron AWACS 2 squadrons tanker/transport 5 squadrons transport 2 squadrons Combat/ISR UAV (Reaper)	Joint Force 2025 target: 1 Air Group from 2 F-35 sqn, 7 Typhoon sqn) 9 MPAs will be delivered by end of 2021.[k] Reaper UAVs to be replaced by Protector by 2024.[l]	3–4 squadrons (2–3 of Typhoons, up to 1 of F-35Bs.) 1 P-8 aircraft 3–4 aircraft (9 total) 2 E-3D *Sentry aircraft* 4–5 Voyager (A-330) 6–10 A400M, 3–4 C-17 aircraft

NB: **a.** IISS, *The military balance 2020*, Routledge, p. 157–162. **b.** Formerly Joint Forces Command (JFC). See Ministry of Defence, 'Inaugural Strategic Command', RUSI Conference, 18 February 2020. **c.** IISS, *The Military balance 2020*, p. 157; British Army, '1st (UK) Division'. **d.** British Army, '3rd (UK) Division'. **e.** 3rd Division is at "Continual operational readiness". 20th Armoured Infantry Brigade held at high readiness, available to both the UK and NATO from 1 April 2020. See British Army, '20th Armoured Infantry Brigade'. **f.** British Army, '6th (UK) Division'. **g.** British Army, '16th Air Assault Brigade'. **h.** For an example of a rapid deployment, see Allison, George, '9 British ships escort 7 Russian ships through the English Channel', *UK Defence Journal,* 26 March 2020. **i.** Royal Navy, 'Royal Marines'. **j.** The number of aircraft in each squadron varies depending on the type of aircraft. The fighter/FGA squadrons contain 12 aircraft, the transport squadrons, 6 aircraft. **k.** Vavasseur, Xavier, '2nd Poseidon MRA Mk1 MPA touched down in the UK', *Naval News*, 14 March 2020. **l.** 'MOD signs £100m Contract To Test RAF's Protector aircraft', *Forces.net*, 11 September 2019.



Map 11.1 Overview of British armed forces and their basing

NB: Design by Per Wikström. The map covers mainly operational headquarters and manoeuvre forces.

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12. The United States

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The US is the world´s sole superpower. It has the world´s most capable military force. Its national interests are global in scope, and its ability to project power is peerless. The Trump Presidency has been accompanied by intense party polarisation and hyperbole. President Trump´s behaviour has led many observers to conclude that the last few years constitute a radical departure from US traditional foreign policy. Yet, the various strategy documents produced by the administration, paired with its overall priorities and concrete actions, suggest there is more continuity than change concerning US security policy in general and also toward Europe. That said, the Trump administration has created uncertainty, by not consulting or even informing friends and allies of its decisions. With a new administration from January 2021 under the Democratic president Joe Biden, a change in this behavior is expected, but probably not in the overall direction of security and defence policy.

12.1 Security and defence policy

The National Security Strategy (NSS) released by the White House in December 2017 was notable for putting great power politics at the centre again. This priority carried through in the Department of Defense's (DoD) National Defense Strategy (NDS) and Nuclear Posture Review (NPR), released in January 2018 and February 2018, respectively.

The National Defense Strategy states that "inter-state strategic competition, not terrorism, is now the primary concern in U.S. national security".[1] China and Russia, categorised as revisionist powers in the NSS, are singled out as the central challenges to the US. Exacerbated by the Covid-19 pandemic, China has increasingly stolen the attention of the White House, Congress, and the national security establishment, and it is clearly considered the more formidable challenge.[2]

The DoD´s overall capability requirement for the armed forces, that is, to be able to handle two major regional conflicts simultaneously, has been a constant since the end of the Cold War. This has changed with the renewed focus on great power competition and been replaced by a one major conflict 'plus' construct. The fully mobilised Joint Force should now be capable of "defeating aggression by a major power; deterring opportunistic aggression elsewhere; and disrupting imminent terrorist and WMD [Weapons of Mass Destruction] threats."[3]

Since 2017, the US has made several significant reforms pursuant to the reorientation of threats outlined in the various strategy documents.[4] For instance, in May 2018, Cyber Command was elevated to the level of a unified combatant command.[5] The DoD has committed the US to nuclear modernisation, including the development of low-yield warheads for submarine-launched ballistic missiles, and its updated Arctic Strategy, released in June 2019, highlights Chinese and Russian interests, and describes the region as "a potential corridor for strategic competition".[6] Near the end of 2019, President Trump

1 U.S. Department of Defense, *Summary of the 2018 national defense strategy of the United States of America,* 2018.

2 U.S. Department of Defense, *Indo-Pacific strategy report,* 2019.

3 How this affects future force planning in detail is not outlined in the unclassified summary of the NDS.

4 The most recent posture statements of the armed forces, including the 11 combatant commands, which are annual written testimonies to Congress covering the implementation of the NSS, clearly demonstrate this.

5 The Cyber Strategy, released by the DoD in 2018, states explicitly that China and Russia are conducting persistent cyber campaigns against the U.S. that pose a long term strategic risk, and that the U.S. will "defend forward". The DoD is also exploring the possibility of separating Cyber Command from the National Security Agency; see U.S. Department of Defense, *Summary: Department of Defense cyber strategy,* 2018.

6 The 2019 Missile Defense Review is fully aligned with the NSS, NDS, and NPR, and calls for a comprehensive and layered approach that integrates both offensive and defensive capabilities. In August 2019, the US withdrew from the Intermediate-Range Nuclear Forces Treaty (INF Treaty), and the U.S. military is now seeking funding and authorization to begin developing systems that would have been banned by the treaty. See also: U.S. Coast Guard, *Arctic strategic outlook,* 2019.

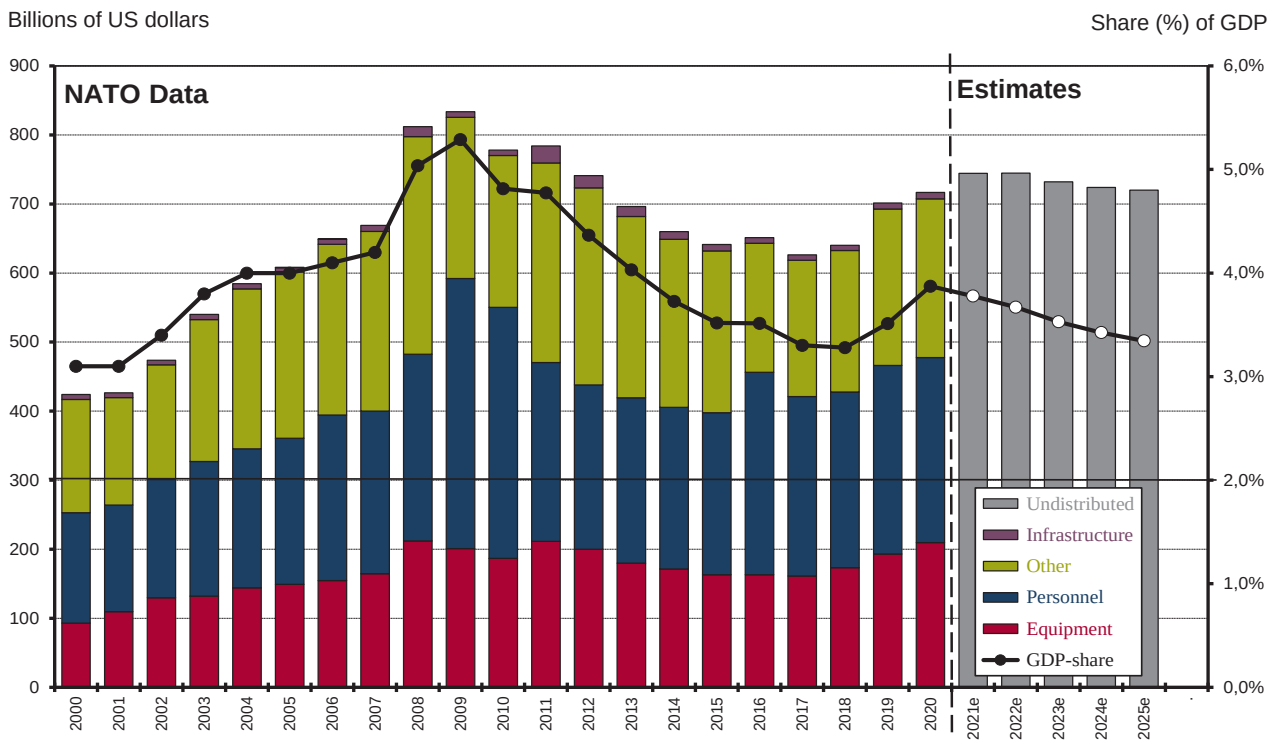


Figure 12.1 The military expenditures of the United States 2000–2025: Billions of US dollars/2015 prices (columns) and as share (%) of GDP (curved line)

