NATO
OTAN

The Secretary General's

Annual Report

2022

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FOREWORD

NATO Headquarters joins other international landmarks in switching off lights on 21 December in solidarity with Ukraine. Brussels, Belgium, December 2022.

NATO Secretary General Jens Stoltenberg visits NATO's Canadian-led multinational battlegroup at Camp Ādaži. Ādaži, Latvia, March 2022.

We are an Alliance of 30 democracies. Standing as one, we will protect our people and our values. Democracy will always prevail over autocracy. Freedom will always prevail over oppression.

NATO Secretary General Jens Stoltenberg following an extraordinary meeting of the North Atlantic Council. Brussels, Belgium, 24 February 2022.

President Putin's war of aggression against Ukraine is the biggest security crisis in Europe since the Second World War. It is not only a direct threat to the existence of Ukraine as a free and independent country, but to the entire rules-based international order. Putin must not win. If he does, it will show that aggression works and that force is rewarded. This would be dangerous for our own security, and for the whole world.

This war did not start in 2022, it started in 2014, when Russia illegally annexed Crimea and entered eastern Ukraine. Since then, NATO Allies have trained tens of thousands of Ukrainian soldiers and supported its defence and security sector. NATO will continue to stand by Ukraine for as long as it takes.

NATO Allies shared precise intelligence about Moscow's plans for an invasion long in advance. We tried until the very last minute to engage Russia in diplomacy to convince it not to invade Ukraine, including at a meeting in January 2022 of the NATO-Russia Council. Russia walked away from this dialogue.

Since the invasion, NATO Allies provided unprecedented support for Ukraine, with around USD 120 billion of military, humanitarian and financial assistance in 2022. While the United States is the largest single contributor, Europe and Canada provided over half of the overall assistance. Europeans also welcomed almost five million refugees from Ukraine. Europe and North America continue to apply unprecedented economic sanctions. This demonstrates the strength of North America and Europe standing together.

Since 2014, NATO has implemented the largest reinforcement of our collective defence in a generation. It meant that when Russia launched its fully-fledged invasion of Ukraine, NATO was ready. We activated our defence plans within hours, doubled the number of NATO's multinational battlegroups from four to eight, and increased our military presence from the Baltic to the Black Sea, on the land, at sea and in the air.

In June 2022, at NATO's historic Madrid Summit, Allies agreed a further fundamental shift in our deterrence and defence to make clear that we will defend every inch of NATO territory. We upgraded our defence plans, put more forces at high readiness, and pre-assigned forces to defend specific Allies. We committed to station more troops and pre-position more equipment and weapon stockpiles in the east of the Alliance. And leaders agreed to significantly increase NATO's Common Funding to ensure that our political decisions are supported with adequate resources.

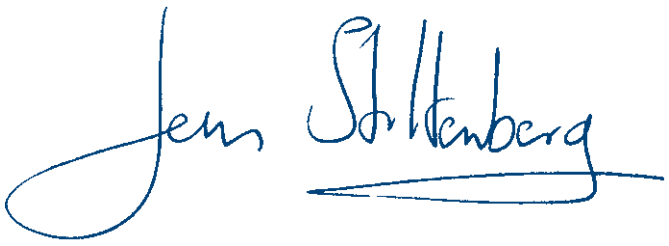
In Madrid, Allies also agreed a new Strategic Concept, NATO's guiding document, to reflect this new security reality. Our new Strategic Concept identifies Russia as the most significant and direct threat to Allied security, it addresses the People's Republic of China for the first time, and it sets out how we address other challenges like the ongoing threat of terrorism, as well as cyber, hybrid, new technologies and the implications of climate change on our security.

At the Madrid Summit, all 30 Allies took the historic decision to invite Finland and Sweden to join the Alliance and, in the fastest accession process to date, 28 Allies have already ratified their accession.

Looking ahead to the NATO Summit in Vilnius in July 2023, we will continue to strengthen our deterrence and defence and adapt our Alliance to a world of strategic competition, where authoritarian regimes are challenging the rules-based international order. I expect Allies will agree a new more ambitious defence spending pledge. In a more dangerous world, Allies increasingly see 2% of Gross Domestic Product spent on defence as a floor and not a ceiling.

The bond between Europe and North America remains rock solid. More than 80% of citizens polled by NATO in 2022 believe that cooperation between our two continents on security matters is important.

In these more challenging times, NATO Allies stand united in our support of Ukraine, and in defence of our values, our nations and our one billion people. One for all and all for one.



Jens Stoltenberg
NATO Secretary General

NATO AT A GLANCE

Meeting of the North Atlantic Council at the level of NATO Heads of State and Government during the extraordinary Summit following the onset of the Russian invasion of Ukraine. Brussels, Belgium, March 2022.

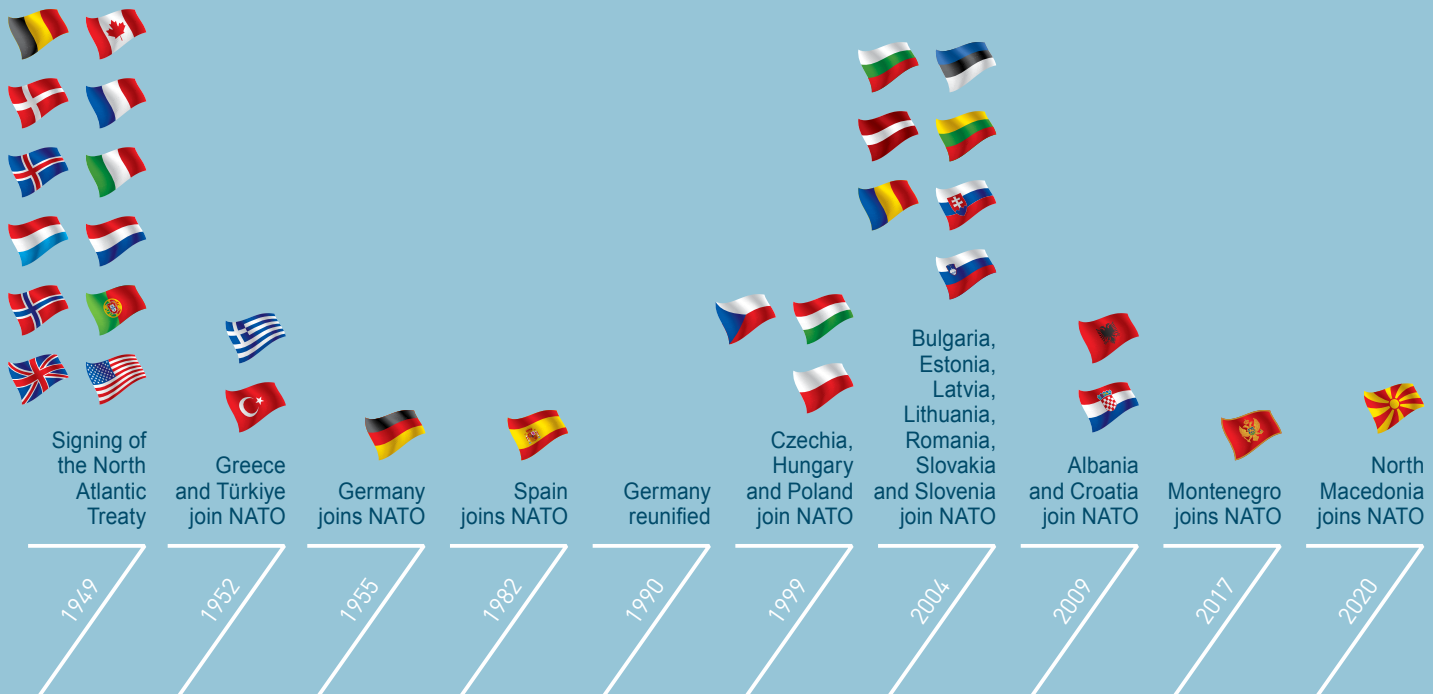
Together, NATO Allies represent one billion people
and roughly half of the world's economic and military might.

Why Was NATO Founded?

The North Atlantic Treaty Organization was founded in 1949 in the aftermath of the Second World War. Its essential purpose is to safeguard the freedom and security of all its members by political and military means. The principle of collective defence is at the very heart of NATO's founding document – the North Atlantic Treaty. This principle, enshrined in Article 5 of the Treaty, binds NATO Allies together, committing them to protect each other against attack. NATO strives to secure a lasting peace in Europe, based on common values of democracy, individual liberty and the rule of law.

How Many Member States Are There?

The Alliance started with 12 founding members: Belgium, Canada, Denmark, France, Iceland, Italy, Luxembourg, the Netherlands, Norway, Portugal, the United Kingdom and the United States. The North Atlantic Treaty allows other European countries to join the Alliance, as long as all Allies agree. Any prospective member must share NATO's core values and have the capacity and willingness to contribute to security in the Euro-Atlantic area. Over the decades, the following 18 countries have joined NATO: Greece and Türkiye (1952), Germany (1955), Spain (1982), Czechia, Hungary and Poland (1999), Bulgaria, Estonia, Latvia, Lithuania, Romania, Slovakia and Slovenia (2004), Albania and Croatia (2009), Montenegro (2017) and North Macedonia (2020). All 30 NATO Allies are stronger and safer together than they would be alone. In 2022, Finland and Sweden submitted official letters of application to become NATO Allies. In July, after completing accession talks, NATO Allies signed the Accession Protocols for Finland and Sweden, which then became Invitees, attending NATO meetings as such. Once all Allies have ratified the Accession Protocols according to their national procedures, the Secretary General will invite Finland and Sweden to accede to the North Atlantic Treaty, after which they will become NATO Allies.



For All Who Serve

2022 has been a year like no other.

Russia's illegal war of aggression against Ukraine has made our world more dangerous. Faced with the biggest security crisis in Europe since the Second World War, NATO has responded with strength and unity.

With our defence plans activated within hours of the invasion, we now have over 40,000 troops under NATO command in the eastern part of the Alliance, backed by substantial capabilities in the air and at sea. We have doubled the number of battlegroups, from four to eight. And we will continue to strengthen our deterrence and defence.

What you, our armed forces, do sends a clear message to Moscow and to anyone who would challenge us: NATO is here. We will protect and defend every inch of our territory.

Over the past year, I have had the privilege to meet many of you, and I have seen how professional, committed and capable you are.

Wherever you are deployed – from the North Atlantic to the Mediterranean, maintaining a safe and secure environment in Kosovo, or helping security forces in Iraq – you play an essential role for our security.

I thank you very much for your service.

French Lieutenant "Balek" at Mont-de-Marsan Air Base, France, 2022.

A US marine in exercise Cold Response 22. Sandstrand, Norway, March 2022.

NATO IN 2022

ADAPTING TO THE NEW STRATEGIC ENVIRONMENT

Estonian, French and UK soldiers mark the fifth anniversary of NATO's multinational battlegroup in Estonia. May 2022.

Russia's brutal war on Ukraine is a game-changer for global security.
It shows that we cannot take our security for granted – anywhere.
NATO has responded with unity and resolve, determined to support Ukraine
and keep our 1 billion people safe – everywhere.

NATO Secretary General Jens Stoltenberg in an op-ed article originally published by Canada's Globe and Mail, 24 August 2022.

Responding to Russia's Aggression

For more than 30 years, NATO tried to build a partnership with Russia. Despite this, over the past decade, Russia has continuously violated the norms and principles that contributed to a stable and predictable European security order.

Russia's brutal and unlawful war of aggression against Ukraine in February 2022 has shattered peace and gravely altered the security environment. In light of its hostile policies and actions, NATO cannot consider Russia to be a partner. The Russian Federation is the most significant and direct threat to Allies' security and to peace and stability in the Euro-Atlantic area. However, NATO remains willing to keep open channels of communication with Moscow to manage and mitigate risks, prevent escalation and increase transparency. NATO does not seek confrontation and poses no threat to Russia.

In 2022, the Alliance continued to respond to Russian threats and hostile actions in a united and responsible way.

NATO first began calling attention to the Russian military build-up in and around Ukraine and Belarus in spring of 2021 and subsequently in autumn of 2021. The North Atlantic Council and the Secretary General, in several statements, expressed grave concerns about the substantial and unprovoked build-up. NATO called on Russia to de-escalate, pursue diplomatic channels and abide by its commitments to transparency surrounding military activities.

In late 2021 and early 2022, Allies publicly released intelligence indicating that Russia was preparing for a large-scale military aggression against Ukraine. Allies expressed their unwavering support for Ukraine's sovereignty and territorial integrity, and made it clear that any further Russian aggression against Ukraine would have "massive consequences and carry a high price". They also expressed their resolve to defend and protect all Allies in a preventive, proportionate and non-escalatory manner.

Despite Moscow's decision in October 2021 to cut diplomatic ties with NATO, Allies repeatedly proposed using the established platform of the NATO-Russia Council and undertook diplomatic initiatives in a good faith effort to defuse the crisis provoked by Russia's military build-up in and around Ukraine.

At the NATO-Russia Council meeting on 12 January 2022, Allies and Russia discussed the broader topic

NATO-Russia Relations Prior to the February 2022 Invasion

After the Cold War ended, NATO worked diligently to build a win-win strategic partnership with Russia, based on dialogue and practical cooperation in areas of common interest. At the 1990 London Summit, the Alliance extended a hand of friendship to Russia, offering dialogue and partnership in place of confrontation and distrust. The NATO-Russia Council was established to serve as the primary forum for dialogue and cooperation between NATO Allies and Russia. No other partner has been offered a comparable institutional relationship.

In 2014, as a consequence of Russia's illegal and illegitimate annexation of Crimea, NATO suspended all practical cooperation with Russia. Allies decided that there can be "no business as usual" until Russia returns to compliance with international law.

Left to right: former Supreme Allied Commander Europe General Tod Wolters with NATO Secretary General Jens Stoltenberg and Chair of the NATO Military Committee Admiral Rob Bauer. Brussels, Belgium, March 2022.

of European security, including the situation in and around Ukraine. Allies proposed continuing the dialogue with Russia through a series of NATO-Russia Council meetings focused on issues of concern.

Russia attempted to use its threatening military posture around Ukraine to present NATO with a so-called draft "security treaty" that demanded no further NATO enlargement and the withdrawal of troops and infrastructure from almost half of the Alliance. NATO – in parallel with the United States – responded in writing on 26 January with concrete and substantive proposals. These included concrete ideas to improve the NATO-Russia relationship, enhance European security (including by de-escalating the situation in and around Ukraine) and achieve progress in the fields of risk reduction, transparency and arms control. At the same time, Allies made clear that they would not renounce their commitment to protecting and defending each other, and underscored each nation's right to choose its own security arrangements.

On 9 February, in a letter addressed to Russian Foreign Minister Sergei Lavrov, the Secretary General reiterated the invitation to a series of NATO-Russia Council meetings. Russia did not reply to that invitation and did not respond to NATO's proposals. Instead, Russia took diplomatic options off the table and chose the path of war by invading Ukraine.

The Alliance's Response to Russia's War of Aggression against Ukraine

NATO's response to Russia's brutal war against Ukraine has been based on two main principles. First, ensuring the security of all Allies and acting responsibly so as to avoid a direct confrontation between NATO and Russia. Second, supporting Ukraine's inherent right to defend itself, based on Article 51 of the Charter of the United Nations and on the firm belief that Ukraine's security and independence are key for Euro-Atlantic security.

On 24 February, the North Atlantic Council held consultations under Article 4 of the North Atlantic Treaty and issued a statement condemning the Russian invasion, voicing support for Ukraine and highlighting the ironclad commitment of the Allies to Article 5 of NATO's founding Treaty.

On 25 February, Allied Heads of State and Government held a virtual Summit and were joined by the leaders of Finland, Sweden and the European Union. In a statement, NATO Leaders condemned the Russian invasion of Ukraine, enabled by Belarus. They announced economic sanctions and made changes to NATO's posture, including by activating NATO's defence plans. Ukraine's President Volodymyr Zelenskyy addressed virtually Heads of State and Government, updating Allies about the situation on the ground and Ukraine's self-defence efforts.

At the NATO Foreign Ministers' meeting in Brussels on 6 and 7 April, Allies agreed to sustain and further strengthen support to Ukraine and step up cooperation with partners vulnerable to Russian malign influence. NATO also condemned the horrific murders of civilians that were committed in Bucha and other places before they were liberated from Russian control. Ukraine's Foreign Minister Dmytro Kuleba joined Allied Foreign Ministers for consultations about sustained Allied support to Ukraine.

In its new Strategic Concept approved at the June 2022 Madrid Summit, NATO defined Russia as the most significant and direct threat to Allies' security and to peace and stability in the Euro-Atlantic area. In light of Russia's policies and actions, Allies agreed that NATO cannot consider Russia to be a partner and that any changes in the relationship between NATO and Russia depend on Russia halting its aggressive behaviour and fully complying with international law. President Zelenskyy made a virtual address at the Summit, and Allies approved further urgent support to Ukraine.

On 22 September, after Russia announced the intention to hold so-called "referenda" in four Ukrainian regions that were under Russian control at the time, the North Atlantic Council stated that NATO Allies would not recognise the illegal attempted annexation of Ukrainian lands and condemned the escalation of the conflict by Russia, including its irresponsible nuclear rhetoric.

Meetings of Allied Foreign and Defence Ministers with their Ukrainian counterparts reinforced NATO's political and practical support for Ukraine as it defends itself against Russia's brutal war of aggression. While the delivery of weapons and ammunition was organised by Allies through bilateral and ad hoc mechanisms, NATO also established mechanisms to provide Ukraine with non-lethal defensive support.

In 2022, I worked to raise awareness of the tools available in the NATO Crisis Response System. This way, responsible actors, including the Council, were in a position to best respond to the invasion of Ukraine.

Catherine Gerth (Canada)

Head, Crisis Response Systems
and Exercise Section,
Operations Division
NATO Headquarters, Brussels, Belgium

The Activation of NATO's Defence Plans

Following Russia's full-scale invasion of Ukraine in February 2022, Allies activated NATO's defence plans. The day after the invasion, NATO Leaders agreed to deploy defensive land and air forces in the eastern part of the Alliance and maritime assets across the NATO area. Following the activation of NATO's defence plans, the Supreme Allied Commander Europe employed elements of the NATO Response Force. It was the first time that the Alliance deployed high-readiness elements of the NATO Response Force in a deterrence and defence role.

Following the activation of defence plans, more than 40,000 troops, along with significant air and naval assets, were placed under direct NATO command in the eastern part of the Alliance, supported by tens of thousands more from Allies' national deployments for enhanced vigilance activities. At the March 2022 extraordinary Summit, NATO Leaders agreed to rapidly establish four new multinational battlegroups in Bulgaria, Hungary, Romania and Slovakia, in addition to the existing battlegroups in Estonia, Latvia, Lithuania and Poland.

US Army soldiers arrive at Nuremberg International Airport on 28 February 2022 as part of the United States' contribution to the NATO Response Force. Nuremberg, Germany, February 2022.

Building on these decisions, at the Madrid Summit in June 2022 Allies agreed a fundamental shift in NATO's deterrence and defence posture. They agreed to strengthen forward defences and enhance the battlegroups in the eastern part of the Alliance up to brigade level, where and when required. NATO Leaders also adopted a new NATO Force Model that will strengthen and modernise the NATO Force Structure and increase the number of high-readiness forces available to the Alliance.

Allies agreed to underpin the new commitments with more pre-positioned equipment and supplies, more forward-deployed capabilities, and upgraded defence plans, with forces pre-assigned to defend specific Allies. All of this constitutes the biggest overhaul of Allied collective defence and deterrence since the Cold War.

In 2022, Allies agreed to a fundamental shift in deterrence and defence, with more forward-deployed and higher-readiness forces. I am honoured to be a member of a team that contributes to the Alliance's security.

Lieutenant Colonel Görkem Durak (Türkiye)

Staff Officer, Transformation Issues,
Policy and Capabilities Division,
NATO International Military Staff
NATO Headquarters, Brussels, Belgium

NATO Secretary General Jens Stoltenberg visits NATO's UK-led multinational battlegroup in Estonia. Tapa, Estonia, March 2022.

President of Ukraine Volodymyr Zelenskyy addresses NATO Heads of State and Government during the Madrid Summit. Madrid, Spain, June 2022.

Supporting Ukraine

NATO supported Ukraine since well before the Russian invasion in 2022. As a response to Russia's illegal and illegitimate annexation of Crimea in 2014 and to the continued destabilisation by Moscow of eastern Ukraine, the Heads of State and Government of the NATO-Ukraine Commission endorsed the Comprehensive Assistance Package for Ukraine at their meeting in Warsaw on 9 July 2016. The objective of the initial package was to consolidate and enhance NATO's assistance for Ukraine to help the country better provide for its own security, including by supporting Ukraine's reform efforts, in line with its Euro-Atlantic aspirations.

Originally, the Comprehensive Assistance Package contained more than 40 targeted support measures in several areas, such as capacity- and institution-building; command, control, communications and computers; logistics and standardisation; defence technical cooperation; cyber defence; and medical rehabilitation.

At the 2022 NATO Summit in Madrid, Allies agreed to strengthen the Comprehensive Assistance Package and provide even more support to Ukraine. The strengthened Package for Ukraine includes initiatives to boost NATO's long-term support to Ukraine and to provide the country with immediate, short-term, non-lethal military assistance.

Under the Comprehensive Assistance Package for Ukraine Trust Fund, since March 2022, NATO has delivered support in multiple areas, including combat rations, fuel material (including jet fuel), army boots, medical supplies (including first aid kits and pharmaceuticals), military training equipment and explosive ordnance disposal equipment. Additional projects, including further support to Ukraine in the area of command, control, communications and computers, are in various stages of development and implementation.

NATO Secretary General Jens Stoltenberg attends the virtual ministerial Ukraine Defense Contact Group meeting. Brussels, Belgium, November 2022.

Minister of Foreign Affairs of Ukraine Dmytro Kuleba and NATO Secretary General Jens Stoltenberg during the NATO Foreign Ministerial meeting at NATO Headquarters. Brussels, Belgium, April 2022.

In the longer term, the Alliance is exploring options for supporting Ukraine's future efforts on its path of post-war reconstruction and reforms. The strengthened Comprehensive Assistance Package for Ukraine includes initiatives to further enhance and modernise Ukraine's defence and security institutions. Allies also agreed to help Ukraine transition from Soviet-era equipment to modern NATO equipment, boosting interoperability with Allied forces.

NATO Allies have significantly stepped up their bilateral support and provision of weapons and equipment, helping Ukraine to uphold its right of self-defence. Allies are also providing substantial financial and humanitarian aid, including by hosting millions of refugees in countries all across the Alliance. NATO Allies have agreed to step up and sustain their support for as long as necessary, so that Ukraine prevails.

In 2022, I was proud to work on designing and delivering the Extraordinary Review of NATO's Comprehensive Assistance Package for Ukraine. This review helped strengthening NATO support to Ukraine as it defends itself against Russian aggression and prepares for long-term recovery.

Marcin Koziel (Poland)

Team Leader, Comprehensive Assistance Package for Ukraine,
Operations Division
NATO Headquarters, Brussels, Belgium

NATO-Ukraine Cooperation in Ukraine Continues during the Russian Invasion

Since Russia began its war of aggression, the NATO-Ukraine Professional Development Programme has continued to support the implementation of the Comprehensive Assistance Package and contribute to long-term projects in the areas of institution-building and resilience.

Throughout 2022, the Military Career Transition Programme supported the institutional capacity and resilience of the Ministry of Veterans of Ukraine in the areas of mental health resilience and strengthening institutional capacities. The Programme organised specialised training sessions for the Ministry of Interior and Security Service of Ukraine and several seminars aimed at developing the psychological resilience of the commanders of the Territorial Defence Forces of the Armed Forces of Ukraine in combat.

The NATO Defence Education Enhancement Programme conducted training in areas such as the NATO-standard Military Decision-Making Process and Planning Doctrine as well as the NATO Joint Operations Planning Doctrine.

In July, the Euro-Atlantic Disaster Response Coordination Centre organised a Familiarization Programme for Ukrainian senior officials. The Familiarization Programme improved the coordination of humanitarian aid between the Centre and Ukraine and increased the capacity of international disaster response mechanisms. Following the Programme, Ukraine provided a consolidated list of their top priority humanitarian requirements from each ministry to the Euro-Atlantic Disaster Response Coordination Centre, which distributed the list to NATO Allies and partners through an international request for assistance.

In November, the Centre and Romania began coordinating a training programme for 197 Ukrainian paramedics to increase Ukraine's medical capacities and resilience to Russian attacks, brutal winter conditions, damaged critical infrastructure and continued challenges from the COVID-19 pandemic.

Finally, the Pandemic Response Trust Fund, established in 2020 to respond to the COVID-19 pandemic, was quickly repurposed to provide immediate humanitarian support to Ukraine, including delivery of medical equipment, supplies and educational support. This assistance helped improve the preparedness and resilience of Ukraine's national healthcare system amid the ongoing conflict, the onset of winter conditions and the persistent challenges posed by the pandemic.

The Pandemic Response Trust Fund also delivered humanitarian support to Ukraine and the neighbouring nations to better manage the influx of Ukrainian refugees and improve preparedness and resilience of the national healthcare systems, through the delivery of modern medical equipment, supplies and pharmaceutical products.

NATO's Euro-Atlantic Disaster Response Coordination Centre and Romania sign a cooperation agreement to deliver paramedic training for Ukrainian first responders. Brussels, Belgium, October 2022.

Official portrait photo of NATO Heads of State and Government during the Madrid Summit. Madrid, Spain, June 2022.

The Madrid Summit

On 29 and 30 June 2022, NATO Leaders gathered for their Summit in Madrid, Spain. The Summit took place at a historic moment for the Alliance, against the backdrop of Russia's full-scale invasion of Ukraine and increasing threats and challenges to Allied security from strategic competitors. The Madrid Summit set NATO's strategic direction for the future, ensuring that the Alliance will continue to adapt to a changing world and keep its one billion people safe.

Reaffirming NATO's Common Values

In Madrid, NATO Heads of State and Government reaffirmed NATO's ironclad commitment to the North Atlantic Treaty, including Article 5. They restated the importance of the transatlantic bond that unites NATO, and they made an equally strong commitment to the rules-based international order and Allies' shared values of individual liberty, human rights, democracy and the rule of law. Allies reiterated that NATO is a defensive Alliance and poses no threat to any country.

Leaders condemned Russia's war of aggression against Ukraine in the strongest possible terms. They also welcomed Ukrainian President Volodymyr Zelenskyy's participation in the Summit and reiterated that NATO stands in full solidarity with the government and the people of Ukraine in the heroic defence of their country.

The Madrid Summit decisions will transform NATO. As Chair for the negotiation of the Madrid Declaration, and then of the Accession Talks with Finland and Sweden, I was proud to play my part at this historic time.

Ambassador Bettina Cadenbach (Germany)

Assistant Secretary General,
Political Affairs and Security Policy Division
NATO Headquarters, Brussels, Belgium

The 2022 Strategic Concept

Leaders endorsed the 2022 Strategic Concept, NATO's guiding document, which reflects the new security reality that has emerged since the previous Strategic Concept was agreed in 2010 (*see page 23*).

Strengthened Deterrence and Defence

NATO countries agreed to further strengthen their deterrence and defence for the long term across the land, air, maritime, cyber and space domains. The decisions taken in Madrid will contribute to ensuring that NATO can effectively deter and defend against all threats and challenges, no matter where they stem from. The reset includes several upgraded defence plans, with more forces at high readiness and specific forces pre-assigned to defend specific Allies (*see chapter on Deterrence and Defence*).

Investing More in Defence

At the Madrid Summit, Allies reaffirmed their commitment to the Defence Investment Pledge in its entirety, and to strengthening their individual and collective capacity to resist all forms of attack. By the next Summit, NATO will decide on subsequent commitments to ensure that Allied political decisions are adequately resourced beyond 2024. Allies further agreed to increase NATO's common funding to finance the facilities the Alliance needs for reinforcement, as well as more training and more exercises, command and control, and engagement with partners.

Support to Ukraine and Other Vulnerable Partners

NATO Leaders committed to continue increasing political and practical support to Ukraine as it defends its sovereignty and territorial integrity against Russian aggression. In light of the changed security environment, Leaders also agreed new measures to step up tailored political and practical support to partners, including Bosnia and Herzegovina, Georgia and the Republic of Moldova.

Adapting the Alliance to Emerging Challenges

NATO Leaders agreed to step up efforts to face the Alliance's emerging, complex, multifaceted challenges. They agreed to cut greenhouse gas emissions by NATO political and military structures by at least 45% by 2030 and down to net zero by 2050. They established the Defence Innovation Accelerator for the North Atlantic (DIANA) and launched the NATO Innovation Fund, which will invest EUR 1 billion over 15 years in start-ups developing dual-use emerging technologies, such as artificial intelligence. Leaders pledged to continue enhancing national and collective resilience so that Allied societies are prepared for any threat or challenge, and to strengthen their energy security.

Australia, Japan, the Republic of Korea and New Zealand participated for the first time in a NATO Summit and agreed to deepen cooperation to address cross-regional and global challenges.

Finland's and Sweden's Membership

NATO reaffirmed its commitment to its Open Door Policy. Allied Leaders officially agreed to invite Finland and Sweden to become NATO Allies and signed the Accession Protocols, after Türkiye, Finland and Sweden agreed a trilateral memorandum of understanding. The accession of Finland and Sweden will make them safer, NATO stronger and the Euro-Atlantic area more secure. The security of Finland and Sweden is of the highest importance to the Alliance, including during the accession process.

Challenges from the South

Allies reiterated their commitment to the fight against terrorism, which is an integral part of NATO's 360-degree approach to deterrence and defence. They discussed the food crisis caused by Russia's invasion of Ukraine, as well as Russia's and the People's Republic of China (PRC)'s increasing influence in the Alliance's southern neighbourhood. To counter these threats and challenges, NATO agreed new support packages for partner countries in the southern neighbourhood, particularly for Mauritania and Tunisia.

NATO 2022 Strategic Concept

NATO's new Strategic Concept is the blueprint for the Alliance in a more dangerous and competitive world.

NATO Secretary General Jens Stoltenberg at the Madrid Summit. Madrid, Spain, 29 June 2022.

Next to the North Atlantic Treaty, the Strategic Concept is NATO's most important guiding document. It reaffirms NATO's values and purpose, and it provides a collective assessment of the security environment. It also drives NATO's strategic adaptation and guides its future political and military development.

The Strategic Concept is reviewed and updated regularly. Since the end of the Cold War, it has been updated approximately every 10 years to take account of changes to the global security environment and to make sure the Alliance is prepared for the future. The previous Strategic Concept was adopted at the NATO Lisbon Summit in 2010.

At the 2021 Brussels Summit, NATO Leaders asked Secretary General Jens Stoltenberg to lead the process of developing the next Strategic Concept. The Secretary General led internal consultations with Allies on NATO's evolving strategic environment, approach and priorities. NATO also engaged with NATO partner countries, other international organisations, expert communities, youth organisations, civil society and the private sector.

After the consultation phase, Allies negotiated and agreed the new Strategic Concept, which Leaders endorsed at the 2022 Madrid Summit.

NATO's Purpose and Core Tasks

The 2022 Strategic Concept states that NATO's key purpose and greatest responsibility is to ensure the collective defence of Allies against all threats. Article 5 of the North Atlantic Treaty remains the bedrock of Allied collective defence.

The transatlantic bond between Allied countries from Europe and North America is indispensable to NATO's security. The Alliance is bound together by common values: individual liberty, human rights, democracy and the rule of law. NATO is the unique, essential and indispensable transatlantic forum for consulting, coordinating and acting on all matters related to Allied individual and collective security.

NATO Secretary General Jens Stoltenberg presenting the new Strategic Concept during a press conference at the Madrid Summit. Madrid, Spain, June 2022.

The 2022 Strategic Concept prepares the Alliance for a more contested and complex security environment. It was a real privilege to support its development, drafting and negotiation along with my team.

Dr Benedetta Berti (Italy)

Head, Policy Planning Unit,
Office of the Secretary General
NATO Headquarters, Brussels, Belgium

To ensure the collective defence of Allies, NATO will continue to fulfil three core tasks: deterrence and defence; crisis prevention and management; and cooperative security.

The 2022 Strategic Concept highlights for the first time the importance of enhancing national and Alliance-wide resilience and fostering the Alliance's technological edge, stressing that these efforts are critical to fulfil all of NATO's core tasks. Allies also emphasised the importance of promoting good governance and integrating climate change, human security and the Women, Peace and Security agenda across all NATO's tasks.

The Strategic Concept also reaffirms NATO's Open Door Policy, consistent with Article 10 of the North Atlantic Treaty. Decisions on membership are taken by NATO Allies, and no third party has a say in this process. It stresses that the security of countries aspiring to become members of the Alliance is intertwined with Allied security.

Finally, the Strategic Concept stresses that NATO is indispensable to Euro-Atlantic security, and that investing in NATO is the best way to future-proof the bond between Europe and North America. It also highlights Allies' commitment to sharing equitably responsibilities and risks for defence and security, including by providing all necessary resources, infrastructure, capabilities and forces to deliver fully on NATO's core tasks.

The New Strategic Environment

The 2022 Strategic Concept reflects the profound changes in the Alliance's security environment over the past decade.

The Euro-Atlantic area is not at peace. The Russian Federation's war of aggression against Ukraine has shattered peace and gravely altered NATO's security environment. Euro-Atlantic security is characterised by strategic competition, pervasive instability and recurrent shocks. Authoritarian actors challenge Allied interests, values and democratic way of life.

The Russian Federation poses the most significant and direct threat to Allies' security and to peace and stability in the Euro-Atlantic area. Terrorism, in all its forms and manifestations, is the most direct asymmetric threat to the security of Allied citizens and to international peace and prosperity.

Strategic Concept Outreach

The 2022 Strategic Concept will guide the Alliance through the next decade and beyond. Its adoption by Allies at the Madrid Summit was one of the highlights of the year.

As part of the development of the Strategic Concept, NATO conducted extensive communications and outreach. The consultation phase engaged with stakeholders in government, non-governmental organisations and private sectors of more than 30 countries. These discussions helped to formulate ideas on key security challenges.

The Strategic Concept is a public document and is available on the NATO website.

I had the privilege to work on the public diplomacy dimension of NATO's Strategic Concept 2022, organising consultations with external experts across the Alliance and liaising with Allies in formal negotiations.

Barbora Maronkova (Slovakia)

Programme Officer, Engagements Section,
Public Diplomacy Division
NATO Headquarters, Brussels, Belgium

For the first time, the NATO Strategic Concept mentions the People's Republic of China (PRC). The PRC's stated ambitions and coercive policies challenge Allied interests, security and values. The Strategic Concept states that the PRC's malicious hybrid and cyber operations and its confrontational rhetoric and disinformation target Allies and harm Alliance security. It further stresses that the PRC seeks to control key technological and industrial sectors and critical infrastructure, and uses its economic leverage to create strategic dependencies and enhance its influence. The deepening strategic partnership between the People's Republic of China and the Russian Federation, which includes their mutually reinforcing attempts to undercut the rules-based international order, runs counter to Allied values and interests.

We remain open to constructive engagement with the PRC, including to build reciprocal transparency, with a view to safeguarding the Alliance's security interests. We will work together responsibly, as Allies, to address the systemic challenges posed by the PRC to Euro-Atlantic security and ensure NATO's enduring ability to guarantee the defence and security of Allies. We will boost our shared awareness, enhance our resilience and preparedness, and protect against the PRC's coercive tactics and efforts to divide the Alliance. We will stand up for our shared values and the rules-based international order, including freedom of navigation.

NATO 2022 Strategic Concept, Paragraph 14

NATO's Relations with the People's Republic of China

NATO and the PRC are not partners. The Alliance does not consider it an adversary and remains open to maintaining constructive engagements, as stated in the Strategic Concept. Throughout 2022, NATO continued to engage with the PRC including through a third meeting between NATO Secretary General Jens Stoltenberg and Minister of Foreign Affairs Wang Yi in September in the margins of the United Nations General Assembly, a round of high-level staff talks with Beijing and a number of in-depth exchanges between officials on subjects such as arms control, disarmament and non-proliferation, Russia's invasion of Ukraine and NATO-PRC relations.

Bilateral meeting between NATO Secretary General Jens Stoltenberg and Minister of Foreign Affairs of the PRC Wang Yi in the margins of the 77th United Nations General Assembly. New York City (NY), United States, September 2022.

In 2022, I supported the implementation of the new Strategic Concept by addressing challenges posed by the PRC, facilitating engagement between NATO and the PRC, and reaching out to new interlocutors across the globe.

Max Neugebauer (Germany)

Officer, Global Partnerships,
Political Affairs and Security Policy Division
NATO Headquarters, Brussels, Belgium

DETERRENCE AND DEFENCE

British Army Pathfinders leap from 18,000 feet as part of exercise Swift Response 22. North Macedonia, May 2022.
Photo credit: British Army photographer Corporal Rob Kane.

NATO is here. NATO is vigilant.
And NATO is ready to defend every inch of Allied territory.

NATO Secretary General Jens Stoltenberg at the Aspen - GMF Bucharest Forum. Bucharest, Romania, 29 November 2022.

A New Baseline for Deterrence and Defence

Russia's war of aggression against Ukraine constitutes the gravest threat to Euro-Atlantic security in decades. In response to a more complex and volatile security environment, in the 2022 Strategic Concept, Allies committed to significantly strengthening the Alliance's deterrence and defence posture to deny any potential adversary any possible opportunities for aggression. At the Madrid Summit, they took concrete decisions to set a new baseline for the Alliance's deterrence and defence posture. The updated posture will enable NATO to continue to protect Allied populations and defend every inch of Allied territory at all times. This new baseline is in line with NATO's 360-degree approach and aims to strengthen the Alliance's posture across the land, air, maritime, cyber and space domains and against all threats and challenges.

The new baseline builds on the ongoing military adaptation efforts, including the full and speedy implementation and operationalisation of two high-level military concepts – the Concept for the Deterrence and Defence of the Euro-Atlantic Area and the NATO Warfighting Capstone Concept. The Concept for the Deterrence and Defence of the Euro-Atlantic Area focuses on force employment to deter and defend today, while the NATO Warfighting Capstone Concept offers a vision to guide the Alliance's long-term warfare development to remain militarily strong now and in the future.

The bolstered deterrence and defence posture also builds on the measures Allies took to address the consequences of Russia's brutal and unprovoked aggression against Ukraine in February 2022. These included enhancing NATO's forward defences, doubling the number of multinational battlegroups in the eastern part of the Alliance from four to eight. With the additional deployments, Allies effectively doubled the number of troops on the ground and extended NATO's forward presence along the Alliance's eastern flank – from the Baltic Sea in the north to the Black Sea in the south.

Allies are also significantly increasing the number of high-readiness forces and improving the Alliance's ability to reinforce, including on short notice, with more pre-positioned equipment, enhanced infrastructure and stockpiles of military supplies. These decisions demonstrate Allies' solidarity, determination and ability to defend Alliance territory.

I have been privileged to arrive at NATO at a moment of profound transformation and renewal. Stronger deterrence and defence is an inspiring goal to work on, and the sense of common purpose in the Alliance is real.

Angus Lapsley (United Kingdom)

Assistant Secretary General,
Defence Policy and Planning Division
NATO Headquarters, Brussels, Belgium

NATO's Forward Presence

At the 2016 NATO Summit in Warsaw, in response to the increased instability and insecurity along NATO's neighbourhood, Allied Heads of State and Government agreed to establish NATO's forward presence in the northeast and southeast of the Alliance.

This forward presence was first deployed in 2017, with the creation of four multinational battalion-size battlegroups in Estonia, Latvia, Lithuania and Poland, led by the United Kingdom, Canada, Germany and the United States respectively. In the southeast, a tailored presence on land, at sea and in the air contributed to increased Allied activity in the region, enhancing situational awareness, interoperability and responsiveness.

Following Russia's full-scale invasion of Ukraine in February 2022, Allies reinforced the existing battlegroups and agreed to establish four more multinational battlegroups in Bulgaria, Hungary, Romania and Slovakia. At the 2022 Madrid Summit, Allies further agreed that the battlegroups will be scaled up to brigade-size units where and when required.

Polish soldiers peer downrange during a live-fire exercise. Following Russia's unprovoked invasion of Ukraine, NATO reinforced its presence in the eastern part of the Alliance, establishing four more multinational battlegroups in Bulgaria, Hungary, Romania and Slovakia. Cincu, Romania, April 2022.