Source: Bergstrand, Bengt-Göran, *NATO military expenditures,* Working Document (Stockholm: Swedish Defence Research Agency – FOI, October 2020).

NB: Estimates for 2021-2025 based on the US defence budget presented on 10 February 2020.

also established the Space Force, as a new armed force within the Department of the Air Force.[7] Its mission is manifold: to protect US interests and assets in space; deter aggression in, from, and to space; and conduct space operations. Furthermore, the National Defense Strategy sets out to "fortify the Trans-Atlantic NATO Alliance," while the funding for the European Deterrence Initiative (EDI) has increased substantially since 2017.[8]

12.2 Military Expenditures

No other state spends as much on defence as the US: around 35 per cent of the global expenditures at market exchange rates. Between the years 2000 and 2009, US military expenditures nearly doubled as a result of the global war on terrorism and subsequent interventions in Afghanistan and Iraq. Military expenditures increased from USD 424 billion and a GDP share of 3.1 per cent in 2000, to USD 837 billion and a GDP share of 5.3 per cent in 2009. After reaching its peak in 2009, military expenditures declined under President Barack Obama's first term and evened out during his second term. In 2019, military expenditures amounted to USD 654 billion and total national defence expenditures to USD 686 billion, at current prices. NATO reported USD 730 billion.[9]

7 This decision is arguably the most significant reorganisation within the armed forces since the establishment of the Air Force by the National Security Act of 1947.

8 U.S. Dept. of Defense, *Summary of the 2018 national defense strategy.*

9 There are several definitions of defence expenditures in the United States. The first covers the expenditures of the DoD, the second is called 'National Defense' which in addition to DoD spending also includes the expenses of other agencies that protect the nation, in partciular the Department of Homeland Security, and the National Nuclear Security Administrations in the Department of Energy. Many US defence programs and expenses are not accounted for in the regular defence budget but in supplementary budgets, though NATO may also include such outlays in its data.

The Trump administration's first defence budget did not amount to any significant increase in military spending. The defence budget for fiscal year (FY) 2019 – the first to implement the prescripts of the NDS – did, however, lead to a considerable increase. The budget presented for FY 2021 proposed that National Defense should increase, in real terms, by 3.8 per cent in FY 2021; remain stable in FY 2022; and decrease slightly over the following three fiscal years. These figures have been used for the estimates shown in the graph, in Figure 12.1. Hence, US military expenditures are projected to increase to USD 745 billion in 2021–22, and then decrease to USD 720 billion in 2025, the same amount as in 2020. With these rises, and a lower GDP, due to the coronavirus pandemic, the expenditures as a share of GDP will rise to higher levels, probably to around 3.9 per cent in 2020, and then decline towards 3.3 per cent in 2025, or the same level as in 2017–2018.

US military spending is significantly higher than in other NATO countries, and well above NATO´s guidelines. The reorientation towards interstate strategic competition is observable in the composition of US defence budgets.[10] The budgets for the EDI have also increased rapidly, from about USD 1 billion in 2015 to USD 6.1 billion in 2019. Since the peak, in 2019, the budget decreased in 2020 and 2021, to about USD 4 billion in 2021 (2015 prices).[11]

12.3 Armed forces

The armed forces of the United States are comprised of the Army, Navy, Air Force, Marine Corps (USMC), Space Force, and Coast Guard.[12] In this study, the focus is on the former four.[13] The Army, Navy, and Air Force are separate military departments, while the USMC is subordinated to the Department of the Navy. However, each service has a unique mission within the overarching mission of US security.[14]

The Department of Defense is pursuing a build-up that prioritises modernisation over expanding the force structure, and the ongoing effort is focused on developing next-generation systems. As a result, the force structure of the Army, Air Force, and Marine Corps will remain more or less steady in the coming years. The Navy is the only service that is truly expanding its force structure.

The US military presence in Europe is substantial, fielding two primary types of forces: permanent and rotational. The former refers to those approximately 74,000 US personnel who live in Europe and are assigned to US European Command (EUCOM), headquartered in Stuttgart, Germany.[15] These include 34,000 Army personnel; 27,000 Air Force personnel; 10,000 Navy personnel; 3000 Marine Corps personnel, and a small number of Special Operations Forces (SOF). An additional 20,000 permanent DoD civilians are also authorised for EUCOM, including its supporting commands.

Army

The Army is composed of two distinct components: the active and the reserve; the latter includes the Army Reserve and the Army National Guard. The Army is seeking a modest growth in the size of the force. The goal of the budget request for the fiscal year 2021 is to generate 485,900 soldiers in the active component; 336,500 in the Army National Guard; and 189, 800 in the Army Reserve.[16] The active component maintains 31 Brigade Combat Teams (BCTs) and 11 Combat Aviation Brigades

10 For instance, outlays for research, development, test, and evaluation will rise from USD 64 billion in 2015 to USD 94 billion in 2021, meaning the highest level of such spending in 70 years, Department of Energy nuclear research excluded.

11 U.S. Department of Defense, *European Deterrence Initiative: Department of Defense budget fiscal year (FY) 2021*, 2020.

12 The Air National Guard and the Army National Guard are reserve components of their services and operate in part under state authority.

13 The Space Force was recently established and is under construction. The Coast Guard serves under the Department of Homeland Security, and its role in a conflict in Northern Europe would be limited.

14 The US Army's mission is to "deploy, fight and win our nation's [the US] wars by providing ready, prompt and sustained land dominance by Army forces across the full spectrum of conflict as part of the joint force". The US Navy's mission "is to maintain, train and equip combat-ready Naval forces capable of winning wars, deterring aggression and maintaining freedom of the seas". The US Air Force's mission "is to fly, fight and win in air, space and cyberspace". The US Marines (USMC) is an "expeditionary force in readiness", tasked with using combined armed forces to seize and defend forward positional naval bases and to provide forces and detachment to naval ships and land operations. See Congressional Research Service, *Defense primer: The military departments,* 2018.

15 Congressional Research Service, *United States European Command: Overview and key issues,* 2020.

16 U.S. Army, *Army fiscal year 2021 budget overview,* 2020.

(CABs). The Army National Guard maintains 27 BCTs and 8 CABs. The Army Reserve consists mostly of support units, but retains two Theater Aviation Brigades.[17]

US Army Europe (USAREUR), headquartered in Wiesbaden, Germany, has numerous bases and subordinate headquarters throughout Europe. Notably, in February 2020, the DoD announced the reactivation of the V Corps HQ, in Fort Knox, Kentucky. It will provide command and control for US and allied land formations in Eastern Europe. Approximately 200 personnel will also rotate through a V Corps forward headquarters in Poznan, Poland, where activation took place in December 2020.

The most important permanent units of USAREUR are the 7th Army Training Command (7th ATC), 10th Army Air & and Missile Defense Command (10th AAMDC), and the 21st Theater Sustainment Command (21st TSC).