NATO's Military Presence in the East of the Alliance

Forward Presence Battlegroups and Multinational Headquarters

8 Multinational Battlegroups (BG):

Mission: Strengthening NATO's deterrence and defence

Multinational BG Bulgaria. Framework nation: Italy
Multinational BG Estonia. Framework nation: United Kingdom
Multinational BG Hungary. Framework nation: Hungary
Multinational BG Latvia. Framework nation: Canada
Multinational BG Lithuania. Framework nation: Germany
Multinational BG Poland. Framework nation: United States
Multinational BG Romania. Framework nation: France
Multinational BG Slovakia. Framework nation: Czechia

Multinational Headquarters (HQ):

Mission: Command and control of deployed NATO troops

HQ Multinational Corps-NE. Host nation: Poland
HQ Multinational Division-North. Host nation: Latvia
HQ Multinational Division-NE. Host nation: Poland
HQ Multinational Division-Centre. Host nation: Hungary
HQ Multinational Corps-South. Host nation: Romania
HQ Multinational Division-SE. Host nation: Romania
HQ Multinational Brigade-SE. Host nation: Romania

Contributing nations:
Albania, Belgium, Bulgaria, Canada, Croatia, Czechia, Denmark, Estonia, France, Germany, Greece, Hungary, Iceland, Italy, Latvia, Lithuania, Luxembourg, Montenegro, Netherlands, North Macedonia, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Türkiye, United Kingdom, United States

Tailored Forward Presence

Mission: Strengthening NATO's deterrence and defence
Location: Bulgaria, Romania
Contributors: Bulgaria, Canada, France, Germany, Hungary, Italy, Luxembourg, Poland, Portugal, Romania, Spain, Türkiye

NATO Force Integration Units

Mission: Facilitating the rapid deployment of NATO forces
Location: Bulgaria, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Slovakia

Air Defence

Mission: Strengthening NATO's air defences
Location: Latvia, Poland, Romania, Slovakia
Contributors: France, Germany, Spain, United States

Joint Intelligence, Surveillance and Reconnaissance

Mission: Supporting decision-makers with timely information and intelligence
Contributors: Belgium, Bulgaria, Czechia, France, Germany, Greece, Italy, Norway, Poland, Spain, Türkiye, United Kingdom, United States, NATO (Alliance Ground Surveillance system, AWACS aircraft)

AWACS Patrols

Mission: Patrolling the skies over eastern Europe for early detection of air threats
Contributors: France, Türkiye, NATO AWACS aircraft

Air Policing

Mission: Fighter jets at high alert, 24/7. Protecting the airspace of the eastern flank of the Alliance
Location: Bulgaria, Estonia, Lithuania, Poland, Romania
Contributors: Belgium, Canada, Czechia, Denmark, France, Germany, Hungary, Italy, Netherlands, Poland, Spain, United Kingdom, United States

Carrier Strike Groups

Mission: Strengthening NATO's deterrence and defence at sea and in the air
Location: The Atlantic Ocean, the Baltic, Mediterranean and North Seas
Contributors: France, Italy, Spain, United Kingdom, United States

Amphibious Task Force

Mission: Strengthening NATO's deterrence and defence at sea and on land
Location: The Atlantic Ocean, the Baltic, Mediterranean and North Seas
Contributors: United Kingdom, United States

New NATO Force Model

As part of strengthening and modernising the NATO Force Structure, Allies agreed a new NATO Force Model. The model offers a framework against which to organise, manage, activate and command forces in support of the Alliance's three core tasks. It enables a more proactive NATO posture by bolstering responsiveness, readiness and combat power.

The new NATO Force Model improves NATO's ability to respond at very short notice for collective defence and other contingencies. It is based on a three-tiered readiness system: Tier 1 (comprising forces at 0-10 days of readiness), Tier 2 (with forces at 10-30 days of readiness), and Tier 3 (with forces at 30-180 days of readiness). Allies are also establishing a new, more mobile and multi-domain multinational reaction force in support of all three core tasks – the Allied Reaction Force.

The new NATO Force Model involves a more focused and ambitious training and exercise programme, including larger-formation collective defence exercises. Once fully implemented, the model will deliver an Allied response to a potential crisis or conflict at greater scale and at higher readiness than the current NATO Response Force, by more than tripling the number of high-readiness forces potentially available to the Supreme Allied Commander Europe. In support of continued efforts to reinvigorate the culture of readiness within the Alliance, the NATO Readiness Initiative will evolve into a NATO Readiness Process, providing a framework within which Allies declare, report, verify and enhance the overall readiness of their forces.

Allies have started contributing forces to the new NATO Force Model . Until the new model is in place, the current NATO Response Force will continue to ensure that the Alliance stands ready to respond to any threat, at any time, wherever required.

The Enablement of the Supreme Allied Commander Europe's Area of Responsibility

The ability of NATO's forces to respond, for deterrence and defence or any other contingencies, requires a robust and responsive support system to deliver forces to wherever they are needed and to sustain their activities until the mission has been successfully completed. The enablement of the Supreme Allied Commander Europe's area of responsibility is, therefore, central to a credible deterrence and defence posture.

NATO's enablement work entails mobilising and transporting troops, vehicles, equipment, supplies and fuel, projecting these capabilities — via land, sea and air — over significant distances and supporting them thereafter. An effective and rapid military response requires that arrangements and resources be prepared well in advance among military forces, multiple governmental authorities, and civil and commercial entities.

In 2022, Allies worked to enhance their command, control and coordination mechanisms as well as to increase their capabilities and capacities, including through the development of infrastructure.

Allies are also improving legislation to establish an effective regulatory environment for military movement, including by practising the application of NATO procedures during exercises that are designed to assist with the movement of forces into and across Europe. Their work also continues in developing critical supplies, including fuel supply and distribution arrangements throughout the area of responsibility. To advance these efforts, NATO continues to work with the European Union on military mobility.

I was proud to help Allies tackle the challenges of deterrence and defence, including delivery of sufficient military capabilities to employ and sustain forces while balancing the reliance on civilian and commercial resources.

Lieutenant Colonel Stefan Chuzdziak (Germany)

Staff Officer,
Logistics and Resources Division,
NATO International Military Staff
NATO Headquarters, Brussels, Belgium

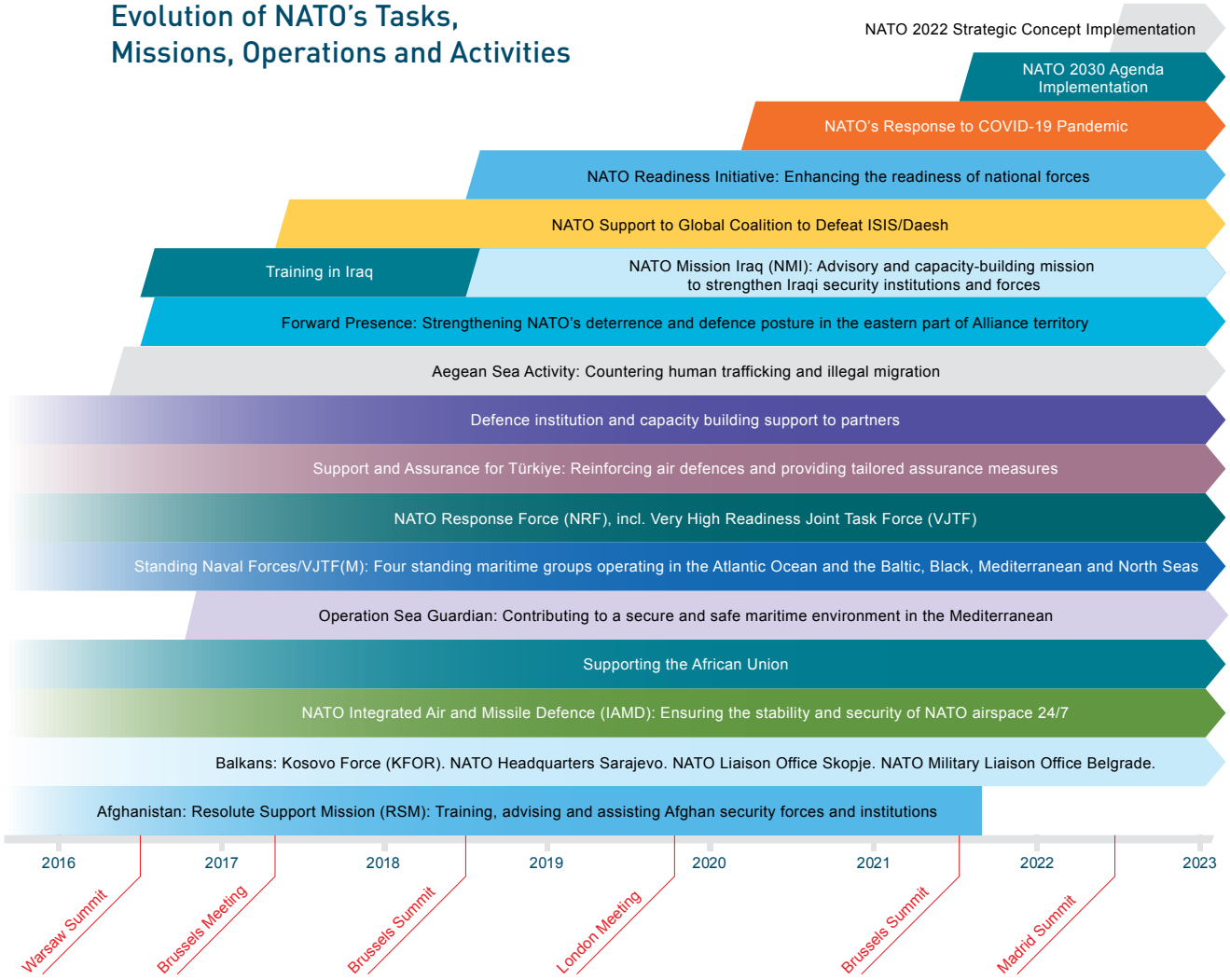
NATO Command and Control Adaptation

At the 2022 Madrid Summit, Allied Heads of State and Government set the stage for further adaptation of NATO command and control, to ensure a robust, resilient and integrated command structure for deterrence and defence and to respond to any crisis.

In June 2022, the Supreme Allied Commander Europe declared Allied Command Operations in Mons, Belgium to be at full operational capability in its role as a strategic warfighting headquarters. This declaration highlighted the Command's capability to lead and coordinate warfighting processes and functions at the strategic level.

As part of this all-domain approach, Allies agreed to bring the multinational Joint Electronic Warfare Core Staff into the NATO Command Structure. This move will ensure resourcing by all Allies for this strategic capability, and it will consolidate electronic warfare expertise within the Cyberspace Operations Centre in Mons, Belgium. In November 2022, Allied Maritime Command in Northwood, United Kingdom also declared full operational capability for its mission to execute control over NATO maritime assets and to serve as theatre maritime advisor to the Supreme Allied Commander Europe.

Evolution of NATO's Tasks, Missions, Operations and Activities



NATO fighter jets above the Mediterranean Sea during exercise Neptune Strike 2022, January 2022.

Deterrence and Defence in the Air

NATO's Integrated Air and Missile Defence is an essential mission contributing to NATO's overall deterrence and defence. This mission safeguards Alliance territory, populations and forces. It stands ready to counter all air and missile threats emanating from any direction. In the 2022 Strategic Concept, Allies confirmed the importance of missile defence capabilities for deterrence and defence, alongside conventional and nuclear capabilities, and pledged to strengthen NATO's Integrated Air and Missile Defence.

In 2022, NATO had to adapt to the new security environment created by Russia's war of aggression against Ukraine, which includes heavy use of air and missile capabilities. NATO and Allies increased the readiness and responsiveness of their air and missile defence forces, including by forward deploying aircraft and surface-based air and missile defence units. Furthermore, a significant number of Allied aircraft have been put under the Supreme Allied Commander Europe's command, in support of enhanced Air Policing activities and enhanced vigilance activities, including air patrol missions. As a result, since the beginning of the crisis, NATO has been able to conduct an unprecedented level of airborne alert and intelligence, surveillance and reconnaissance coverage of its eastern flank. This is not only a direct sign of Allied solidarity and unity, but also a concrete reinforcement of NATO's collective ability to protect Allies.

At the same time, NATO must also address the growing challenge posed by the development of offensive air and missile assets by state and non-state actors, many of which can reach NATO territory or place NATO forces at risk. These challenges range from simple uncrewed systems to sophisticated hypersonic missiles. In 2022, NATO continued to enhance its Integrated Air and Missile Defence mission, including through increased readiness, exercises and the acquisition by Allies of additional capabilities, with the aim of having the right capabilities at the right time and at the right place.

A Belgian Air Force F-16 Fighting Falcon hits the afterburners as it scrambles for a demonstration sortie out of Ämari Air Base in Estonia as part of NATO's Baltic Air Policing mission. Ämari, Estonia, February 2022.

Spanish F-18s track a Russian aircraft that is not conforming to international air safety regulations over the Baltic Sea. Baltic Sea, April 2022. Photo courtesy of the Spanish Air Force.

Hypersonic missiles have attracted significant attention in 2022, particularly due to Russia's first operational use of such a system against Ukraine. NATO recognises the specific challenges posed by hypersonic missiles and continues to assess their impact on NATO's deterrence and defence. NATO and Allies work together to determine the best ways to counter these systems. This includes assessment of the impact of hypersonic missiles on NATO's Integrated Air and Missile Defence, whose effectiveness must be maintained at all times and against all challenges.

At the Madrid Summit, Allies reaffirmed their commitment to the NATO Ballistic Missile Defence mission. This purely defensive mission aims to provide full protection to all NATO European populations, territory and forces from the increasing threats posed by the proliferation of ballistic missiles.

The mission's main concern remains missiles that could potentially be launched from outside the Euro-Atlantic area, for example from the Middle East, where Iran and Syria continue to develop and deploy missiles that could reach NATO territory. Among the assets currently placed under NATO command and control are radars and interceptors of the United States in Romania and Türkiye.

French soldiers scan the horizon with a French weapons system for possible threats during exercise Ramstein Legacy 22, which tested the air defence capabilities of the Baltic States and Poland. Poland, June 2022.

Team members at the NATO Space Centre introduce challenging scenarios to participants of exercise BALTOPS 22. Ramstein, Germany, June 2022.

Deterrence and Defence in Space

In 2022, the Alliance accelerated its work to deepen and expand its use of space. The services and products delivered by and through satellites orbiting around Earth are essential for NATO's activities. Satellites provide intelligence, early warning and navigation, and they enable communications with ships at sea, planes and drones in the air and troops across the globe.

The space security environment has become more dangerous and unpredictable. At the 2022 Madrid Summit, Allies underlined that strategic competitors and potential adversaries are investing in technologies that could restrict the Alliance's access and freedom to operate in space, degrade space capabilities, target civilian and military infrastructure, impair defence and harm security. The 2022 Strategic Concept highlights that maintaining secure use of and unfettered access to space and cyberspace is key to effective deterrence and defence. NATO Leaders have committed to enhancing the ability to operate effectively in space and cyberspace to prevent, detect, counter and respond to the full spectrum of threats, using all available tools. NATO Leaders also agreed to boost the resilience of space capabilities.

In 2022, the NATO Space Centre at Allied Air Command in Ramstein, Germany upgraded its capacity and expanded its connections with Allied national space centres. In the context of Russia's war against Ukraine, the NATO Space Centre continuously supported the Alliance's situational awareness, posture management and decision-making. In addition, satellite images delivered by Allies were critical for timely intelligence and for monitoring the situation.

NATO has continued to integrate space considerations into exercises, such as Loyal Leda 2022, Neptune Strike 2022, Coalition Warrior Interoperability Exercise 2022 and Dynamic Mongoose 2022. These exercises help to maintain the Alliance's advantage and agility, as well as its ability to withstand jamming and other attempts to disrupt its access to space. In addition, a NATO Space Centre of Excellence is being set up in Toulouse, France. The Centre will support the development of space doctrine and standardisation, education and training activities, as well as concepts and experimentation.

Allies remain fully committed to responsible behaviour in space. In April 2022, the United States unilaterally decided not to conduct destructive, direct-ascent anti-satellite missile testing and called on other countries to make a similar commitment. To preserve security and sustainability in space, Allies support the process in the United Nations to reduce space threats through norms, rules and principles of responsible behaviour.

Elements of
NATO's Deterrence and Defence

NATO Response Force / Very High Readiness Joint Task Force

Mission: Ready to deploy at short notice for crisis management or collective defence
Commanding HQ: Allied Joint Force Command Naples
Contributors: NATO Response Force (NRF): 26 Allies
Very High Readiness Joint Task Force (VJTF): 26 Allies

Standing Naval Forces / VJTF (Maritime)

Mission: Providing the Alliance with a continuous naval presence
Location: The Atlantic Ocean, the Baltic, Mediterranean and North Seas
Contributors: Standing NATO Maritime Groups (SNMG1 & 2), Standing NATO Mine Countermeasures Groups (SNMCMG1 & 2). Belgium, Canada, Croatia, Denmark, Estonia, France, Germany, Greece, Italy, Latvia, Lithuania, Netherlands, Norway, Portugal, Spain, Türkiye, United Kingdom, United States

Ballistic Missile Defence

Mission: Protecting NATO's populations, territory and forces
Location: Germany, Poland, Romania, Spain, Türkiye
Contributors: United States (US Aegis BMD-capable ships, Aegis Ashore, BMD Tracking sensor, Aegis Ashore -under construction), NATO (Allied Air Command)

Regional Hub for the South

Mission: Improving regional understanding and anticipation of threats emanating from the south
Location: Allied Joint Force Command Naples
Contributors: 22 Allies provide Voluntary National Contributions and reassigned JFC Naples staff

Support and Assurance for Türkiye

Mission: Reinforcing air defences and providing tailored assurance measures for Türkiye
Location: Türkiye
Contributors: Spain (surface-to-air missile batteries), Poland (maritime patrol aircraft), NATO (AWACS aircraft). Allies also contribute through increased Standing Naval Forces port calls, participation in exercises and Intelligence, Surveillance and Reconnaissance activities.

Iceland Peacetime Preparedness

Mission: Protecting Iceland's airspace
Location: Iceland
Contributors: Denmark, Italy, Portugal

AWACS Patrols

Mission: Patrolling the skies over eastern Europe for early detection of air threats
Contributors: France, Türkiye, NATO AWACS aircraft

Forward Presence Forces and Multinational Headquarters

8 Multinational Battlegroups (BG):
Mission: Strengthening NATO's deterrence and defence
Location: Bulgaria, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Slovakia

Multinational Headquarters (HQ):
Mission: Command and control of deployed NATO troops
Location: Hungary, Latvia, Poland, Romania

Contributing nations: See detailed map on page 30

Tailored Forward Presence

Mission: Strengthening NATO's deterrence and defence
Location: Bulgaria, Romania
Contributors: See detailed map on page 30

NATO Force Integration Units

Mission: Facilitating the rapid deployment of NATO forces
Location: Bulgaria, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Slovakia
Contributors: 27 Allies and partner nations

Air Defence

Mission: Strengthening NATO's air defences
Location: Latvia, Poland, Romania, Slovakia
Contributors: Germany, France, Spain, United States

Air Policing

Mission: Protecting the airspace of the eastern flank of the Alliance
Location: Bulgaria, Estonia, Lithuania, Poland, Romania
Contributors: See detailed map on page 30

Carrier Strike Groups

Mission: Strengthening NATO's deterrence and defence at sea and in the air
Location: The Atlantic Ocean, the Baltic, Mediterranean and North Seas
Contributors: France, Italy, Spain, United Kingdom, United States

Amphibious Task Force

Mission: Strengthening NATO's deterrence and defence at sea and on land
Location: The Atlantic Ocean, the Baltic, Mediterranean and North Seas
Contributors: United Kingdom, United States

Joint Intelligence, Surveillance and Reconnaissance

Mission: Supporting decision-makers with timely information and intelligence
Contributors: Belgium, Bulgaria, Czechia, France, Germany, Greece, Italy, Norway, Poland, Spain, Türkiye, United Kingdom, United States, NATO (Alliance Ground Surveillance system, AWACS aircraft)

All maps are based on commercial data. Digital Map Data© Collins Bartholomew LTD (2014). The boundaries and names shown and the designations used do not imply official endorsement or acceptance by NATO. Due to size limitations, some inserts may have been added to the maps to include other geographical areas. Final status of the Abyei area is not yet determined.
Note: Map data display contributions by Allies in 2022.

Exercise Locked Shields 2022 simulated conditions of intense pressure, with teams countering a sophisticated and intense series of cyber attacks. Participants were able to practise protecting national civilian and military IT systems and critical infrastructure. Tallinn, Estonia, April 2022.

Comprehensive Approach to Cyber Defence

The threat from cyberspace is growing. Malign actors seek to degrade critical infrastructure, interfere with government services, extract intelligence, steal intellectual property and impede military activities. In NATO's new Strategic Concept, Allies recognised that cyberspace is a contested space, in which the lines between peacetime, crisis and conflict are blurred. Allies also recognised that a single or cumulative set of malicious cyber activities could reach the level of armed attack and could lead the North Atlantic Council to invoke Article 5.

Cyberspace is a central domain of Russia's war of aggression in Ukraine. In the hours immediately before Russian forces crossed the border on 24 February 2022, cyber attacks struck Ukrainian government departments, the military and emergency services. The ViaSat satellite network was forced offline, cutting communications for Ukraine's police, military and intelligence services. This attack caused damage also beyond Ukraine, affecting wind turbines and interrupting internet access for tens of thousands of people across Europe. Since then, 'data-wiping' attacks continue targeting Ukraine's government and commercial and energy sectors.

To bolster the Alliance's deterrence and defence, Allies are strengthening their cyber defences through enhanced civil-military cooperation. They are expanding their partnership with industry, which has played a vital role in helping Ukraine defend itself in cyberspace. Allies are also building a virtual rapid response cyber capability, using national assets on a voluntary basis to respond to significant malicious cyber activities.

In 2022, Allies continued to deepen their political consultations, sharing national concerns and considering collective responses. In May, national cyber coordinators from NATO met for the first time to discuss the new strategic environment following Russia's invasion of Ukraine and its implications for the cyber threat landscape.

In September, following the malicious cyber activities against the national information infrastructure of Albania, the North Atlantic Council issued a statement strongly condemning these activities. They called on all States to respect their international commitments to upholding a norms-based approach to cyberspace.

Several weeks later, in November, the annual Cyber Defence Pledge Conference, co-hosted by Italy and the United States, assessed the risks and discussed options for protection against cyber attacks on critical infrastructure. Allies agreed to

NATO Secretary General Jens Stoltenberg attends the NATO Cyber Defence Pledge Conference. Rome, Italy, November 2022.

move towards sharing more information, investing in more capabilities, and setting new goals for all Allies to raise their level of cyber resilience and preparedness.

NATO's flagship cyber exercise, Cyber Coalition, took place in Estonia in December. The exercise focused on cyber threats to critical infrastructure and their impact on NATO's missions and operations. Partners from the Euro-Atlantic to the Indo-Pacific region took part in the exercise, demonstrating that the Alliance is better protected against cyber threats when its Allies and partners work together. NATO is a unique platform for such cooperation.

In line with the 2022 Strategic Concept, the newly created Office of the Chief Information Officer contributed to the Alliance's defence posture by enhancing the cyber security and coherence across the entire NATO Enterprise.

Participants engaged in NATO's cyber defence exercise Cyber Coalition 2022, which included more than 1,000 cyber defenders from 26 NATO Allies, Invitees Finland and Sweden, partner countries Georgia, Ireland, Japan and Switzerland, the European Union and industry and academia. Tallinn, Estonia, November 2022.

Live-fire drills took place during Technical Interoperability Exercise 2022, which involved 30 companies and organisations, and demonstrated the capabilities of counter-unmanned aerial systems. Vredepeel, the Netherlands, September 2022.

Fighting Terrorism

As NATO's 2022 Strategic Concept states, terrorism is the most direct asymmetric threat to the security of the citizens of NATO countries and to international peace and stability. In this context, the Alliance continued to implement the Action Plan to Enhance NATO's Role in the International Community's Fight against Terrorism. The plan focuses on improving awareness of the threat, developing capabilities to prepare and respond, and enhancing engagement with partner countries and other international actors.

NATO raised Allied situational awareness on the terrorist threat and the human security aspects of terrorism and counter-terrorism, including through informal briefings from national experts. Allies continued to leverage the use of technologies in the fight against terrorism to improve Allied capabilities in several domains, including: countering unmanned aircraft systems, countering improvised explosive devices, and battlefield information management as part of the Alliance's work on technical exploitation, battlefield evidence and biometrics.

The NATO Defence against Terrorism Programme of Work funds innovative and pioneering projects that help Allies develop new capabilities and technologies to tackle the terrorist threat and to manage the consequences of a terrorist attack. In 2022, the Programme of Work supported 28 cooperative projects in the following areas: countering unmanned aircraft systems; protecting harbours and other critical infrastructure; defending against terrorist use of chemical, biological, radiological and nuclear substances; electronic warfare for aircraft survivability; use and sharing of biometric data; technical exploitation; and countering improvised explosive devices.

NATO also contributed to ongoing efforts to enhance the use of emerging and disruptive technologies in counter-terrorism and asymmetric warfare capability development.

NATO's approach to fighting terrorism focuses on cooperating with partners, including through the development and implementation of Defence Capacity Building packages and tailored training. The Alliance also works closely with other international organisations through joint projects and regular exchange. In 2022, NATO developed and consolidated assistance to partner countries in the fight against terrorism, including education and training activities, counter-terrorism dialogues and practical cooperation. The Alliance identified new counter-terrorism goals with Mauritania and Tunisia as part of the Defence Capacity Building packages

Countering Unmanned Aircraft in the Fight against Terrorism

The use of unmanned autonomous systems (drones) capabilities by both state and non-state actors is rapidly increasing. Drones are growing more sophisticated, offering autonomous flight, high-end surveillance capabilities and ever-expanding payload capacity, range and endurance. They are widely accessible to hostile actors and could be assembled using components without identifiable markings, increasing the difficulty of attribution if used in an attack.

NATO has been pursuing a dedicated counter-unmanned autonomous systems effort to support Allies in developing solutions in this domain:

- NATO has supported several exercises to test the suitability of novel technologies to counter drones, including lasers, nets and kinetic equipment.
- In September 2022, NATO conducted the Counter-Unmanned Autonomous Systems Technical Interoperability Exercise in the Netherlands to develop a common architecture where companies can integrate their products through NATO standards and produce a common and interoperable recognised air picture.
- At the Madrid Summit, a team composed of staff from NATO, the Spanish Ministry of Defence and Spanish Ministry of Interior, showcased the Spanish strategy and technology used to protect the Summit from the potential threat of drones, demonstrating an effective whole-of-government approach.

approved by Allies at the Madrid Summit. One new priority area is capacity-building to address maritime aspects of counter-terrorism. NATO also set up practical cooperation with Jordan in new fields of work, such as countering terrorists' use of the Internet.

NATO continues to leverage the expertise and facilities of NATO Centres of Excellence to deliver training for partner countries. In 2022, the Stability Policing Centre of Excellence in Vicenza, Italy delivered three iterations of battlefield evidence training for law enforcement and military staff from NATO's Mediterranean Dialogue and Istanbul Cooperation Initiative partners, as well as for eligible G5 Sahel countries. In October, the NATO Defence against Terrorism Centre of Excellence conducted a course on Critical Infrastructure Security and Resilience in Mostar, Bosnia and Herzegovina.

NATO is committed to leveraging the full potential of each stakeholder engaged in the global counter-terrorism effort. Partners such as Jordan, Mauritania, the G5 Sahel, and the African Union's African Centre for the Study and Research on Terrorism help improve the Alliance's strategic awareness by sharing their assessments of the regional and global evolution of the terrorist threat.

I provided substantive support towards strengthening NATO's work with partners in counter-terrorism, by converting strategic-level decisions into concrete, practical cooperation programmes.

Dr Eyüp Turmuş (Türkiye)

Science for Peace and Security Advisor
and Programme Manager,
Counter Terrorism Section,
Emerging Security Challenges Division
NATO Headquarters, Brussels, Belgium

Doorstep statement by NATO Secretary General Jens Stoltenberg at the start of the meetings of NATO Defence Ministers at NATO Headquarters. A central topic of the meeting was the sabotage of the Nord Stream pipelines, an example of the type of hybrid attacks on critical infrastructure that the Alliance faces. Brussels, Belgium, October 2022.

Addressing Hybrid Threats

NATO Allies face threats and challenges from both state and non-state actors who use hybrid activities to target political institutions, influence public opinion and undermine the security of NATO citizens. Rapid technological change and global interconnectivity have increased the speed, scale and intensity of hybrid threats. Countering such threats remained a top Allied priority in 2022. Throughout the year, NATO continued to invest in its ability to prepare for, deter and defend against the coercive use of political, economic, energy, information and other hybrid tactics.

Allies developed comprehensive preventive and response options combining civil and military tools. These response options can be customised to respond to specific situations. For example, NATO and Allies' diplomatic, cyber resilience and information tools have been used to counter hybrid threats emanating from Russia and the People's Republic of China (PRC). NATO also maintained its counter-hybrid support teams, which are able to assist Allies who request advice to counter specific hybrid threats.

Allies conducted a comprehensive assessment of the Russian Federation's hybrid strategies, capabilities and tactics, drawing on lessons learned from the Russian Federation's hybrid campaigns against Ukraine. Among many aspects, Allies also noted the deepening strategic partnership between the Russian Federation and the PRC and their mutually reinforcing attempts to undercut the rules-based international order.

Through capacity-building programmes, NATO continued to support partners' efforts to counter hybrid challenges. Staff-to-staff cooperation with the European Union intensified to ensure coherence and complementarity, particularly in supporting Ukraine. The European Centre of Excellence for Countering Hybrid Threats in Helsinki, Finland facilitated these contacts.

A Czech soldier assesses a weapons system during air defence exercise Ramstein Legacy 22. Poland, June 2022.

Transparency and Risk Reduction: Conventional Arms Control in Europe

The new Strategic Concept underlines the importance of arms control to achieving the Alliance's security objectives and underscores that Allies strive to reduce risk and enhance security. Throughout 2022, Allies continued to fully implement their conventional arms control obligations and commitments in the Euro-Atlantic area, in spite of Russia's withdrawal from the Treaty on Open Skies in December 2021 and its long-standing failure to implement the Treaty on Conventional Armed Forces in Europe.

Russia's war of aggression against Ukraine has undermined Euro-Atlantic security and has had a significant impact on the conventional arms control architecture in Europe, including key tools such as the Treaty on Conventional Armed Forces in Europe, the Treaty on Open Skies and the Vienna Document.

Russia has demonstrated its disregard for the fundamental arrangements that had helped to maintain peace and security in the Euro-Atlantic area since the end of the Cold War, through military build-up on its borders, which started in 2021, as well as its follow-on aggression against Ukraine. For example, Russia and Belarus failed to comply with the Vienna Document's transparency and risk reduction commitments. In contrast, Allies and Ukraine specifically made use of this political agreement in the context of Russia's military build-up prior to its invasion in February 2022.

Under the Vienna Document, participating States commit to measures such as an annual exchange of military information on forces in Europe, consultations about unusual military activities, prior notifications and observations of military activities, as well as inspection visits. NATO Allies have consistently stood by the letter and the spirit of the Vienna Document. In 2022, Allies routinely notified the Organization for Security and Co-operation in Europe of military exercises.

Allies have also provided both mandatory and voluntary observation of relevant military exercises. By contrast, since the end of the Cold War, Russia has repeatedly failed to provide a mandatory Vienna Document observation for any military exercise.

A Jordanian chemical, biological, radiological and nuclear defence expert examines radiological equipment. NATO and the United Nations teamed up in Jordan for a field exercise against radiological threats. Near Amman, Jordan, September 2022.

Defending against Weapons of Mass Destruction and Chemical, Biological, Radiological and Nuclear Threats

In 2022, NATO worked with Allies, partners and other international organisations to combat the proliferation of weapons of mass destruction and to defend and deter against chemical, biological, radiological and nuclear threats.

In the 2022 Strategic Concept, Allies underscored their strong and enduring commitment to the Treaty on the Non-proliferation of Nuclear Weapons and to its full implementation. Alongside Allies and Invitees Finland and Sweden, NATO attended the Tenth Review Conference of the Nuclear Non-Proliferation Treaty and underscored Allies' commitment to upholding and strengthening the Treaty. To support the nuclear non-proliferation regime in 2022, NATO and Allies continued efforts on strategic risk reduction and provided support for a range of international initiatives that directly support that regime.

Remaining fully committed to the Treaty on the Non-Proliferation of Nuclear Weapons as the only credible path to nuclear disarmament, NATO and Allies continued to oppose the Treaty on the Prohibition of Nuclear Weapons. This treaty remains at odds with the existing non-proliferation and disarmament architecture, lacks a verification mechanism and does not reflect the increasingly challenging security environment.

In 2022, I was proud to align NATO's arms control, disarmament, and weapons of mass destruction non-proliferation tools with NATO's new Strategic Concept.

Dr Wendin Smith (United States)

Director, Arms Control, Disarmament, and Weapons of Mass Destruction Non-Proliferation Centre,
Political Affairs and Security Policy Division
NATO Headquarters, Brussels, Belgium

Jordanian chemical, biological, radiological and nuclear defence experts inspect staff at a petroleum refinery during a field exercise simulating a radiological attack. Near Amman, Jordan, September 2022.

Allies continued their support to the full implementation and strengthening of the Biological and Toxin Weapons Convention and the Chemical Weapons Convention as pillars of the rules-based international order. Allies deplored Russia's behaviour, echoed by the PRC, which sought to undermine these Conventions with continued disinformation campaigns and false allegations, particularly against Ukraine. At the Biological and Toxin Weapons Convention Review Conference held in November, NATO provided a statement underlining the importance of strengthening the Convention as an indispensable part of global peace and security.

In 2022, Allies also agreed NATO's Chemical, Biological, Radiological and Nuclear Defence Policy. The new policy affirms NATO's commitment to having the necessary capabilities to fight and prevail in any environment and to counter and defeat the threats posed by chemical, biological, radiological and nuclear materials and weapons of mass destruction. Allies further committed to enhancing their national and collective resilience against all types of chemical, biological, radiological and nuclear threats. The policy complements and operationalises the commitment that Allies have made in the Strategic Concept to ensure that chemical, biological, radiological and nuclear defence capabilities remain an integral part of the Alliance's deterrence and defence posture.

NATO also continued working to augment the chemical, biological, radiological and nuclear defence capabilities of Allies and partners through training held by the NATO School in Oberammergau, Germany and the Joint Chemical, Biological, Radiological and Nuclear Defence Centre of Excellence in Vyškov, Czechia. In one key example, NATO and Slovakia delivered a live agent training course to chemical, biological, radiological and nuclear first responders from Qatar, in support of the country's role as host of the 2022 FIFA World Cup.

France assumed the annually rotating role of Framework Nation of NATO's Combined Joint Chemical, Biological, Radiological and Nuclear Defence Task Force, which provides specialised and sophisticated chemical, biological, radiological and nuclear defence capabilities and ensures the ability of NATO forces to operate effectively in chemical, biological, radiological and nuclear-affected environments.

Beyond these specific functional areas, NATO also advanced its understanding of how technologies, the information environment and other cross-cutting topics can affect efforts to deter and defend against weapons of mass destruction.

The NATO Science and Technology Organization played an important role in understanding the evolving chemical, biological, radiological and nuclear threat. In early 2022, the Organization launched a research project on the role of "trust" in chemical, biological, radiological and nuclear verification regimes followed by a NATO Chief Scientist Research Report on the impact of technological trends on chemical, biological, radiological and nuclear defence towards 2030, to help decision-makers understand the evolution of threats and developments in the technological landscape.

Finally, the Science and Technology Organization published a major report on "Synthetic Biology for Defence", which sets out the changing nature of the chemical-biological threat. Exploring the identification, ethical, legal and moral implications of such technologies, the report highlights the transformational potential of synthetic biology for providing NATO Allies with powerful defence and security capabilities over the next two decades.

Countering Illicit Small Arms, Light Weapons, and Mines

Countering the impact of illicit manufacturing and trafficking of small arms and light weapons, as well as preventing contamination from landmines, improvised explosive devices and remnants of war continued to be priorities for the Alliance.

NATO's engagement on small arms and light weapons and mine action applies a regional approach. At the Madrid Summit, Allies adopted two new Defence Capacity Building packages – one for Mauritania and the other for Tunisia – to support these partners in enhancing their capacity to manage ammunition stockpiles, destroy surpluses and train staff. NATO also initiated support to Jordan in the development of a national course on ammunition management as well as in the organisation of a co-hosted conference to support regional coordination. It also progressed in developing a project helping Bosnia and Herzegovina upgrade its "arms rooms", where small arms and light weapons are stored.

In 2022, NATO made available a new online training course on NATO Guidelines for Gender Mainstreaming in Small Arms and Light Weapons Projects. Its goal is to increase awareness among practitioners, Allies and partners about the importance of considering gender and diverse perspectives in designing weapons management projects.

Ensuring Safe, Secure and Effective Nuclear Deterrence

NATO's Strategic Concept makes it clear that the fundamental purpose of NATO's nuclear capability is to preserve peace, prevent coercion and deter aggression. It reiterates that the Alliance's strategic nuclear forces are the supreme guarantee of the security of the Alliance and highlights the value of US nuclear weapons forward-deployed in Europe and the national contributions of dual-capable aircraft to NATO's nuclear deterrence mission. As long as nuclear weapons exist, NATO will remain a nuclear alliance. NATO's goal is to create the security environment for a world without nuclear weapons. Throughout 2022, NATO took all necessary steps to ensure the credibility, effectiveness, safety and security of its nuclear deterrent mission. Allies reiterated this commitment in the new Strategic Concept.

NATO Defence Ministers held a meeting of the Nuclear Planning Group —NATO's senior body on nuclear matters—in February, during which they considered worrisome nuclear developments across the globe, including in Russia and the PRC.

In September, the NATO Nuclear Policy Directorate, along with Belgium, hosted the annual Nuclear Policy Symposium. The conference brought together Allied policymakers with world-leading experts to discuss the nuclear aspects of a fundamentally changed security environment, including Russia's capabilities and threats, the PRC's rapid expansion of its nuclear arsenal, and developments in Iran and North Korea.

The Nuclear Planning Group at the level of Defence Ministers met again in October, to consider Russia's irresponsible nuclear sabre-rattling as part of its war against Ukraine and to be briefed on NATO's long-planned annual nuclear exercise Steadfast Noon 2022. The exercise involved 14 countries and up to 60 aircraft of various types, including fourth- and fifth-generation fighter jets, as well as surveillance and tanker aircraft. Training flights took place over Belgium, which hosted the exercise, and over the North Sea and the United Kingdom.

Three United States Air Force F-35A Lightning II aircraft assigned to the 48th Fighter Wing in RAF Lakenheath, United Kingdom return from a training flight in support of exercise Steadfast Noon. The Netherlands, October 2022. Photo credit: United States Air Force, by Claire Waldo.

INVESTING IN DEFENCE

ENSURING SECURITY

Spanish Air Force F-18 fighter aircraft patrol the Lithuanian skies during a training exercise of the Baltic Air Policing mission. Above the Baltic Sea, July 2022. Photo by Hesja Air-Art Photography.

Allies recommitted to the pledge we made in 2014 to spend at least 2% of GDP on defence. Since 2014, European Allies and Canada have spent an extra 350 billion U.S. dollars. Two per cent is increasingly seen as a floor, not as a ceiling.

NATO Secretary General Jens Stoltenberg following the meeting of the North Atlantic Council at the level of Heads of State and Government. Madrid, Spain, 29 June 2022.

The 2014 Defence Investment Pledge

At the 2014 NATO Summit, Allies endorsed the Defence Investment Pledge. The pledge recognises that fair burden-sharing is the foundation of the Alliance. It calls for all Allies to meet the NATO-agreed guideline of spending 2% of their Gross Domestic Product (GDP) on defence by 2024. It also calls for Allies to spend at least 20% of annual defence expenditure on major new equipment, including related research and development, within the same time frame. Finally, the pledge commits Allies to ensuring that their land, air and maritime forces meet NATO-agreed guidelines for deployability, sustainability and other agreed metrics, and that their armed forces can operate together effectively, including through the implementation of NATO standards and doctrines.

In 2022, war has returned to the European continent. Allies at the 2022 Madrid Summit reaffirmed their commitment to the Defence Investment Pledge in its entirety. They agreed that they will build on that pledge and decide the following year on subsequent commitments beyond 2024. Investing in defence is essential to ensure the security and defence of all Allies, across the land, air, maritime, cyber, and space domains, and against all threats and challenges.

European Allies and Canada have increased defence spending for the eighth consecutive year. From 2021 to 2022, defence spending increased by 2.2% in real terms. In total, over the last eight years, this increase added USD 350 billion for defence.

In 2022, seven Allies met the guideline of spending 2% of their Gross Domestic Product on defence.[1] In 2014, only three Allies met the guideline. The United States accounted for 54% of the Allies' combined GDP and 70% of combined defence expenditure. Total NATO military spending in 2022 was estimated to exceed USD 1 trillion.

Allies also made progress on the commitment to invest 20% or more of defence expenditure in major new capabilities. 24 Allies spent more in real terms on major equipment than they did in 2021. 24 Allies met the NATO-agreed 20% guideline compared to seven in 2014.

Allies are building on progress made to ensure that increased national defence expenditure will be commensurate with the challenges of a more contested security order. They are delivering more of the heavier, high-end capabilities NATO needs. They are improving the readiness, deployability, sustainability and interoperability of their forces in line with NATO Capability Targets. These targets set out areas where NATO aims to improve its capabilities, including for heavier and more high-end equipment, and forces able to move at even shorter notice. Investing in the right capabilities is essential to protect populations, to deter and defend.

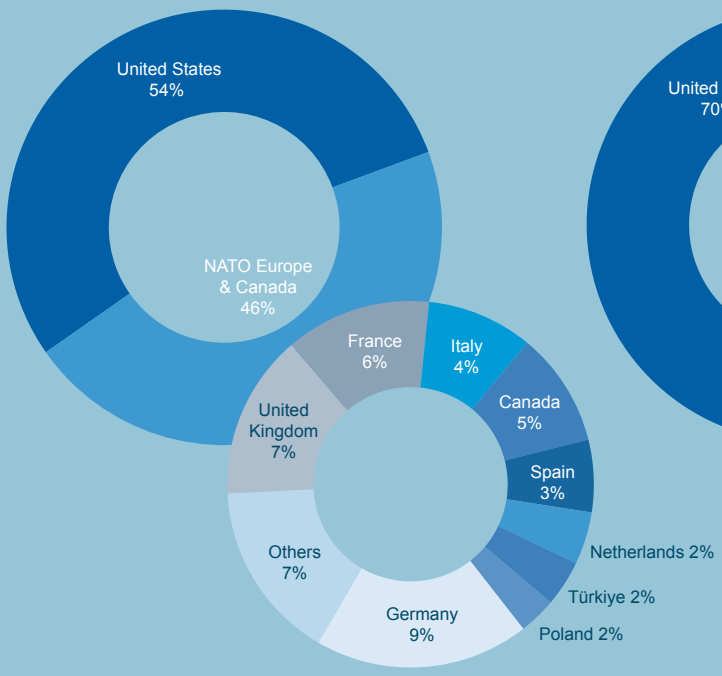
It was an exciting and rewarding experience to contribute to the analysis and review of the Allies' defence investment and capabilities. Investing in our defence and key capabilities is more essential than ever.

Asimina Trismpioti (Greece)

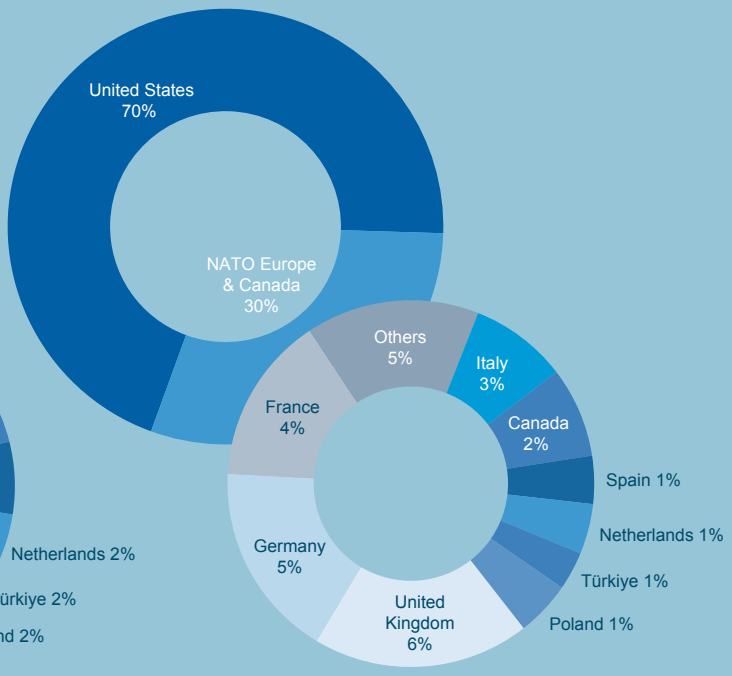
Head, Data Analysis and Reporting,
Defence Policy and Planning Division
NATO Headquarters, Brussels, Belgium

1 For all the graphs in this chapter of the report, it should be noted that Iceland has no armed forces. The figures presented at aggregate level may differ from the sum of their components due to rounding. All figures for 2022 are estimates.

Share of Alliance GDP 2022

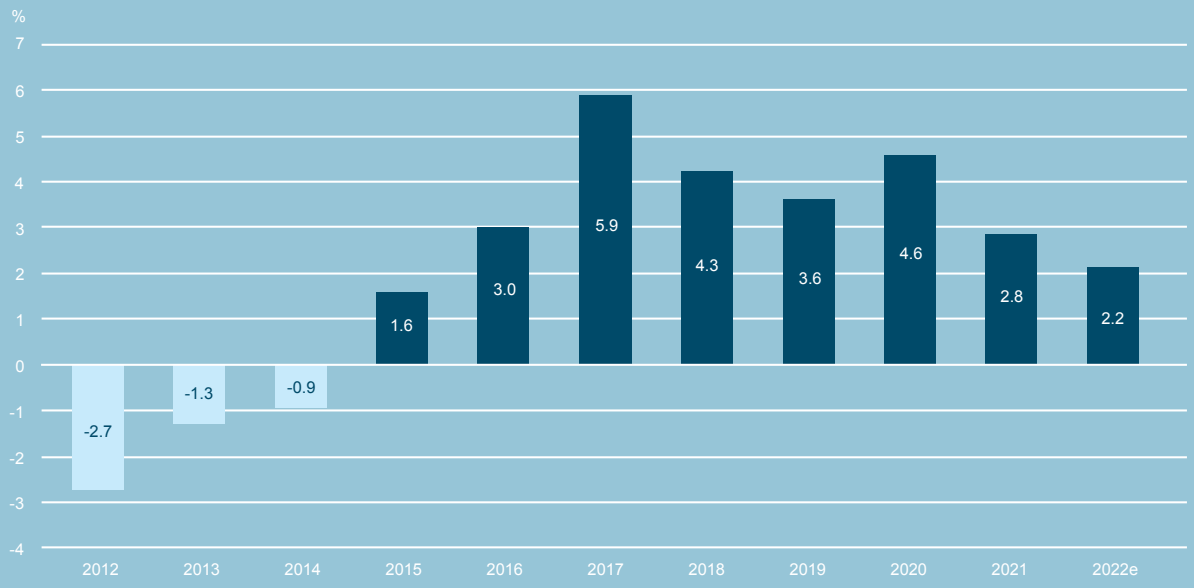


Share of Alliance defence expenditure 2022



Based on current prices and exchange rates. Figures for 2022 are estimates.

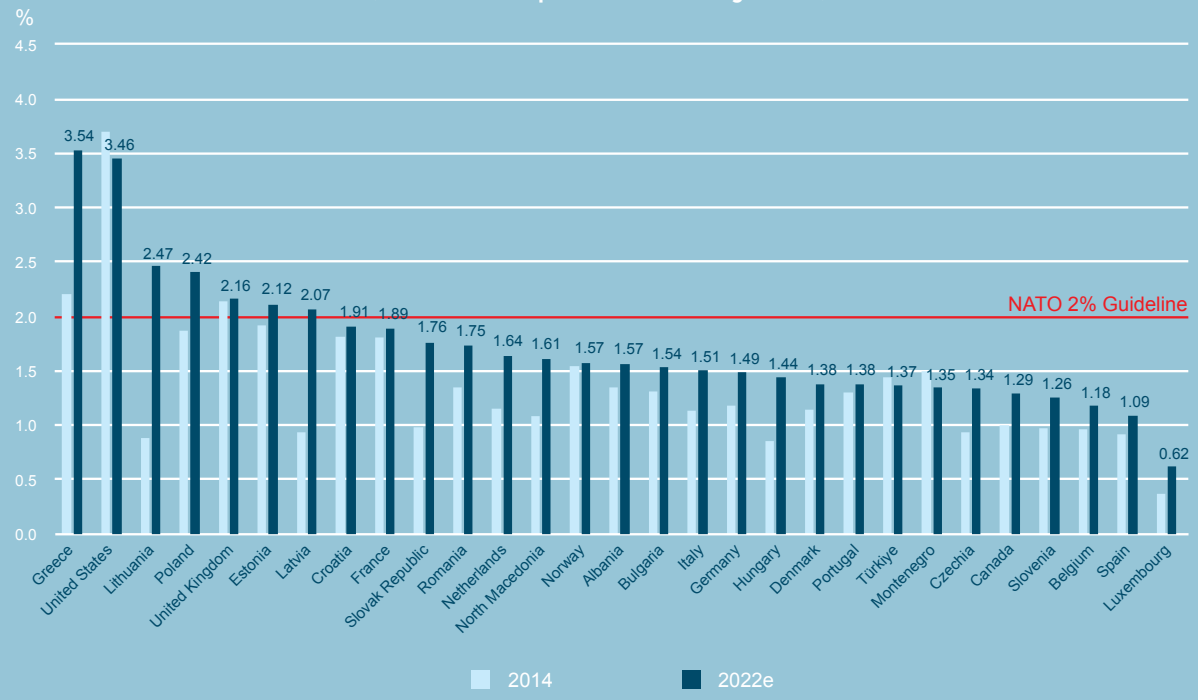
NATO Europe and Canada - defence expenditure
(annual real change, based on 2015 prices and exchange rates)



Notes: Figures for 2022 are estimates. The NATO Europe and Canada aggregate from 2017 onwards includes Montenegro, which became an Ally on 5 June 2017, and from 2020 onwards includes North Macedonia, which became an Ally on 27 March 2020.

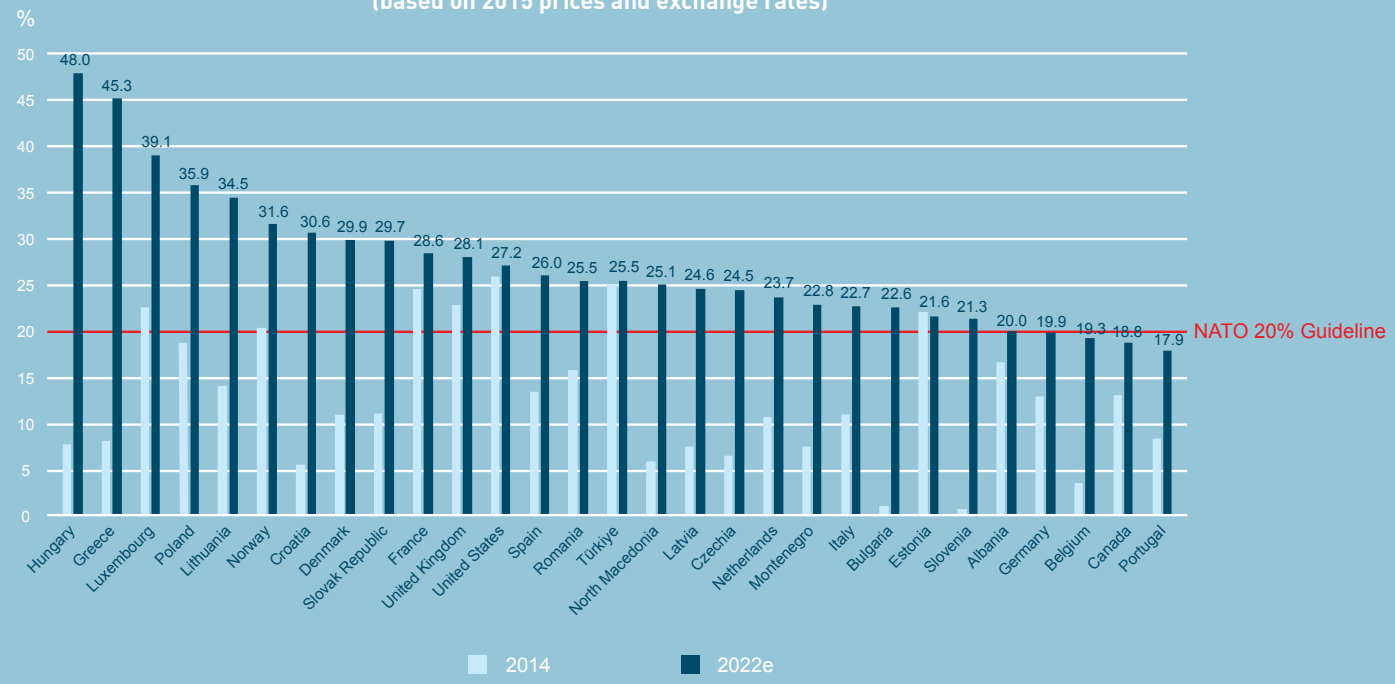
Defence expenditure as a share of GDP (%)

(based on 2015 prices and exchange rates)

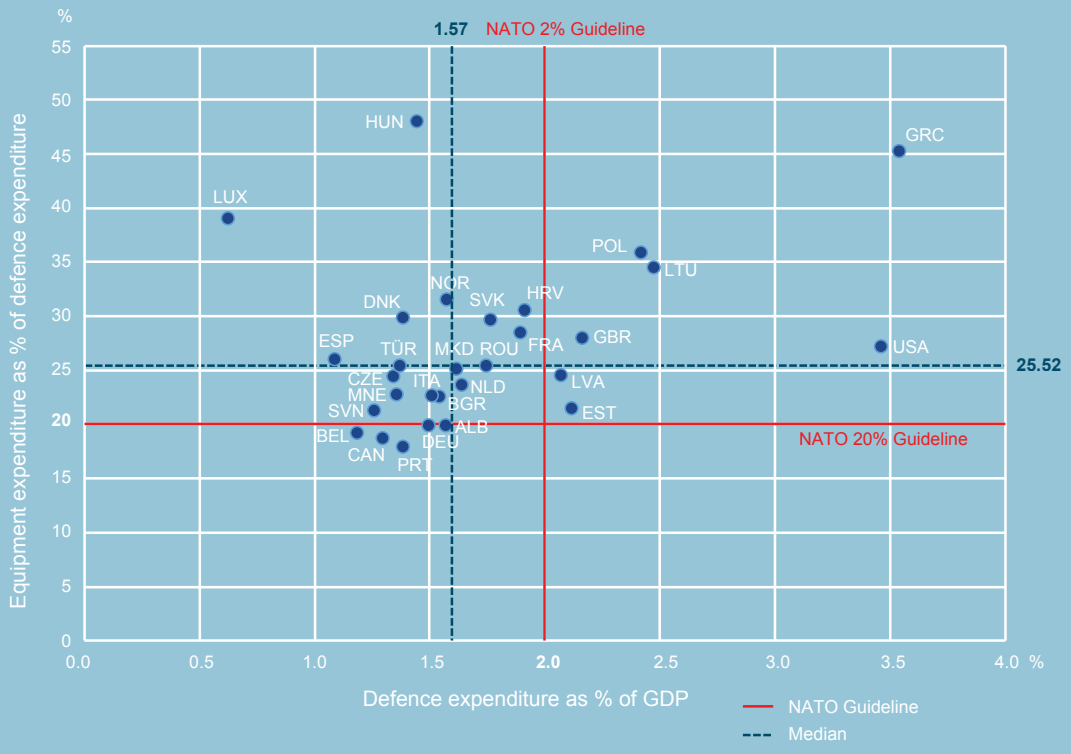


Equipment expenditure as a share of defence expenditure (%)

(based on 2015 prices and exchange rates)

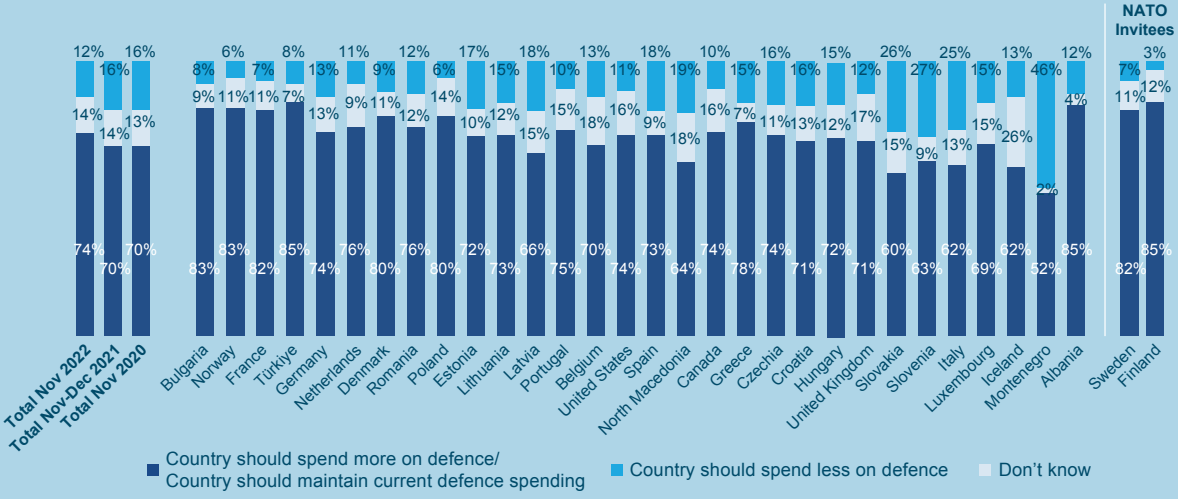


Defence expenditure as a share of GDP and equipment expenditure as a share of defence expenditure - 2022



Public support for defence spending increased in 2022

Most Allied citizens (74%) think that defence spending should either be maintained at current levels or increased, compared to 2021 (70%). Just 12% think less should be spent on defence.



Note: Further NATO polling is available in 'Listening to Citizens: Continued Support for the Alliance in 2022' on page 131.

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ENHANCING RESILIENCE

United States Army Special Forces soldiers assigned to the 10th Special Forces Group drive snowmobiles to navigate the deep snow of the Swedish Arctic in preparation for exercise Cold Response 22, a Norwegian-led multinational exercise that helps NATO Allies train for military operations in the High North. Swedish Arctic, February 2022.

We cannot give authoritarian regimes any chance to exploit our vulnerabilities and undermine us. For this, it is essential that we boost the resilience of our societies and our infrastructure.

NATO Secretary General Jens Stoltenberg at the 68th Annual Session of the NATO Parliamentary Assembly. Madrid, Spain, 21 November 2022.

Improving Allied and Collective Resilience

The 2022 NATO Strategic Concept delivered a clear strategic vision for NATO's resilience in a contested and unpredictable international security environment. Allies committed to strengthening their capacity to prepare for, resist, respond to and quickly recover from strategic shocks and disruptions. The Strategic Concept stresses that collective and national resilience is essential and underpins each of NATO's core tasks.

NATO employs a range of tools to bolster collective and national resilience. Conducting regular assessments is one of them. Assessments are fundamental for identifying areas of progress and challenges to be addressed. In 2022, NATO started a new resilience planning and review cycle with the endorsement of the 2022 Resilience Assessment. The assessment describes the state of NATO's overall collective resilience and outlines progress in seven areas, called the baseline requirements.[2] The findings will inform measures taken to address the identified gaps and enhance the Alliance's overall resilience.

In 2022, NATO also continues to develop important resilience policy guidance. For example, it established an Ad Hoc Civil Protection Planning Group, to collect national best practices and develop non-binding guidelines for Allies to enhance their societal resilience. An Ad Hoc Group on Climate Change was also established to contribute to Allies' efforts to strengthen resilience against this challenge.

In 2022, I contributed to raising awareness on the risks related to civil transportation so that Allies could enhance their resilience in this crucial sector.

Katia Canciani (Canada)

Civil Transportation Staff Officer,
Enablement and Resilience Section,
Defence Policy and Planning Division
NATO Headquarters, Brussels, Belgium

The Resilience Dashboard

To address and mitigate the cascading effects emanating from Russia's war of aggression against Ukraine, Allies have activated a Resilience Dashboard. This situational awareness tool provides a dynamic assessment of the Alliance's state of resilience across NATO's seven resilience baseline requirements to inform civil and military decisions on strategic risks. The Dashboard consolidates data and information available from national input, intelligence analysis and open sources.

2 The seven baseline requirements for resilience are: assured continuity of government and critical government services; resilient energy supplies; ability to deal effectively with uncontrolled movement of people; resilient food and water resources; ability to deal with mass casualties and disruptive health crises; resilient civil communications systems; and resilient civil transportation systems.

NATO 2030 and Resilience

Under the NATO 2030 Agenda NATO Leaders agreed in 2021, NATO is implementing a broader and more coordinated approach to resilience. In 2022, Allies took concrete steps towards achieving this goal by:

- Designating Senior National Officials to coordinate efforts at the national level and enhance and streamline consultations within NATO on resilience. The first meeting of Senior National Officials took place in November 2022 and focused, among other topics, on ensuring resilient critical infrastructure.
- Developing resilience objectives to guide nationally tailored resilience goals and implementation plans.
- Establishing the Resilience Committee as the senior NATO body to deliver strategic and policy direction, planning guidance and coordination of resilience activities at NATO Headquarters. The Resilience Committee has been meeting regularly since mid-2022.

NATO Secretary General Jens Stoltenberg addresses the first meeting of Senior National Officials responsible for resilience at NATO Headquarters. Brussels, Belgium, November 2022.

Supreme Allied Commander Transformation General Philippe Lavigne together with over 200 attendees from across military, political, industry and academic backgrounds examined key areas of resilience during the NATO Resilience Symposium on 5-6 May 2022. Warsaw, Poland.

Strategic partnerships with like-minded partners and key international organisations reinforce NATO's and Allies' resilience. The significance of strong partnerships is best illustrated by NATO's long-term work with Ukraine on developing its national resilience system. Since 2014 and until the beginning of Russia's war of aggression in February 2022, NATO and Allies worked side by side with Ukraine to identify resilience gaps and vulnerabilities. Several Resilience Advisory Support Team missions brought together Ukraine and NATO civil experts across the whole of government to strengthen the resilience of Ukraine's society and infrastructure. Ukraine's ability to deal with the shocks and disruptions caused by Russia's war of aggression serves as a powerful reminder that the Alliance must continue to develop its ability to forecast future challenges and invest in the resilience and civil preparedness needed to mitigate potential strategic shocks.

In 2022, NATO significantly deepened its cooperation on resilience by launching a NATO-European Union Structured Dialogue on Resilience and by intensifying staff-to-staff consultations in the context of the war in Ukraine. NATO also continues to serve as a platform where NATO Allies and partners can exchange national best practices and lessons learned on resilience.

Enhancing Resilience by Securing Critical Defence Supply Chains

Maintaining secure and resilient supply chains contributes to Allies' commitment, under Article 3 of the North Atlantic Treaty, to developing individual and collective capacity to resist any form of attack.

In 2022, Allies endorsed a list of non-binding principles to mitigate security and defence vulnerabilities associated with foreign dependencies on mining and processing of strategic materials and the production of microelectronics, critical for Allied capability development and delivery. To facilitate information exchange among Allies, NATO organised two workshops during the year with a view to better understanding and managing the risks, challenges and vulnerabilities facing Allies' critical supply chains for strategic materials and microelectronics.

Addressing supply chain security requires close liaison and consultation with many communities and stakeholders to foster the development of a whole-of-government approach, underpinned by strong government–industry and international engagement. To this end, the NATO Industrial Advisory Group launched a study of industry's perspective on enhancing the security and resilience of supply chains essential to Allied capability development and delivery. The study is intended to identify key challenges and vulnerabilities facing industry, Allies and NATO, together with possible mitigation measures.

NATO's Euro-Atlantic Disaster Response Coordination Centre

The Euro-Atlantic Disaster Response Coordination Centre is NATO's principal civil emergency response mechanism working with Allies and partners to respond to natural and human-caused disasters. It functions as a clearing-house for the coordination of requests by affected countries and offers of assistance. The Centre works closely with the United Nations Office for the Coordination of Humanitarian Affairs, the United Nations High Commissioner for Refugees, the International Organization for Migration and with the European Union's Emergency Response Coordination Centre, chairing bi-weekly meetings on humanitarian cooperation.

In 2022, the Centre led the coordination of the Alliance's humanitarian support to Ukraine by reacting to 31 requests for assistance from Ukraine. It also continued to coordinate the Alliance's COVID-19 response by fielding pandemic-related requests for assistance through the Pandemic Response Trust Fund.

Since its establishment in 2020, the Pandemic Response Trust Fund maintains a NATO stockpile of rapidly deployable medical equipment and supplies. Up to 2022, 22 projects were completed, supporting four Allies and six partners. A total of 23 Allies and three partners made financial contributions of more than EUR 6 million and in-kind contributions of medical equipment to the NATO stockpile.

Allied personnel collaborate during search-and-rescue training as part of exercise Dynamic Mercy 2022. This exercise promotes interregional and cross-border cooperation between rescue coordination centres and search-and-rescue units, military and civilian, in NATO's northern region. North Sea, April 2022.

Allied vessels HNLMS Tromp, HNoMS Maud and HDMS Esbern Snare from Standing NATO Maritime Group One sail together with Swedish Navy corvette HSwMS Malmö in the Baltic Sea. November 2022.

Advancing Energy Security

Russia's unprovoked war against Ukraine in February 2022 caused a major energy crisis across the continent. Russia's curtailing of gas deliveries to Europe led to shortages, which in turn resulted in a sharp increase in energy prices.

As the war against Ukraine continued, Russia increased its deliberate attacks on Ukraine's civilian energy infrastructure, and as the need for Allies to assist Ukraine became more pressing, NATO enhanced its support to Ukraine and Allied national authorities in protecting these critical assets.

In the statement of the North Atlantic Council on 29 September 2022 on the damage to gas pipelines in international waters in the Baltic Sea, Allies underlined their commitment to preparing for, deterring and defending against the coercive use of energy and other hybrid tactics by state and non-state actors. They also stressed that any deliberate attack against Allies' critical infrastructure "would be met with a united and determined response."

In 2022, NATO's role in energy security was significantly developed. At the Madrid Summit, Allies decided to increase NATO's strategic awareness of the growing energy challenges of the Alliance and their implications for security and defence, continue to develop NATO's capacity to support national authorities in protecting critical energy infrastructure, and ensure reliable and efficient energy supplies to NATO military forces. In the 2022 Strategic Concept, Allies agreed to enhance their energy security and invest in a stable and reliable energy supply, suppliers and sources.

The North Atlantic Council discussed the energy implications of Russia's assault on Ukraine for Europe, inviting senior leadership from the International Energy Agency, the International Renewable Energy Agency and the European Union.

In June, the NATO Energy Security Centre of Excellence and the Ministry of conomy and Sustainable Development of Georgia hosted tabletop exercise Coherent Resilience 22-Georgia. Following similar events in Ukraine in 2017 and 2021, this exercise was designed to support Georgia's

national authorities in assessing and enhancing the resilience of electricity and gas systems against hybrid threats and to improve their readiness for various emergencies. Many stakeholders supported and participated in the exercise, including the European Commission's Joint Research Centre and the United States Naval Postgraduate School.

More than 100 delegates from four countries and 23 institutions participated, examining critical energy infrastructure resilience, crisis response, cyber security and strategic communications. After the explosions of the Nord Stream pipelines in the Baltic Sea in late September, NATO enhanced vigilance and doubled the number of ships patrolling the North and Baltic Seas to deter threats and assure Allies. NATO also stepped up its intelligence-sharing and surveillance across all domains - from space, to cyber and undersea capabilities.

NATO also enhanced its coordination with other international organisations, such as the International Energy Agency and the European Union, as well as with the energy industry, including infrastructure operators. NATO's Annual Energy Security Roundtable featured presentations by energy infrastructure operator companies on the security of undersea energy infrastructure and on NATO's adaptation to the energy transition, which will heavily rely on electricity infrastructure, offshore wind energy generation, and the supply of minerals that are critical for renewable energy production, storage and transportation.

NATO's Energy Security Strategic Awareness Course at the NATO School Oberammergau featured participants from Allied and partner countries. Topics ranged from the implications of energy developments on international relations to maritime security, and from new methods for protecting energy infrastructure to the impact of the green energy transition on the military.

NATO Secretary General Jens Stoltenberg addresses the High-Level Dialogue on Climate and Security during the NATO Public Forum. Madrid, Spain, June 2022.

Addressing the Impact of Climate Change on Security

The Strategic Concept underlines NATO's intention to become the leading international organisation when it comes to understanding and adapting to the impact of climate change on security. NATO will lead the efforts to assess the impact of climate change on defence and security, and address those challenges.

The topic of climate change and security featured prominently at the Madrid Summit. NATO Heads of State and Government reiterated their view that climate change is a defining challenge of our time with a profound impact on Allied security. In the 2022 Strategic Concept, they agreed to integrate climate change considerations across all of NATO's core tasks. Allied leaders committed to contributing to combatting climate change by reducing greenhouse gas emissions, improving energy efficiency, investing in the transition to clean energy sources and leveraging green technologies, while ensuring military effectiveness and a credible deterrence and defence posture.

In the margins of NATO's Madrid Summit, the NATO Secretary General hosted the first annual NATO High-Level Dialogue on Climate Change and Security. The event, which brought together NATO Allies, partners and other key international stakeholders, will become a platform for an international dialogue on the impact of climate change on security. As a first concrete step, the Secretary General announced the agreement to cut emissions from NATO assets and installations by at least 45% by 2030 and to move towards Net Zero by 2050.

At the same event, the Secretary General released his first Climate Change and Security Impact Assessment, a response to the demand for increased Allied awareness concerning the impact of climate change on security. It set out the effects of various climatic hazards on NATO's strategic environment; NATO's assets and installations; NATO's missions and multi-domain operations; and NATO's resilience and civil preparedness. Such effects can result in increased supply chain vulnerabilities, altered operating environments and technical failure of infrastructure and equipment.

The deterioration in Euro-Atlantic security as a result of Russia's war of aggression against Ukraine will lead to substantial increases in the number of Allied platforms and in training, exercising and patrolling, and consequently, to a rise in fuel demand and consumption and greenhouse gas emissions. However, the decisions taken in response to the

From left to right: Minister of National Defence of Canada Anita Anand, Prime Minister of Canada Justin Trudeau, Minister of Foreign Affairs of Canada Mélanie Joly and NATO Secretary General Jens Stoltenberg visit one of the North Warning System radar sites. Northern Canada, August 2022.

invasion of Ukraine to acquire new equipment offer an opportunity to build energy efficiency into capability design, reducing fuel and logistical requirements in future. The Impact Assessment briefly outlined potential and proposed adaptation measures based on NATO's analysis and Allies' best practices.

The impact of climate change on security is also a priority issue for NATO's engagement with the European Union, and it is increasingly the subject of discussions between NATO, partner countries and other international organisations, such as the United Nations, the World Bank Group and the International Energy Agency. In November, the Secretary General virtually addressed the COP 27 conference in Sharm el-Sheikh, Egypt. NATO's first annual Climate Change and Security Roundtable brought together experts from other international organisations, academia, industry and the military to explore the political and technical dimensions of climate change adaptation and mitigation.

I am proud to have contributed to NATO's first Climate Change and Security Impact Assessment in 2022 – enhancing our collective resilience as we respond to the climate challenge.

Sannan Pervaiz (United Kingdom)

Policy Adviser,
Climate and Energy Security Section,
Emerging Security Challenges Division
NATO Headquarters, Brussels, Belgium

Protecting Citizens against Hostile Information and Increasing Societal Resilience

Hostile information activities targeting NATO and Allies, including disinformation, remain a continuous challenge. They seek to influence citizens' decision-making and undermine democratic societies.

NATO's approach to countering disinformation is threefold. Firstly, NATO tracks, monitors and analyses relevant information to better understand the strategies and tactics of its potential adversaries and the information environment. Secondly, NATO engages with audiences through tailored public communications. Thirdly, NATO coordinates with Allies and like-minded partners to act effectively.

NATO ensures fact-based, timely and credible public communications. It also debunks and exposes disinformation. This includes calling out Russia's lies about its war against Ukraine through engagements with the media, digital outreach, civil society, academia and the private sector. NATO also produces digital content such as the 'Stop the Lies, Stop the War' video, which was aired in 2022.

In the months before Russia's invasion of Ukraine, individual Allies declassified intelligence and shared it with the public and the media, exposing Russia's planned attack on Ukraine. With this information, Allied audiences were mobilised in support of Ukraine and prepared against Russian disinformation.

NATO also works to strengthen the resilience of societies against hostile information campaigns: it has developed a network of Allies, like-minded partners and relevant international organisations, including the European Union. In 2022, NATO deepened its partnerships with experts in industry, non-governmental organisations and academia to exchange insights, conduct joint research and lead resilience-building initiatives. For example, NATO's hostile information analysts engage regularly with their G7 counterparts to exchange information and reports and to produce joint analysis. NATO also organises analyst swaps between Allies to transfer institutional expertise across the Alliance.

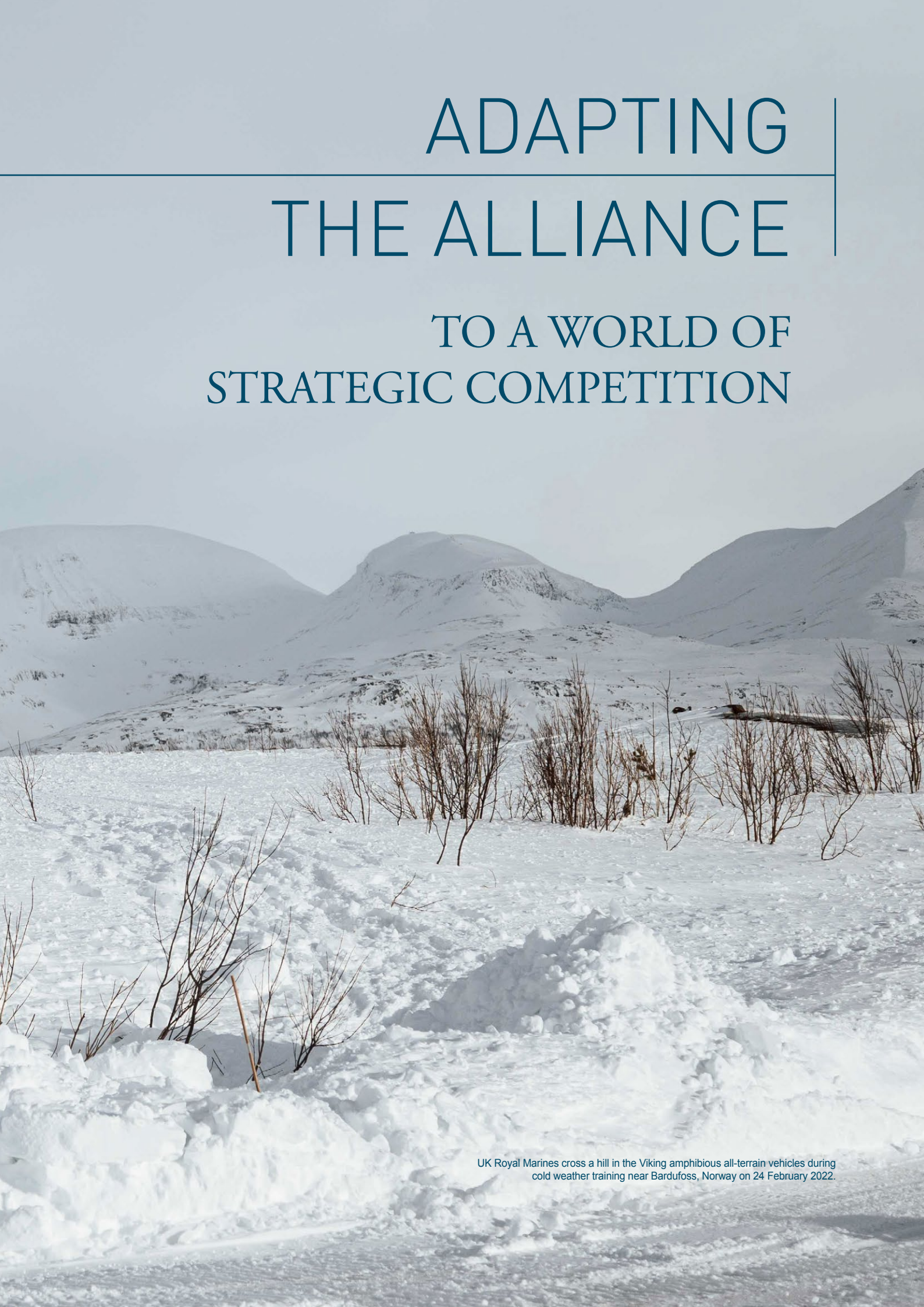
Resilience Grants

To promote public understanding of the Alliance, NATO's Public Diplomacy Division co-sponsors conferences, seminars, workshops and other public diplomacy activities, through a series of discretionary grants. In 2022, NATO's Public Diplomacy Division issued 135 grants across 38 countries.

The Public Diplomacy Division also invited non-governmental organisations, think tanks and universities to develop innovative ways to build societal resilience against disinformation. Grant support ranged from "NATO for the independents", a radio show dedicated to the 31st anniversary of Ukraine's Independence, broadcast across nine radio stations in Ukraine; to an online expert discussion run by the United States Studies Centre at the University of Sydney, Australia. A total of 32 projects were selected across 24 Allies.

ADAPTING THE ALLIANCE

TO A WORLD OF STRATEGIC COMPETITION



UK Royal Marines cross a hill in the Viking amphibious all-terrain vehicles during cold weather training near Bardufoss, Norway on 24 February 2022.

Finnish Army Joint Terminal Attack Controllers overlook a firing range while providing targeting information to Allied aircraft flying overhead during exercise Dynamic Front 2022. Multiple-Launch Rocket Systems from various Allies are used to perform fire missions under the command of a multinational headquarters. Grafenwöhr, Germany, July 2022.

Working with the private sector and academia, Allies will ensure that we can harness the best of new technology for transatlantic security.

NATO Secretary General Jens Stoltenberg following the meeting of NATO Ministers of Foreign Affairs. Brussels, Belgium, 7 April 2022.

Investing in Cutting-Edge and Interoperable Capabilities

NATO carries out a vast range of multinational missions and tasks, for which it requires interoperable, cutting-edge and cost-effective capabilities. The Alliance is the ideal forum for encouraging Allies to pursue the development, acquisition and maintenance of capabilities. To support Allies in this endeavour, NATO developed a number of High Visibility Projects. These projects address one or more key NATO defence planning priorities and provide Allies with dedicated staff support across the full project life cycle. This multinational approach has enabled Allies — and, in some instances, partners — to close key capability gaps across the board, save money and ensure interoperability by design.

In 2022, several projects reached key milestones and contributed significantly to NATO's strengthened deterrence and defence posture on the eastern flank:

- A reliable and effective Ground-Based Air Defence is the backbone of NATO's deterrence and defence posture. This is why 15 Allies[3], together with the NATO Support and Procurement Agency, are pursuing the development and fielding of a modular design for Ground-Based Air Defence. In 2022, the 15 participants decided to merge this project with the Rapidly Deployable Mobile Counter Rockets, Artillery and Mortar project. The project aims to develop and procure counter rockets, artillery, and mortar capabilities that are mobile and can be rapidly deployed to protect troops and at-risk installations.
- The Next Generation Rotorcraft Capability project, launched in 2021, creates a multinational framework under which its participants can

3 Belgium, Denmark, France, Germany, Greece, Hungary, Italy, Latvia, the Netherlands, Norway, Poland, Portugal, Slovenia, Spain and the United Kingdom.

Next Generation Rotorcraft Capability

- Non-proprietary Modular Open Systems Architecture solution
- Speed optimally greater than 220 Kts or more but not less than 180 Kts
- Improved manoeuvrability, endurance, availability and easily deployable
- Maximum mission take-off gross target weight 10-17 Tons
- Cost-effective

Stage **Concept**

6 Nations

MoU signed on **17 June 2022**

End of Concept Stage **End 2025**

Total Budget **30M €+**

combine efforts to work on design, development and delivery of a medium multi-role helicopter. The project reached an important milestone in June 2022, when the six participating Allies[4] signed a Memorandum of Understanding to conduct several studies for the final design of new medium multi-role rotorcraft capabilities. The NATO Support and Procurement Agency will support the Allies, partly in collaboration with key industry players, in developing a design that can be adapted and refined to meet the challenges of the 21st century.

- In March 2022, the first Multinational Ammunition Warehousing Initiative location opened in Estonia. Nine Allies[5] launched the initiative in 2021 with the aim to transform the Alliance's approach to ammunition storage and life cycle management. This Belgian-led project aims to support NATO's eight newly established multinational battlegroups through a series of tailored, multinational warehousing solutions. Hungary, Romania, Slovenia and the NATO Support and Procurement Agency joined the Initiative in 2022.
- Romania joined the Air Battle Decisive Munitions project, which provides a forum for participating Allies[6] and Invitee Finland to consolidate their air-launched munition requirements and pursue bundled multinational buys. This approach offers an increased level of interchangeability: two participating nations will be able to exchange munition on very short notice. The process of exchanging ammunition has been reduced from several weeks to a couple of days.

The war in Ukraine has major implications for NATO's armaments requirements. In 2022, I was privileged to help elevating the discussion on enhancing the Alliance's munition stockpiles at the highest political level.

Isabela Rusie (Romania)

Executive Officer,
Defence Investment Division
NATO Headquarters, Brussels, Belgium

4 France, Germany, Greece, Italy, the Netherlands and the United Kingdom.

5 Belgium, Estonia, France, Greece, Italy, the Netherlands, Norway, Slovakia and Spain.

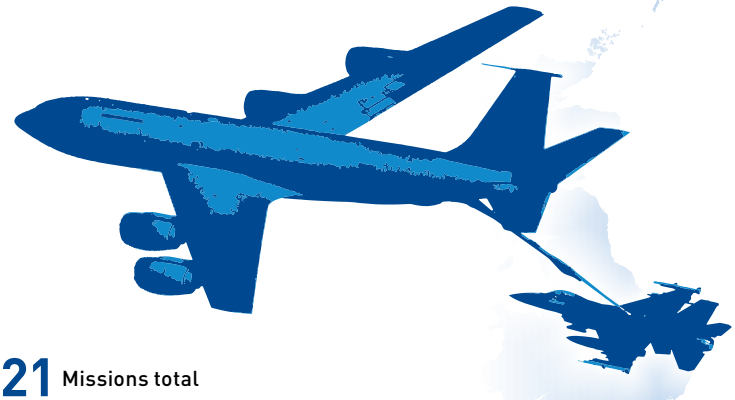
6 Belgium, Czechia, Denmark, Greece, Hungary, Italy, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Spain and the United Kingdom.

As a direct response to the changing security environment in NATO's neighbourhood, Allied Heads of State and Government have taken steps to increase their national stockpiles and strengthen NATO's deterrence and defence posture. NATO's High Visibility Projects play a key role supporting Allies in both endeavours:

- In 2022, the Multinational Multi Role Tanker Transport fleet provided round-the-clock air-to-air refuelling for NATO and Allied planes and helicopters on Air Policing missions on NATO's eastern flank, increasing their airborne time. When this versatile fleet is completed in 2024, it will consist of nine Airbus A330 Multinational Multi Role Tanker Transport aircraft; the sixth and seventh were delivered in 2022. The aircraft's multi-role design suits it for use in a range of other transport missions, including medical evacuation.
- In their autumn 2022 plenary meeting, the National Armaments Directors decided to further increase the Land, Air and Maritime Battle Decisive Munition projects. These projects support Allied efforts to increase ammunition stockpiles. They help to reduce the pressure on supply chains across all industry domains by coordinating procurement, which results in a lower unit price for ammunition. Since NATO standardized several key ammunition types, it is becoming more and more attractive for nations to identify shared requirements and pursue them in a multinational fashion. This approach also boosts interoperability and eases the way towards interchangeability of ammunition.