The 7th ATC, headquartered in Grafenwöhr, Germany, is responsible for the training and readiness of four active brigades: the 173rd Airborne Brigade, which is the US Army's Contingency Response Force in Europe, and based in Vicenza Italy; the 2nd Cavalry Regiment, based in Vilseck, Germany; the recently established 41st Field Artillery Brigade, based in Grafenwöhr; and the 12th Combat Aviation Brigade, based in Ansbach, Germany.

The 10th AAMDC, headquartered in Kaiserslautern, Germany, serves as USAREURs command for all theater air and missile defence operations. Its subordinate units are: the 5th Battalion, 4th Air Defense Artillery; and the 5th Battalion, 7th Air Defense Artillery.

The 21st TSC commands sustainment operations across the European theater in support of EUCOM and NATO operations. USAREUR also consists of several supporting organisations, such as the 66th Military Intelligence Brigade, the 598th Transportation Brigade, and the US Army Corps of Engineers.

There are also special operations forces permanently assigned to EUCOM. The 10th Special Forces Group 1st battalion is permanently based in Stuttgart, Germany. The US Special Operations Command (USSOCOM) has the responsibility to organise, train, and equip units assigned to Special Operations Command Europe (SOCEUR), but EUCOM has operational control over SOCEUR and all special operations in the European Theatre.

Since Russia's annexation of Crimea, the DoD has increased its rotations of temporary forces in and out of EUCOM's area of responsibility (AOR). These 'heel-to-toe' nine month rotations are part of DoD's Operation Atlantic Resolve (OAR), and EDI is the key mechanism through which these activities are organised and funded.

The land efforts of OAR are led by USAREUR and overseen by a forward command element, currently from 1st Cavalry Division headquartered in Poznan. There are three types of rotations – armoured, aviation, and logistical. The armoured rotation consists of one Armored Brigade Combat Team (ABCT), normally including around 4700 personnel, 85 Abrams tanks, 150 Bradley infantry fighting vehicles, 18 Paladin self-propelled howitzers and a large range of other tracked as well as wheeled vehicles. The aviation rotation consists of one Combat Aviation Brigade, including around 2000 personnel, 50 Black Hawk assault helicopters, 24 Apache attack and 12 Chinook heavy lift helicopters, and more than 1800 wheeled vehicles. The logistical rotation consists of a Sustainment Task Force, comprised of 11 active duty, US Army Reserve and National Guard units, including more than 900 personnel.

The US Army Strategy, released in late 2018, emphasises that the Army "must be ready to conduct major operations and campaigns involving large-scale combat with Division and Corps-level maneuvers against near-peer competitors".[18] Accordingly, the Army has accelerated its reorientation from counterinsurgency operations towards preparing for high-intensity combat against near-peer competitors, including organisational structures, concepts, doctrines, training, and equipment programs. Readiness is prioritised; since 2017, the readiness of for example the BCTs has increased significantly.[19] The Army is also continuing to convert two infantry BCTs into

17 Office of the Under Secretary of Defense (Comptroller)/Chief Financial Officer, *Defense budget overview (FY21),* 2020.
18 U.S. Army, *The Army strategy,* 2018.
19 U.S. Department of Defense, Office of Inspector General, *Audit of brigade combat team readiness*, 2019.

armoured BCTs. This infantry to armour shift arises from the focus on peer competitors.

The Army has also taken several steps to close capability gaps. In July 2019, the newly established US Army Futures Command reached full operational capability; it unifies the army's modernisation efforts.[20] This reform is already showing results, and the development of new capabilities has accelerated, but the mission is long-term and implementation in the forces is, in most cases, a number of years ahead.[21] An important framework is Multi-Domain Operations, the Army's evolving concept for preparing the service for the challenges posed by a near-peer competitor. [22]

The Army´s 'big six' modernisation priorities are long-range precision fires; next-generation combat vehicles; future vertical lift; networks and communications/intelligence, surveillance and reconnaissance; air and missile defence; and soldier lethality. The Army faces many challenges, including replacing increaslingly dated equipment. For its principal combat capabilities, the Army still relies on upgraded versions of the 'Big Five' systems procured in the 1980s: the Abrams, the Bradley, the Apache, the Black Hawk, and the Patriot. Recruiting the personnel the forces need also remains a problem.[23]

Navy

The Navy is expanding its force structure and by FY 2021 is projected to pass the 300 ships mark for the first time since 2002.[24] The Navy has 337,517 officers, enlisted ranks, and midshipmen on active duty. The Navy Reserve consists of 103,395 sailors.[25]

The DoD's 11 combatant commands, which have a functional or geographic mission that provides command and control over US military forces, issue Navy-related orders to the Navy's component commands.[26] There are nine Navy component commands that carry out operations within the designated area of responsibility.[27] The component commanders have operational control over one or more of the Navy's seven numbered fleets. To carry out specific operations, fleets are divided according to an organisational scheme that is scalable to meet most operational needs. Examples of major deployable units are Carrier Strike Groups (CSG), Amphibious Ready Groups (ARG), Marine Expeditionary Units, Surface Strike Groups, and Naval Fleet Auxiliary Forces.

The Navy has 10,000 personnel permanently assigned to EUCOM. US Naval Forces Europe (USNAVEUR), headquartered in Naples, Italy, directs all its naval operations through the US 6th Fleet commander headquartered in Gaeta, Italy, which is also the home port to the 6th Fleet command ship, Mount Whitney. Naval Station Rota, Spain, is the home port for four Arleigh Burke-class guided-missile destroyers.[28] These ships and a maritime patrol squadron with 4 P-8A Poseidon, based in Sigonella, Italy, constitute the bulk of US permanent naval forces in Europe.

The Navy´s surface capabilities are concentrated in a small number of Carrier Strike Groups (CSG), which are formed and disestablished on an as-needed basis. The typical CSG consists of one aircraft carrier; a counter air-capable cruiser; five to seven surface combatants for anti-ship missile and anti-air warfare defence; at least three surface combatants for cruise missile land attack; at least three cruise missile-capable surface combatants for surface warfare; an attack submarine and one fast

20 This is arguably the most significant reorganisation of the Army since the 1970s and the creation of Training and Doctrine Command (TRADOC).

21 The Army has the ambition, for instance, to field a hypersonic missile unit by FY 2023. See Congressional Research Service, *Hypersonic weapons: Background and issues for Congress*, 2020.

22 U.S. Army, *Multi-domain battle: Evolution of combined arms for the 21st Century: 2025–2040,* 2017.

23 U.S. Government Accountability Office, *Army readiness: Progress and challenges in rebuilding personnel, equipping, and training,* 2019.

24 According to the Defense Budget Overview, the number of deployable battle force ships will increase from 299 in FY 2020 to 306 by FY 2021. See Office of the Under Secretary of Defense (Comptroller)/Chief Financial Officer, *Defense budget overview (FY21)*.

25 U.S. Department of the Navy, *Status of the Navy as of June 3*, 2020.

26 The 11 commands are Africa Command, Central Command, Cyber Command, European Command, Indo-Pacific Command, Northern Command, Southern Command, Space Command, Special Operations Command, Strategic Command, and Transportation Command.

27 The nine commands are Fleet Forces Command, Military Sealift Command, Naval Forces Central Command, Pacific Fleet, Naval Special Warfare Command, Fleet Cyber Command/10th Fleet, Naval Forces Europe/Naval Forces Africa, Naval Forces Southern Command/4th Fleet.

28 The four DDGs are USS *Carney* (DDG 64); USS *Ross* (DDG 71); USS *Porter* (DDG 78); and USS *Donald Cook* (DDG 75).

combat support ship, or equivalent pair of combat logistics ships.[29]

A typical carrier air wing consists of four strike fighter squadrons with 12 F/A-18E/F Super Hornet each, or ten F/A-18C Hornets; one electronic attack squadron made up of five EA-18G Growler; one carrier early warning squadron made up of four E-2C Hawkeyes, or five E-2D Advanced Hawkeyes; one helicopter sea combat squadron of eight MH-60R Seahawks; one helicopter maritime strike squadron of eleven MH-60R Seahawks; and a fleet logistic support squadron detachment of two C-2A Greyhounds.[30]

The challenge of a more contested maritime environment has led the Navy to adjust both its priorities and posture. The Navy aims to grow the fleet substantially, increase readiness, develop and field new capabilities, and start implementing a long-term shift in how it wages war. The Navys focus is moving away from power projection toward sea control, and its evolving operational concept of Distributed Maritime Operations is centered around dispersing offensive capabilities and linking them all through a network. This departure from the Navy's operational concept that concentrates capabilities in a small number of CSGs will be gradual and take decades to realise. The Navy has also taken the Dynamic Force Employment Initiative to heart and deployments are now more operationally unpredictable.[31] Recent deployment, coupled with the newly re-established 2nd Fleet, signals the Navy's prioritisation of North Atlantic and Arctic operations.

Re-established in 2018, the 2nd Fleet is the manoeuver arm for Northern Command's naval forces in the Atlantic and Arctic, and for European Command's in the Eastern and Northern Atlantic. The fleet, headquartered in Norfolk, Virginia, reached full operational capability in December 2019. The Navy has also re-established Submarine Group 2 in Norfolk.

The Navy force structure is under strain, including both submarines and aircraft carriers.[32] Shipyard capacity is stressed and delays seem persistent and substantial.[33] Budget overruns are common, and there is a need for modernisation and expansion, especially as the fleet grows. The service also suffers from a readiness problem, including Navy aviation. In April 2018, the former Chief of Naval Operations testified before Congress that an "acceptable" level of fleet readiness would not be restored until 2021 or 2022.[34]

Air Force

The USAF active component end strength, according to FY 2021, is projected to consist of 327,300 airmen. The Air Force Reserve is projected to reach 70,300, and the Air National Guard, 108,100. As of FY 2020, the Air Force active component has 40 combat-coded squadrons. Combat-coded aircraft and related squadrons are aircraft and units with an assigned wartime mission.[35] The Air Force Reserve has 3 combat-coded squadrons. The Air National Guard has 21 combat-coded squadrons.[36]

The US Air Force is organised around eleven Major Commands (MAJCOM) that report directly to the Air Force HQ in the Pentagon. Major Commands can be organised in two ways: by mission or by region outside the continental US

29 U.S. Department of the Navy, Office of the Chief of Naval Operations, *Force composition of afloat Navy and Naval groups*, 2017; U.S. Department of the Navy, *The carrier strike group,* 2020.

30 U.S. Navy, *Carrier air wing,* 2019.

31 Through the Dynamic Force Employment concept, former Secretary of Defense James Mattis sought to increase readiness and make the Joint Force more agile and less predictable to US strategic adversaries. In 2018, USS Harry S. Truman was expected to deploy in the Middle East; instead, it remained in the Mediterranean and North Atlantic and returned to Norfolk, Virginia, after only three months at sea. In May 2019, the USS *Theodore Roosevelt* became the first US aircraft carrier to deploy to Alaska in a decade.

32 Maintaining the U.S. Strategic Command's requirement for a minimum of 10 operational ballistic missile submarines (SSBN) and increasing the number of aircraft carriers from 11 to 12, as requested by the 2018 National Defense Authorization Act (NDAA), will consume a significant portion of the Navy's shipbuilding budget. The prospect of reaching the goal enshrined in the NDAA of 355 ships by 2034 is thus low.

33 U.S. Government and Accountability Office, 'Navy maintenance', Testimony before the Subcommittees on Seapower and Readiness and Management Support, Committee on Armed Services, U.S. Senate, December 4, 2019.

34 U.S. Navy, Chief of Naval Operations, Admiral John M. Richardson, 'Navy posture statement', Testimony before the Senate Armed Services Committee on the Fiscal Year 2020 Navy budget, April 9, 2019.

35 Units and aircraft assigned to training, operational test and evaluation, and other missions are thus excluded.

36 Office of the Under Secretary of Defense (Comptroller)/Chief Financial Officer, *Defense budget overview (FY21)*.

(CONUS). Subordinate to the MAJCOMs are the numbered Air Forces, which are usually assigned for geographical purposes. Wings, groups, and squadrons can all be assigned to a numbered air force.[37]

The USAF has 27,000 personnel permanently assigned to EUCOM. US Air Forces in Europe (USAFE), which is a Major Command, is headquartered at Ramstein Air Base, Germany. The Third Air Force is assigned to USAFE. Its primary operating bases are Royal Air Force Lakenheath, UK; Royal Air Force Mildenhall, UK; Ramstein Air Base, Germany; Spangdahlem Air Base, Germany; Aviano Air Base, Italy; Lajes Air Base, the Azores; and Incirlik Air Base, Turkey.

Notable units of the Third Air Force are the 52nd Fighter Wing, based in Spangdahlem, consisting of one squadron of F-16C/D; the 31st Fighter Wing, based in Aviano, which consists of two squadrons of F-16C/D; the 48th Fighter Wing, based in Lakenheath, which consists of three squadrons of F15C/F15E; the 86th Airlift Wing, based in Ramstein, which consists of 14 C-130J-30 Hercules, one Gulfstream V, and five Learjet 35A; the 100th Air Refueling Wing, based in Mildenhall, which consists of 15 KC-135 Stratotankers; and the 488th Intelligence Squadron, based in Mildenhall, which consists of one OC-135/RC-135. Mildenhall is also the base for the 352nd Special Operations Wing, which is an operational unit of US Air Force Special Operations Command and consists of one squadron of eight CV-22B Osprey and one squadron of eight MC-130J Commando II.

As part of EDI, the Air Force has increased its rotational presence in Europe through Theatre Security Packages (TSP). These rotations typically consist of a fighter squadron, or less, and generally last a few months. Since 2015, aircraft from different fighter wings, including F-35As and F-22s, have continually deployed in Europe.

The Air Force is shifting in accordance with the priorities set out in the National Defense Strategy. The USAF intends to expand the service.[38] Notably, the aircraft inventory is now growing for the first time in decades.[39] The USAF is also striving to improve readiness to an average of 80 per cent in its 204 pacing squadrons, which are squadrons that should be qualified and ready to execute primary wartime missions. Readiness has increased since 2017, but this was from the "lowest state of full-spectrum readiness in our history", where "only 50 per cent of our squadrons are ready to conduct all of the missions assigned to them", the Secretary of the Air Force and the Air Force Chief of Staff testified before the Senate in 2017.[40] Training has also become more sharply focused on a near-peer fight, but the readiness goal of 80 per cent seems some way off.[41]

The Air Force's number one acquisition priority is the F-35A Joint Strike Fighter, scheduled to replace all legacy multirole and close air support aircraft. Its second priority is the KC-46A Aerial Refuelling Aircraft.[42] Its third top acquisition priority is the B-21 Raider Strategic Bomber.[43]

Concepts are also changing, and the USAF has been developing what has become known as Multi-

37 In Air Force policy, Air Force Expeditionary Wings are generally the echelon with all of the capabilities needed to employ, sustain, and protect fighter forces at expeditionary bases. Collectively, these capabilities are called expeditionary combat support (ECS) and are a subset of Agile Combat Support capabilities needed to operate from expeditionary sites.

38 The USAF is moving towards a new force-sizing metric – operational squadrons – which includes airlift, bombers, command and control, fighters, intelligence/surveillance/reconnaissance, special operations, space, cyber, missile, and recovery squadrons. Using this metric, the USAF has 312 squadrons in total. The goal is to expand the force to 386 operational squadrons by 2030. It is widely recognized that reaching this goal will be difficult. Cancian, Mark F., *The U.S. military forces in FY2020: The struggle to align forces with Strategy,* Center for Strategic & International Studies, 2019.