NATO's Multinational Multi Role Tanker Transport Fleet. Eindhoven, the Netherlands, May 2022.

Multinational Multi Role Tanker Transport Fleet



521 Missions total

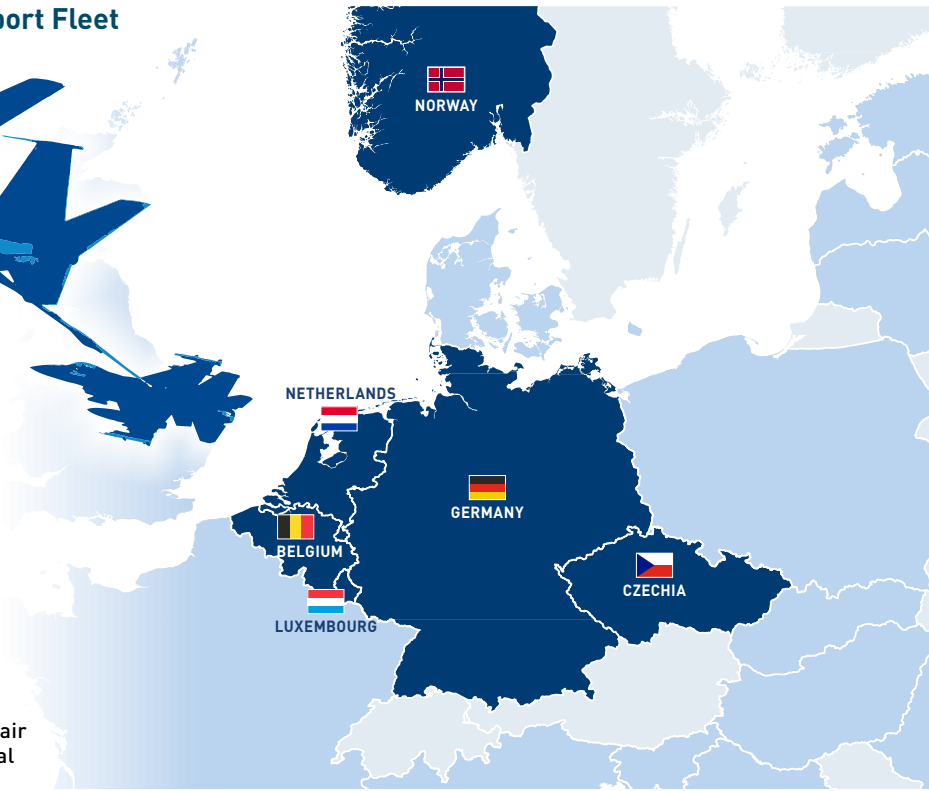
3702 Hours flown

130 Air transport (passengers and/or cargo)

391 Air-to-air refuelling

3000+ Allied aircraft refuelled

10,513,661 kg fuel provided in air-to-air refuelling training and real operations missions



A UK Eurofighter Typhoon takes part in Neptune Shield 22, a multinational maritime vigilance activity. Neptune Shield 22 has seen a range of multi-domain activities between air, land and maritime assets across Europe and in the Baltic and Mediterranean Seas. Above the Baltics, May 2022.

Aviation and Air Capabilities

Throughout 2022, NATO continued to modernise and adapt its aviation and air capabilities in several areas, including rapid air mobility, civil-military airspace safety, airspace and space defence, and joint air power.

NATO's Rapid Air Mobility initiative enables Allied military aircraft to deploy swiftly and on short notice across Europe in a crisis. In 2020, rapid air mobility aircraft ferried imported medical supplies during the COVID-19 pandemic. In 2021, they evacuated at-risk Afghans and simplified aircraft movements across national borders following NATO's withdrawal from Afghanistan. During 2022, Rapid Air Mobility supported the rapid reinforcement of NATO's eastern flank as a deterrence and defence measure following Russia's invasion of Ukraine.

Russia's invasion of Ukraine in February 2022 resulted in the closure of Ukraine's airspace to civilian flights and rendered Russia's airspace inaccessible to European carriers, causing cancellations and rerouting of civilian flights. NATO air activity also increased in Central and Eastern Europe to keep the skies safe. When civilian and military aircraft share a smaller airspace, coordination among countries and institutions is particularly critical. This is why, in September 2022, NATO hosted civil and military aviation experts to address air safety following Russia's invasion of Ukraine. The Civil-Military Airspace Safety Team workshop brought together leading figures in aviation to discuss how civilian flights can continue to operate safely during Russia's war against Ukraine. This a key component of NATO's engagement with the international aviation community to create shared awareness, enhance civil-military cooperation and promote the safety of air operations. Allied and partner countries participated, along with NATO's military leadership and the United States Air Forces in Europe, as did several international aviation organisations, including EUROCONTROL, the International Air Transport Association, the Civil Air Navigation Services Organisation and the European Aviation Safety Agency. The workshop was an important opportunity to share information and best practices.

Continuous engagement with international civil organisations such as the International Civil Aviation Organization, EUROCONTROL or the Civil Air Navigation Services Organisation is essential in the development of future policies and standards to ensure that equipment and functions are resilient against emerging and disruptive technologies.

Connectivity and interoperability requirements ensure that Allied assets can operate across generational gaps in the air domain. The NATO Military Authorities have identified the interoperability considerations and challenges needed to ensure that all NATO's assets can operate effectively in future Allied operations and missions. The Joint Air Power Interoperability Action Plan approved in 2022 will address these considerations and challenges in a holistic way, ensuring the successful implementation of NATO's Joint Air Power Strategy.

A Greek fighter jet participates in exercise Neptune Strike 22, demonstrating NATO's ability to integrate the high-end maritime strike capabilities of an aircraft carrier strike group to support the deterrence and defence of the Alliance. Above the Mediterranean Sea, January 2022.

Intelligence, Surveillance and Reconnaissance Capabilities

Intelligence, surveillance and reconnaissance capabilities help the Alliance make informed, timely and accurate decisions. In June, NATO launched its new Intelligence Vision 2030+, opening a new chapter for a more agile delivery of modern technologies, exploiting data at scale and speed and integrating the space domain in NATO's intelligence ecosystem.

NATO's Alliance Ground Surveillance system already offers commanders a comprehensive picture of the situation on the ground. The system includes a fleet of five "Phoenix" unmanned aircraft with a multinational force of operators and analysts. In 2022, the programme completed the final steps of its acquisition phase, which included full handover to the Alliance Ground Surveillance Force based at Sigonella, Italy. Over the course of 2022, the force flew more than 80 missions in support of NATO operations and missions including support in the crisis affecting Ukraine.

Under the Alliance Future Surveillance and Control initiative, NATO is working in close partnership with Allied industry to maintain its situational awareness and decision-making advantage. NATO is planning to develop a follow-on capability that will not only replace the Airborne Warning and Control System fleet, but will also become NATO's first true multi-domain capability.

In April 2022, NATO awarded three risk reduction and feasibility study contracts to three different industrial consortiums to develop innovative ideas to fulfil the Airborne Warning and Control System missions in unique and disruptive ways. At the Madrid Summit, Allied Leaders agreed on a new strategy that prioritises the speedy delivery of an initial element of the future multi-domain concept.

The NATO Airborne Warning and Control System

The NATO Airborne Warning and Control System (AWACS) has been the backbone of Alliance operations. Aircraft patrolled American skies after 9/11, served to support NATO's operation in Afghanistan and aided the Global Coalition against ISIS/Daesh, among other tasks. The Alliance is currently undertaking a major modernisation programme that will equip the Airborne Warning and Control System fleet with sophisticated new communications and networking capabilities.

A NATO AWACS aircraft takes off from Geilenkirchen Airbase in support of NATO's enhanced vigilance activities over eastern Europe. Geilenkirchen, Germany, April 2022.

An armoured German Leopard 2 tank fires flare during exercise Iron Wolf. Lithuania, October 2022.

Land Capabilities

Throughout the year, Allies stepped up development of cutting-edge capabilities across the ground domain, through intensive testing and implementation of emerging and disruptive technologies. One key output was the development of standards on ground robotics interoperability. These standards aim to ensure that unmanned ground vehicles of different countries can be used effectively in NATO operations and teamed with manned assets.

In the engineering area, NATO updated bridging standards and developed a Universal Floating Bridge Adapter concept and prototype to connect different types of bridges, improving the Alliance's gap-crossing capacity.

Dynamic Front 2022 live-fire exercises were successfully conducted in Germany, with forces from 19 countries, to ensure the implementation of the Indirect Fire Command and Control interoperability standards in the national command and control systems, and to train for a common command and control of firing systems and the associated targeting capability.

Ammunition interchangeability

Ammunition interchangeability, both for small and large calibres, is an important challenge. NATO has developed a well-established system for small arms ammunition interchangeability certification through its Regional Test Centres situated in the United Kingdom and the United States. This certification also supports multinational acquisition through the NATO Support and Procurement Agency's Ammunition Support Partnership initiative. Priority work was launched in 2022 to enhance the standards governing interchangeability of the large calibre munitions, mainly 155mm artillery.

Soldiers from the Royal Netherlands Army's 42nd Armoured Infantry Battalion discuss their simulated attack plan during exercise Rising Griffin 2022. Troops and vehicles from Czechia, Germany, the Netherlands, Norway and the United States engaged in simulated combat operations and manoeuvres, utilising mechanised infantry and heavy armour. Pabradė Training Area, Lithuania, April 2022.

A Dutch-German Air and Missile Defence Task Force deploys Patriot surface-to-air missile systems in Slovakia. The Patriot systems contribute to NATO's Integrated Air and Missile Defence System, a network of interconnected sensors, command and control assets and weapons that help to protect Allied territory. Sliač Air Base, Slovakia, April 2022.

Naval personnel from nine Allied nations participate in exercise Dynamic Mongoose, training for anti-submarine warfare and anti-surface warfare. Norwegian Sea, June 2022.

Maritime Capabilities

In 2022, Allies increased the focus on battle winning capabilities in the maritime domain, while remaining committed to the exploitation of emerging and disruptive technologies. Allies committed to developing new interoperability standards for efficiently executing missile defence. Key to this was the Naval Electromagnetic Operations Trial, hosted by Spain at Rota Naval Base. Taking place again for the first time since the COVID-19 pandemic, the trial included 45 military assets, from warships to fighter jets, to develop the latest electromagnetic warfare technology and test new concepts such as counter-unmanned aerial system technology.

Over the past few years, operational experimentation has been increasingly used as a platform for accelerating the delivery of maritime capability development into the hands of the warfighter. In September 2022, Portugal hosted the Robotic Experimentation and Prototyping Augmented by Maritime Unmanned Systems (REPMUS) exercise, the largest-ever exercise involving maritime unmanned systems. This highly advanced event has tested the level of capability and interoperability of Allied systems for three weeks. Allies and partners, bringing together a total of 110 unmanned systems and 12 ships, were all integrated in a single, common operating picture.

The USS Gerald R. Ford leads a formation exercise in the Atlantic Ocean. The aircraft carrier sailed with ships from Canada, Denmark, Finland, France, Germany, the Netherlands, Spain and Sweden in the course of its deployment to strengthen interoperability among NATO Allies and Invitees. The Atlantic Ocean, November 2022.

Portuguese unmanned aerial system Ogassa OGS 42 stands ready for take-off during exercise REPMUS 22. The exercise tested the coordination of unmanned systems above the water, on the water and under the sea. Troia Bay, Portugal, September 2022.

Also in September, directly following REPMUS, half of NATO's standing maritime forces took part in exercise Dynamic Messenger. It was the first time that maritime unmanned systems operated alongside NATO's conventional maritime forces to execute tactics, techniques and procedures, joining capability development with front-line operators. The exercise covered all spheres of warfare, with significant focus on anti-submarine warfare, naval mine warfare and force protection.

The NATO Centre for Maritime Research and Experimentation participated in both exercises, demonstrating advanced anti-submarine warfare, naval mine warfare, rapid environmental assessment, and command, control, communications, and computers and intelligence capabilities for maritime unmanned systems with Allied Command Transformation funding. Roughly 70% of the Centre's research staff was directly involved in the execution of exercises REPMUS and Dynamic Messenger. The Centre deployed, for the second time, its own distributed command and control infrastructure aiming at providing increased situational awareness and at enabling a future where unmanned systems will autonomously re-organise in multinational teams and squads and (re)distribute tasking without the need for a human operator in the process.

A French explosive ordnance disposal team comes back with their unmanned underwater vehicle after a mine counter-measures drill during NATO exercise Dynamic Messenger 22. Troia Bay, Portugal, September 2022.

The Role of Maritime Capabilities in Enhancing NATO's Understanding of Climate Change

Successfully integrating climate change into Alliance military planning and exercises requires a deep understanding of climate dynamics in multiple domains and their interfaces to specific military needs. Through the NATO Science and Technology Organization's Centre for Maritime Research and Experimentation, based in La Spezia, Italy, the Alliance is working to better understand and forecast the effects of climate change on the maritime environment and draw lessons on the resulting implications for the defence sector.

Sponsored by Allied Command Transformation and in collaboration with international partners, the Centre for Maritime Research and Experimentation initiated the Nordic Recognized Environmental Picture sea trial series.

From 8 to 27 June 2022, the NATO Research Vessel Alliance executed the second consecutive Nordic Recognized Environmental Picture sea trial in the Greenland Sea and Svalbard region. The trial monitored water temperature and salinity and conducted studies of the acoustic communications environment: the impact of the ice-covered sea, perturbations to sound propagation, and the capabilities of gliders, drifters and profiling floats for soundscape monitoring.

A workboat operates in the Marginal Ice Zone in the Greenland Sea, June 2022.

US Director of National Intelligence Avril Haines meets with NATO Secretary General Jens Stoltenberg at NATO Headquarters. Brussels, Belgium, November 2022.

Enhancing Intelligence and Security

NATO works to ensure that the Alliance remains secure across all its domains and agencies, and that decision-making is properly informed by accurate, relevant and timely intelligence. Throughout 2022, while the main intelligence priority was Russia's war against Ukraine, NATO's Joint Intelligence and Security Division continued to deliver all-source strategic intelligence analysis on a broad range of topics to support the North Atlantic Council and the Military Committee. Intelligence played a key role in informing NATO's senior leadership decision-making process and the work on important issues related to Russia's war against Ukraine, the threat from terrorism, the challenges posed by the People's Republic of China (PRC), cyber threats, and a wide range of additional regional and cross-cutting issues affecting NATO Allies and partners.

In 2022, NATO also made visible progress on the implementation of the 2020–2023 Strategy for the NATO Intelligence Enterprise. The strategy sets a high level of ambition in five key areas: security, intelligence production, communication and information systems, workforce, and intelligence enterprise governance and management. Significant progress was also achieved with respect to enhancing data, information and intelligence-sharing for cyber threats; optimising the management of intelligence processes; improving education and training; and maximising cooperation with selected partners.

I am proud to be part of a great team that spent the past year improving situational awareness and warning for our senior leaders, ensuring they had the information necessary for decision-making.

Thomas Smith (United States)

Senior Analyst,
Joint Intelligence and Security Division
NATO Headquarters, Brussels, Belgium

Investing in Innovation and Data

Achieving NATO's three core tasks will continue to depend on the Alliance's ability to maintain its technological edge. The Alliance is home to the world's most creative and advanced innovators, and maintaining its technological edge means fostering their developments, protecting the resulting technologies and ensuring that cutting-edge solutions make it to the hands of operators. To foster, protect and adopt emerging technologies at speed, in 2022 NATO spearheaded two complementary innovation initiatives under the NATO 2030 Agenda: the Defence Innovation Accelerator for the North Atlantic and the NATO Innovation Fund. These initiatives will build upon each other's strategic advantages to multiply successes.

In 2022, I worked with NATO's operational community in the air defence domain, applying artificial intelligence and data visualisation to better understand the operational environment.

Ivana Ilic Mestric (Croatia)

Principal Data Scientist,
Chief Technology Office
NATO Communications and Information Agency, The Hague, Netherlands

NATO Leaders after signing the NATO Innovation Fund Letter of Commitment. Madrid, Spain, June 2022.

NATO Innovation Fund: The World's First Multi-Sovereign Venture Capital Fund

At the Madrid Summit, 22 Allied Heads of State and Government signalled their political commitment to becoming Limited Partners to the NATO Innovation Fund. This event marked the approval of the framework of the world's first multi-sovereign venture capital fund, heralding a new era of technological innovation at NATO.[7] As outlined in the Limited Partnership Agreement, the NATO Innovation Fund will have the objectives of fostering Allied adoption of emerging and disruptive technologies, technological capacity-building and commercial success of portfolio entities. Over 15 years, the NATO Innovation Fund will invest EUR 1 billion in early-stage start-ups developing deep technologies.[8]

In 2022, NATO also launched executive searches to hire diverse, responsible and professional talent from across the Alliance in the fields of venture capital, deep tech and defence to manage the Fund. Guided by this leadership, the Fund will make its first investments in 2023.

7 Twenty-two Allies signed the Innovation Fund's Limited Partnership Agreement: Belgium, Bulgaria, Czechia, Denmark, Estonia, Germany, Greece, Hungary, Iceland, Italy, Latvia, Lithuania, Luxembourg, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Spain, Türkiye and the United Kingdom. Invitees Finland and Sweden also committed to joining the Fund once they become NATO Allies.

8 Technological areas of focus include artificial intelligence, big-data processing, quantum-enabled technologies, autonomy, biotechnology and human enhancement, novel materials, energy, propulsion and space.

The NATO Defence Innovation Accelerator for the North Atlantic (DIANA): Uniting Disruptors to Shape a Peaceful Future

At the 2022 Madrid Summit, NATO Leaders launched the Defence Innovation Accelerator for the North Atlantic (DIANA), by agreeing the DIANA Charter and the footprint for the initiative. Through the Accelerator, NATO is providing innovators with a dynamic framework for acting together to shape the future security and defence environment. It will boost transatlantic cooperation on critical technologies, promote interoperability and harness civilian innovation by engaging with academia and the private sector, including start-ups.

NATO will work with the public and private sectors, academia and civil society, establishing an unprecedented footprint across more than 20 Allies. The initiative will leverage a network of more than 10 accelerator sites and more than 60 test centres in innovation hubs across the Alliance to accelerate dual-use solutions. Its regional offices will be located in the United Kingdom and Canada with a regional hub in Estonia.

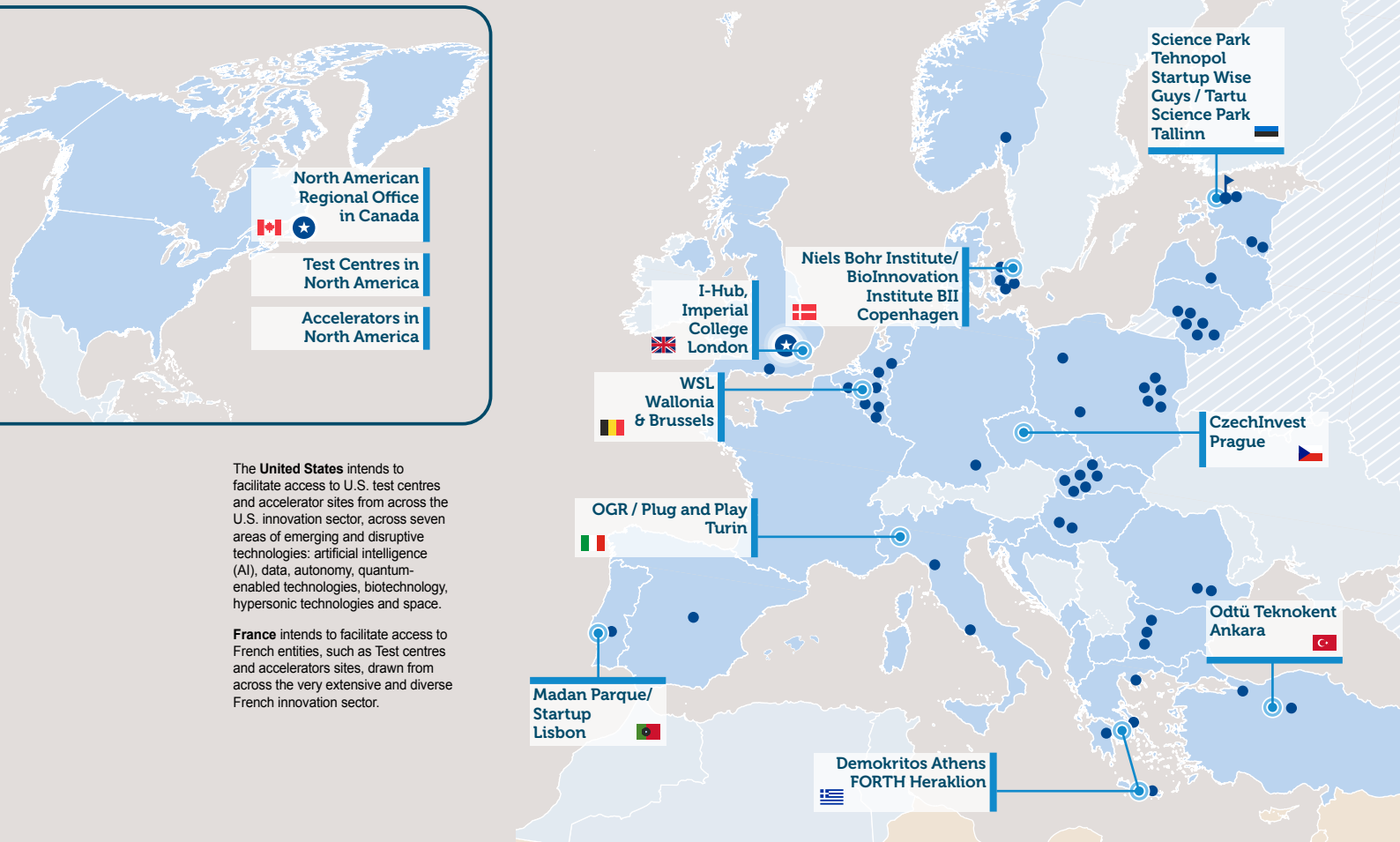
Contributing to the launch of DIANA was exceptional, enabling the Alliance to shape its future collaboration with today's innovators.

Moritz Zimmermann (Germany)

Deputy Chief of Staff, DIANA Transition Team,
Emerging Security Challenges Division
NATO Headquarters, Brussels, Belgium

DIANA Initial Footprint

- Regional Offices (2)
- Regional Hub (1)
- Test Centres (63)
- Accelerators (9)



The **United States** intends to facilitate access to U.S. test centres and accelerator sites from across the U.S. innovation sector, across seven areas of emerging and disruptive technologies: artificial intelligence (AI), data, autonomy, quantum-enabled technologies, biotechnology, hypersonic technologies and space.

France intends to facilitate access to French entities, such as Test centres and accelerators sites, drawn from across the very extensive and diverse French innovation sector.

Maintaining our Technological Edge: Fostering Technology-Driven Innovation and Transformation

To preserve NATO's technological edge and bolster the Alliance's deterrence and defence, in 2022 NATO accelerated its emerging and disruptive technologies and digital transformation agenda through the development of dedicated strategies.

In February, Allies agreed the first Annual Report on Innovation and Emerging and Disruptive Technologies, taking ambitious new steps to carry out on the Alliance's agenda on priority technology areas and innovation. NATO notably added two new emerging and disruptive technology areas for strategic consideration under the banner of the Emerging and Disruptive Technologies Strategy: novel materials and advanced manufacturing, and energy and propulsion.

In March, the 2020–2022 NATO Advisory Group on Emerging and Disruptive Technologies concluded its two-year term by issuing a final annual report, containing concrete policy recommendations on NATO's approach to the Defence Innovation Accelerator for the North Atlantic and the NATO Innovation Fund. In September, a new Advisory Group, serving for the 2022–2024 period, started its proceedings.[9] Areas of focus for the 2022–2024 Advisory Group will include quantum technologies, biotechnologies, establishing a culture of innovation at NATO and support to the Defence Innovation Accelerator for the North Atlantic and the NATO Innovation Fund.

In October, Allied Defence Ministers approved a Digital Transformation vision that will help NATO expedite the Alliance's digital efforts. The goal is to enable the Alliance, by 2030, to conduct multi-domain operations, ensure interoperability across all domains, enhance situational awareness and facilitate political consultation and data-driven decision-making. NATO's Digital Transformation will deliver agile and digitally enabled processes, an ecosystem of quality-linked data, and advanced technological solutions, all supported by a digital-ready workforce. A resilient and interoperable Digital Backbone will underpin all these capabilities.

Also in October, Allied Defence Ministers endorsed the establishment of the Data and Artificial Intelligence Review Board to operationalise Principles for Responsible Use. The Board will bring together ethicists, policy experts, engineers, developers and operators in a forum to implement these Principles, especially through the development of a NATO Responsible Artificial Intelligence certification standard. This new Board will facilitate engagement between NATO, Allies, the private sector, academia, civil society and other international actors to advance responsible innovation.

As part of the implementation of the Coherent Implementation Strategy on emerging and disruptive technologies, Defence Ministers endorsed NATO's Autonomy Implementation Plan. Allies have affirmed concrete steps to foster adoption and protect the Alliance's edge with respect to autonomous systems, with the recognition that NATO's Principles of Responsible Use of Artificial Intelligence also apply to artificial intelligence-enabled autonomous systems. The Autonomy Implementation Plan advances a "learning by doing" strategy, with a focus on experimenting with technologies in exercises and operations.

Significant steps were taken in 2022 that advanced NATO's data exploitation and artificial intelligence efforts. Allied Defence Ministers endorsed priority areas for applying advanced data analysis as part of the Data Exploitation Framework Strategic Plan. In 2022, NATO began piloting data exploitation and artificial intelligence in areas as diverse as cyber defence, situational awareness, information environment assessment, climate change and imagery analysis.

9 Experts in the 2022-2024 Advisory Group come from Belgium, Denmark, Estonia, France, Greece, Lithuania, Norway, Poland, Romania, Spain, the United Kingdom and the United States.

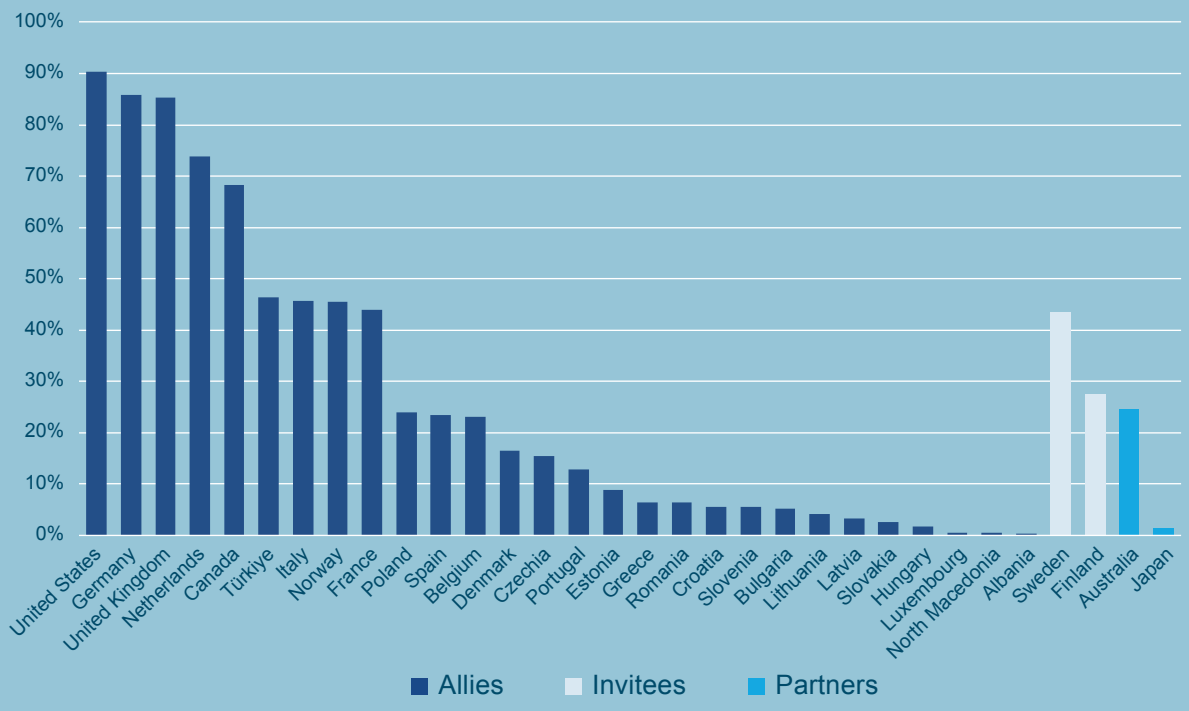
NATO's Science and Technology Organization: 2022 Highlights

The Science and Technology Organization led over 300 projects covering a broad range of relevant topics such as:

- Delivering best practice advice and recommendations for flight dynamics simulation models to enhance rotorcraft design, development and life cycle management;
- Assessing chemical, biological, radiological and nuclear threats and delivering advice to Allied planners and decision-makers on suitable technologies for related defence capabilities;
- Evaluating the integration of emerging and disruptive technologies into modelling and simulation for advanced military mission training and decision-making;
- Analysing the performance and efficacy of technologies for identification and neutralisation of improvised explosive devices, to advise future capability developments for countering them;
- Developing a common approach for describing the roles of the human operator and of an artificial intelligence-enabled machine, to ensure meaningful human control in future artificial intelligence-enabled command and control systems;
- Demonstrating the superiority of multidimensional radar for the identification, classification and recognition of military targets;
- Investigating the application of automation and artificial intelligence in analytical wargaming to advance strategic and operational planning and decision-making.
- Demonstrating at sea new anti-submarine warfare concepts that are based on a digital underwater network of smart maritime unmanned systems, advancing innovative sensing capabilities and applying interoperability and command and control among nations' maritime unmanned systems.
- Launching the innovative Science & Technology Ecosystem Analysis Model Project, together with the NATO Communications and Information Agency. The project helps NATO to better understand the state, speed and impact of emerging and disruptive technologies. The Science & Technology Ecosystem Analysis Model also serves as a business intelligence tool for developing a deeper understanding of international collaboration patterns in research and capability development.
- Organising a NATO Data and Artificial Intelligence leaders' conference, supported by Belgium. This event brought together NATO leadership to address topics such as responsible governance of artificial intelligence, practical applications of data and artificial intelligence, and developing a digital-ready workforce and a culture of innovation.

The graph below represents the relative country involvement over total activities by Allies, Invitees and key partners who participated in the Science and Technology Organization's Collaborative Programme of Work projects in 2022.

Country Participation in the Science and Technology Organization's Collaborative Programme of Work Activities in 2022



Working with Industry

Since 24 February 2022, Allies have provided quantities of equipment, systems and ammunition in support of Ukraine, allowing it to repel Russia's brutal aggression. Enhancing NATO stockpiles will be essential to ensure continued support to Ukraine. Increasing production capacity will also allow Allies to restock the depleted reserves needed for continuing deterrence and defence. In 2022, the Alliance worked closely with industry to enhance production capacity,

On 27 September, executives from relevant munitions manufacturers participated in the Extraordinary Plenary Session of the Conference of National Armaments Directors. At the Plenary, they conveyed the challenges facing industry. They highlighted the need for consolidated demand over the long term, which would allow industry to take decisions regarding investments in new production lines. They also requested support in adapting to the new fiscal realities, in which the prices for energy and raw materials have increased significantly, and requested that governments adopt legislation that would allow industry to secure and diversify their supply chains. National Armaments Directors encouraged Allies to adopt a longer-term vision regarding modernisation and to use existing multinational cooperation mechanisms that would allow industry to build alliances and mechanisms to facilitate delivery.

High-level interactions between industry and NATO officials have continued throughout the year. The NATO Communications and Information Agency organised the first NATO Edge Conference from 25 to 27 October in Mons, Belgium. The event focused on technology, collaboration and partnerships needed to future-proof the Alliance. It drew more than 1,800 attendees representing over 300 companies. The conference highlighted the need for a closer interaction between NATO and industry in reforming the acquisition processes and procurement regulations, implementing the NATO Digital Transformation vision, and ensuring cyber security. Participants agreed that NATO needs to increase early engagements with industry to ensure better technical quality and coherence of international competition. Finally, the conference suggested that collective resilience, education and training of the workforce, possibly by temporary personnel exchange, could facilitate capability development.

The NATO Industrial Advisory Group, gathering representatives from the Defence Industry Associations of Allied and partner countries, continued to provide strategic and technical advice to NATO. The Advisory Group launched 11 new studies in 2022 covering important topics like the security and resilience of supply chains, classified collaboration in public clouds or artificial intelligence. The NATO Industrial Advisory Group has also developed a proposal for involvement in the Defence Innovation Accelerator for the North Atlantic, highlighting that early participation of defence industries was important for the integration of innovative solutions into current or future capabilities and defence systems.

Finally, the Group initiated an analysis of production capacity and supply chains in the new security environment arising from Russia's war against Ukraine. This work will provide a consolidated view of the status of Allies' defence industries, the current and future challenges these industries face and possible actions to address them.

A drone on display during the NATO Summit in Madrid. Madrid, Spain, June 2022.

Key NATO and Allied Multinational Exercises in 2022

In 2022, NATO conducted 101 exercises varying in scope, duration and form. Exercising side by side, NATO multinational forces tested their ability to operate together and respond to any threat from any direction in times of peace, crisis and conflict. Individual Allies also offered national opportunities to train both domestic and international Allied troops when possible. In 2022, Allies conducted 780 national exercises. Among the exercises conducted in 2022, 23 were open to partner countries and international organisations.

NATO and Allied military exercises carry an important element of deterrence and defence messaging and are one of the most visible demonstrations of NATO's ability to project power across the Alliance and rapidly reinforce Allies. They also provide an excellent platform to test the Alliance's readiness and responsiveness in today's complex security environment.

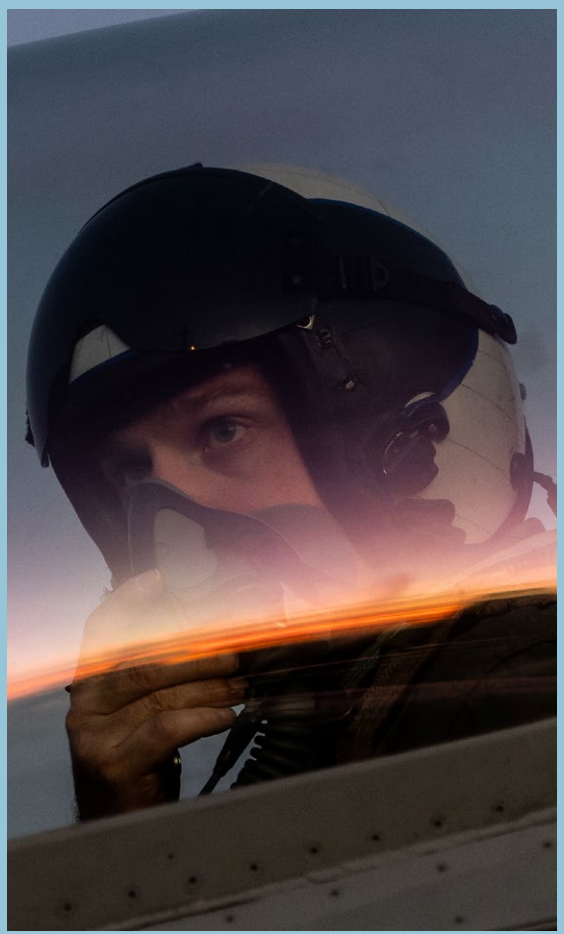
A rich and varied exercise programme ensures that NATO multinational troops are interoperable and have regular opportunities to work side by side. Exercises are defensive in nature and proportionate, and they provide a platform for testing technological innovation. They vary between live exercises in the field and computer-assisted exercises that take place in a classroom.

Allies are fully committed to, and abide by, international obligations regarding transparency, predictability, arms control and confidence-building measures. Exercises are publicly announced on NATO's website months in advance, and Allies also regularly go beyond obligations; for example, by offering observation opportunities to international organisations or non-NATO countries, even when exercises do not reach the threshold that requires inviting observers. In addition to military exercises, the Alliance organises civilian and political training events intended to enhance NATO's decision-making readiness.

A French soldier with the 1st Infantry Regiment participates in exercise Brilliant Jump 2022. Rena, Norway, March 2022.

US soldiers stand by during the static display at exercise Iron Wolf. Lithuania, October 2022.

NATO Secretary General Jens Stoltenberg visits soldiers during exercise Cold Response 22, a Norwegian-led exercise with participation from 27 NATO Allies and partners. Bardufoss, Norway, March 2022.



United States Navy Lieutenant Commander Phillip Kunzig uses the radio on his F/A-18E Super Hornet strike fighter to communicate with the deck crew aboard the USS Gerald R. Ford during exercise Silent Wolverine. Eastern Atlantic Ocean, November 2022.

Italian Army personnel participating in a computer-assisted command post exercise held during exercise Steadfast Jupiter 2022. Naples, Italy, October 2022.

French soldiers use a French weapon system to scan the horizon for possible threats during exercise Ramstein Legacy 22, a large-scale live-fire air defence exercise. Poland, June 2022.