39 This is a result of a reduction in the retirement rate of fourth-generation fighters, coupled with the arrival of new F-35As.

40 The 2013 sequester was a major setback to Air Force readiness. U.S. Department of the Air Force, 'Air Force budget posture', Testimony before the Committee on Armed Services, U.S. Senate, 6 June 2017.

41 It will require a significant amount of robust training to overcome the almost two-decades-long drought in training for combat with a near-peer competitor. For an experienced pilot, it will take at least a year to master the skills required to dominate the air against a near-peer competitor. For a squadron, which usually has a mix of experienced and less experienced pilots, it will take years before it is fully ready to take on near-peer competitors.

42 The Air Force plans to acquire 15 KC-46 yearly through 2028, at which time it will have 179. This will replace less than half of the current tanker fleet of aging KC-135s.

43 The B-21 Raider is scheduled to begin replacing the B-1B and portions of the B-52 fleets by the mid-2020s.

Domain Command and Control (MDC2), which provides the concept of operations and the technical foundation for improved situational awareness, rapid decision-making, and employment of the force in all domains.

The Air Force faces several challenges. It retains too many aging aircraft, while sustained combat operations are placing stress on the service.[44] The slow pace at which the shortage in air-refueling and strategic lift assets is being addressed is also an area of concern. The service is also struggling with a shortfall of air- and ground crews to operate and maintain the aircraft.

Marine Corps

Organisationally, the USMC is divided into four groups: the operating forces, the headquarters, the supporting establishment, and the Reserve. The USMC's active component strength, according to FY 2021, is projected to consist of 184,100 marines, and the Reserve is projected to remain at 38,500. The active component maintains 24 infantry battalions and the Reserve maintains eight.[45] The number of USMC personnel permanently assigned to EUCOM is limited to about 3000 Marines.[46]

The USMC's principal warfighting organisation during major contingencies is the Marine Expeditionary Force (MEF), i.e. the largest type of Marine air-ground task force (MAGTF). It is a combined arms force, which typically includes a Marine division, an aircraft wing, and a logistics group. It possesses the capability to project power ashore, while sustaining itself for 60 days without external assistance. The USMC has three MEFs, two located in the continental USA, on the west and east coasts, and one in the Pacific. Additionally, rotational forces are in Norway and Australia.[47]

Currently, the USMC has four active Marine aircraft wings (MAW). The Marine Corps aviation force consists of 22 fixed-wing squadrons, including F-35B and various models of F-18, 36 rotary-wing squadrons, including MV-22B Osprey, and 4 unmanned aircraft squadrons.[48]

The US Navy has 32 amphibious warfare ships, including 9 landing helicopter dock amphibious assault ships, of which 8 are Wasp-class (LHD), and one is the newer and larger America-class (LHA), in active commission.[49] LHAs and LHDs resemble small aircraft carriers and are capable of vertical/short take-off and landing and tilt-rotor and rotary-wing aircraft operations. Norfolk, Virginia, is the home port of four LHDs, whereas the home ports of the remainder are either San Diego, California, or Sasebo, Japan.[50]

The USMC is shifting, in alignment with the focus on great-power competition. In July 2019, the commandant of the USMC released new planning guidance, with the controversial ambition of further integrating the USMC with the Navy, making it a more maritime-focused force to support naval-sea control operations, rather than a land force supported by the Navy.[51]

The USMC's modernisation effort has been focused on programs that underpin the service's core competencies, and its top two acquisition priorities are the F-35 and the Amphibious Combat Vehicle (ACV).[52]

The USMC is also working together with the Army to develop Multi-Domain Operations from the land domain perspective. In light of the

44 The average age of Air Force aircraft is almost 30 years. Sustained combat operations coupled with budget restraints have also stressed the inventory for precision-guided munitions.

45 Office of the Under Secretary of Defense (Comptroller)/Chief Finacial Officer, *Defense budget overview (FY21)*.

46 Congressional Research Service, *United States European Command.*

47 The 1st MEF is based primarily at Camp Pendelton, California, and provides forces for U.S. Indo-Pacific Command and U.S. Central Command. The 2nd MEF is based primarily at Camp Lejune, in North Carolina, and is focused on operations in the North Atlantic, Including Europe and Africa. The 3rd MEF is based at Camp Courtney, in Okinawa, Japan, and is focused on operations in the Pacific.

48 Fixed-wing squadrons include F-35B, F/A-18 A++/C, F/A-18D, F/A-18A++, AB-8B, KC-130J, and KC-130T. Rotary wing includes MV-22B Osprey, AH-1Z, AH-1W, UH-1Y, and CH-35E. Unmanned uircraft are squadrons of RQ-21A. U.S. Marine Corps, 2019 *Marine Corps aviation plan,* 2019.

49 U.S. Navy, Naval Vessel Register, *Fleet size,* 2020.

50 U.S. Department of the Navy, *Amphibious assault ships – LHD/LHA(R)*, 2020.

51 This integration is well underway, and the Navy's upcoming FSA will include the USMC and is labelled the Integrated Naval Force Structure Assessment (INFSA).

52 The USMC's transition to MV22 Osprey has been successful overall and the program is nearing completion.

Table 12.1 Personnel and materiel in the US Armed Forces in Europe

Personnel	Numbers in 2020	Planned reforms towards 2025
Personnel		
Regular force	74,000	
Army	34,000 (6000 rotational in support of OAR)	
Navy	10,000	
Air Force	27,000	
Marines	3000 (plus 700 marines in Norway in support of Marine Rotational Force – Europe)	
Materiel		
Tanks	85 M1A2 Main Battle Tank (AOR Armored Rotation)	Multiple upgrades
Armoured combat vehicles	340+ Stryker Combat Vehicle, 150 Bradley Fighting Vehicles (AOR Armored Rotation)	The Army will continue to upgrade the Stryker vehicles[a]
Heavy artillery	16 M270-A1 Multiple Launch Rocket System 18 M109A6 Paladin (OAR Armored Rotation)	The 41st Field Artillery Brigade is under construction and more M270-A1s will be added.
Attack helicopters	24 AH-64D Apache 24 AH-64D Apache (OAR Aviation Rotation)	Upgrades
Surface combatants	4 DDG, Arleigh Burke-class guided missile destroyers	Possibly 2 additional destroyers (DDGs)
Combat aircraft	130+ Fighter Aircraft (F15C/ F15E and F16C/D)	Two squadrons of F15s stationed at Lakenheath is scheduled to be replaced by F35As
Transport aircraft	15 KC-135 Stratotanker 14 C-130J-30 Hercules 1 Gulfstream V (C-37A) 5 Learjet 35A (C-21A)	The KC-135s may be replaced by new KC-46As

NB: a. Upgrades include: Stryker Medium Caliber Weapon System (MCWS), Common Remote Operated Weapons Station-Javelin (CROWS-J) on the Double V-Hull platforms, and the MAPS Gen-1 GPS system.

challenges posed by near-peer competitors, the new planning guidance emphasises innovative stand-off capabilities and puts into question the long-standing goal of having 38 large amphibious ships.[53]

The USMC's top priority is quick response in crisis. Therefore, immediate and near-term readiness has been prioritised at the expense of capacity and modernisation. Despite this, the service's most pressing challenge is readiness, particularly in the Marine aviation component.[54] The USMC also suffers from a chronic shortfall of amphibious ships, which limits what the USMC can do operationally.

53 This could affect the Navy's INFSA and shipbuilding planning significantly. General David H. Berger, *Commandant's planning guidance: 38th commandant of the Marine Corps,* 2019.

54 The F/A-18 squadrons are challenged with low readiness and there are insufficient helicopters to meet the heavy-lift goals of the 2018 Marine Aviation Plan. U.S. Marine Corps, *2018 Marine Corps aviation plan,* 2018.

12.4 Reinforcement Capacity

The US Global Response Force, the pool of military assets based in the US that could be used to rapidly reinforce the Combatant Commands in response to emergent threats, has recently been re-designated as the Immediate Response Force (IRF).

The IRF is maintained by the Air Force and the Army and is capable of deploying worldwide within 18 hours. It is built around a BCT of the 82nd Airborne Division, which is part of the XVIII Airborne Corps, also known as America's Contingency Corps, headquartered at Fort Bragg, North Carolina. Assets of the Air Force Mobility Command and a rotating battalion of the ready brigade are kept on alert to deploy within 18 hours. This initial entry force is designed to be followed by additional battalions within days.[55]

The Army's active component consists of 31 BCTs, divided into 11 IBCT, 9 ABCT, and 7 MBCT, and 11 CABs. Of the 31 BCT, 25 are assigned to US Army Forces Command, 4 are assigned to Indo-Pacific Command, and 2 are assigned to EUCOM. About 5–6 BCTs are rotationally deployed outside the US at any given time, including ABCTs. The Army has prioritised readiness in recent years and has reached the goal of having 66 per cent of the active component BCTs at the highest level of readiness.[56] That leaves about 8 to 9 BCTs at the highest level of readiness in the US, discounting the BCTs deployed outside the US. A number of these could be sent to reinforce Europe.

The US's ability to reinforce Europe is challenged by its overall sealift capacity, which has declined since the end of the Cold War. This problem is particularly severe for the Army, since approximately 90 per cent of Army and USMC combat equipment is transported by sea during surge deployments.[57]

Military Sealift Command (MSC), a component of US Transportation Command, and the Maritime Administration (MARAD) have the responsibility of meeting the required sealift capacity through some combination of three categories: afloat prepositioning, commercial sustainment, and surge sealift.[58] Surge sealift is called into action during extreme emergencies and consists of ships from the MSC Surge Sealift and the MARAD Ready Reserve Force. The US's ability to surge is hampered by problems due to underfunding, ageing ships, poor maintenance, low readiness, and an insufficient number of available ships. Needless to say, this limited ability, including the capacity limitations, would be particularly detrimental in a large-scale operation where time is of the essence.[59] Furthermore, in Europe there are also reception, staging, onward movement and integration (RSOI) limitations to take into consideration.

These problems are ameliorated by extensive and expanding prepositioning programs. The Army has prepositioned equipment for an ABCT and an artillery brigade in Europe, and more will continue to arrive through 2021.[60] This increases the pace of deployment, since units can be transported by air and retrieve the equipment.

The US Navy maintains an enduring forward presence and approximately a third of the fleet is globally deployed. Unlike the other services that require fixed bases and host nation consent to operate, the Navy can operate freely across the seas. As a result, the Navy is often the first to respond to a crisis.

The force forward presence needed, as determined by the combatant commanders and the Secretary of Defence, is specified in the Global Force Management Allocation Plan (GFMAP). The Navy's FY 2019 budget request declared that, to meet the

55 The IRF's first deployment occurred in January 2020.

56 The DoD measures readiness using a system called Defense Readiness Reporting System (DRRS). Under DRRS, all military units are required to periodically report in four categories: personnel, equipment on hand, supply/maintenance, and training. These categories produce an overall unit grade ranging from one to four, with one being the highest and four being unready. There is also a fifth category for 'out of service'. U.S. Department of Defense, Office of Inspector General, *Audit of brigade combat team readiness*.

57 U.S. Navy, Deputy Chief of Naval Operations for Fleet Readiness and Logistics, *Sealift that the nation needs,* 2018.

58 U.S. Department of Defense, Office of Inspector General, Audit of surge sealift readiness reporting, 2020; Smith, Colin and Townsend, Jim, *Not enough maritime capability: The challenge of reinforcing Europe,* Center for a New American Security, 2019.

59 U.S. Transportation Command, *Comprehensive report for Turbo activation 19-Plus,* 2019; Martin, Bradley and Yardley, Roland J., *Approaches to strategic sealift readiness,* RAND, 2019.

60 U.S. Army Europe, *Fact sheet: Army prepositioned stock,* 2020; U.S. Department of Defense, *European Deterrence Initiative*; U.S. Government Accountability Office, P*repositioned stocks: DOD needs joint oversight of the military services' programs,* 2019.

objectives of the NSS, NDS and the GFMAP, the Navy and Marine Corps aim to have "two Carrier Strike Groups (CSG) and two Amphibious Ready Groups (ARG) forward at all times, and keeping three additional CSGs and ARGs in a ready use or surge status (2+3) to deploy within 30 days."[61]

A crisis in Northern Europe would likely lead to a surge in the naval capabilities deployed to the region. This has been signaled through an increase in aircraft carrier deployments to the European theatre and the Arctic, more frequent deployments of submarines, and the reconstitution of the 2nd Fleet.

Considerable assets are assigned to USAFE and the Third Air Force. In a conflict in EUCOM's AOR, there would probably be a massive influx of US airpower assets, including bombers and fighter aircraft, as well as transports, tankers, and further enablers, which would be assigned to these existing service components.

The Air Force's expeditionary force has little relationship to its units in CONUS.[62] Regular wings, groups, squadrons and groups do not generally deploy together to make up expeditionary units. Rather, the Air Expeditionary Force (AEF) process creates tailored force packages by combining personnel and equipment from multiple units.[63]

The USAF has analysed which pacing squadrons would be required on the first days of a peer campaign. In each pacing squadron, lead packages have been developed, which will constitute the initial wave to halt enemy activity while follow-on joint and allied partner forces deploy. According to USAF's FY 2020 posture statement, 80 per cent of the pacing squadrons will reach readiness before the end of FY 2020, and more than 90 per cent of these squadrons' lead packages are ready to "fight tonight".[64] The number of mission-capable pacing squadrons available for conflict in Northern Europe, discounting other demands and priorities, is undisclosed. However, it seems likely that only portions of the Air Force's combat-coded squadrons are currently qualified to execute the unit's primary wartime mission.[65]

When making this estimation, refueling capacity and basing need to be considered. The fact that wing-sized units at main operating bases represent a significant vulnerability in a conflict with a near-peer competitor will most certainly affect both the size of reinforcements and the pace of the influx.[66]

As the US expeditionary force in readiness, the USMC is capable of responding rapidly to a crisis in Europe. The 2nd Marine Expeditionary Force would be the primary provider of fighting formations and units to EUCOM. When directed, the 2nd MEF's over 47,000 marines and sailors deploy as a Marine Air-Ground Task Force (MAGTF).[67] In a conflict in Northern Europe, parts of the 2nd MEF would deploy to Norway with support of the equipment placed there through the Marine Corps Pre-positioning Program Norway, MCPP–N. This includes munitions to support an MEB for up to 30 days and ground equipment to support a MAGTF built around an infantry battalion task force, combat logistics battalion, and composite aviation squadron.[68]

61 U.S. Department of the Navy. *Highlights of the Department of the Navy FY 2019 budget,* 2019.

62 The AEF concept, formulated in the 1990s, was originally intended to be both the process for managing force rotations and a standard unit of measure for presenting forces. Prioritising flexibility, the USAF later abandoned the idea of standard-sized AEFs and decided to present tailored force packages based on combat commanders' needs. Priebe, Miranda, Vick, Alan J., Heim, Jacob L., Smith Meagan L. *Distributed operations in a contested environment: Implications for USAF force presentation.* RAND, 2019.

63 It is possible the Air Force would try to keep its permanent wings intact, at least to the extent feasible, in a major conflict against a peer competitor, as was the plan for defending NATO during the Cold War. If this is the case, the intact fighter wings would have additional aircraft, such as KC-135s, attached. Miranda Priebe (et al.), *Distributed operations*.

64 U.S. Department of the Air Force, *FY20 Personnel Posture Statement,* Testimony before the Committee on Armed Services, U.S. Senate, 27 February 2019.