NATO Exercises (Selected)

DESCRIPTION	DATE IN 2022	LOCATION
DYNAMIC MANTA An annual maritime exercise testing submarine warfare capabilities. It provides a framework for naval forces to maintain high readiness and ability to operate together. Nine Allied nations contributed ships, submarines, aircraft and personnel: Canada, France, Germany, Greece, Italy, Spain, Türkiye, the United Kingdom and the United States.	21 February– 4 March	Mediterranean Sea, Italy
BRILLIANT JUMP The JUMP exercise series annually tests the readiness and responsiveness of the Very High Readiness Joint Task Force within the NATO Response Force, designed to quickly react to crises. In 2022, Brilliant Jump was linked to the Norwegian national exercise Cold Response and involved naval, air and land forces from 12 NATO members, including around 3,300 troops.	28 February– 17 March	Southern Norway
RAMSTEIN ALLOY I, II and III This exercise series brings together regional Allied and partner forces for tactical training of NATO's Baltic Air Policing mission. The last exercise in the 2022 series, Ramstein Alloy III took place in Latvia and involved Czechia, Estonia, Germany, Hungary, Italy, Latvia, Lithuania, Türkiye, the United Kingdom and Invitee Finland.	11–12 April 6–10 June 26–27 September	Estonia, Latvia, Lithuania
STEADFAST COBALT This is NATO's largest Communications and Information Systems exercise. It aims to plan, prepare, establish, test, evaluate and validate the Command, Control, Communications, Computers, Intelligence, Surveillance and Reconnaissance services provided to support the NATO Response Force 2023 rotation.	25 April– 10 June	Italy
RAMSTEIN LEGACY In 2022, Allied Air Command's principal Integrated Air and Missile Defence exercise took place in Poland and the Baltic States. In 2022, 17 Allied and partner countries trained with aircraft, missile defence systems and electronic warfare systems.	6–10 June	Estonia, Latvia, Lithuania, Poland
CWIX The NATO Coalition Warrior Interoperability exploration, experimentation, examination exercise is an annual event designed to support the continuous improvement in interoperability of the Alliance. It focuses on the validation and verification of Communication and Information Systems, and experimental, developmental and fielded Communication and Information Systems. The exercise was held from its main execution site at the Joint Force Training Centre in Bydgoszcz, Poland and remotely across 13 time zones. More than 1,500 personnel from 35 Allies and organisations participated in the 2022 exercise, conducting more than 12,000 interoperability testing events and resolving critical interoperability challenges.	8–22 June	Poland
DYNAMIC MONGOOSE An annual NATO-led anti-submarine warfare exercise. In 2022, Dynamic Mongoose involved personnel and assets from nine NATO nations: Canada, Denmark, France, Germany, the Netherlands, Norway, Portugal, the United Kingdom and the United States. Three submarines, 11 surface ships and 16 maritime patrol aircraft participated in the exercise.	13–24 June	Norway

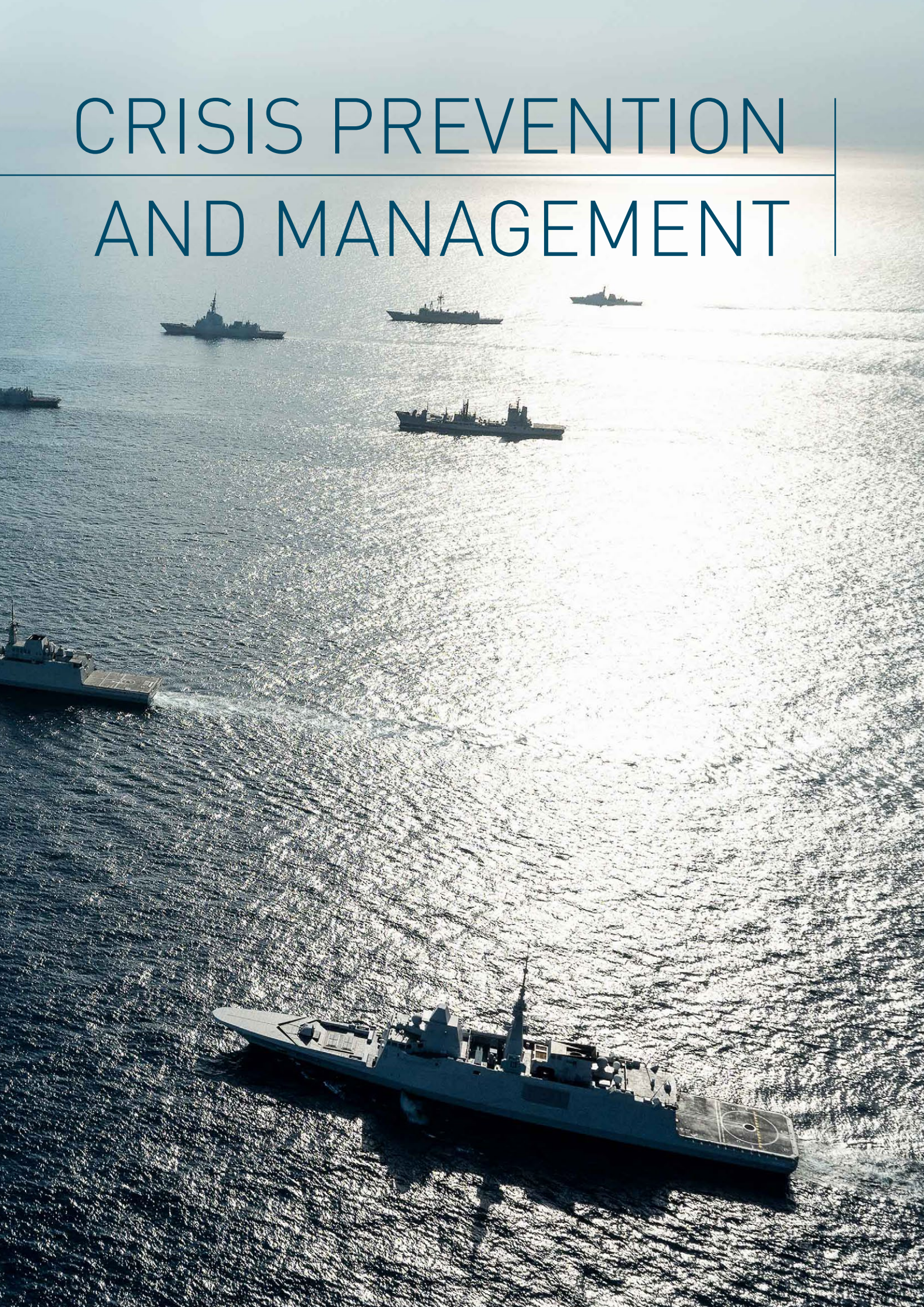
DESCRIPTION	DATE IN 2022	LOCATION
DYNAMIC MARINER An annual maritime exercise training the maritime component of the NATO Response Force. In 2022, the exercise was held in conjunction with the Turkish Navy's exercises Mavi Balina 22 and Nusret 22 and validated Türkiye as the incoming NATO Response Force Maritime Component Command for 2023. The exercise included 50 surface units, 4 submarines, 21 air assets, 1,500 marines, Special Operations Forces, and explosive ordnance disposal teams. Nearly 8,000 personnel from Belgium, Bulgaria, Canada, Denmark, France, Germany, Greece, Italy, the Netherlands, Norway, Poland, Romania, Spain, Türkiye, the United Kingdom and the United States participated in the exercise.	12–23 September	Türkiye
REPMUS The exercise tested the coordination of unmanned systems above the water, on the water and under the sea. It brought together a wide range of contributions from NATO and partner countries, NATO Centres of Excellence, the NATO Centre for Maritime Research and Experimentation, as well as from industry and academia. REPMUS 22 was led by Portugal and supports the NATO Maritime Unmanned Systems Initiative.	12–22 September	Portugal
DYNAMIC MESSENGER This exercise aims to test the interoperability of new maritime unmanned systems, ensuring that Allies can work together to counter current and future security challenges. Dynamic Messenger 22 was the first full NATO operational experimentation exercise that specifically focuses on integrating unmanned systems into the maritime domain, and, more specifically, NATO Task Groups at sea. More than 18 ships, 48 unmanned assets and 1,500 personnel from 16 NATO nations participated in the exercise alongside defence industry and academia.	23–30 September	Maritime Operational Experimentation Centre (CEOM), Troia, Portugal
STEADFAST JUPITER This exercise was designed to develop and test procedures that will enable Supreme Headquarters Allied Powers Europe (SHAPE) to participate in the ambitious Steadfast Jupiter 2023 according to its warfighting role. The exercise included command post/computer assisted exercise at various NATO entities.	10–20 October	Various NATO entities
STEADFAST JACKAL This is a strategic, operational and tactical-level joint command post/computer assisted exercise to train and evaluate selected NATO Command Structure and NATO Force Structure elements. Approximately 1,100 participants from 25 Allied nations participated in the exercise.	22 November–1 December	Norway
CYBER COALITION NATO's flagship exercise addressing cyber threats provides a venue for Allies to share best practices on information-sharing, situational awareness and decision-making. Approximately 1,000 personnel from 26 Allies, Invitees Finland and Sweden, and partners Georgia, Ireland, Japan, Switzerland, the European Union and participants from industry and academia took part in the exercise.	28 November–2 December	Estonia as well as remotely
LOYAL LEDA An Article 5 command post/computer assisted exercise aiming to test land operations with a focus on the tactical level. Loyal Leda 2022 trained and evaluated NATO Rapid Deployable Corps-Türkiye in the Warfighter Corps role for 2023, as well as one additional corps and division in planning for and executing major joint operations against a peer adversary. Around 700 personnel from 25 Allied and partner nations took part in the exercise.	30 November–9 December	South East Europe

Allied National Exercises (Selected)

DESCRIPTION	DATE IN 2022	LOCATION
COLD RESPONSE Cold Response is a bi-annual Article 5 exercise organised and hosted by the Norwegian Armed Forces. It aims to train the reinforcement of Allies under challenging climatic conditions across Norway – on land, in the air and at sea, enhancing the readiness and capabilities of the participating forces. Around 30,000 troops from 27 nations, including Invitees Finland and Sweden, took part in the 2022 exercise, as well as about 220 aircraft and more than 50 vessels. Exercise Brilliant Jump 2022, the certification of NATO's Very High Readiness Joint Task Force, was linked to Cold Response.	14–31 March	Norway and surrounding seas
MARE APERTO Italian-led live maritime exercise to train and test commands, staff and forces in a multidimensional scenario. Naval Striking and Support Forces NATO – SACEUR's premier, rapidly deployable and flexible maritime power projection Headquarters, capable of planning and executing full-spectrum joint maritime operations – participated in the exercise. The exercise involved 4,000 personnel from 7 Allied countries, 37 ships, 3 submarines, 11 aircraft, 15 helicopters and assets of the amphibious component including landing and assault craft, as well as special forces units.	3–27 May	Mediterranean Sea, Italy
DEFENDER EUROPE An annual large-scale US Army-led multinational joint exercise designed to build readiness and interoperability. In 2022, the exercise included more than 8,000 personnel from 11 Allied and Invitee nations, including Denmark, Estonia, France, Germany, Latvia, Lithuania, the Netherlands, Poland, Slovakia, Sweden and the United Kingdom. The activities occurred with training events across more than nine countries and encompassing several linked and associated exercises: Flaming Thunder, Slovak Shield and Summer Shield.	March: Start of movement of equipment and personnel from the United States to Europe May: Defender-Europe Live Exercise	Denmark, Estonia, Germany, Greece, Latvia, Lithuania, Netherlands, Poland, Slovakia
IRON WOLF I and II A Lithuanian live exercise in the land domain, aimed at training NATO's multinational battlegroups and enhancing the interoperability of multinational forces. The exercise involved more than 3,500 troops from nine NATO Allies: Belgium, Czechia, Germany, Lithuania, Luxembourg, the Netherlands, Norway, the United Kingdom and the United States.	5–18 May 1–26 November	Lithuania
BALTOPS An annual US-led maritime live exercise including air defence, anti-submarine warfare, amphibious operations, maritime interdiction and mine counter-measure operations. BALTOPS 22 gathered over 45 ships, more than 75 aircraft and 7,500 personnel from 14 NATO Allies: Belgium, Bulgaria, Denmark, Estonia, France, Germany, Latvia, Lithuania, the Netherlands, Norway, Poland, Türkiye, the United Kingdom and the United States, along with Invitees Finland and Sweden.	5–17 June	Sweden
THRACIAN VIPER A Bulgaria-led multinational live-fly exercise in the Black Sea region. This exercise was an opportunity for Allied aircraft to conduct combined and joint training in simulated defensive and offensive scenarios. The Bulgarian Air Force operated side by side with Allied fighter aircraft from Canada, Greece and Romania operating from their respective home bases.	8–19 August	Bulgaria
SILVER ARROW A Latvian multinational exercise to enhance combat readiness and interoperability. About 4,200 troops from 17 Allies – Albania, Canada, Czechia, Denmark, France, Germany, Hungary, Italy, Latvia, Montenegro, North Macedonia, Poland, Slovakia, Slovenia, Spain, the United Kingdom and the United States – participated in the exercise.	19–30 September	Latvia
JOINT WARRIOR A UK-led joint multinational live exercise providing collective training in tactical formations and preparing participants to operate as a combined joint task force. Joint Warrior 2022 included 45 ships, 30 aircraft, submarines, land forces, and more than 11,000 personnel from Allies, including Canada, Denmark, France, Germany, Italy, Latvia, the Netherlands, Norway, Poland, the United Kingdom and the United States.	1–12 October	United Kingdom

Ships taking part in exercise Dynamic Manta 2022. Off the coast of Sicily, Italy, March 2022.

CRISIS PREVENTION AND MANAGEMENT



Through our NATO 2030 agenda and next Strategic Concept, we are significantly stepping up our training and capacity-building support to partners in areas like counter-terrorism, crisis management, peacekeeping and defence reforms.

NATO Secretary General Jens Stoltenberg at the Strategic Concept seminar on partnerships.
The Hague, the Netherlands (virtually), 23 February 2022.

Crisis prevention and management is one of NATO's three core tasks. The 2022 Strategic Concept stresses that Allies have a shared interest in contributing to stability and managing conflicts together, through NATO. The Alliance is committed to preventing and responding to crises when these have potential to affect Allied security.

Prevention of crises and conflicts is a sustainable way to contribute to stability and Allied security. NATO is committed to crisis prevention, including through training and capacity-building programmes that contribute to making partners more capable, more secure and better prepared to respond to crises at home and abroad. The Alliance has decades' worth of accomplishments in building defence institutions and capacity with partners in NATO's neighbourhood and beyond.

NATO also has unique capabilities and expertise in crisis management, including to coordinate, conduct, sustain and support multinational crisis response operations.

Current NATO Missions and Operations

NATO contributes to peace and security on the international stage. It promotes democratic values and is committed to the peaceful resolution of disputes. When diplomatic efforts fail, however, NATO has the capacity to undertake crisis management operations and other military missions, either alone or in cooperation with other countries and international organisations.

Throughout 2022, we invested in responsiveness, preparedness and management, remaining a focal point for military operations, operations planning, as well as education, training, exercises and evaluation.

Rear Admiral Marc Gander (France)

Deputy Director, Operations and Planning Division, NATO International Military Staff
NATO Headquarters, Brussels, Belgium

NATO Mission in Kosovo

NATO's presence in Kosovo remains crucial for the stability of the Western Balkans region. Since 1999, the NATO-led Kosovo Force has continued its work to help maintain a safe and secure environment and freedom of movement for all communities in Kosovo.

The mandate for NATO's role in Kosovo stems from United Nations Security Council Resolution 1244, adopted in 1999.

In 2022, NATO continued to support the development of a stable, democratic, multi-ethnic and peaceful Kosovo, in close cooperation with the United Nations, the European Union and other international actors. This year, 28 NATO Allies and partners[10] provided approximately 3,700 troops for the Kosovo mission. In October 2022, Major General Angelo Michele Ristuccia from Italy took over the Kosovo Force command from Hungary's Major General Ferenc Kajári.

10 Twenty-seven nations remain after the withdrawal of the Ukrainian contingent on 22 November.

KFOR Commander Major General Angelo Michele Ristuccia presides over the Transfer of Authority of the Deputy Commander of KFOR, Brigadier General Luca Piperni, to the incoming Deputy Commander, Brigadier General József Szpisják. Pristina, Kosovo, November 2022.

In addition to the Kosovo Force, NATO continues to provide capacity-building support to the security organisations in Kosovo through the NATO Advisory and Liaison Team, a civilian and military team of approximately 40 personnel from 14 countries. In 2022, the team continued to offer advice and assistance in areas such as medical support, logistics, procurement, budget execution, human resources management and strategic communications.

In July 2022, the North Atlantic Council paid a visit to the Kosovo Force and to the NATO Advisory and Liaison Team. The visit demonstrated NATO's strong commitment to peace and security in Kosovo and the Western Balkans. The visit was held a few days after the NATO Summit in Madrid, where NATO's new Strategic Concept was adopted. The new Strategic Concept highlights that the Western Balkans is of strategic importance to the Alliance.

NATO also continues to support the European Union–facilitated dialogue between Belgrade and Pristina. The EU-facilitated Belgrade-Pristina dialogue is the main platform to find a solution that respects the rights of all communities and to build a lasting peace, which benefits security across Kosovo and stability throughout the Western Balkans region.

Italian Carabinieri participate in the complex crisis response exercise Golden Sabre. Camp Novo Selo, Kosovo, September 2022.

Iraq receives specialised equipment to support an oxygen generation system from NATO's Pandemic Response Stockpile. Iraq, March 2022.

NATO Mission Iraq

NATO Mission Iraq is a non-combat, advisory and capacity-building mission. It supports Iraq in strengthening its security institutions and forces, so that they can continue to enhance their efforts to stabilise their country, fight terrorism and prevent the return of ISIS/Daesh.

To achieve these goals, NATO advises relevant Iraqi defence and security officials in the Ministry of Defence, the Office of the National Security Advisor and the Prime Minister's National Operations Centre. The mission also advises Iraq's professional military education institutions in the greater Baghdad area.

NATO Mission Iraq promotes inclusiveness, gender awareness and respect for international humanitarian law and human rights. Specific areas of focus include policy and strategy; force generation and development; resource management; Women, Peace and Security; leadership development and good governance in the security sector. All activities of NATO Mission Iraq are agreed upon by the Iraqi government and the mission operates in full respect of Iraq's sovereignty and territorial integrity.

All 30 NATO Allies, Invitees Finland and Sweden, and partner country Australia contribute to NATO Mission Iraq. In 2022, the mission expanded to roughly 550 personnel, including civilian and military advisors.

NATO complements the broader international effort to help Iraq eradicate terrorism and promote stability. NATO Mission Iraq coordinates with other stakeholders in Iraq, such as Operation Inherent Resolve, the United Nations and the European Union. In May 2022, Lieutenant General Giovanni Iannucci from Italy took over mission command from Lieutenant General Michael Lollesgaard from Denmark.

With a ceremonial flag transfer, Italy assumes command of NATO Mission Iraq. Baghdad, Iraq, May 2022.

NATO Operations and Activities at Sea

NATO operations and activities at sea contribute to deterrence and defence and are essential to maintaining maritime security, which is key to Allies' peace and prosperity. They also contribute to fighting terrorism and enhancing stability. NATO's maritime fleets work together with partners and other international organisations to enhance maritime situational awareness, build maritime capacity and provide a safe and secure maritime environment.

In 2022, NATO's Standing Naval Forces continued to be an important instrument of credible deterrence and defence at sea. Following Russia's war of aggression against Ukraine, the Alliance activated the NATO Response Force in February 2022 and designated the Standing Naval Forces as the maritime component of the NATO Very High Readiness Joint Task Force. As such, the Standing Naval Forces have been playing an important part in enhancing the Alliance's forward presence and maintaining a credible and effective defensive capability.

Operation Sea Guardian in the Mediterranean supports maritime situational awareness and efforts to counter the threat of terrorism in the region by hailing and boarding suspect vessels. The operation contributes to capacity-building for regional maritime security through training, exercises, key leader engagements and port visits. Throughout 2022,

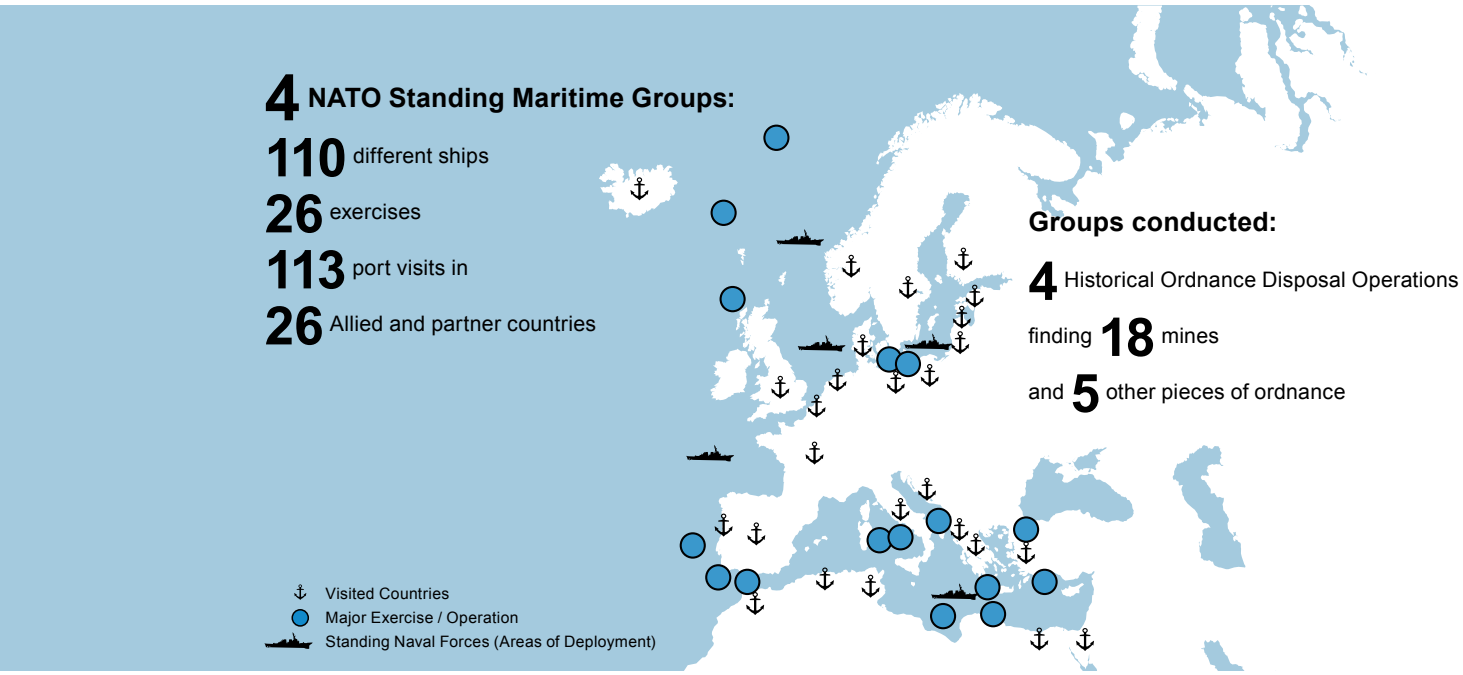
NATO's Operation Sea Guardian Task Group, led by TCG Salihreis, concludes its fifth maritime security patrol in the Central Mediterranean. November 2022.

Operation Sea Guardian undertook six focused operations involving surface and subsurface vessels and maritime patrol aircraft. These operations gathered information about maritime activities in the region to help identify potential security concerns.

In the Aegean Sea, NATO contributed to ongoing international efforts to address the refugee and migrant crisis. Allied ships regularly provided information, surveillance and reconnaissance to help Greece, Türkiye and the European Union's Border and Coast Guard Agency (FRONTEX) prevent human trafficking.

NATO remained engaged in the fight against piracy off the Horn of Africa by maintaining maritime situational awareness and continuing to invest in long-term partnerships with counter-piracy actors. This type of engagement remains important because piracy, though severely reduced, has not yet been eliminated.

NATO Standing Maritime Presence 2022



Chair of the NATO Military Committee Admiral Rob Bauer and Swedish Chief of Defence General Micael Bydén are briefed at the Norrbotten Wing Air Force base. Swedish fighters fly defensive air drills with NATO fighters to contribute to security and stability over Europe, the Baltic Sea region and the High North. Luleå, Sweden, September 2022.

Contributing to Crisis Prevention: Investing in Training, Capacity-Building and Good Governance

While NATO must always remain ready to deploy troops to manage crises when necessary, such operations are not necessarily best placed to address the underlying factors contributing to insecurity and instability. To address these, NATO trains and assists partners in building their capacity and strengthening good governance.

In recent years, NATO has been stepping up its efforts to build the capacity of NATO partners in areas like counter-terrorism, stabilisation, countering hybrid attacks, crisis management, peacekeeping and defence reform. The Strategic Concept emphasises the importance of partner contributions to NATO-led crisis management and underlines the intention to further enhance support for partners by increasing the size and scope of capacity-building assistance to partners in the neighbourhood and beyond. It also promotes the importance of good governance and recognises the links between weak governance and terrorism.

Promoting Interoperability, Setting Common Goals

The **Planning and Review Process** is one of the Alliance's main instruments for promoting the development of interoperable forces and capabilities by partners who want to be able to cooperate with NATO forces. The Process also supports partner nations in the reform and transformation of their defence- and security-related institutions and forces. All Allies that joined the Alliance after 1995 have participated in the Planning and Review Process.

In the Planning and Review Process, NATO experts work with partners to define priority areas for each country, establish individually tailored planning goals, identify the steps required to meet those goals and jointly assess progress in implementing them. In 2022, 15 partner nations actively participated in the process.

NATO also maintains a Partnership Interoperability Initiative, focused on preserving and deepening interoperability that has been developed with partners during NATO-led operations and missions in recent decades. This initiative cuts across traditional geographical frameworks for cooperation and brings together Allies and partners that have contributed to NATO operations or have taken concrete steps to deepen their interoperability with NATO. In this format, Allies and partners discuss projects and issues that affect interoperability for future crisis management, such as command and control systems, education and training, exercises or logistics. NATO has established "enhanced opportunities" status for six partners: Australia, Finland, Georgia, Jordan, Sweden and Ukraine. With this status, these countries have more opportunities to engage with the Alliance and an easier process for participating in exercises and regular consultation on security matters.

A group photo taken during NATO's bi-annual Familiarization Programme. The eight-day event introduced partner representatives to NATO's partnership frameworks, delving into the Alliance's outreach programmes and activities. Brussels, Belgium, December 2022.

Boosting Training and Capacity-Building

The Alliance runs several programmes for building defence-institution and capacity with partners. These include initiatives to support defence reform, good governance, and professional military education through advising, assisting, training and mentoring.

NATO's Defence and Related Security Capacity Building Initiative is a key instrument for building capacity. This programme provides strategic advice to partners on defence and security sector reform to build viable, effective and resilient defence institutions.

Russia's war against Ukraine stressed the importance of increasing capacity-building assistance to partners to help strengthen their preparedness and resilience and boost their capabilities to counter malign interference, destabilisation and aggression.

In April, Allies agreed to increase political and practical support to Bosnia and Herzegovina, Georgia and the Republic of Moldova, to help them strengthen their institutions and resilience, develop capabilities and uphold their political independence.

At the Madrid Summit in June, NATO Leaders endorsed tailored measures to further support these three countries. At the Summit, Allies also endorsed the update of the Defence Capacity Building Package for Tunisia and launched a new Defence Capacity Building Package for Mauritania, bringing the number of recipient countries of this initiative from six to seven: Bosnia and Herzegovina, Georgia, Iraq, Jordan, Mauritania, Moldova and Tunisia. The United Nations is also a recipient of the initiative.

Ukrainian soldiers practise emergency medical treatments at Lydd Army Camp during a visit by NATO Secretary General Jens Stoltenberg. United Kingdom, November 2022.

The Defence and Related Security Capacity Building Trust Fund

The Defence and Related Security Capacity Building Trust Fund has supported the related Initiative since 2015, providing financial resources for implementing activities and assistance for its eight recipients. Currently, 26 Allies, two Invitees (Finland and Sweden) and four partner nations (Ireland, Japan, Qatar and Switzerland) have provided financial contributions of more than EUR 38 million, of which approximately EUR 24 million has been spent or committed on projects.

More than 80 projects have been completed or are ongoing, and 35 new projects are under consideration or development.

Defence Capacity Building Packages at a Glance

Bosnia and Herzegovina

Bosnia and Herzegovina and NATO have a long-standing, mutually beneficial and wide-ranging partnership. For years, NATO has supported reforms in Bosnia and Herzegovina through a comprehensive set of partnership tools, while the country has contributed to NATO's operations, missions, education and training. Bosnia and Herzegovina aspires to join the Alliance. NATO remains committed to supporting the country in its territorial integrity, sovereignty and Euro-Atlantic path.

Against the background of the challenging security context in Europe, NATO decided in 2022 to provide an additional package of tailored support measures for Bosnia and Herzegovina. In addition to the intensified political engagement, the measures include enhanced opportunities for support and training in areas such as resilience and countering disinformation, as well as the development of a Defence Capacity Building Package. The package aims to address equipment shortages and strengthen resilience, focusing on areas such as civil preparedness, cyber defence and counter-terrorism.

Georgia

Georgia is one of NATO's closest partners and aspires to join the Alliance. Over time, a broad range of practical cooperation has supported Georgia's reform efforts and its goal of Euro-Atlantic integration. The deteriorating security environment resulting from Russia's war of aggression against Ukraine significantly affects Georgia.

The Substantial NATO-Georgia Package is NATO's main tool for practical cooperation with Georgia. In 2022, it continued to enhance Georgia's defence capabilities and improve interoperability, in support of the country's preparations for eventual membership in NATO.

Some 36 resident and visiting experts, provided by Allies and partners, supported the implementation of the Substantial NATO-Georgia Package in 2022, while Georgia contributed to the NATO Response Force and Operation Sea Guardian.

The Joint Training and Evaluation Centre provided training and evaluation of Georgian military units. In March, the Joint Training and Evaluation Centre successfully hosted the third NATO-Georgia Exercise. The Defence Institution Building School achieved institutional accreditation through the implementation of NATO's Quality Assurance Concept.

A NATO Allied Maritime Command delegation visits Georgia as part of ongoing military partnership initiatives in collaboration with the Georgian Coast Guard. Poti, Georgia, October 2022.

French and Georgian soldiers during NATO-Georgia 22 exercise. This exercise is part of the Substantial NATO-Georgia Package, which aims to enhance Georgia's interoperability with the Alliance. Tbilisi, Georgia, March 2022.

Iraq

NATO Mission Iraq continued to implement the 2014 Defence Capacity Building Package for Iraq in 2022. The military and civilian personnel of the mission interacted daily with Iraqi counterparts in the Iraqi Ministry of Defence, providing on-site advice and training to reform defence-related planning processes and institutions. NATO Headquarters, NATO Centres of Excellence and other defence-related institutions from across the Alliance provided expertise to support reform efforts in areas such as force structure planning, crisis management, cyber defence, building integrity and prevention of corruption, and improving management of logistics.

Jordan

In 2022, NATO continued to contribute to strengthening Jordan's security and defence capabilities by providing support to Jordan's crisis management capacity and its whole-of-government approach to crisis and civil preparedness.

Through Defence Capacity Building, NATO also increased its support to Jordan's counter-terrorism efforts. In September, a nationwide exercise marked the successful conclusion of the joint United Nations–NATO Defence Capacity Building Task Force Project on Chemical, Biological, Radiological and Nuclear Preparedness to enhance Jordan's preparedness and resilience against such threats. Several other activities to support the country in its fight against terrorism took place, including through the delivery of a training course addressing terrorist misuse of the internet and through support in the field of strategic communications.

NATO implemented several capacity-building activities in other areas, such as support to the Jordanian Armed Forces' modelling and simulation capabilities, building integrity, personnel management and special operations forces. Furthermore, NATO continued to support the integration of servicewomen in the Jordanian Armed Forces.

The implementation of the Defence Capacity Building Package for Jordan gained positive momentum with the arrival of a resident border security advisor. The NATO Defence Capacity Building Core Team in Amman became operational in 2022.

Mauritania

NATO expanded its long-term partnership with Mauritania with the inclusion of Mauritania into NATO's Defence and Related Security Capacity Building Initiative in 2022. Through this initiative, NATO supports Mauritania's efforts to maintain stability and respond to regional security challenges.

The Defence Capacity Building Package, endorsed in 2022, encompasses areas that address Mauritania's key security concerns: special operations forces; maritime security; intelligence; military career transition programme; stockpile management; small arms and light weapons; and military education.

Republic of Moldova

NATO and Moldova have a long-standing and mutually beneficial partnership in full respect for Moldova's constitutional neutrality. The focus of NATO's cooperation with Moldova is to strengthen the country's institutions and capabilities to respond to current security challenges.

NATO and Moldova deepened their political dialogue in 2022, conducting high-level visits between Chișinău and NATO Headquarters to exchange views on shared security concerns and to discuss how NATO can best support Moldova. In November, Moldovan Minister of Foreign Affairs and European Integration Nicu Popescu joined his Allied counterparts at the meeting of NATO Ministers of Foreign Affairs in Bucharest, along with his Bosnian and Georgian counterparts.

Minister of Defence of the Republic of Moldova Anatolie Nosatîi meets with NATO Deputy Secretary General Mircea Geoană at NATO Headquarters. Brussels, Belgium, October 2022.

The support measures tailored for Moldova include enhancing the Defence Capacity Building Package and strengthening NATO's practical support to the reform and modernisation of the country's defence and security institutions. At Moldova's request, a NATO Resilience Advisory Support Team is providing support in strengthening Moldova's whole-of-government approach to resilience. NATO and Moldova cooperate in addressing hybrid threats and security challenges, including on cyber security and combating disinformation.

In 2022, NATO experts continued advising the Moldovan Ministry of Defence and Main Staff in the further development of defence reform plans and in refining the new force structure. Experts also assisted with the development of the Non-Commissioned Officer Corps and kick-started a programme to improve the proficiency of civilians working in the security and defence sectors. NATO continued providing support through the Planning and Review Process, while Moldova maintained its contribution of 41 troops to the NATO-led Kosovo Force. By working together with NATO in Kosovo, Moldova has helped bring stability and security to the Western Balkans, while developing the interoperability and skills of its armed forces.

NATO also provided Moldova with additional medical supplies, bringing the total value of NATO's support since the start of the COVID-19 pandemic to nearly EUR 2.2 million, including ventilators, personal protective equipment, antigen tests and other medical supplies.

Tunisia

At the Madrid Summit, NATO Heads of State and Government endorsed the update of the Defence Capacity Building Package for Tunisia, expanding NATO's assistance from seven to eleven initiatives. New areas of work include the Women, Peace and Security agenda and support on the disposal of obsolete ammunition.

NATO capacity-building also promotes the interoperability of selected army, navy and air force units of the Tunisian Armed Forces; related activities picked up in 2022 following the removal of restrictions imposed by the COVID-19 pandemic.

Cooperation further progressed on ongoing initiatives, including on cyber security, English language training, building integrity and countering improvised explosive devices. Through NATO's Science for Peace and Security Programme, NATO also continued to work towards the delivery of a mobile laboratory to support the detection, identification and monitoring of chemical agents.

United Nations

In 2022, practical cooperation between NATO and the United Nations under the Defence and Related Security Capacity Building Initiative accelerated. NATO experts provided advisory support and shared their experiences with the United Nations to establish a robust military performance evaluation system within the United Nations. United Nations evaluators attended NATO courses, while NATO experts assisted United Nations evaluators in their implementation of jointly developed evaluation procedures. Similarly, NATO experts reinforced the United Nations experts in delivering counter-improvised explosive devices training in Kenya and Uganda.

Ukrainian cadets visit NATO Headquarters. Brussels, Belgium, November 2022.

Investing in Training and Education

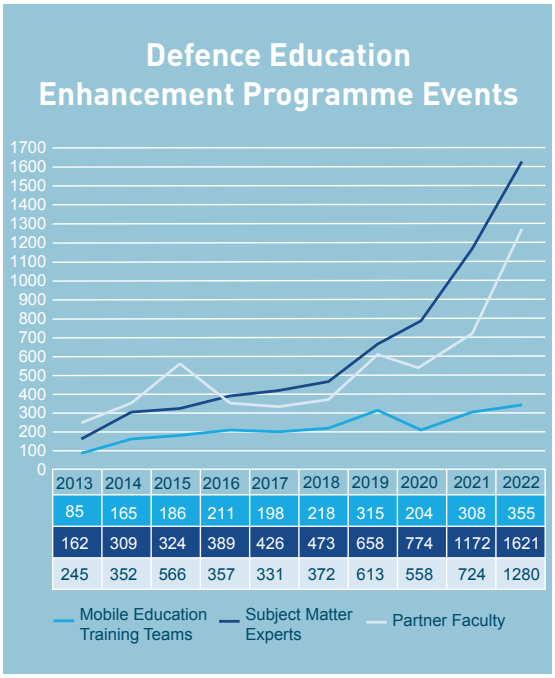
Training and education are among NATO's best tools to contribute to stability and support partners in the Alliance's neighbourhood.

NATO's **Partnership Training and Education Centres** provide valuable educational and training capabilities to NATO Allies and partners in the security and defence domains. The network comprises 34 centres in both Allied and partner countries. The two newest centres are the Israel Defense Forces Military Medical Academy and Colombia's International Demining Centre. Throughout 2022, Partnership Training and Education Centres have played a key role in supporting NATO partnerships, notably by offering courses and training in several critical areas such as defence reform, crisis management, humanitarian demining and military trauma life support.

NATO also significantly supports military education in 16 partner countries through the **Defence Education Enhancement Programme**. The programme helps partners to build, develop and reform their professional military education institutions by establishing validated common references for military education. In 2022, the programme carried out over 350 activities, involving 875 Allied and 746 partner subject matter experts and reaching out to more than 1,280 partner faculty members and students.

Key achievements of the Defence Education Enhancement Programme in 2022 included:

- Continuing and enhancing training and education of the Ukrainian Armed Forces. The instructor training on NATO planning procedures focused on NATO decision-making procedures for future officers who will participate in the transformation of the Ukrainian Armed Forces. The programme on the development of the Non-Commissioned Officers Corps continued operating.
- Launching the first Defence Education Enhancement Programme in Latin America, specifically in Colombia.
- Starting new counter-terrorism and cyber defence training modules in the G5 Sahel Defense College.
- Undertaking faculty and curriculum development with a new military institution in the Joint Military Academy in Atar, Mauritania.



Building Integrity: Strengthening Good Governance

Since 2007, NATO has been engaged in building efficient and effective defence and security institutions that embed the principles of integrity, transparency and accountability in resources management (human, financial and equipment) and in the context of missions and operations.

NATO's flagship initiative, Building Integrity, works to support NATO as an organisation, Allies and partner countries to promote good governance in the defence and related security sector. Building Integrity is demand-driven and tailored to meet national requirements.

In 2022, NATO Building Integrity celebrated its 15th anniversary. Over the year, this initiative has contributed to all of NATO's three core tasks, and particularly to crisis prevention. Building Integrity also contributes to stability, in recognition of the fact that corruption and poor governance undermine democracy, the rule of law and economic development, and erode public trust in defence institutions while undermining operational effectiveness.

Building Integrity Self-Assessment Questionnaire and Peer Review Process

The NATO Building Integrity Self-Assessment Questionnaire and Peer Review Process is a diagnostic tool for strengthening management of defence resources. It offers users who complete it opportunities to assess good practices and recommendations for improvement. As more countries use these tools, NATO Building Integrity continues to consolidate its country-specific approach, ensuring that the reforms nations undertake will be sustainable in the long term. In 2022, NATO Building Integrity conducted Peer Review Visits in institutions in Colombia, Jordan and the Republic of Moldova, while Georgia, Iraq and Montenegro submitted their Self-Assessment Questionnaires.

Ukraine at War and Good Governance

In the context of the Russian aggression against Ukraine, the fight against corruption has remained a priority for the government and parliament of Ukraine. In June, Ukraine's Verkhovna Rada approved the National Anti-Corruption Strategy for a period of four years. NATO Building Integrity continued reaching out to its Ukrainian partners through online training events, consultations and engagements with the academic establishments of the Ministry of Defence and Ministry of Internal Affairs. During 2022, more than 500 representatives of Ukraine participated in NATO Building Integrity tailored education and training online and in person. Furthermore, the Head of the National Agency for Prevention of Corruption of Ukraine shared the insights on the challenges and experiences of preventing corruption at war and the need to foster good governance in stabilisation and reconstruction at the NATO course on Defence Leadership in Building Integrity.

NATO Building Integrity addresses the round-table on "Current issues of anti-corruption: international and national experience", organised at the Odesa State University of Internal Affairs to mark the International Anti-Corruption Day. Odesa, Ukraine, December 2022.

NATO Deputy Secretary General Mircea Geoană delivers opening remarks at the NATO 2022 Building Integrity Conference. Brussels, Belgium, December 2022.

The new Strategic Concept asserts the importance of good governance for the fulfilment of NATO's core tasks. I contributed to strengthening integrity and institutional resilience against the risk of corruption for the Alliance.

Dr. Nadja Milanova (Bulgaria)

Officer, Building Integrity Team, Defence and Security Cooperation Directorate, Operations Division
NATO Headquarters, Brussels, Belgium

The NATO Building Integrity Trust Fund, guided by an Advisory Group composed of Norway, the United Kingdom, Switzerland and the European Union, focused on enhancing strategic and institutional support as well as practical cooperation and dialogue with NATO Allies and partner countries. The Trust Fund is resourced with funding, expertise and in-kind contributions provided by Allies and partners.

In 2022, NATO Building Integrity and the European Union completed the initial four-year contract of cooperation agreement, funded by a European financial grant of EUR 2 million, to foster the development and implementation of NATO Building Integrity and agreed to extend the current cooperation agreement for one more year.

On 7-9 December, NATO Building Integrity and the Government of Belgium held a conference in Brussels under the title of "Building Integrity for Safeguarding Democratic Values and Strengthening Societal and Institutional Resilience". The event gathered more than 260 participants from Allies and partners, other international organisations such as the European Union, the United Nations Department of Peace Operations, the United Nations Office on Drugs and Crime, the United Nations Office of Counter-Terrorism, non-governmental organisations, civil society and the defence private sector.

A Dutch amphibious reconnaissance marine helps a US marine off a Dutch landing craft during exercise Cold Response 22, which included more than 30,000 troops from 27 NATO member and partner countries. Near Sandstrand, Norway, March 2022.

PARTNERSHIPS

SHARED SECURITY THROUGH COOPERATION AND DIALOGUE

NATO's partnerships are fundamental to our ability to preserve peace, promote stability and increase security for all. They are a two-way street that helps us all adapt to a more contested and competitive world.

NATO Secretary General Jens Stoltenberg at the Strategic Concept seminar on partnerships.
The Hague, the Netherlands (virtually), 23 February 2022.

NATO's partnerships are essential to the way NATO works. They are founded on mutual respect, interest and benefit. Partnerships contribute to stability in the Euro-Atlantic area and beyond and support NATO's three core tasks. Central to the protection of the global commons, they enhance NATO's resilience and sustain the rules-based international order.

NATO has active partnerships with 37 countries worldwide and several international organisations.[11]

In 2022, NATO continued to enhance political dialogue and practical cooperation with partners on issues of common interest while remaining flexible and adapting to changing geopolitical realities.

Partners engaged in several core activities, from sharing expertise to building capacity, and from developing interoperability to contributing to crisis prevention and management. Throughout the year, 22 partners took part in 15 NATO-led exercises, while 11 contributed over 41 military personnel to the NATO Command Structure and International Military Staff. Partners also supported NATO missions in Iraq and Kosovo, contributed financially to NATO-led trust funds and offered in-kind support through NATO's Partnership Training and Education Centres.

NATO maintains liaison offices in Belgrade, Chisinau, Kuwait, Kyiv, New York, Tbilisi and Vienna, as well as the NATO Headquarters in Sarajevo. Currently, 34 partners have active Missions to NATO. The Republic of Korea was the latest partner to open a mission to NATO, in 2022.

Swedish Army Rangers disembark from a C-130 Hercules transport aircraft after landing on a rural road during exercise BALTOPS 22, an annual naval exercise that takes place in the Baltic Sea. The 2022 iteration was hosted by Sweden, which applied for NATO membership in May. Gotland, Sweden, June 2022.

11 Partnerships with Afghanistan and Russia are currently suspended, as is practical cooperation with Belarus.

The 2022 Partnerships 360 Symposium

Following a two-year hiatus imposed by the COVID-19 pandemic, the Partnerships 360 Symposium was held in Geneva, Switzerland in summer 2022. The Symposium brought together 251 participants from 54 Allies and partner countries as well as international organisations. They engaged in discussions on innovation, capacity-building, interoperability, human security and the rules-based international order.

A discussion during the Partnerships 360 Symposium, bringing together civilian and military representatives from Allies and partner countries to share ideas on the future evolution of NATO's partnerships policy. Geneva, Switzerland, July 2022.

NATO's Open Door Policy

NATO's door to membership remains open to all European democracies that share the values of the Alliance (individual liberty, democracy and the rule of law), are willing and able to assume the responsibilities and obligations of membership, are in a position to further the principles of the North Atlantic Treaty, and whose inclusion can contribute to the security of the North Atlantic area. Every country must be free to choose its own security arrangements, including whether or not to join any treaty or alliance like NATO.

Decisions on membership are within the exclusive purview of NATO and require agreement of all Allies. No third party has a say in this.

The 2022 Strategic Concept reaffirmed NATO's Open Door Policy and stressed that this policy has unquestionably strengthened the Alliance and contributed to peace and stability in the Euro-Atlantic area.

Bosnia and Herzegovina is currently the only country participating in the NATO Membership Action Plan. Allies remain committed to supporting the eventual NATO membership of Georgia and Ukraine, in line with decisions taken at the 2008 Bucharest Summit and reaffirmed this at the 2022 Madrid Summit. And in a historic decision, NATO invited in 2022 Finland and Sweden to join the Alliance.

From Partners to Allies: Finland and Sweden Submit Applications to Join NATO

Finland and Sweden joined the Partnership for Peace programme[12] in 1994, the year of its creation. In 2014, Russia's aggression against Ukraine and its illegal annexation of Crimea led to a step-change in relations between NATO, Finland and Sweden. Political dialogue and cooperation grew, and Finland and Sweden became NATO's closest partners. Finland and Sweden established a regular exchange of information and analysis with NATO and increased participation in NATO and Allied exercises. They also developed Host Nation Support Agreements, and modalities to facilitate cooperation in the event of a security crisis. On 25 February 2022, the day after Russia's invasion of Ukraine, NATO, Finland and Sweden agreed to activate these modalities in order to facilitate their cooperation. Following that decision, Finland and Sweden began attending NATO meetings on the Ukraine crisis.

In the weeks and months that followed Russia's full-scale invasion of Ukraine, public and political opinion in Finland and Sweden shifted decisively in favour of applying to join the Alliance. On 18 May

12 The Partnership for Peace programme facilitates cooperation between individual Euro-Atlantic partner countries and NATO to promote security and stability. It seeks to foster dialogue and allows partners to choose their priorities for cooperation and the level and pace of progress.

From left to right: Finnish Minister of Foreign Affairs Pekka Haavisto, Turkish Minister of Foreign Affairs Mevlüt Çavuşoğlu, NATO Secretary General Jens Stoltenberg, Turkish President Recep Tayyip Erdoğan, Finnish President Sauli Niinistö, former Swedish Prime Minister Magdalena Andersson and former Swedish Minister of Foreign Affairs Ann Linde after agreeing the trilateral memorandum between Türkiye, Finland and Sweden at the Madrid Summit, paving the way for the accession of Finland and Sweden to NATO. Madrid, Spain, June 2022.

2022, the Secretary General received the Finnish and Swedish Ambassadors, who delivered their countries' applications to join NATO. Finland and Sweden submitted their applications having followed their respective national democratic processes, with overwhelming political and public support.

The applications were a direct result of the deterioration in the international security environment caused by Russia's war of aggression against Ukraine. This led Finland and Sweden to conclude that a fundamental change was necessary to ensure that they could provide security for their populations and at the same time strengthen international stability and further the values of democracy, freedom and the rule of law, for which all NATO Allies stand.

At the June 2022 Madrid Summit, NATO Heads of State and Government invited Finland and Sweden to become members of NATO. The week after the Summit, on 4 July, accession talks were held with Finland and with Sweden at NATO Headquarters. On 5 July, NATO Permanent Representatives signed the Accession Protocol for Finland and the Accession Protocol for Sweden. At that point, Finland and Sweden became 'Invitees' and began attending NATO meetings and participating in NATO activities in that capacity.

Conclusion of the trilateral memorandum between Türkiye, Finland and Sweden

At the Madrid Summit, President Erdoğan of Türkiye, President Niinistö of Finland and then-Prime Minister Andersson of Sweden met under the auspices of NATO Secretary General Stoltenberg. A trilateral memorandum was agreed at that meeting, addressing Türkiye's legitimate security concerns and clearing the way to NATO membership for Finland and Sweden. The foreign ministers of the three countries signed the memorandum in the presence of all three national leaders and the Secretary General.

Coordinating work on the accession of Finland and Sweden to NATO has been intense, challenging and rewarding. Their membership will make Finland and Sweden safer, and the Alliance stronger.

Laurie Walker (United Kingdom)

Officer, Partnership West, Political Affairs and Security Policy Division
NATO Headquarters, Brussels, Belgium

Overview of the ratification process

The Secretary General will invite Finland and Sweden to accede to the North Atlantic Treaty once all Allies have completed their necessary national procedures to ratify the Accession Protocols signed on 5 July and notified the US State Department, the depositary of the Treaty. This process has moved forward at exceptional speed: as of December 2022, 28 out of 30 Allies completed all of the necessary stages.

Bilateral and Regional Partnerships

NATO's network of partnerships has been developing for over 30 years, adjusting the scope, intensity and focus to each partner's interests and capacities, while reflecting NATO's own priorities.

Bilateral cooperation documents set out the main objectives and goals of each partner's cooperation with NATO. In 2022, NATO began implementing the Individually Tailored Partnership Programmes, designed to guide NATO's cooperation with partners over a four-year cycle.

In the Euro-Atlantic area, Allies are actively engaged with 18 partner countries[13] through the Euro-Atlantic Partnership Council and the Partnership for Peace programme. Among these partners, NATO has developed specific structures for its relationships with Ukraine and Georgia.

NATO's partnership network also extends to 11 partners in the Middle East and North Africa through the Mediterranean Dialogue and the Istanbul Cooperation Initiative.[14] The Alliance also cooperates with a range of countries that are not part of these regional partnership frameworks. Referred to as "partners across the globe", they include Australia, Colombia, Iraq, Japan, the Republic of Korea, Mongolia, New Zealand and Pakistan.

Cooperative Security remains one of NATO's three core tasks. I am privileged to be working with partner nations towards the shared goal of improved security and peace.

Wing Commander Matthew Jones (United Kingdom)

Head, West Section, Military Cooperation Branch, Cooperative Security Division, NATO International Military Staff
NATO Headquarters, Brussels, Belgium

NATO Engagement and Cooperation in the Western Balkans

The Strategic Concept stresses that the Western Balkans is a region of strategic importance to the Alliance and that Allies remain committed to supporting the Euro-Atlantic aspirations of interested countries in this region.

In 2022, in light of the changed security environment in Europe, NATO intensified its focus on the Western Balkans and stepped up its political engagement with several senior-level visits to the region.

At the Madrid Summit, a dedicated session on the Western Balkans was held at the level of defence

13 Armenia, Austria, Azerbaijan, Bosnia and Herzegovina, Finland (invitee), Georgia, Ireland, Kazakhstan, Kyrgyz Republic, Malta, the Republic of Moldova, Serbia, Sweden (invitee), Switzerland, Tajikistan, Turkmenistan, Ukraine, Uzbekistan.

14 The Mediterranean Dialogue includes Algeria, Egypt, Israel, Jordan, Mauritania, Morocco and Tunisia. The Istanbul Cooperation Initiative includes Bahrain, Kuwait, Qatar and the United Arab Emirates.

ministers, with the participation of the Defence Minister of Bosnia and Herzegovina.

Strong political dialogue was matched by robust practical cooperation. In 2022, NATO continued to support reform efforts in the Western Balkans across many domains, such as defence and security sector reforms, capacity-building, interoperability, defence education, building integrity and scientific cooperation.

NATO held several high-level political talks with Bosnia and Herzegovina and committed to developing a new Defence Capacity Building Package to boost the country's resilience. Cooperation with Bosnia and Herzegovina also continued within the framework of the Reform Programme.

With Serbia, a regional partner, NATO engaged in wide-ranging practical cooperation, notably in the areas of defence and security sector reforms, scientific cooperation and building integrity.

NATO also continued to maintain its presence in the Western Balkans through the Kosovo Force and the NATO Advisory and Liaison Team in Kosovo, through the NATO Headquarters in Sarajevo and through the NATO Military Liaison Office in Belgrade. The Alliance continued to provide support to the European Union-led operation EUFOR Althea in maintaining a safe and secure environment in Bosnia and Herzegovina, under the 'Berlin Plus' arrangements.

The Chair of the NATO Military Committee, Admiral Rob Bauer, meets staff at NATO Headquarters Sarajevo. Sarajevo, Bosnia and Herzegovina, July 2022.

NATO's Partners in the Middle East and North Africa in 2022

NATO has an extensive network of partners in the Middle East and North Africa, through the Mediterranean Dialogue and the Istanbul Cooperation Initiative partnership frameworks.

In 2022, NATO reinvigorated its political dialogue with Middle East and North African partners after the disruptions caused by the COVID-19 pandemic. Russia's invasion of Ukraine highlighted the importance of long-standing partnerships in addressing important issues of common concern. Allies and Middle East and North African partners discussed the topics of food security, energy security and their implications in the maritime domain. Senior NATO officials conducted visits to Algeria, Egypt, Israel, Kuwait, Mauritania and Morocco. Jordan and Mauritania participated in one of the sessions of the Madrid Summit at the level of foreign ministers.

NATO and its Middle East and North African partners also continued to cooperate on a wide array of issues,

Participants of a workshop as part of Exercise Regex 22, jointly organised by NATO and Morocco. Rabat, Morocco, November 2022.

NATO Deputy Assistant Secretary General for Political Affairs and Security Policy Javier Colomina speaks at a panel during the Seventh Mediterranean Dialogue Policy Advisory Group. Alicante, Spain, October 2022.

ranging from counter-terrorism, small arms and light weapons, and counter-improvised explosive devices to crisis management, civil preparedness, resilience and the Women, Peace and Security agenda.

One of the highlights of practical cooperation with Middle East and North African partners was the Regional Exercise (Regex 22), jointly organised by NATO and Morocco in Rabat, Morocco.

NATO and Kuwait continued to leverage the opportunities provided by the NATO-Istanbul Cooperation Initiative Regional Centre based in Kuwait. The Centre provides a forum where Allies and Gulf countries can meet to discuss topics of mutual interest and relevance. It also offers training courses for Istanbul Cooperation Initiative partners plus Saudi Arabia and Oman. Overall, 20 events and seven training courses were conducted at the Centre. Highlights of 2022 include an event on Women, Peace and Security; a seminar co-organised with the International Committee of the Red Cross on cyber operations; and a briefing on NATO's new Strategic Concept.

Given the importance of the Sahel to Euro-Atlantic security, Allied Heads of State and Government approved a new Defence Capacity Building Package for Mauritania at the Madrid Summit. In addition to reaffirming the long-standing partnership with Mauritania, dating back to 1995, the Alliance continued to engage with other international and regional organisations, such as the African Union, the G5 Sahel, the United Nations and the European Union.

Partners in the Indo-Pacific Region

In 2022, relations deepened significantly with NATO's partners in the Indo-Pacific region: Australia, Japan, the Republic of Korea and New Zealand. NATO's Strategic Concept highlights the importance of the Indo-Pacific for Allied security and confirmed NATO's commitment to strengthening dialogue and cooperation with like-minded partners in the region. It stressed the importance of enhancing relations with these partners, including to uphold the rules-based international order and tackle cross-regional challenges and shared security interests.

In June, the Heads of State and Government of these four partners participated in a NATO Summit for the first time, marking a significant milestone in NATO's relations with them. Together with Allies, Invitees Finland and Sweden, partner country Georgia and the European Union, they addressed the global implications of Russia's invasion of Ukraine. Earlier in the year, NATO's partners in the Indo-Pacific also attended the NATO Foreign Ministers' meeting.

At the Summit, NATO and its partners in the Indo-

From left to right: Anthony Albanese, Prime Minister of Australia; Fumio Kishida, Prime Minister of Japan; NATO Secretary General Jens Stoltenberg; Jacinda Ardern, former Prime Minister of New Zealand, and Suk Yeol Yoon, President of Republic of Korea, at the Madrid Summit. Madrid, Spain, June 2022.

Pacific region agreed an agenda for tackling shared security challenges, designed to further cooperation in areas such as cyber defence, technology, maritime security and the impact of climate change on security. NATO and these partners also continued engaging in political dialogue, including by attending meetings of the North Atlantic Council, on topics ranging from arms control, disarmament and non-proliferation to climate change and security.

NATO also continued to cooperate with the partners in the Indo-Pacific on a bilateral basis. Key highlights of NATO's practical cooperation include Australia's contribution to NATO Operation Sea Guardian in October and NATO's joint passing exercises with Japan Maritime Self-Defense Force ships in the Mediterranean Sea in June.

Italian Navy ITS Margottini and Turkish Navy TCG Salihreis train with two Japanese ships, JS Kashima and JS Shimakaze, during their transit in the Mediterranean Sea, June 2022.

Cooperation with Other International Organisations at a Glance

NATO is strongly committed to multilateralism and close cooperation with other international organisations. The Alliance engages with the European Union, the United Nations, the Organization for Security and Co-operation in Europe, and the African Union. It also maintains regular dialogue with other organisations, including the International Committee of the Red Cross, the Organization for Economic Cooperation and Development and the World Bank.

2022 underscored the importance of NATO and the European Union standing united in support of Ukraine. I had the opportunity to contribute to the strengthening of NATO-European Union cooperation when it was most needed.

Dagmar de Mora-Figueroa (Spain)

Deputy Head, Defence Policy Section,
Defence Policy and Planning Division
NATO Headquarters, Brussels, Belgium

The European Union

In 2022, NATO and the European Union continued to deepen their long-standing strategic partnership. Political dialogue between the two organisations was further enhanced, demonstrating common resolve in responding to Russia's war against Ukraine. On 3 February, the North Atlantic Council met with the European Union's Political and Security Committee to discuss Russia's military build-up in and around Ukraine. On 24 February, the NATO Secretary General held a joint press conference with the Presidents of the European Commission and of the European Council, followed by the two Presidents' participation in a virtual NATO Summit. In June, the European Union's leadership took part in the Madrid Summit. Throughout the year, regular interaction between the NATO Secretary General and his European Union counterparts, participation in ministerial meetings and reciprocal briefings fostered mutual situational awareness and coherence of efforts in supporting Ukraine.

NATO Secretary General Jens Stoltenberg meets with President of the European Commission Ursula von der Leyen. Brussels, Belgium, April 2022.

Practical cooperation continued to intensify through the implementation of the 74 proposals for common action, especially on those areas most relevant to the current context, including military mobility, resilience and civil preparedness, countering disinformation, and countering cyber and hybrid threats. NATO and European Union staffs worked closely together to foster synergies and mutual reinforcement in their support of Ukraine. Broader coordination also continued on defence and related security capacity building for partners, with particular emphasis on Bosnia and Herzegovina, Georgia and the Republic of Moldova.

In 2022, NATO and the European Union continued the practice of parallel and coordinated exercises, whereby respective staffs engaged in the

The NATO Secretary General, Jens Stoltenberg, speaks with the European Union's High Representative for Foreign Affairs and Security Policy, Josep Borrell, at NATO Headquarters. Brussels, Belgium, June 2022.

preparations and the implementation of exercises EU Integrated Resolve 2022 and NATO's Crisis Management Exercise 2023. Dialogue between the military staffs of the two organisations was also enhanced. Topics of discussion included the importance of consistent military requirements to ensure that NATO forces have the flexibility and agility to move across the European Union's territory. NATO and European Union Military Staff Directors General held their bi-annual conference fostering deeper dialogue and cooperation.

The Organization for Security and Co-operation in Europe

At a time of complex security challenges in the Euro-Atlantic area, the Organization for Security and Co-operation in Europe remains a key partner for NATO. In 2022, both organisations maintained regular high-level political dialogue and practical cooperation.

The NATO Liaison Office in Vienna continued to support and facilitate regular exchange of information in areas of mutual interest, including the Western Balkans, Ukraine, the South Caucasus and Central Asia, as well as on cross-cutting issues such as counter-terrorism, climate change and security, combating human trafficking, and the Women, Peace and Security agenda.

The United Nations

NATO and the United Nations share a commitment to maintaining international peace and security. The two organisations have been cooperating in this area since the early 1990s, in peace-support and crisis management operations.

The complexity of today's security challenges has required a broader dialogue between NATO and the United Nations and, as a result, has led to reinforced cooperation and liaison arrangements between the two staffs and with United Nations specialised agencies.

NATO Secretary General Jens Stoltenberg participates in the 77th General Assembly of the United Nations. New York, United States, September 2022.

The Head of the African Union Delegation, Lieutenant General Antonio Lamas Xavier, and the Director of the NATO International Military Staff's Cooperative Security Division, Major General Francesco Diella, in discussion during the seventh round of military-to-military staff talks between NATO and the African Union. Brussels, Belgium, October 2022.

In view of Russia's war against Ukraine, NATO engaged with the broader United Nations family on various issues, including through the United Nations High Commissioner for Refugees, the United Nations High Commissioner for Human Rights and the World Food Programme.

Cooperation between the two organisations continued on the Women, Peace and Security agenda and human security issues, which represent a strong foundation for NATO-United Nations cooperation. In addition, NATO's multi-year training package for United Nations peacekeeping continued to deliver in 2022, with Allies providing expertise and trainers to improve the United Nations' capacity to deliver medical care, conduct military performance evaluation, counter improvised explosive devices and improve information and communications technology.

NATO and United Nations staffs expanded dialogue in several areas of cooperation, exchanging expertise and sharing priorities on climate change and security, countering disinformation, innovation, and emerging and disruptive technologies.

The African Union

The African Union remains an important multilateral partner for NATO. In 2022, NATO and the African Union held military-to-military staff talks for the first time after nearly three years of forced break due to the COVID-19 pandemic. The talks helped renew cooperation in key areas, such as training support, operational support and structural assistance. NATO's Senior Military Liaison Officer in Addis Ababa, Ethiopia continued to engage closely with the African Union headquarters to coordinate NATO's support to the African Stand-by Force and security sector reform.

Advancing Science for Peace and Security

The Science for Peace and Security Programme provides opportunities for practical cooperation on security-related science and innovation. It supports research and knowledge exchanges involving scientists in NATO and partner countries to identify solutions to emerging security challenges. Its cooperative initiatives engage the scientific community on key themes for the Alliance and contribute to delivering on Allied priorities such as exploring the potential of emerging and disruptive technologies, understanding the impact of climate change on security, and working with partners to counter terrorist threats.

In 2022, the Science for Peace and Security Programme continued supporting the implementation of over 80 multi-year research and development projects and received nearly 100 proposals for new activities.

Several highlights marked 2022, including:

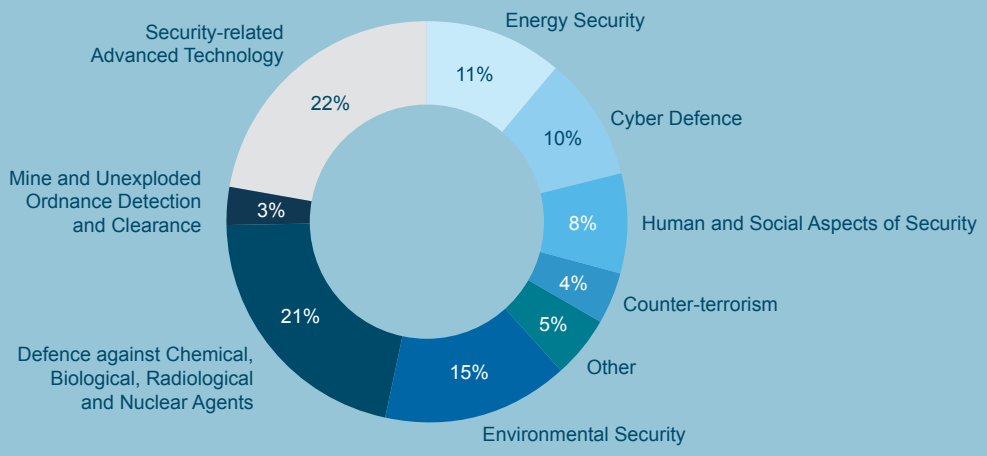
Testing quantum technology for secure communications. In June, an exercise between five research groups, supported by the Science for Peace and Security Programme and based in Malta, Slovakia, Spain, the United States and NATO Headquarters, managed to transmit information that could not be decrypted by a hacker, even with the support of a quantum computer. This success opens the way to more research on how the integration of quantum technology can help to secure information infrastructure.

NATO Assistant Secretary General for Emerging Security Challenges David van Weel visits the NATO Science for Peace and Security Information Day in Zagreb, Croatia. April 2022.

Continued support to NATO's adaptation to climate change. A new multi-year collaboration was launched in May, adding to the growing number of activities supported by the Programme in the field of climate and security. This new initiative will apply state-of-the-art datacube analytics to Big Earth Data to gain insights into security-relevant aspects of natural and human-made threats.

Greater outreach to scientific communities. After a two-year hiatus due to the COVID-19 pandemic, Croatia hosted a Science for Peace and Security Information Day in Zagreb. The event brought together 100 scientists with representatives from NATO and government; it enabled Croatian researchers supported by the Programme to display and present their contributions to science and technology.

Thematic Distribution of Proposals Received by the Science for Peace and Security Programme in 2022



Note: Due to rounding, the percentages will not always add up to 100.

DEXTER (Detection of EXplosives and Firearms to counter TERrorism)

What if we could protect public spaces without imposing burdensome restrictions?

I felt immense fulfilment in managing DEXTER: 11 institutions, 50 scientists and three years of relentless effort to develop an innovative tool that will protect critical infrastructures from terrorist threats, making NATO safer and stronger.

Francesca Tortorella (Italy)

DEXTER Programme Manager,
Science for Peace and Security Programme,
Emerging Security Challenges Division
NATO Headquarters, Brussels, Belgium

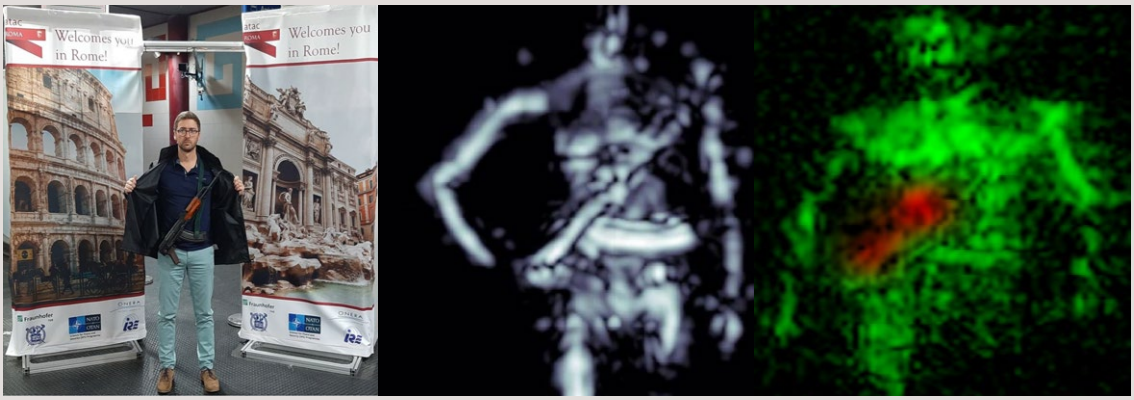
Subways, train stations, airports and other mass transit and gathering venues across the world have been targeted by terrorist attacks, leading to significant loss of life and damage to infrastructure. Under the framework of DEXTER, a flagship initiative of the NATO Science for Peace and Security Programme, scientists from NATO and partner countries have worked together to find a new way of detecting terrorists in crowded places, remotely and in real time, without disrupting the flow of pedestrians.

DEXTER integrates into one prototype several technological solutions: machine learning algorithms to elaborate images and automatically identify potential threats, sensors for trace detection of explosives, and a command and control system that centrally manages data fusion and smart processing, so that the collected information can be sent in real time to security operators.

DEXTER involved four NATO Allies (France, Germany, Italy and the Netherlands), Invitee Finland and three partner countries (the Republic of Korea, Serbia and Ukraine), and brought together a consortium of research institutions, transport operators, and public safety and law enforcement organisations.

This multinational research and development effort reached its final phase in 2022: DEXTER's reliability and effectiveness were tested during the Big City Trial, envisioned as a combined and integrated demonstration of all its technologies in a real-life environment. The Big City Trial took place during the entire month of May at the Anagnina subway station in Rome. The DEXTER prototype exceeded performance expectations: the system was able to detect explosives and firearms while simultaneously sending the alarm information on the simulated suspect, seamlessly improving the security of all passengers.

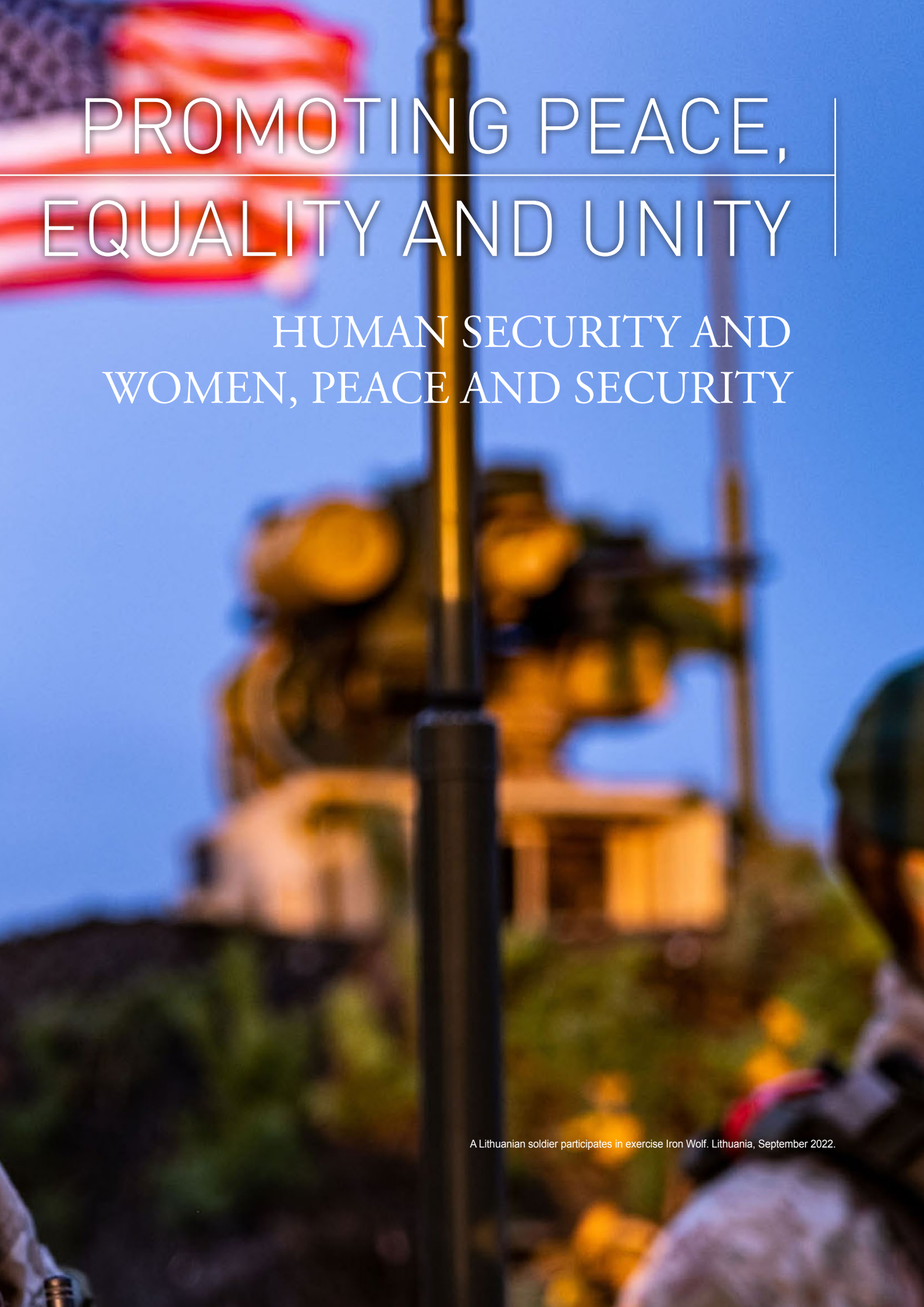
By delivering a solution at the intersection of counter-terrorism and advanced technologies, DEXTER is a perfect example of NATO's accomplishments in the field of emerging and disruptive technologies.



Detection of firearms using microwave technology during DEXTER Big City Trial. Rome, Italy, May 2022.

PROMOTING PEACE, EQUALITY AND UNITY

HUMAN SECURITY AND WOMEN, PEACE AND SECURITY



A Lithuanian soldier participates in exercise Iron Wolf. Lithuania, September 2022.

A soldier captured on the flight deck of the Royal Netherlands Navy's HNLMS De Zeven Provinciën during exercise Dynamic Mongoose, an annual anti-submarine and anti-surface warfare exercise. Near Northwood, United Kingdom, June 2022.

NATO's newly adopted Strategic Concept addresses security challenges as well as the need to have gender dimension and human security aspects reflected in all of NATO's core tasks. Noting that gender equality is part of our values in the new Strategic Concept marks another significant milestone for NATO. However, we cannot stop here. We will continue to build on past progress and take into account the new and emerging challenges faced by the Alliance.

NATO Secretary General's Special Representative for Women, Peace and Security Irene Fellin at the NATO Committee on Gender Perspectives Annual Conference. 3 October 2022, Brussels, Belgium

Against the backdrop of Russia's war against Ukraine and the devastating effects of the tactics employed by Russian forces on Ukrainian civilians, NATO continued to show leadership in advancing its Women, Peace and Security and human security priorities throughout 2022.

For the first time, the NATO Strategic Concept reflects that Women, Peace and Security and human security are "cross-cutting" areas of work that must be integrated in all three core tasks of the Alliance. In the Strategic Concept, Allies committed to promoting good governance and integrating climate change, human security and the Women, Peace and Security agenda across all tasks. In addition, they undertook to "advance gender equality as a reflection of our values."

Human Security

NATO has long recognised the importance of reducing the impact of its actions on civilian populations. The Strategic Concept stresses that human security, including the protection of civilians and civilian harm mitigation, is central to NATO's approach to crisis prevention and management.

In 2022, NATO adopted a framing document outlining its approach to human security, which is drawn from that of the United Nations and adapted to the specific needs of a political-military Alliance. It highlights the importance of embedding considerations for the comprehensive safety and

A NATO-led Human Security in Operations training event at the Land Forces Academy in Romania, involving both military and civilian personnel. Sibiu, Romania, November 2022.

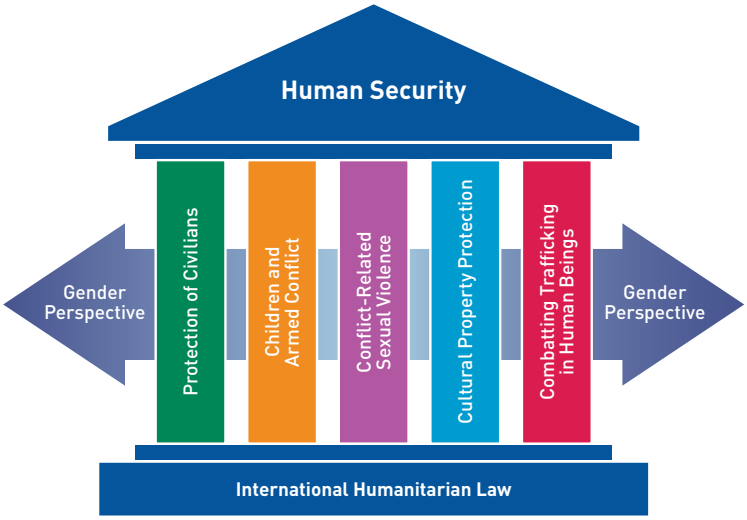
security of the populations into all stages and levels of Alliance operations, missions and activities, wherever NATO operates, with the objective of preventing and responding to risks and threats to all people.

NATO's human security approach brings together cross-cutting topics, such as protection of civilians, children and armed conflict, conflict-related sexual violence, cultural property protection and combatting trafficking in human beings, under one umbrella.

In 2022, the North Atlantic Council approved NATO's updated Military Guidelines on the Prevention of, and Response to, Conflict-related Sexual Violence. These include early identification and timely reporting mechanisms, as well as mitigation strategies as an integral part of mission planning and execution. Online training material on protection of civilians was also improved with course material highlighting how designing operationally effective plans requires considering the gendered impacts of conflict.

As an Alliance founded on the values of democracy, individual freedom and the rule of law, NATO is setting a global standard by recognising that taking a human security approach in its missions, operations and activities contributes to lasting peace and security.

NATO's Human Security Approach



The Women, Peace and Security Agenda

NATO's work on Women, Peace and Security invests in creating space for women's voices and facilitating dialogue on the agenda at strategic and operational levels.

The position of the Secretary General's Special Representative for Women, Peace and Security, first established in 2012, plays a central role in advancing these efforts. In 2022, NATO's fourth Special Representative, Irene Fellin, took up her responsibilities and has supported NATO leadership, Allies and partners in advancing both the Women, Peace and Security and the human security agendas.

The current policy, adopted in 2018, is built on three pillars: integration, inclusiveness and integrity. NATO's approach is characterised by questioning assumptions about the security status quo and applying a gender lens to all that NATO does in the pursuit of equitable peace and stability. The ongoing work is guided by an Action Plan for 2021–2025.

Effectively integrating a gender perspective throughout the work of the Alliance requires NATO-wide coordination at all levels. These efforts are supported by the Women, Peace and Security Leadership Task Force, led by NATO's Deputy Secretary General. Coordination is also essential to successful implementation, and throughout 2022, NATO's well-established network of Gender Advisors and Gender Focal Points across the Alliance supported implementation of the Action Plan and integration of gender perspective as a cross-cutting topic in everything the Alliance does. These activities include operations and missions, crisis and conflict analysis, capability and doctrine development, as well as exercises, education and training.

In 2022, three new online courses were launched: an introductory course on Women, Peace and Security to raise the baseline of knowledge across Allies and NATO staff; a course on gender mainstreaming in small arms and light weapons; and a course, mandatory for all civilian and military personnel, on identifying, preventing and responding to sexual exploitation and abuse.

A sharpshooter with the Finnish Navy's Nyland Brigade keeps an eye out for the opposing force during exercise Freezing Winds. Near Syndalen, Finland, December 2022.

The Women, Peace and Security agenda remains a key focus of NATO's dialogue and cooperation with international organisations and civil society. In the context of continued cooperation with the European Union, experts from the European Union's Military Staff and NATO's International Military Staff developed a roadmap for effective gender perspective integration in present and future joint efforts.

Engagement with civil society continues to be important in advancing security on the ground where NATO operations take place, and in strengthening collective defence through awareness raising. In 2022, NATO continued its engagement with women's civil society through the mechanism of the Civil Society Advisory panel, discussing themes ranging from general perspectives on defence and security to the international community's response to Russia's war against Ukraine.

From left to right: NATO Secretary General's Special Representative for Women, Peace and Security Irene Fellin with Mélanie Joly, Minister of Foreign Affairs of Canada; Anniken Huitfeldt, Minister of Foreign Affairs of Norway; Ann Linde, former Minister of Foreign Affairs of Sweden; Liz Truss, former Secretary of State of the United Kingdom; Thórdís Kolbrún Reykfjörd Gylfadóttir, Minister for Foreign Affairs of Iceland; Tanja Fajon, Minister of Foreign Affairs of Slovenia; Annalena Baerbock, Minister of Foreign Affairs of Germany and Ludivine Dedonder, Minister of Defence of Belgium.

Women Leaders at the Madrid Summit

A meeting of women Ministers of Defence and Foreign Affairs was held at the Madrid Summit in June. It was the first of its kind at a NATO Summit. The meeting served to amplify the voices and perspectives of women leaders through a discussion on Russia's war of aggression against Ukraine and emerging issues relevant for the Alliance. The discussion highlighted that cyber attacks – including disinformation – weaponise ideas and often target women, making the application of a gender lens in assessing their intent and impact essential.

I was happy to help convene a record number of women ministers in a roundtable on current security challenges at the Madrid Summit. We were able to offer visibility to women shaping the Alliance.

Sina Gussek (Germany)

Temporary Staff Member, Human Security Unit, Office of the Secretary General
NATO Headquarters, Brussels, Belgium

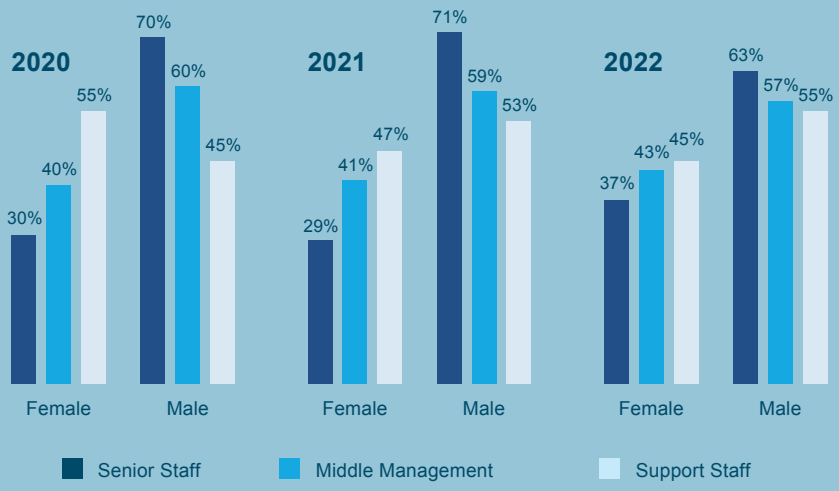
American and German crew members sit side-by-side while working on board a NATO Boeing 707 E-3A AWACS aircraft, patrolling Allied airspace in the wake of Russia's attack on Ukraine. Skies over eastern Europe, June 2022.

Gender Balance by the Numbers

The participation of women in decision-making processes and at all levels is indispensable to NATO's success. NATO is committed to creating inclusive environments that support women's full and meaningful participation across the military and civilian structures of the Alliance. Part of this work is improving recruitment processes to support gender diversity and equality as well as to promote the recruitment of women.

In 2022, women comprised 43 per cent of NATO's International Staff, and the number of women in senior and middle management increased in comparison to 2021. Women occupied more than one third of senior management positions in 2022.[15] Women made up about 12 per cent of Allied national forces.[16]

International Staff at NATO: Gender Statistics



15 Data from November 2022.

16 Data from 2021.

ENGAGING WITH NATO CITIZENS, BUILDING AWARENESS

Secretary General Jens Stoltenberg meets with Protect the Future content creators at NATO Headquarters. Brussels, Belgium, May 2022.

NATO Secretary General Jens Stoltenberg meets the crew of the US aircraft carrier USS George H.W. Bush. Mediterranean Sea, October 2022.

We have to engage in dialogue, in public communications, to explain that the core problem is the unprovoked, unjustified war by President Putin against Ukraine.

NATO Secretary General Jens Stoltenberg at the
NATO Public Forum. Madrid, Spain, 28 June 2022.

2022 Communications Highlights

A strong and successful Alliance depends on the support and understanding of its citizens.

NATO achieves this through tailored communications and engagement with a wide range of international media and key opinion formers, as well as through digital outreach on multiple platforms. In addition to engaging citizens and explaining what NATO is and what it does to ensure our security, NATO also works to counter hostile information, including disinformation. NATO's approach relies on fact-based, credible public communications.

In 2022, clear, calm, credible and proactive communications have been central to every stage of NATO's response to Russia's war of aggression against Ukraine. Since the autumn of 2021, NATO publicly communicated on Russia's military build-up and their plans for a full-scale invasion of Ukraine, systematically exposing the Kremlin's false claims. At the same time, NATO conveyed clearly that the Alliance would protect and defend every inch of NATO territory.

Doorstep statement by NATO Secretary General Jens Stoltenberg at the beginning of the NATO Summit, with NATO Spokesperson Oana Lungescu. Madrid. Spain, June 2022.

2022: Press and Media Engagements in Numbers

More than 22,000 reports on NATO in key international media (up by 150% on 2021) with a potential, cumulative reach of 42 billion people

More than 3,000 media queries (up by 20% on 2021)

More than 400 interviews by the Secretary General and Deputy Secretary General (up by 70% on 2021)

30 press tours (3 times more than in 2021)

In step with the increased demand for information about NATO, in 2022 the Alliance increased its own broadcast and social media capabilities, improved its website and invested on YouTube Shorts to communicate on its long-standing YouTube channel. NATO also opened a Russian-language Telegram channel and convened conversations on Twitter Spaces to reach a broader Russian-speaking audience.

Indicative increases in digital audience from 2021

up by 30%

up by 103%

up by 95%

up by 59%

NATO.int website: **up by 480%** users

Total flagship social media community: **up by 65%** to 5.11 million users

Press Tours

In 2022, 58 media from 12 Allies and seven partner countries participated in NATO press tours.

NATO-sponsored press tours provide media with first-hand access to NATO's missions, exercises, operations and deployments. They help show the breadth of NATO's work to protect Allied populations and territory against any threat from any direction.

Media had the opportunity to:

- follow Allied Special Forces training;
- observe Danish F-18s scrambling over the skies of Iceland and Italian F-16s patrolling the Romanian airspace;
- sail aboard the aircraft carrier USS George H.W. Bush on the Adriatic Sea;
- visit the new multinational battlegroups in Romania and Slovakia;
- watch French patriot missile systems protect NATO's eastern flank;
- follow military and industry experts train and test undersea unmanned systems for the detection of submarines;
- go on patrol with the NATO-led Kosovo Force;
- witness Cyber Coalition 22, one of the world's largest cyber defence exercises; and
- mingle with counter-terrorism experts in a metro station in Rome, Italy.

Madrid Summit Communications

The 2022 NATO Summit in Madrid drew huge worldwide interest. The Secretary General's press conferences at the Madrid Summit were carried live by more than 30 television networks around the world, with a reach of 1 billion people. Online audiences on NATO's Facebook, LinkedIn, Twitter and YouTube channels showed particular interest in the signing of the Memorandum of Understanding between Türkiye, Finland and Sweden. To engage with younger audiences, NATO shared exclusive behind-the-scenes content on Instagram and Facebook.

NATO also reached out to audiences in Spain, the host country, and in Colombia, a partner country, to increase understanding of NATO through tailored Spanish-language communication, potentially reaching more than 140 million people. NATO branding throughout the city served as a reminder and expression of thanks to citizens and tourists in Madrid in advance of and for the duration of the Summit.