65 Wood, Dakota L., *The 2021 index of U.S. miltary strength* (Wasington D.C.: Heritage Foundation, 2020), p. 421.

66 The prepositioning of numerous Deployable Air Base System, (DABS) kits will facilitate a less vulnerable distribution of air assets.

67 The basic structure of a MAGTF consists of a Command Element, a Ground Combat Element, an Aviation Element, and a Logistics Combat Element. To enhance expeditionary readiness, the 2nd Marine Expeditionary Brigade was re-established in 2012. It provides a scalable, standing joint-capable, deployment-ready headquarters element that can enable follow-on forces. It is organised to meet the requirements of a specific situation and can function alone or as the lead echelon of the MEF. The 2nd MEB draws its aviation, ground, and logistics elements from the 2nd MEF and can range in size from 14,000–18,000 marines.

68 See official site of the US Marine Corps, *Marine Corps Pre-Positioning Program – Norway (MCPP-N)*.

US reinforcements to Europe would also include special operations forces.[69] In a conflict in Europe, SOF would be assigned to Special Operations Command Europe, which is under the operational control of EUCOM´s combatant commander. Possible reinforcements from the US Army Special Operations Command are the 75th Ranger Regiment, special operations aviation, and Delta Force units.[70] The Air Force Special Operations Command could send special-purpose aircraft and control teams. Naval Special Warfare Command can send Navy Seals Teams, and Marine Corps Forces Special Operations Command could send units from the Marine Raider Regiment.

12.5 Assessment of military capability in Europe

Readiness is highly prioritised by all US military services. Significant progress has been made in the last few years, but readiness remains a major concern across the services. Despite lingering problems, the US contribution to resolving a conflict in Northern Europe would be substantial, both within one week and a longer time frame of three months.[71]

The US forces available within one week will mostly consist of the permanent and rotational forces assigned to EUCOM. However, certain reinforcements from the US and naval vessels deployed in proximity to the theatre could potentially also be available within that time frame.

The 173rd Airborne Brigade is the Army's Contingency Response Force in Europe. Within one week it is estimated that at least two-thirds of the brigade will be available. Within the same time frame, it is estimated that at least half of the 2nd Cavalry Regiment, the 41st Field Artillery Brigade, the 12th Combat Aviation Brigade, and the two Air Defense Artillery Battalions of the 10th AAMDC will be ready. The better part of the SOF battalion will available.

Compared to the permanent forces, the readiness of the rotational forces is higher. Rotational forces are deployed on NATO's eastern flank to deter and provide reassurance and are continuously engaged in exercises. It is estimated that at least two-thirds of the Armoured BCT and the Combat Aviation Brigade will be available. Furthermore, within a week, two battalions of the 82nd Airborne Division attached to the IRF should have arrived.

The availability of the four Arleigh Burke-class Guided Missile Destroyers (DDG) permanently assigned to EUCOM depends on where they are deployed at the outbreak of the crisis.[72] This also applies to all other forward-deployed naval vessels, including submarines. The average transit speed of US naval warships is 15 knots. It takes eight days to sail to the GIUK Gap from Norfolk and nine to Gibraltar. A Carrier Strike Group deployed in the Atlantic Ocean or the Mediterranean Sea could be ready to assist within a one-week time frame.[73]

It is estimated that two-thirds of the F-16C/D squadron of the 52nd Fighter Wing, the two F-16C/D squadrons of the 31st Fighter Wing, and the three F15C/F15E squadrons of the 48th Fighter Wing will be available at a week's notice. Within that time frame, substantial US-based airpower assets would also have been assigned to USAFE. This might include the equivalent of 1–2 wings, each including 3–4 squadrons of fighter aircraft, with F-15 Cs, F-22s and F-35s, and a tanker wing. It might also include 2–3 strategic bomber squadrons, primarily B-52s and B-1Bs.

The USMC's permanent presence in Europe is small, but reinforcements from the US would arrive

69 United States Special Operations Command (USSOCOM) oversees the special operations component commands of the four services: the Army Special Operations Command; the Naval Special Warfare Command; the Air Force Special Operations Command; and the Marine Corps Forces Special Operations Command; and eight sub-unified commands, which consist of the U.S. Joint Special Operation Command and seven Theater Special Operations Commands.

70 The 75th Ranger Regiment, headquartered at Fort Benning, Georgia, is composed of four geographically dispersed battalions. It is the Army's premier light-infantry unit; the Regiment can deploy one Ranger battalion and a Regimental C2 element within 18 hours of notification. It can follow on with two additional battalions within 72 hours.

71 The availability and readiness of US forces are increasingly sensitive information, and the DoD has recently moved to further keep force readiness out of the public domain.

72 Note also that Africa is part of the Sixth Fleet´s area of operations.

73 In the summer 2018, USS *Harry S. Truman* (CVN75) participated in the annual exercise, Baltops, operating from the Adriatic Sea. In the autumn of the very same year, the carrier took part in the NATO exercise, Trident Juncture, in Norway, operating from the Northern Atlantic.

quickly. Within one week's time, the first units from 2nd MEF may have landed and begun retrieving pre-positioned equipment. Special operations forces are also available at short notice, and an estimation suggests that three battalions of the 75th Ranger Regiment and several smaller SOF units will be ready.[74]

Within three months, the US can reinforce Europe considerably. All permanent and rotational units in Europe, as well as units with prepositioned equipment on the continent and in Norway, will be on their feet. The US Army has stocks for one armoured brigade and an artillery brigade on the continent. Within three months, these units would be up and running. At least one ABCT, one infantry BCT, and possibly one CAB would also have been sealifted to Europe. The Army would then have three armoured brigades, one mechanised brigade, three infantry brigades, three attack helicopter brigades, and two artillery brigades in Europe.

Substantial naval forces can also be deployed. Within three months, two CSGs would be available, bringing eight fighter squadrons to the theatre. An Amphibious Ready Group with a Marine Expeditionary Unit could also be available unless engaged elsewhere. Within this timeframe, considerable additional airpower could be sent to Europe, including several fighter squadrons.

When estimating the potential for US reinforcements to the European theatre, strategic and political considerations are as important as the number of available military units in CONUS. The future development of US military capability also presents a mixed bag for Europe.

The 2018 National Defense Strategy warns that the US competitive military advantage has been eroding. The reorientation towards inter-state strategic competition has been accompanied by an intensified US effort to remain the world's most capable military power. This is observable on all levels of the US military.

Training scenarios focus almost exclusively on high-end decisive action. Utility in near-peer situations guides upgrades, acquisition priorities, and new equipment programs. Organisational structures, concepts, and doctrine are also shifting to this end. The character of recent budgets suggests the DoD is pursuing a build-up that prioritises modernisation over expanding the force structure. The only service that is truly expanding its force structure is the Navy. The other services' force structure will remain more or less steady. A downturn in the US economy will slow the modernisation effort, but it will not stop the reorientation.

US military capability to handle near-peer situations will increase during the coming five years. However, the US advantage has shrunken, and there are limits to US military power. The shift in the DoD's force-sizing construct to one major conflict 'plus', is a recognition of this fact. A sharpened US focus on China can thus be detrimental to US military capability in Europe.

At the end of July 2020, the Trump Administration announced plans to withdraw troops from Germany, citing China as one of the reasons. The plans include moving EUCOM Headquarters, including SOCEUR, to Mons, Belgium; relocating the 52nd Fighter Wing to Aviano Air Base, Italy; relocating three brigade-sized headquarters, the 5th Battalion, 4th Air Defense Artillery, and an engineering battalion to Belgium; and repositioning the 2nd Cavalry Regiment from Germany back to the US.[75] If implemented, this would reduce US permanent land forces in Europe by a third. As of yet, no timetables have been set, and the plans could face challenges from Congress, where lawmakers from both parties have expressed concerns. Shortly after assuming office, President Biden formally halted the planned withdrawal of troops from Germany. Furthermore, a review of the US force posture abroad is expected from the Biden administration.