The Madrid Summit at a Glance

More than 3,000 journalists

from **83 countries**

More than 1,500 articles a day

NATO.int traffic up by **170%** on 2021 Brussels Summit

NATO Summit flags decorate the city of Madrid before and during the Madrid Summit. Madrid, Spain, June 2022.

The NATO Public Forum

The NATO Public Forum at the Madrid Summit brought together high-level speakers, including Heads of State and Government, youth networks, industry, international experts and civil society. More than 33,000 watched online, more than double the audience for the 2021 event. The NATO Public Forum included the first NATO High-Level Dialogue on Climate Change and Security, opened by the NATO Secretary General.

NATO Madrid Summit Technology Display

At the Madrid Summit, NATO's technology display showed how the Alliance involves young people to address both the opportunities of autonomous systems as well as the challenges they pose. Allied leaders and ministers learned about Project X, a design challenge to develop drones for emergency response scenarios and technologies to counter the misuse of unmanned aircraft systems. One example demonstrated autonomous systems capable of reaching survivors after extreme weather events.

Students from Delft University of Technology and other Dutch universities engage in Project X: a rapid design challenge seeking faster and more innovative routes to deliver technologies for the Alliance. Katwijk aan Zee, the Netherlands, January 2022.

A drone collaborative system, which won the NATO Project X challenge. Katwijk aan Zee, the Netherlands, January 2022.

Protect the Future content creators Alex Heath, Caroline Gleich, Ben Wheeler and Sergio Hidalgo aboard the USS George H.W. Bush. Mediterranean Sea, October 2022.

Engaging Youth

Reaching out to young people is vital to the future of the Alliance.

In April, NATO launched the Protect the Future campaign, led by 12 young online creators from Germany, Hungary, Latvia, Spain, the United Kingdom and the United States. To discover more about the Alliance's work, the creators met with the Secretary General in May; travelled to the Madrid Summit in June; visited the US aircraft carrier USS George H.W. Bush in October; and went on an AWACS training mission in November.

Young content creators

The **12** influencers:

- produced **679** pieces of content
- generated almost **300,000** social media engagements
- reached **more than 9 million** young people

In 2022, young artists from across the Alliance took part in an open competition to help create NATO's first-ever graphic novel, 'Protect the Future'. Six young artists were selected to work with professionals to produce the book, which was published in Brussels on 7 December 2022.

In October 2022, more than 500 students from 38 countries gathered in person and virtually for a Global Innovation Challenge organised by the College of William and Mary. With the assistance of mentors from NATO, think-tanks and the private sector, 67 teams from 47 universities presented creative ideas on how to tackle disinformation. The winning presentations included recommendations on using memes, increasing training and building resilience.

2022 NATO Youth Summit: Securing Our Shared Future

On 28 April, the 2022 NATO Youth Summit, under the title "Securing Our Shared Future", brought together young leaders from across Europe, North America and beyond. They discussed issues critical to global security, with contributions from a diverse range of non-traditional voices, from activists and artists to tech leaders and NATO officials.

Activities included storytelling, a simulated cyber attack, a policy pitching competition, TikTok videos and live polls. 35,000 people from 99 countries attended the Youth Summit, 76% of whom were under 35 years old.

Information Environment Assessment

Hostile information activities, such as disinformation, seek to influence citizens' decision-making and undermine democracy. To strengthen our societies' resilience to the use of hostile information, NATO Allies need to understand the information environment.

In 2022, NATO used data as a strategic resource to deliver regular Information Environment Assessments to Allies. Meaningful insights, derived from audience research and the evaluation of NATO communications, supported the Alliance in its political and military activities.

Communications in the Russian Language

In 2022, NATO continued its outreach to selected Russian-language audiences, despite restrictions on media and civil society inside Russia. NATO did this both digitally and in person through visits, briefings and other events.

Many Russian citizens have moved to Allied and partner countries and seek independent or alternative sources of information. In 2022, NATO invested in outreach to networks of Russian civil society, activists, key opinion formers, independent analysts and journalists based abroad.

NATO also continued to expand its social media presence in the Russian language, growing its "НАТО по-русски", or "NATO in Russian", family of social media accounts to include a Telegram channel and Twitter Spaces. NATO intensified its outreach to influential YouTube channels, an important source of information among Russian-language audiences.

In 2022, I delivered research monitoring public sentiment on collective defence, NATO membership and support for Ukraine. Our findings inform NATO communications content and strategy.

Amy Lecomber (United Kingdom)

Senior Researcher, Audience Research,
Strategic Communications Unit,
Public Diplomacy Division
NATO Headquarters, Brussels, Belgium

'NATO-Russia: Setting the Record Straight'

The 'NATO-Russia: Setting the record straight' page of the NATO website exposes and debunks aggressive and ongoing Russian disinformation against the Alliance. It counters falsehoods with facts using a mixture of satellite images, fact sheets and interviews.

NATO also produces digital content such as the 'Stop the Lies, Stop the War' video.

NATO Secretary General Jens Stoltenberg previews the Alliance's upcoming Madrid Summit with POLITICO journalist Lili Bayer. Brussels, Belgium, June 2022.

The NATO Information and Documentation Centre

The NATO Information and Documentation Centre in Kyiv has worked to increase awareness and understanding of NATO in Ukraine for the past 25 years. Since the beginning of Russia's war against Ukraine, the office has remained operational, supporting Ukrainian civil society. For example, throughout 2022, the NATO Information and Documentation Centre worked with the Crimean Tatar Resource Center to analyse myths and hostile narratives about NATO in occupied Crimea.

Senior Communicators Network

In November 2022, the NATO Senior Communicators Conference brought together more than 250 civil society, academic and think-tank representatives with more than 100 Allied and NATO officials. Together they discussed current communications objectives and challenges leading up to the 2023 Vilnius Summit. The Senior Communicators Conference serves as a platform for coordination and collaboration among NATO communications professionals, experts and civil society.

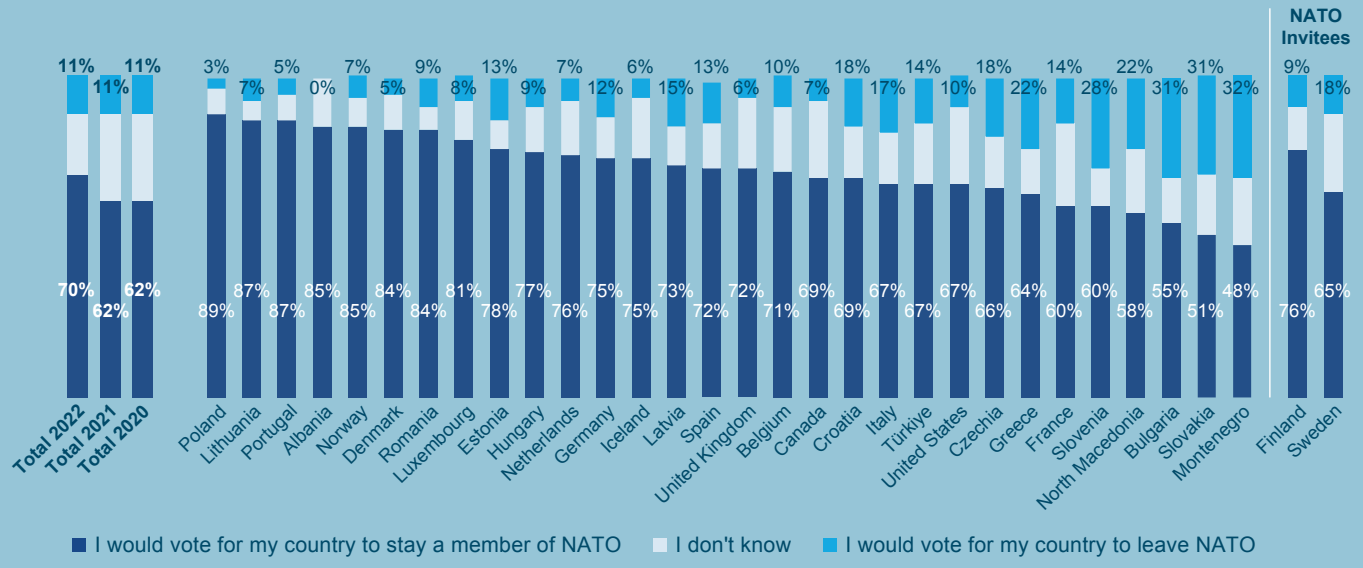
A group photo taken during NATO's Senior Communicators Conference. Brussels, Belgium, November 2022.

Listening to Citizens: Continued Support for the Alliance in 2022

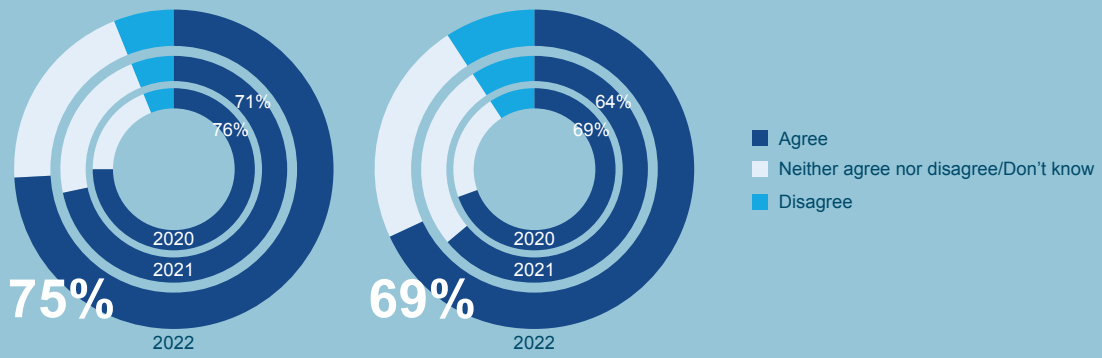
In 2022, NATO commissioned surveys across all 30 Allies to understand citizens' perceptions of NATO and to monitor trends in comparison to 2021.[17] Finland and Sweden were also included in the survey for the first time.[18] The data for 2022 was collected between 7-29 November.

Support for NATO has increased

Most citizens would vote for their country to remain a member of NATO in a referendum (70%), rising significantly compared to 2021 (62%). The graph below shows responses to the question: "If you could vote for or against your country's membership in NATO, how would you vote?".



Support for collective defence has risen across the Alliance



In 2022, 75% of the public agreed that other Allies should defend their country if attacked.

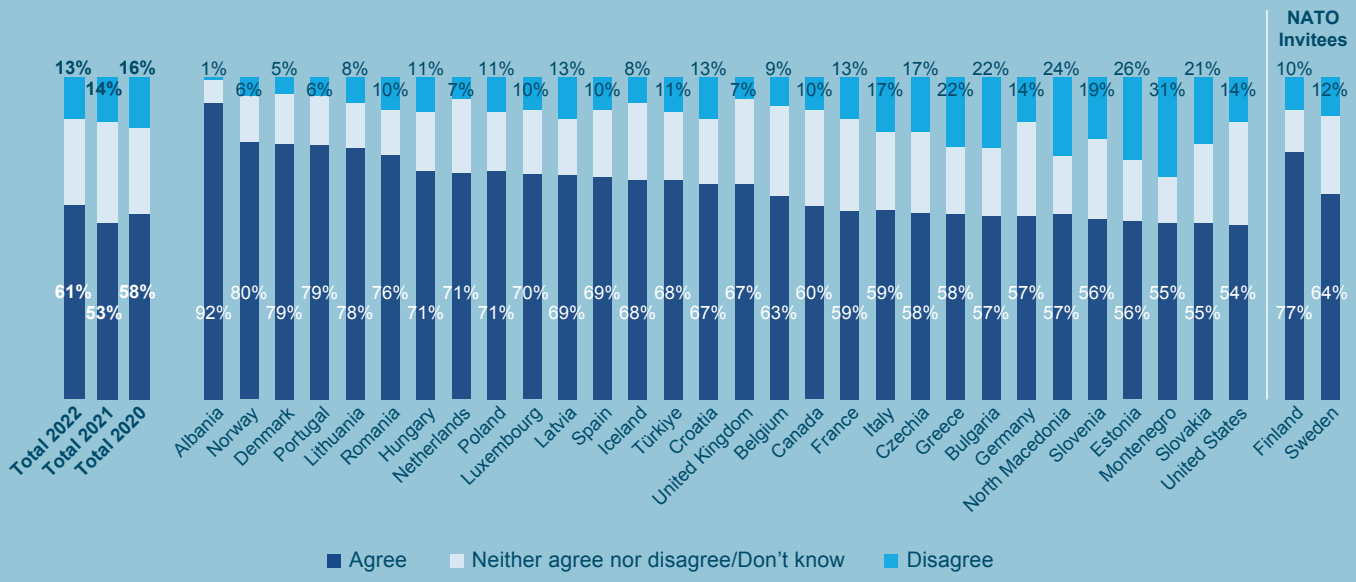
In 2022, 69% of the public agreed that their country should defend other Allies if attacked.

17 Based on surveys of 30,993 adults conducted by Kantar in 30 NATO member countries and Invitee countries Finland and Sweden between 7 and 29 November 2022. Base size and fieldwork period for previous surveys across the 30 Allied nations: 2021 base 28,909, fieldwork 12 November - 2 December; 2020 base 28,517, fieldwork took place 5-23 November. Interviews were conducted online, except for North Macedonia, Albania and Montenegro where a telephone methodology was used due to the limited penetration of online panels in these countries. In all countries polled online, a sample of at least 1,000 respondents per country was achieved. In nations surveyed by telephone at least 500 individuals per country were interviewed. Quotas for gender, age and region were set and post-weighting was applied to ensure the samples for each country were representative of the adult population (aged 18+). Total results (across all Allies polled) were weighted to the population distribution of NATO. Finland and Sweden data are not included in calculation of the 2022 NATO total. The surveys referenced are based on non-probability sampling, with an indicative margin of error of ± 3%. Due to rounding results will not always add up to 100%. For more information see https://www.nato.int/SGReport/2022/audience-insight-en/.

18 As NATO invitees, Finland and Sweden were included in the survey for the first time in 2022 to benchmark citizens' perceptions of NATO. Data from Finland and Sweden are not included in calculation of the NATO total.

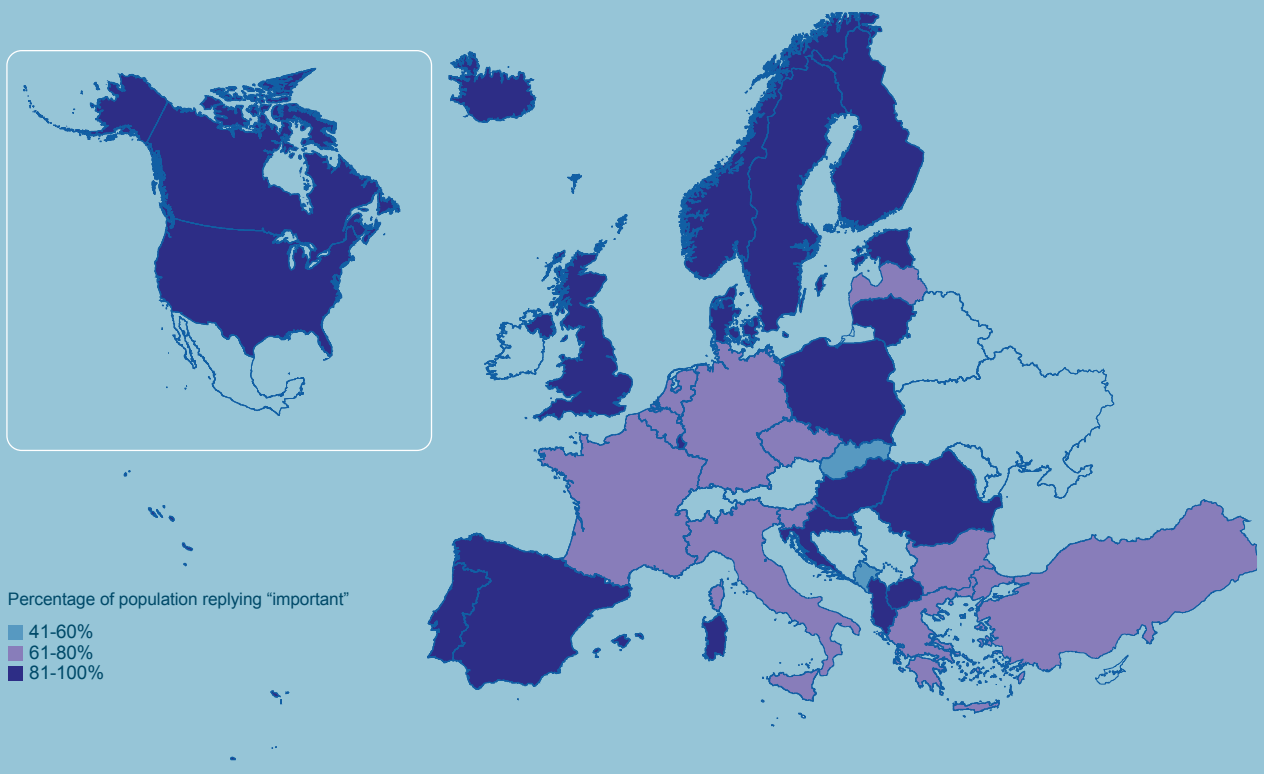
NATO keeps us safe

Agreement that NATO membership makes foreign nation attack less likely has risen significantly in 2022 to 61%, with only 13% disagreeing with the statement. The graph below shows agreement with the statement: “Our membership in NATO makes it less likely that a foreign nation will attack our country”.



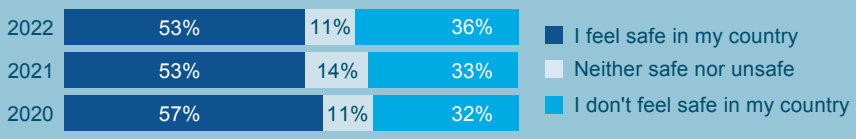
Strong belief in the value of NATO and the transatlantic bond

Support for the transatlantic bond remains strong. 82% of citizens believe collaboration between North America and Europe on safety and security matters is important.



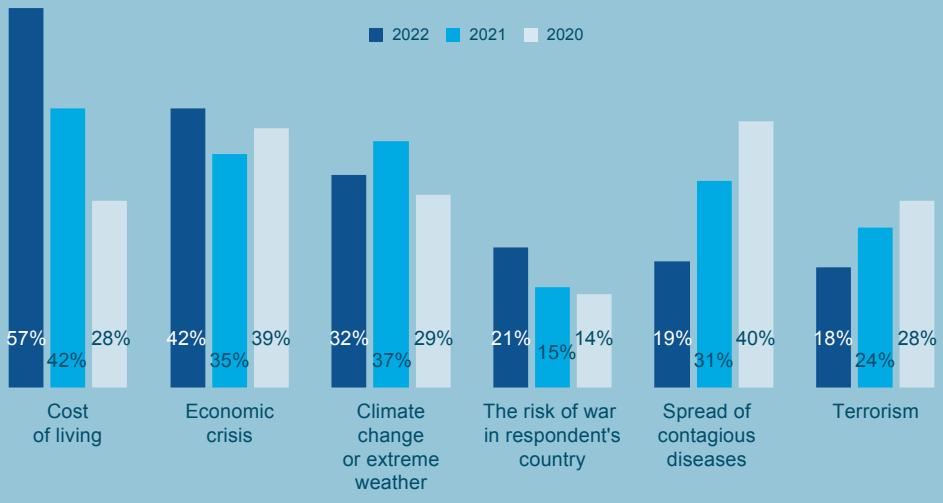
Perceptions of safety among Allied citizens

The majority of Allied citizens continue to feel safe in their country. However, there has been an increase in 'do not feel safe' responses (36%, compared to 33% in 2021).



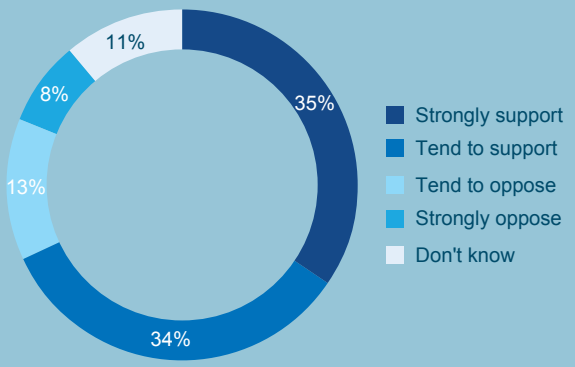
Concern about the risk of war in Allied nations has risen significantly

Alliance-wide, cost of living is a concern for the majority of Allied citizens (57%), and concern about the risk of war has risen significantly (21%). These data show responses to the question "Which of the following are of greatest concern to you?" in 2022, 2021 and 2020.

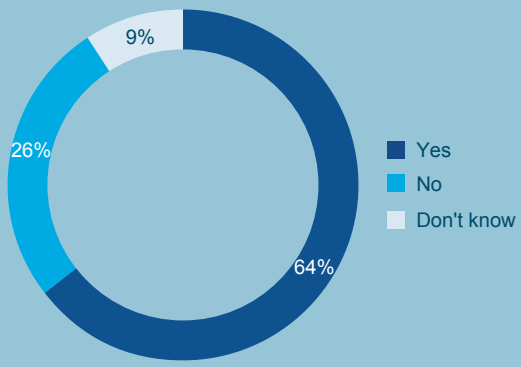


Strong preference for continued support for Ukraine, and high perception of Russia's invasion of Ukraine as affecting Allied safety and security

Support for Allied nations continuing to support Ukraine is high (69%), and only 21% oppose continued support.
These responses were to the question:
“In terms of Russia’s invasion of Ukraine, how strongly do you support (COUNTRY) continuing to provide support to Ukraine?”



64% of Allied citizens consider Russia’s invasion of Ukraine to have affected the safety and security of their country.
These responses were to the question:
“In your opinion, has Russia’s invasion of Ukraine affected the safety and security of (COUNTRY)?”



ORGANISATION

NATO International Military Staff and NATO Military Representatives gather at NATO Headquarters to bid farewell to the outgoing Director General of the International Military Staff, Lieutenant General Hans-Werner Wiermann. Brussels, Belgium, June 2022.

Two World Wars and the Cold War have taught us that there is no real security in Europe without a strong transatlantic bond. Standing together in NATO, Europe and America will continue to keep the peace and protect our democratic way of life. As we have done for more than 70 years.

NATO Secretary General Jens Stoltenberg at the Munich Security Conference session, ''Hand in hand: Transatlantic and European Security''. Munich, Germany, 19 February 2022.

NATO Headquarters

NATO Headquarters in Brussels houses the Alliance's International Staff and International Military Staff, along with 30 Allied delegations and military representations, 18 partner missions and staff from several NATO agencies. It is the central forum for the discussions and consultations that shape NATO policy and practice.

NATO Secretary General Jens Stoltenberg at the Business Continuity Plan Exercise. Brussels, Belgium, November 2022

Business Continuity

NATO must be able operate effectively in all circumstances and withstand unexpected disruptions. This is why business continuity is so important for NATO. In the Strategic Concept, NATO Allies reaffirmed the importance of ensuring the continuity of the Alliance's activities. In 2022, NATO held the largest business continuity exercise organised thus far. The exercise was also an opportunity to strengthen collaboration with other NATO bodies such as the NATO Communications and Information Agency.

Community building events at the NATO Headquarters Staff Centre. Brussels, Belgium, 2022.

The NATO Staff Centre

A strong NATO is built from effective teams of resilient people. The NATO Staff Centre is a place where people can relax their minds, strengthen their bodies and connect with others.

A North Atlantic Council meeting of the Ministers of Defence at NATO Headquarters. Brussels, Belgium, June 2022.

North Atlantic Council

The North Atlantic Council is the main political decision-making body in NATO. It brings together high-level representatives from 30 Allied countries across Europe and North America to consult and coordinate on issues of common interest and concern. Since Allies signed the accession protocols in July 2022, Finland and Sweden have been attending the North Atlantic Council as Invitees.

The Council is chaired by the Secretary General. Its decisions have the same status whether or not the meeting takes place during a Summit of NATO Heads of State and Government or in permanent session at the level of Ambassadors. Decisions at NATO are taken on the basis of consensus, so the policies agreed in the Council are considered the expression of the collective will of all NATO Allies. Consensus decision-making is the sole basis for decision-making in NATO since the creation of the Alliance in 1949. Consultations take place until a decision that is acceptable to all Allies is reached.

International Staff

NATO's International Staff — which consisted of 1,212 civilians in 2022 — supports the Alliance's decision-making process by facilitating dialogue, policy development, and policy and programme implementation.

In 2022, NATO continued investing in attracting and recruiting highly talented people from diverse backgrounds.

NATO is committed to building a staff that represents the citizens it serves and reflects the diversity found in Allied nations. It strives to ensure an inclusive and equitable workplace for all staff.

I took great pride in supporting NATO staff, managers and their teams with creative solutions to upskill and close skill gaps to ensure they remain agile and ready for the challenges of tomorrow.

Ashley Roche (United States)

Assistant, Talent and Organizational Development, Talent Management and HR Integration Unit, Executive Management Division
NATO Headquarters, Brussels, Belgium

Panel “Making a Case for Racial Diversity at NATO”. Brussels, Belgium, November 2022.

A panel discussion titled “Running on Empty” explores the challenges for parents at NATO. Brussels, Belgium, September 2022.

Promoting Diversity and Inclusion—2022 highlights:

- Implementing a new directive to guide effective prevention and proper handling of cases of harassment, bullying and discrimination, including through more internal communications and learning and development activities.
- Hiring an Ethics Officer in charge of strengthening and fostering a culture of ethics, integrity and accountability in the International Staff and ensuring independent management of whistleblowing arrangements. The Ethics Officer coordinates a network of Persons of Confidence in the framework of the policy on the prevention of harassment, discrimination and bullying in the workplace.
- Completing the first rotation of Young Professionals. These new staff members began working in six different NATO bodies. Each participant has a three-year assignment, rotating into a different NATO body each year to deliver on the key priorities of the Alliance.
- Opening membership to the Staff Resource Groups, which are voluntary, staff-led groups brought together by a common identity, interest, bond or similar background. Staff Resource Groups include Proud@NATO (which supports staff identifying as part of the LGBTQ+ community), Elevate (supporting People of Colour), and Working Parents, which supports parents (including aspiring parents) and their families.

Chair of the NATO Military Committee Admiral Rob Bauer (on the left) performs the handover ceremony from the outgoing Director General of the International Military Staff, Lieutenant General Hans-Werner Wiermann (in the middle), to his successor, Lieutenant General Janusz Adamczak (on the right). Brussels, Belgium, July 2022.

NATO Military Authorities

In 2022, more than 6,200 military personnel and 850 civilians worked collectively across the International Military Staff and the headquarters of the NATO Command Structure. Military personnel are provided to NATO by the nations they serve and are supported through their national defence budgets. All 30 Allies are present within NATO's military structures.

The **Military Committee** is the senior military authority within NATO. It comprises the Chiefs of Defence of NATO Allies. The Chair of the Military Committee, Admiral Rob Bauer from the Royal Netherlands Navy, has served in this capacity since June 2021. The Chair is NATO's most senior military officer and is the principal military adviser to the Secretary General and the conduit through which consensus-based advice from NATO's 30 Chiefs of Defence is brought forward to the political decision-making bodies of NATO. The NATO Chiefs of Defence meet at least three times a year. The Military Committee also meets in permanent session on a day-to-day basis at the level of military representatives who act on behalf of their Chiefs of Defence.

The role of the Military Committee is to discuss, deliberate and act on matters of military importance, working in the best interest of the Alliance while at the same time representing national perspectives and positions. The Military Committee provides the North Atlantic Council with unfettered consensus-based military advice. The Military Committee works closely with NATO's Strategic Commanders to bring plans, issues and recommendations forward for political consideration.

The **International Military Staff** is the executive body of the Military Committee. It comprises approximately 500 dedicated military and civilian personnel from NATO's Allied and partner countries. Under the leadership of a Director General, the International Military Staff personnel work for the common interest of the Alliance. The Director General is elected by the NATO Chiefs of Defence to head the Alliance's International Military Staff for a term of three years. Since July 2022, the Director General of the International Military Staff is Lieutenant General Janusz Adamczak from the Polish Armed Forces.

Admiral Rob Bauer, Chair of the NATO Military Committee, arrives at an informal meeting of the North Atlantic Council at the level of Ministers of Foreign Affairs. Berlin, Germany, May 2022.

The International Military Staff is responsible for preparing assessments and analysis on NATO military issues, identifying areas of strategic and operational interest and proposing courses of action. It also ensures that NATO decisions and policies on military matters are implemented by the appropriate NATO military bodies.

The NATO Command Structure

The Command Structure and the NATO Force Structure enable the Alliance to carry out its core functions. The **NATO Command Structure** has the strategic role to command and control the Alliance's joint operations. It consists primarily of Allied Command Operations and Allied Command Transformation and their subordinate commands and headquarters.

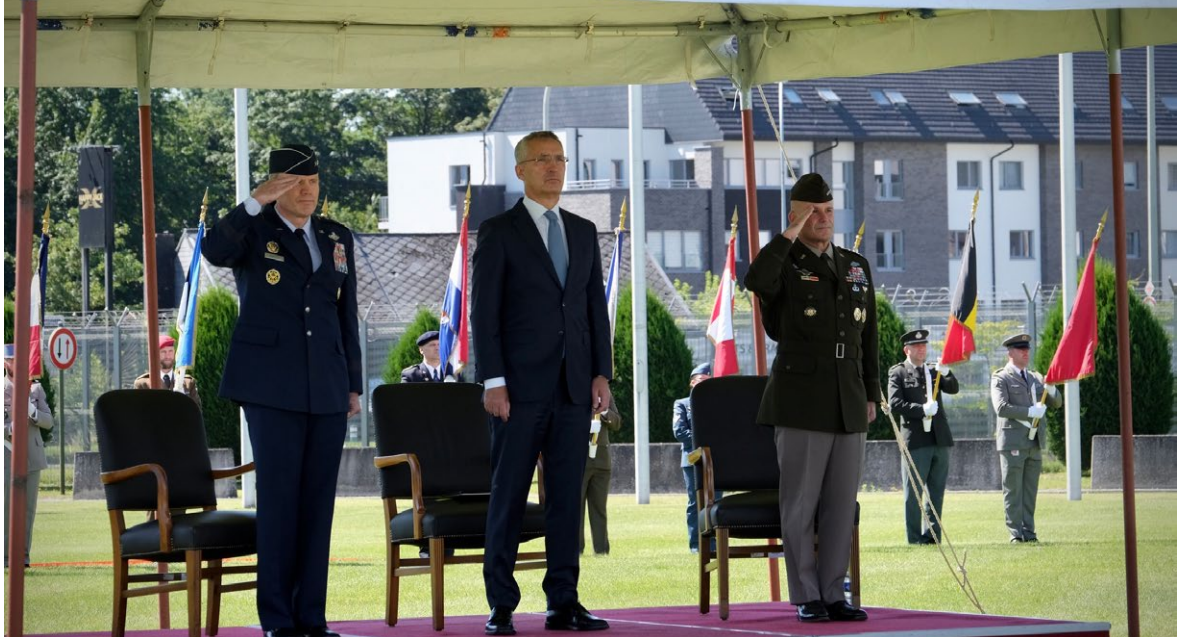
Allied Command Operations has its main headquarters in Mons, Belgium and other, subordinate command headquarters across several NATO nations. Under the command of the Supreme Allied Commander Europe (SACEUR), it is responsible for the planning and execution of all Alliance operations and missions. The Supreme Allied Commander Europe also assumes the overall command of operations at the strategic level and issues strategic military direction to the subordinate commanders. Since July 2022, the Supreme Allied Commander Europe is General Christopher G. Cavoli, United States Army.

Supreme Allied Commander Europe General Christopher G. Cavoli. Mons, Belgium, July 2022.

Allied Command Transformation has its main headquarters in Norfolk, Virginia, in the United States, with subordinate commands in other NATO nations. Since September 2021, Allied Command Transformation is commanded by Supreme Allied Commander Transformation (SACT) General Philippe Lavigne, French Air and Space Force. Allied Command Transformation leads the transformation of NATO's military structure, forces, capabilities and doctrine. This command also develops innovative concepts, undertakes experimentation and promotes interoperability throughout the Alliance to improve military effectiveness.

Supreme Allied Commander Transformation General Philippe Lavigne. Norfolk (Virginia), United States. September 2021.

The **NATO Force Structure** encompasses national and multinational forces as well as their associated operational headquarters, placed at the Alliance's disposal on a permanent or temporary basis according to specified readiness criteria. These provide a pool of forces to meet the Alliance's requirements for conducting and sustaining operations.



NATO Secretary General Jens Stoltenberg between the outgoing Supreme Allied Commander Europe, General Tod D. Wolters, and the incoming SACEUR, General Christopher G. Cavoli, at Allied Command Operations change of command ceremony. Mons, Belgium, July 2022.

NATO Funding

NATO is resourced through the direct and indirect contributions of its Allies.

National (or indirect) contributions are the largest and are borne by individual Allies. These include the forces and capabilities held by each Ally, which can be provided to NATO for deterrence and defence activities and military operations.

Direct contributions finance NATO's budgets, programmes and capabilities in support of objectives, priorities and activities that serve the interests of the Alliance as a whole – and cannot reasonably be borne by any single Ally – such as Alliance operations and missions, or NATO-wide air defence systems, or command and control systems. All Allies contribute to common funding in NATO, based on an agreed cost-share formula, mainly derived from the Gross National Income of Allied countries. This principle of common funding demonstrates burden-sharing in action.

NATO has three principal common-funded elements: the Civil Budget (funding NATO Headquarters), the Military Budget (funding the integrated command structure) and the NATO Security Investment Programme (funding military capabilities).

Decision-making by consensus and well-established governance frameworks are fundamental to the way that common funding is managed at NATO. To this end, strong financial regulations and an accounting framework are in place and, as a general rule, financial statements are available to the public. The North Atlantic Council approves NATO budgets and investments and exercises oversight over NATO's financial management. The Resource Policy and Planning Board is the senior advisory body to the North Atlantic Council on the management of common-funded NATO resources. Implementation is overseen by the Budget Committee and the Investment Committee.

At the 2022 Madrid Summit, NATO Leaders committed to providing the necessary resources, infrastructure, capabilities and forces to deliver fully on NATO's core tasks. They agreed to increase common funding based on a concrete financial trajectory starting in 2023, commensurate with the challenges of a more contested security order.

My 2022 highlight was turning Allies' common funding decisions into action. Common funding capabilities serving the interests of all Allies allowed me to experience first-hand the power and tangible impact of multilateral policy.

Ioana Moraru (Romania/United Kingdom)

Officer, Plans and Policy Branch,
NATO Office of Resources
NATO Headquarters, Brussels, Belgium

Civil Budget

The North Atlantic Council approves the **Civil Budget** and ensures that expenditures are aligned with the Alliance's political priorities. The Civil Budget funds personnel expenses (58%), operating costs (28%), as well as capital (3%) and programme (11%) expenditures of the International Staff at NATO Headquarters. The core Civil Budget, excluding pension liabilities, was agreed at EUR 237 million in 2022, an 8.8% increase compared to 2021.

In 2022, the International Staff continued improving the overall accountability and transparency of its resources management through an objective-based budgeting framework that allows Allies to directly match the resources provided to the Civil Budget with the objectives achieved during the financial year.

Military Budget

The **Military Budget** contributes to strengthening NATO's deterrence and defence posture, and fosters interoperability across the Alliance. It funds the operating of selected common-funded capabilities, the integrated command structure, Alliance operations and missions, and, to some extent, training and exercises. It consists of 38 separate budgets, which are financed with contributions from Allies' national defence budgets (in most countries) according to agreed cost-share formulas.

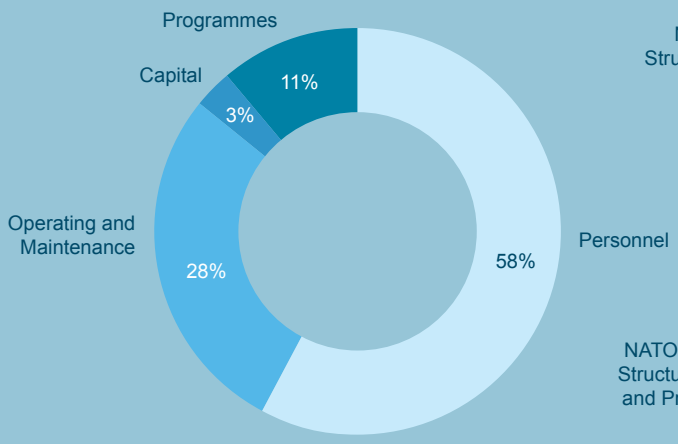
The military budget ceiling for 2022 was EUR 1.46 billion.

Working on the 2022 Madrid Summit decision on common funding was one of the highlights of my career. This decision will make an important difference to the Alliance in the years ahead.

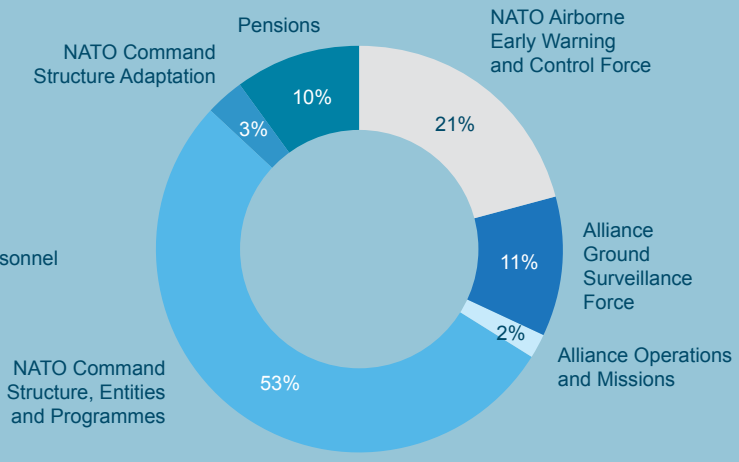
Barry McAlpine (United Kingdom)

Officer, Plans and Policy Branch,
NATO Office of Resources
NATO Headquarters, Brussels, Belgium

2022 Core Civil Budget



2022 Military Budget Ceilings



The NATO Security Investment Programme

The **NATO Security Investment Programme** supports and contributes to deterrence, defence and security. It is also used to fund major infrastructure and command and control systems. It provides installations and facilities such as air defence communication and information systems, military headquarters for the integrated command structure and for deployed operations, as well as critical airfield, fuel systems, and land and maritime facilities. The Programme is implemented through capability packages and capability programme plans. Annual funding was EUR 790 million in 2022, with more than 3,000 common–funded projects worth almost EUR 16.6 billion currently under implementation.

In 2022, the NATO Security Investment Programme continued to deliver capabilities such as satellite communications, and cyber security, surveillance and control. Additional investments were devoted to the NATO Command Structure, to include the modernisation of information and technology assets and headquarters facilities, projects to improve command and control of NATO nuclear capabilities, to better assess the information environment, upgrades to NATO and Allied airbases, bulk-fuel infrastructure, and facilities to support training, reception and onward movement of NATO forces.

Agencies and Organisations

NATO Communications and Information Agency

The NATO Communications and Information Agency helps NATO maintain its technological edge. It is responsible for ensuring that the Alliance has the secure networks, communications and software it needs to guarantee peace and stability for all Allies. The Agency also runs the NATO Cyber Security Centre, which is responsible for 24/7 monitoring and defending NATO's networks from cyber attacks and malicious activity. The Centre identifies and prevents potential threats with the support of experts in forensic analysis, threat hunting, cyber hygiene and cyber security audits.

On request, the Agency also helps Allies and partner countries boost their capabilities in areas such as cyber defence. In 2022, the NATO Communications and Information Agency helped Ukraine to reduce cyber risks and enhance its ability to communicate during the war, and to modernise its information technology infrastructure. The Agency also helped connect Finland and Sweden to the NATO environment and assisted Georgia in establishing secured classified communications between their national network and NATO. The Agency also engaged at the technical level with the European Union Agency for Cybersecurity to improve situational awareness on malicious cyber activities.

The Agency's civilian and military staff members support NATO operations, such as NATO Mission Iraq and the NATO-led Kosovo Force, ensuring that troops are provided with mission-critical, secure communications, and that commanders get the right information to make the right decisions at the right time.

Highlights of the Agency's activities in 2022 include:

- Providing several key services, including satellite communications services and expertise, communications and information systems, joint intelligence, surveillance and reconnaissance, space-related services and cyber security to support NATO and national exercises, including Steadfast Jupiter 2022, Steadfast Cobalt 2022, CWIX 2022, Steadfast Jackal 2022 and Loyal Leda 2022.

NATO Communications and Information Agency General Manager Ludwig Decamps at NATO Edge, the Agency's flagship conference. Mons, Belgium, October 2022.

- Delivering innovative capabilities to NATO users, such as the Resilience Dashboard, which integrates data sources on transport, energy and health. The Agency also developed a missile early warning dashboard for NATO's Allied Air Command, and a Science & Technology Ecosystem Analysis Model, which analyses millions of pieces of public academic research to identify technological trends to support NATO's Chief Scientist.
- Closely contributing to the implementation of the Defence Innovation Accelerator for the North Atlantic and to the development of the Digital Transformation Vision and its resilient digital backbone for NATO.
- Working with a wide network of commercial companies, academia and research institutes to explain NATO's needs and ensure that state-of-the-art technologies are harnessed for the benefit of the Alliance.

The NATO Communications and Information Agency provided communications and information systems support to the NATO Response Force's Very High Readiness Joint Task Force during exercise Brilliant Jump 2022. Norway, March 2022.