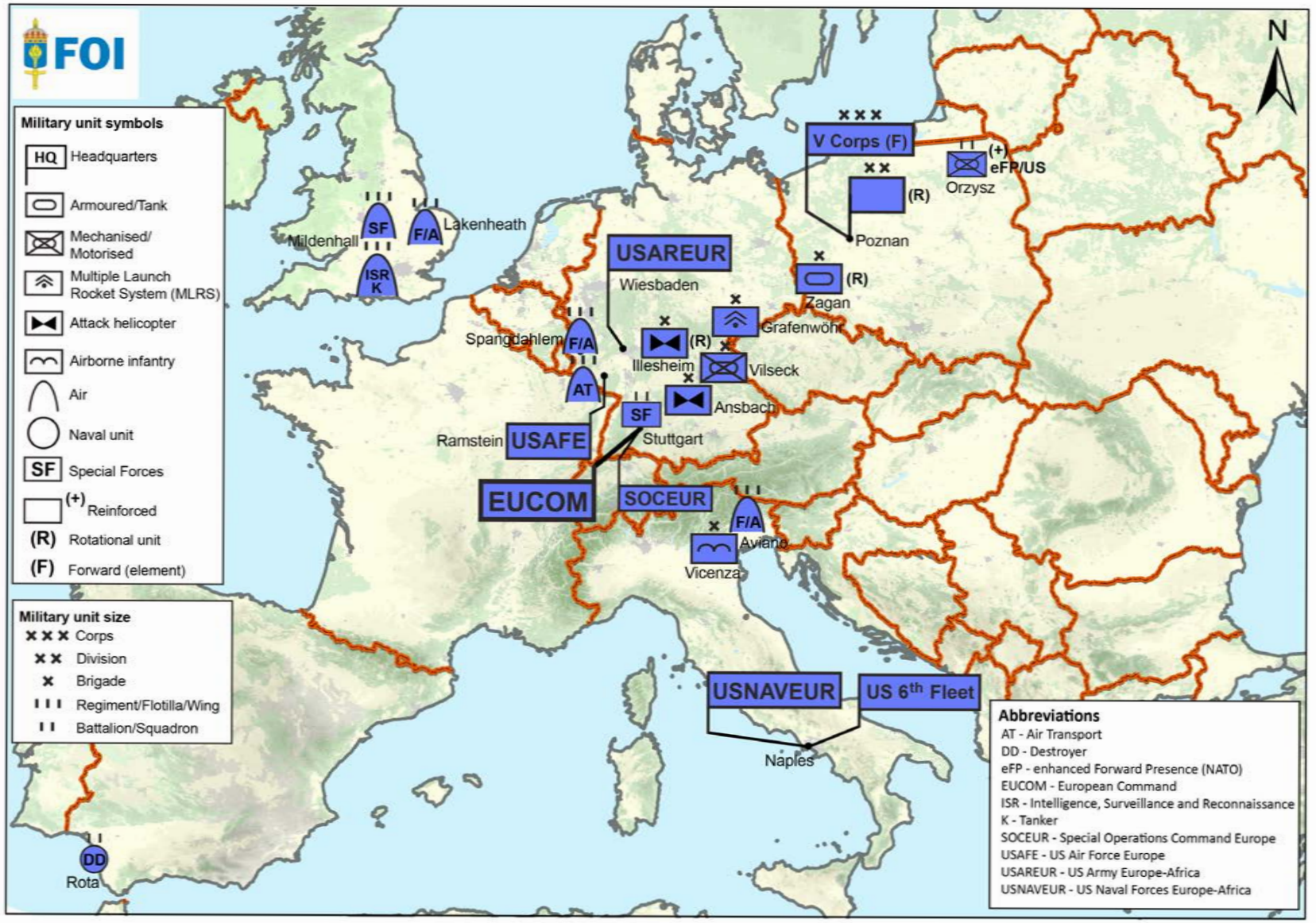
74 The 75th Ranger Regiment is tasked to be able to deploy one Ranger battalion and a Regimental C2 element within 18 hours of notification and follow on with two additional battalions within 72 hours.

75 The plans also include moving Africa Command and Special Operations Command Africa from Stuttgart.

Table 12.2 Force structure of the US Armed Forces in Europe

	Organisation 2020	Planned reforms towards 2025	Assessment of forces available at short notice[a]
Joint	Joint Operations Command (EUCOM) Special Operations Command (SOCEUR) Theater Sustainment Command (TSR) 1 signals brigade 1 military intelligence brigade 1 transportation brigade 1 military police battalion		
Army	1 Corps HQ Air and Missile Defense Command 1 mechanised infantry brigade 1 artillery brigade[b] 1 airborne infantry brigade 1 combat aviation helicopter brigade 1 special operations forces battalion OAR Rotation: 1 armoured brigade 1 combat aviation helicopter brigade 1 Sustainment Task Force	2 artillery battalions are scheduled to arrive in 2021. The airborne brigade is scheduled to recieve a new platform, the Ground Mobility Vehicle.	Up to 2 mechanised battalions including support 2–3 airborne battalions including support Up to 1 attack helicopter battalion At least half a special forces batallion At least two -thirds of the units in rotation
Navy	1 amphibious command ship (LCC) 4 destroyers 1 maritime patrol squadron (P-8A)	Upgraded weapons systems for maritime patrol aircraft (P-8A).[c]	Available At least 2 ships Available
Air Force	6 fighter/attack squadron 1 fighter squadron (rotational) 1 intelligence squadron 1 tanker wing 1 transport wing 1 combat search and r escue squadron 1 special operations group	Prepositioning of numerous Deployable Air Base Systems – Facilities, Equipment and Vehicle Kits (DABS).	At least two-thirds Available (if deployed in Europe) Available
Marines	Marine Rotational Force (Norway)	The US will end the rotational deployment of 700 marines to Norway in 2021.	Up to a battalion including ground and air support

NB: a. Primarily manoeuvre forces have been assessed with respect to availability. Higher commands/staffs are generally expected to function at short notice, if they are at Full Operational Capability (FOC). Support units included in manoeuvre forces are assumed to have the same readiness as their parent organisations, if available information does not indicate otherwise. Independent support and specialist units have generally not been assessed. **b.** The 1st Battalion of the 77th Field Artillery Regiment is under construction, **c.** Upgrades include: AGM-158C Long Range Anti-Ship Missile (LRASM). Other upgrades considered are JDAM variants, Mk 62/63/65 Quickstrike mines, the Small Diameter Bomb (SDB II), and Miniature Air-Launched Decoy (MALD).**c**. Deployable Air Base Systems – Facilities, Equipment and Vehicle Kits.



Map 12.1 Overview of US armed forces in Europe and their basing

NB: Design by Per Wikström. The map covers mainly operational headquarters and manoeuvre forces.

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FOI conducts defence research for the Swedish Government, in particular the Ministry of Defence, and the Swedish Armed Forces. The Northern European and Transatlantic Security Programme follows the security and defence policy developments in relevant Western countries and organisations. Every third year the programme provides an aggregate analysis of the military strategic situation in Northern Europe.

In the 2020 study of Western military capability in Northern Europe, our wish was to perform a first cut net assessment of the force balance between the West and Russia. The aim is to identify the important characteristics of the force balance with respect to relative strengths and weaknesses. The assessment leads us to a number of conclusions for the Western defence of Northern Europe.

The study is divided into two parts. Part I covers the actual net assessment and examines the changing global security landscape, security and defence policy in Northern Europe, NATO preparations for Western collective defence, fighting power in Northern Europe and the results of a war game involving the West and Russia. Part II charts the base for Western military capability in Northern Europe, i.e. the defence efforts of eleven key Western countries that play a significant role in the collective defence of the area.

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