The Agency's Joint Intelligence, Surveillance and Reconnaissance Centre supports NATO's counter-terrorism efforts by contributing to the execution of the NATO Defence Against Terrorism Programme of Work. Highlights for 2022 included:

- The enhancement of NATO's approach to countering the threats posed by unmanned air systems.
- The collection and sharing of biometric data to support Identity Intelligence.
- The development of the Command and Control of Electronic Warfare Capability Programme Package.

NATO Communications and Information Academy

The NATO Communications and Information Academy, located in Oeiras, Portugal and inaugurated in 2021, is a strategic asset for NATO. At the Academy, civilian and military staff from across the Alliance receive flexible, agile and adaptive training on NATO systems, and build and sharpen cyber defence skills. In 2022, over 6,500 students participated in one or more of its 220 cyberspace courses. As part of NATO's Defence and Related Security Capacity Building initiative, the Academy works in support of the United Nations C4ISR Academy for Peace Operations.

The Multinational Multi Role Tanker Transport Fleet, managed by the NATO Support and Procurement Agency, leads the Saab Gripen air-to-air refuelling test campaign to enable the fleet to fly future air-to-air refuelling missions with the Gripen fighter. Over the Baltic Sea, October 2022.

NATO Support and Procurement Agency

The NATO Support and Procurement Agency is NATO's lead organisation for multinational acquisition, support and sustainment. The Agency continuously strives to obtain for NATO and Allied countries the best capabilities across all military domains at the best value, generating economies of scale while leveraging the latest technology available. The Agency is located in Luxembourg, with main operational centres in France, Hungary and Italy. It employs more than 1,550 international civilian personnel and oversees approximately 400 contractors supporting NATO's operations and missions. In 2022, the value of the Agency's business activity exceeded EUR 3.5 billion. In July 2022, the NATO Support and Procurement Agency marked its 10th anniversary.

In 2022, the Agency invested in facilitating multinational procurement of supplies, assets and services, such as next-generation rotorcraft, and chemical, biological, radiological and nuclear defence. For instance, in October 2022, Luxembourg and the United States established a Global Commercially Contracted Satellite Communications Support Partnership, opening a new era of space cooperation within NATO.

Throughout 2022, the Agency supported the NATO Fuel Supply Chain and met increasing requirements for munitions procurement, common equipment, stockpiling, prepositioning and the transportation requirements for reinforcement and sustainment.

In 2022, I supported the NATO Support and Procurement Agency's rapid adaptation to the new security environment, helping provide NATO Allies and partners with the capabilities they urgently needed through our Support Partnerships and NATO Trust Funds.

Dan Dorrington (Canada)

Acting Programme Manager, Operations and Support Programme
NATO Support and Procurement Agency, Luxembourg

For the 11th consecutive year, the NATO Support and Procurement Agency supported Greece during the wildfire season, deploying 40 aircraft to support the Hellenic Fire Brigade. Greece, August 2022. Photo credits Erickson.

The Agency also maintained continuity of the Strategic Airlift International Solution fleet of Antonov AN-124 aircraft for the nine participating Allies,[19] with unique air transport capability, which includes outsized cargo.

The NATO Support and Procurement Agency manages several key acquisition and high-visibility projects, which achieved some significant milestones in 2022:

- The NATO Airlift Management Programme, based in Hungary, owns, manages and supports a fleet of three C-17 aircraft. Its Programme Office continued to procure, manage and support airlift assets, and provided effective financial, logistical and administrative services so that the Heavy Airlift Wing could fulfil the Strategic Airlift Capability's mission and mandate through 2,200 flight hours in 2022.
- The Central Europe Pipeline System Programme, supported by the Agency with its Programme Office located in France, effectively coordinated the 24/7 operation, maintenance and financing of the largest NATO pipeline and storage network. The pipeline transported more than 11 million cubic metres of fuel in 2022, including an additional 200,000 cubic metres of jet fuel for NATO Allies, a 30% increase compared to the prior year.
- The Alliance Future Surveillance and Control initiative awarded contracts to conduct risk reduction and feasibility studies that will help redefine the next steps on how NATO will conduct surveillance and control after the planned retirement of the Airborne Warning and Control System fleet soon after 2035.
- An Alliance Ground Surveillance capability roadmap was initiated as the tool to identify, prioritise and review funding requirements for keeping the system relevant. This roadmap will be helpful in resolving funding requirements for 2024 and onward.

NATO Support and Procurement Agency General Manager, Stacy Cummings, during her visit to NATO-led Kosovo Force Headquarters. Pristina, Kosovo, June 2022.

19 Belgium, Czechia, France, Germany, Hungary, Norway, Poland, Slovakia and Slovenia.

NATO Standardization Office

To operate together coherently, effectively and efficiently, Allies' forces and capabilities require agreed and compatible standards. The NATO Standardization Office, as an integrated civil-military office, supports Allies' development and updating of these standards.

Throughout 2022, the Office continued to support NATO initiatives and to publish Allied standards and agreed terms. The Office contributed to NATO-wide innovation efforts, including by supporting Allies' cooperation with civil standards development organisations in the field of emerging and disruptive technologies. It also improved standardisation's contribution to interoperable capabilities through the NATO Defence Planning Process using a modernised 'top-down' approach to NATO standardisation. The Office monitored and facilitated Allies' prioritised actions to fully implement Allied standards, and further promoted information flow between evaluations, exercises, lessons learned and standards.

Science and Technology Organization

The NATO Science and Technology Organization delivers innovation, advice and scientific solutions to meet the Alliance's evolving needs.

The Organization comprises three staff entities: the Centre for Maritime Research and Experimentation in La Spezia, Italy; the Collaboration Support Office in Paris, France; and the Office of the Chief Scientist at NATO Headquarters in Brussels, Belgium. All committees and staff entities are governed by the NATO Science and Technology Board. The NATO Chief Scientist chairs the Board and serves as the scientific advisor to NATO's senior leadership.

In 2022, the Organization included a network of some 6,000 active scientists and engineers with a research portfolio of approximately 300 ongoing activities. These activities spanned the range of physical, information and human sciences and application over all five of NATO's operational domains (land, sea, air, cyber and space). Research areas include advanced vehicle technologies; systems analysis; human factors and medicine; system concepts and integration; modelling and simulation; information systems; sensors and electronics; and maritime research and experimentation.

The Young Scientist Awards

The scientific committees in the NATO Science and Technology Organization annually recognise young scientists. These awards are designed to encourage participation of promising young researchers and to enrich diversity in the NATO science and technology community. The 2022 winners worked on research topics such as: cognitive and synthetic radar imaging; machine learning; human performance and cold weather operations; edge computing; Intermediate Force Capabilities; and hypersonics. One of the four winners of the 2022 Young Scientist award is Dr Elisa Giusti from the University of Pisa in Italy. Dr Giusti has been a key contributor in advancing NATO's research on machine learning and advanced signal processing for synthetic aperture radar automatic target recognition.

Dr Elisa Giusti receives the NATO Sensors & Electronics Technology Panel's Early Career Scientist 2022 Award from the Chair of the SET Panel, Frank van den Bogaart, at the SET Spring 2022 Panel Business Meeting. Bled, Slovenia, May 2022.

NATO Centres of Excellence

A NATO Centre of Excellence is a multinationally or nationally established and sponsored entity that offers recognised expertise and experience within a defined subject matter area to complement NATO's capabilities and to the benefit of the Alliance, serving as a capacity-multiplier. A Centre of Excellence is neither part of the NATO Command Structure nor of other NATO entities, but forms part of the wider framework that contributes to the functioning of the Alliance.

NATO Centres of Excellence promote innovation through experimentation and recommendations, and they improve interoperability between Allies and partners. Two new Centres of Excellence started their accreditation process in 2022, adding to the 28 already existing ones: the Space Centre of Excellence in Toulouse, France and the Climate and Security Centre of Excellence in Montreal, Canada.

NATO Centres of Excellence also provide an important forum for NATO-European Union cooperation, notably in the fields of cyber defence, civil-military cooperation, crisis management and disaster response, joint chemical, biological, radiological and nuclear defence, and strategic communications.

The Centres share and harmonise their activities in NATO through periodic events, such as the Directors Conference, which in 2022 was held in April at the Combined Joint Operations from the Sea Centre of Excellence in Norfolk, Virginia, United States. Another key event was the Centre of Excellence Marketplace, organised at NATO Headquarters in May 2022.

Improving Transparency: Archives and Information Management

NATO is committed to transparency and openness. In 2022, the Alliance declassified and publicly disclosed 11,060 historical NATO documents related to the work of the North Atlantic Council and the Military Committee. The public disclosure programme also regularly reviews specific historical collections, ensuring that thematic disclosures align with the academic interests of the research community. In anticipation of the upcoming 30th anniversary of NATO's first operation – Implementation Force and Stabilisation Force – records from these missions are being prepared for declassification and public disclosure review.

NATO's public disclosure programme also supports the national transparency initiatives of NATO Allies. In 2022, two important public disclosures of NATO documents originated from national requests. The first pertained to early Cold War military planning for "unorthodox warfare", and the second to early strategic discussions by the North Atlantic Council prior to NATO's taking command of operations in Afghanistan in 2003.

In addition to historical material, the number of current documents made available to the public continued to increase, reflecting NATO's commitment to financial transparency and accountability. In 2022, 41 documents were made available to the public, in comparison to 11 documents from 2021. The publicly disclosed reports by the International Board of Auditors for NATO covering the annual activities and financial statements of NATO bodies and agencies fulfil NATO's responsibility to inform the public about its expenditures. Several important high-level policies agreed by the North Atlantic Council were immediately available for circulation in public forums to communicate NATO's broader approach to security.

Improving access to NATO's resources is an important part of the transparency effort. In 2022, the NATO Archives Reading Room reopened after refurbishment and improvements to the materials available on NATO Archives Online. The NATO Declassified Centre provided a novel framework for guiding guests of Allied delegations to experience NATO headquarters.

ANNEXES

Kosovo Force

Defence Expenditure of NATO Countries

Kosovo Force

The NATO-led KFOR mission is to contribute to maintaining a safe and secure environment and freedom of movement for all communities in Kosovo, as mandated by United Nations Security Council Resolution 1244 of 1999. In carrying out its activities, NATO cooperates with and assists the United Nations, the European Union and other international actors, as appropriate, to support the development of a stable and peaceful Kosovo. KFOR also supports the development of professional, democratic and multi-ethnic security structures in Kosovo.

Commander: Major General Angelo Michele Ristuccia

27 Troop-contributing Nations (as of October 2022)

Albania	61	Lithuania	1
Armenia	40	Moldova	41
Austria	244	Montenegro	1
Bulgaria	30	North Macedonia	65
Canada	5	Poland	247
Croatia	147	Romania	65
Czechia	8	Slovenia	97
Denmark	35	Sweden	3
Finland	20	Switzerland	186
Germany	68	Türkiye	335
Greece	113	United Kingdom	41
Hungary	469	United States	561
Ireland	13	Total Strength:	3,747
Italy	715		
Latvia	136		

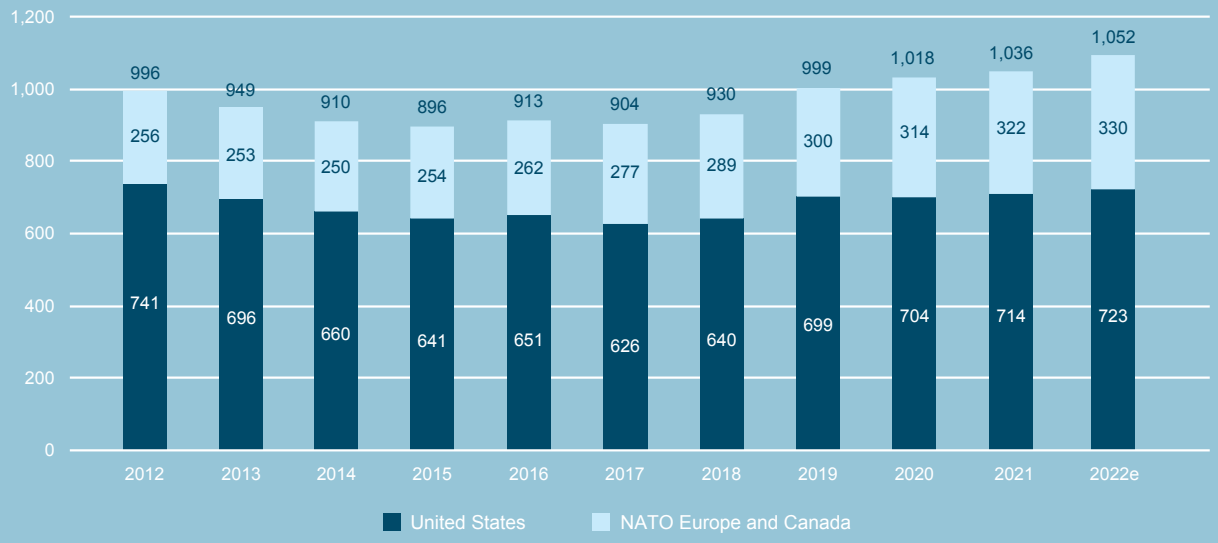
Defence Expenditure of NATO Countries (2014–2022)

NATO collects defence expenditure data from Allies and publishes it on a regular basis. Each Ally's Ministry of Defence reports current and estimated future defence expenditure according to an agreed definition. The amounts represent payments by a national government that have been or will be made during the course of the fiscal year to meet the needs of its armed forces, those of Allies or of the Alliance. In the figures and tables that follow, NATO also uses economic and demographic information available from the Directorate-General for Economic and Financial Affairs of the European Commission and the Organisation for Economic Co-operation and Development.

In view of differences between these sources and national GDP forecasts, and also the definition of NATO defence expenditure and national definitions, the figures shown in this report may considerably diverge from those that are referenced by media, published by national authorities or given in national budgets. Equipment expenditure includes expenditure on major equipment as well as on research and development devoted to major equipment. Personnel expenditure includes pensions paid to retirees.

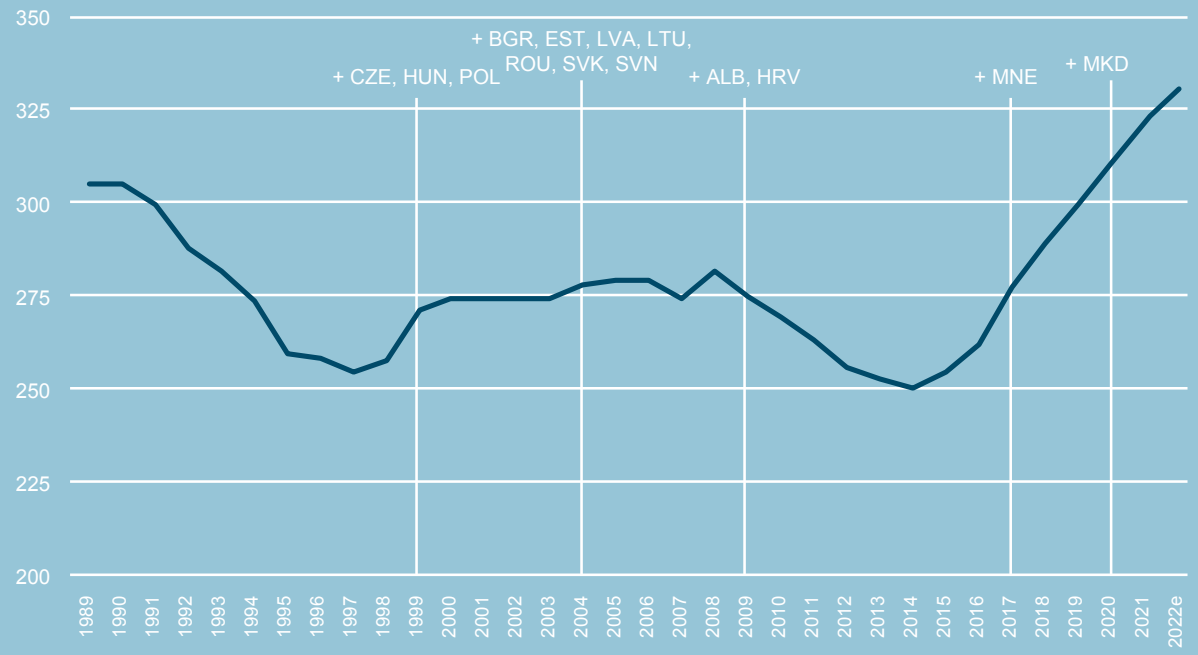
The cut-off date for information used in this report was 7 February 2023. Figures for 2022 are estimates.

Graph 1: Defence expenditure
(billion US dollars, based on 2015 prices and exchange rates)



Notes: Figures for 2022 are estimates. The NATO Europe and Canada aggregate from 2017 onwards includes Montenegro, which became an Ally on 5 June 2017, and from 2020 onwards includes North Macedonia, which became an Ally on 27 March 2020.

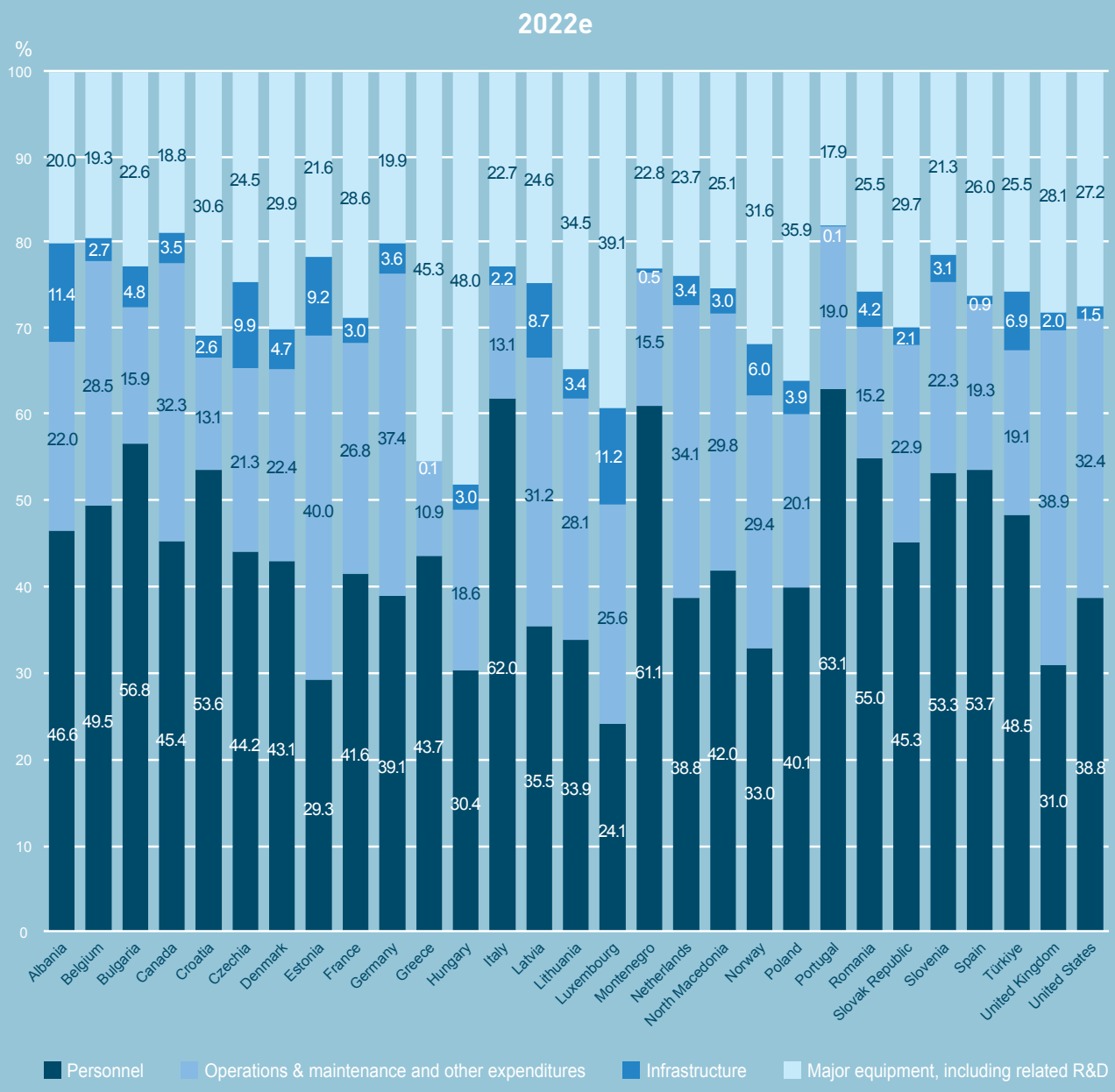
Graph 2: NATO Europe and Canada - defence expenditure
(billion US dollars, based on 2015 prices and exchange rates)



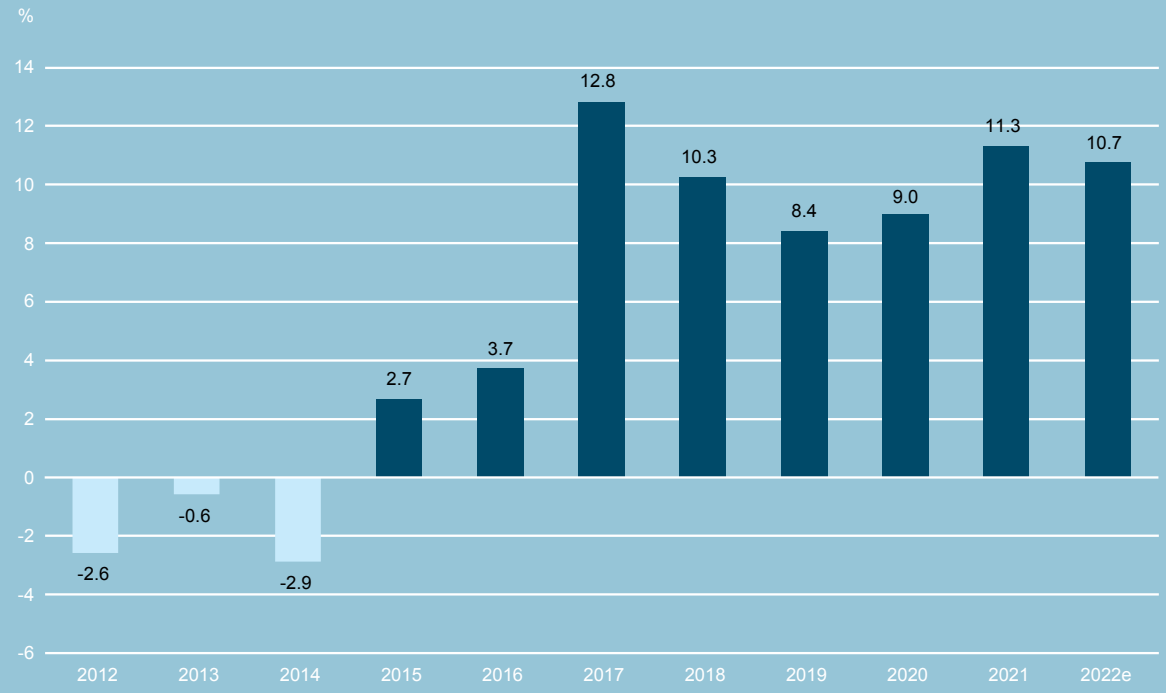
Notes: Figures for 2022 are estimates. Includes enlargements which took place in: 1999 (3 Allies), 2004 (7 Allies), 2009 (2 Allies), 2017 (1 Ally) and 2020 (1 Ally).

Graph 3: Main categories of defence expenditure (%)

(percentage of total defence expenditure)



Graph 4: NATO Europe and Canada - major equipment expenditure
(annual real change, based on 2015 prices and exchange rates)



Notes: Figures for 2022 are estimates. The NATO Europe and Canada aggregate from 2017 onwards includes Montenegro, which became an Ally on 5 June 2017, and from 2020 onwards includes North Macedonia, which became an Ally on 27 March 2020.

Table 1: Defence expenditure (million national currency units)

Country	Currency unit (million)	2014	2015	2016	2017	2018	2019	2020	2021	2022e
					Current prices					
Albania	Leks	18,788	16,671	16,250	17,199	18,995	21,670	21,348	23,072	32,633
Belgium	Euros	3,913	3,789	3,848	3,932	4,101	4,253	4,665	5,276	6,529
Bulgaria	Leva	1,102	1,116	1,186	1,255	1,593	3,771	1,920	2,109	2,481
Canada	Canadian dollars	20,076	23,900	23,474	30,761	29,025	29,949	31,289	31,976	36,012
Croatia	Euros	811	804	756	812	805	881	861	1,150	1,244
Czechia	Koruny	41,003	47,264	45,598	52,805	59,752	68,373	74,257	84,864	91,000
Denmark	Kroner	22,769	22,633	24,190	24,961	28,787	29,929	31,962	33,161	38,676
Estonia	Euros	386	418	450	479	521	569	630	633	771
France	Euros	39,149	39,199	39,950	40,852	42,748	44,206	46,018	47,790	49,616
Germany	Euros	34,749	35,898	37,598	40,265	42,127	46,936	51,392	52,431	57,681
Greece	Euros	3,939	4,073	4,190	4,208	4,560	4,483	4,812	6,764	7,445
Hungary	Forint	281,402	316,338	362,798	468,765	436,500	636,566	852,321	927,965	957,964
Italy	Euros	18,427	17,642	20,226	21,166	21,702	21,042	26,360	28,015	28,758
Latvia*	Euros	221	254	364	430	601	618	651	696	806
Lithuania*	Euros	322	425	575	724	895	977	1,030	1,105	1,647
Luxembourg	Euros	190	225	213	288	301	341	373	341	485
Montenegro	Euros	52	51	56	58	64	66	72	77	82
Netherlands	Euros	7,788	7,816	8,234	8,539	9,456	10,778	11,249	11,789	14,808
North Macedonia	Denars	5,743	5,853	5,770	5,532	6,232	8,029	8,303	10,605	13,177
Norway	Kroner	48,660	49,529	54,022	56,664	61,349	66,318	68,054	72,483	80,615
Poland*	Zlotys	31,874	39,940	37,082	37,558	42,824	45,404	52,110	58,304	73,898
Portugal	Euros	2,263	2,384	2,364	2,424	2,750	2,947	2,867	3,295	3,328
Romania*	New Lei	9,014	10,337	10,738	14,765	17,183	19,527	21,431	22,027	24,311
Slovak Republic	Euros	752	889	907	935	1,098	1,610	1,796	1,746	1,896
Slovenia	Euros	366	361	406	422	463	511	498	645	734
Spain	Euros	9,508	10,000	9,014	10,528	11,172	11,281	11,240	12,546	14,135
Türkiye	Liras	29,727	32,522	38,203	47,323	68,300	79,987	93,910	116,482	200,034
United Kingdom	Pounds	39,902	38,940	41,590	43,257	45,202	46,509	49,495	52,291	53,878
United States	US dollars	653,942	641,253	656,059	642,933	672,255	750,886	770,650	793,990	821,830
					Constant 2015 prices					
Albania	Leks	18,894	16,671	16,354	17,061	18,569	20,921	20,471	20,886	27,708
Belgium	Euros	3,965	3,789	3,775	3,789	3,891	3,965	4,284	4,709	5,457
Bulgaria	Leva	1,134	1,116	1,148	1,159	1,411	3,174	1,551	1,589	1,665
Canada	Canadian dollars	19,900	23,900	23,299	29,767	27,640	28,105	29,145	27,561	28,671
Croatia	Euros	812	804	756	803	781	837	812	1,064	1,090
Czechia	Koruny	41,410	47,264	45,084	51,540	56,861	62,629	65,202	72,114	71,133
Denmark	Kroner	22,868	22,633	24,130	24,607	28,168	28,979	30,167	30,454	32,780
Estonia	Euros	389	418	440	451	468	495	552	524	554
France	Euros	39,596	39,199	39,743	40,428	41,891	42,770	43,318	44,395	45,035
Germany	Euros	35,394	35,898	37,105	39,147	40,152	43,805	47,113	46,641	48,546
Greece	Euros	3,927	4,073	4,214	4,221	4,581	4,492	4,863	6,697	6,829
Hungary	Forint	289,213	316,338	358,070	444,734	394,979	549,781	691,811	708,552	643,540
Italy	Euros	18,734	17,642	19,769	20,511	21,079	20,248	24,963	26,387	26,241
Latvia*	Euros	221	254	361	414	557	559	582	583	597
Lithuania*	Euros	322	425	566	684	816	868	899	905	1,166
Luxembourg	Euros	195	225	216	286	292	326	341	294	394
Montenegro	Euros	53	51	54	53	57	57	63	64	60
Netherlands	Euros	7,796	7,816	8,162	8,340	9,041	10,027	10,245	10,538	13,019
North Macedonia	Denars	5,858	5,853	5,577	5,201	5,637	7,150	7,454	8,976	10,112
Norway	Kroner	47,271	49,529	54,831	55,326	56,164	61,002	64,940	59,161	54,512
Poland*	Zlotys	32,294	39,940	37,049	36,876	41,535	42,741	47,052	50,113	56,958
Portugal	Euros	2,309	2,384	2,324	2,348	2,616	2,755	2,628	2,978	2,857
Romania*	New Lei	9,309	10,337	10,464	13,748	15,064	16,028	16,897	16,474	16,318
Slovak Republic	Euros	750	889	912	928	1,069	1,528	1,666	1,582	1,600
Slovenia	Euros	370	361	403	413	443	478	460	581	620
Spain	Euros	9,560	10,000	8,985	10,360	10,858	10,808	10,638	11,607	12,695
Türkiye	Liras	32,059	32,522	35,330	39,434	48,863	50,330	51,394	49,436	44,281
United Kingdom	Pounds	40,186	38,940	40,823	41,713	42,843	43,170	43,368	45,649	44,861
United States	US dollars	660,021	641,253	651,246	626,409	640,087	699,062	704,414	713,804	722,799

Notes: Figures for 2022 are estimates.

* These Allies have national laws or political agreements which call for 2% of GDP to be spent on defence annually, consequently future estimates are expected to change accordingly. For past years, Allies defence spending was based on the then available GDP data and Allies may, therefore, have met the 2% guideline when using those figures. (In 2018 and 2021, Lithuania met 2% using November 2018 and June 2021 OECD figures respectively).

Table 2: Defence expenditure (million US dollars)

Country	2014	2015	2016	2017	2018	2019	2020	2021	2022e
Current prices and exchange rates									
Albania	178	132	131	145	176	197	197	224	289
Belgium	5,200	4,204	4,258	4,441	4,845	4,761	5,324	6,245	6,901
Bulgaria	747	633	671	724	962	2,159	1,121	1,276	1,341
Canada	18,172	18,689	17,708	23,700	22,399	22,572	23,330	25,502	28,181
Croatia	1,064	883	837	926	966	1,001	983	1,361	1,288
Czechia	1,975	1,921	1,866	2,259	2,750	2,982	3,199	3,915	3,905
Denmark	4,057	3,364	3,593	3,780	4,559	4,487	4,886	5,274	5,487
Estonia	514	463	497	541	615	637	719	749	815
France	52,022	43,496	44,209	46,133	50,507	49,493	52,519	56,561	52,443
Germany	46,176	39,833	41,606	45,470	49,772	52,549	58,652	62,054	60,967
Greece	5,234	4,520	4,637	4,752	5,388	5,019	5,492	8,006	7,869
Hungary	1,210	1,132	1,289	1,708	1,615	2,190	2,767	3,061	2,811
Italy	24,487	19,576	22,382	23,902	25,641	23,559	30,084	33,157	30,396
Latvia*	294	282	403	485	710	692	743	824	852
Lithuania*	428	471	636	817	1,057	1,094	1,176	1,308	1,741
Luxembourg	253	250	236	326	356	381	426	403	512
Montenegro	69	57	62	65	75	74	83	91	86
Netherlands	10,349	8,673	9,112	9,643	11,172	12,067	12,838	13,953	15,652
North Macedonia	124	105	104	101	120	146	154	204	226
Norway	7,722	6,142	6,431	6,850	7,544	7,536	7,228	8,438	8,400
Poland*	10,107	10,588	9,397	9,940	11,857	11,824	13,363	15,099	17,132
Portugal	3,007	2,645	2,616	2,738	3,249	3,299	3,273	3,899	3,518
Romania*	2,691	2,581	2,645	3,643	4,359	4,608	5,050	5,294	5,190
Slovak Republic	999	987	1,004	1,056	1,298	1,802	2,049	2,066	2,004
Slovenia	487	401	449	477	547	572	568	763	776
Spain	12,634	11,096	9,975	11,889	13,200	12,630	12,828	14,849	14,941
Türkiye	13,577	11,953	12,644	12,971	14,168	14,089	13,396	13,137	11,946
United Kingdom	65,692	59,505	56,362	55,719	60,380	59,399	63,500	71,938	67,721
United States	653,942	641,253	656,059	642,933	672,255	750,886	770,650	793,990	821,830
NATO Europe and Canada	**289,276**	**254,422**	**255,595**	**275,102**	**300,167**	**301,674**	**325,946**	**359,650**	**353,390**
NATO Total	**943,218**	**895,675**	**911,654**	**918,035**	**972,422**	**1,052,560**	**1,096,596**	**1,153,640**	**1,175,220**
Constant 2015 prices and exchange rates									
Albania	150	132	130	135	147	166	163	166	220
Belgium	4,400	4,204	4,189	4,204	4,317	4,400	4,754	5,225	6,055
Bulgaria	643	633	650	657	800	1,799	879	901	944
Canada	15,562	18,689	18,219	23,278	21,614	21,978	22,791	21,552	22,420
Croatia	892	883	831	882	857	919	892	1,168	1,197
Czechia	1,683	1,921	1,833	2,095	2,312	2,546	2,651	2,932	2,892
Denmark	3,399	3,364	3,587	3,657	4,187	4,307	4,484	4,526	4,872
Estonia	431	463	488	501	520	549	612	582	615
France	43,937	43,496	44,100	44,860	46,483	47,458	48,067	49,262	49,972
Germany	39,274	39,833	41,173	43,438	44,554	48,607	52,277	51,754	53,868
Greece	4,358	4,520	4,676	4,683	5,084	4,985	5,396	7,431	7,578
Hungary	1,035	1,132	1,282	1,592	1,414	1,968	2,477	2,537	2,304
Italy	20,788	19,576	21,936	22,759	23,390	22,468	27,699	29,280	29,118
Latvia*	246	282	401	459	618	620	646	647	662
Lithuania*	357	471	628	759	905	963	998	1,005	1,293
Luxembourg	216	250	239	317	324	361	378	326	437
Montenegro	59	57	59	59	63	64	70	71	66
Netherlands	8,650	8,673	9,057	9,254	10,032	11,126	11,368	11,693	14,447
North Macedonia	106	105	100	94	102	129	134	162	182
Norway	5,862	6,142	6,799	6,861	6,965	7,565	8,053	7,336	6,760
Poland*	8,561	10,588	9,822	9,776	11,011	11,331	12,474	13,285	15,100
Portugal	2,562	2,645	2,579	2,605	2,902	3,057	2,916	3,305	3,171
Romania*	2,324	2,581	2,612	3,432	3,761	4,001	4,218	4,113	4,074
Slovak Republic	832	987	1,012	1,030	1,186	1,696	1,848	1,755	1,776
Slovenia	411	401	447	458	491	531	511	644	688
Spain	10,608	11,096	9,970	11,495	12,049	11,993	11,804	12,880	14,087
Türkiye	11,783	11,953	12,985	14,494	17,959	18,498	18,890	18,170	16,275
United Kingdom	61,409	59,505	62,382	63,742	65,469	65,968	66,271	69,758	68,553
United States	660,021	641,253	651,246	626,409	640,087	699,062	704,414	713,804	722,799
NATO Europe and Canada	**250,373**	**254,422**	**262,027**	**277,483**	**289,416**	**299,924**	**313,720**	**322,462**	**329,626**
NATO Total	**910,393**	**895,675**	**913,273**	**903,892**	**929,503**	**998,986**	**1,018,134**	**1,036,266**	**1,052,426**

Notes: Figures for 2022 are estimates. The NATO Europe and Canada and NATO Total aggregates from 2017 onwards include Montenegro, which became an Ally on 5 June 2017, and from 2020 onwards include North Macedonia, which became an Ally on 27 March 2020.

* These Allies have national laws or political agreements which call for 2% of GDP to be spent on defence annually, consequently future estimates are expected to change accordingly. For past years, Allies defence spending was based on the then available GDP data and Allies may, therefore, have met the 2% guideline when using those figures. (In 2018 and 2021, Lithuania met 2% using November 2018 and June 2021 OECD figures respectively).

Table 3: Defence expenditure as a share of GDP and annual real change (based on 2015 prices)

Country	2014	2015	2016	2017	2018	2019	2020	2021	2022e
					Share of real GDP (%)				
Albania	1.35	1.16	1.10	1.11	1.16	1.28	1.30	1.22	1.57
Belgium	0.97	0.91	0.89	0.88	0.89	0.89	1.01	1.05	1.18
Bulgaria	1.31	1.25	1.24	1.22	1.45	3.13	1.59	1.52	1.54
Canada	1.01	1.20	1.16	1.44	1.30	1.30	1.42	1.28	1.29
Croatia	1.82	1.76	1.60	1.64	1.55	1.61	1.71	1.98	1.91
Czechia	0.94	1.02	0.95	1.03	1.10	1.18	1.30	1.39	1.34
Denmark	1.15	1.11	1.15	1.14	1.28	1.30	1.38	1.32	1.38
Estonia	1.93	2.03	2.07	2.01	2.01	2.05	2.30	2.02	2.12
France	1.82	1.78	1.79	1.78	1.81	1.81	2.00	1.91	1.89
Germany	1.19	1.19	1.20	1.23	1.25	1.35	1.51	1.46	1.49
Greece	2.22	2.31	2.40	2.38	2.54	2.45	2.91	3.70	3.54
Hungary	0.86	0.90	1.00	1.19	1.01	1.34	1.76	1.68	1.44
Italy	1.14	1.07	1.18	1.20	1.23	1.17	1.59	1.57	1.51
Latvia*	0.94	1.03	1.44	1.59	2.06	2.02	2.15	2.07	2.07
Lithuania*	0.88	1.14	1.48	1.71	1.97	2.00	2.07	1.97	2.47
Luxembourg	0.37	0.42	0.38	0.50	0.50	0.55	0.58	0.47	0.62
Montenegro	1.50	1.40	1.42	1.34	1.37	1.33	1.73	1.55	1.35
Netherlands	1.15	1.13	1.16	1.15	1.22	1.32	1.41	1.38	1.64
North Macedonia	1.09	1.05	0.97	0.89	0.94	1.16	1.27	1.47	1.61
Norway	1.55	1.59	1.74	1.72	1.73	1.86	2.00	1.75	1.57
Poland*	1.87	2.22	2.00	1.89	2.01	1.98	2.23	2.22	2.42
Portugal	1.31	1.33	1.27	1.24	1.34	1.37	1.43	1.54	1.38
Romania*	1.35	1.45	1.43	1.73	1.79	1.84	2.01	1.86	1.75
Slovak Republic	0.98	1.11	1.12	1.10	1.22	1.70	1.92	1.77	1.76
Slovenia	0.97	0.93	1.00	0.98	1.01	1.05	1.06	1.24	1.26
Spain	0.92	0.93	0.81	0.91	0.93	0.91	1.01	1.04	1.09
Türkiye	1.45	1.38	1.45	1.51	1.82	1.86	1.86	1.61	1.37
United Kingdom	2.14	2.03	2.08	2.07	2.10	2.08	2.35	2.30	2.16
United States	3.72	3.52	3.52	3.31	3.29	3.51	3.64	3.48	3.46
NATO Europe and Canada	**1.43**	**1.42**	**1.44**	**1.48**	**1.51**	**1.54**	**1.72**	**1.67**	**1.65**
NATO Total	**2.58**	**2.48**	**2.49**	**2.40**	**2.41**	**2.54**	**2.71**	**2.60**	**2.58**
					Annual real change (%)				
Albania	-2.74	-11.76	-1.90	4.32	8.84	12.67	-2.15	2.03	32.66
Belgium	-2.25	-4.44	-0.36	0.36	2.69	1.91	8.05	9.90	15.89
Bulgaria	-9.08	-1.56	2.80	0.96	21.80	124.95	-51.16	2.49	4.79
Canada	4.95	20.10	-2.52	27.76	-7.15	1.68	3.70	-5.43	4.03
Croatia	25.91	-0.99	-5.91	6.22	-2.82	7.18	-2.93	30.94	2.50
Czechia	-4.91	14.14	-4.61	14.32	10.33	10.14	4.11	10.60	-1.36
Denmark	-4.84	-1.03	6.62	1.98	14.47	2.88	4.10	0.95	7.64
Estonia	3.75	7.40	5.25	2.70	3.75	5.71	11.47	-5.04	5.70
France	-1.20	-1.00	1.39	1.72	3.62	2.10	1.28	2.49	1.44
Germany	-1.39	1.42	3.36	5.50	2.57	9.10	7.55	-1.00	4.08
Greece	0.44	3.72	3.47	0.15	8.55	-1.94	8.25	37.70	1.98
Hungary	-5.22	9.38	13.19	24.20	-11.19	39.19	25.83	2.42	-9.18
Italy	-9.81	-5.83	12.05	3.75	2.77	-3.94	23.28	5.71	-0.55
Latvia*	2.39	14.66	42.29	14.61	34.54	0.35	4.22	0.10	2.42
Lithuania*	19.38	31.96	33.13	20.84	19.38	6.31	3.63	0.70	28.75
Luxembourg	5.24	15.55	-4.04	32.34	2.25	11.55	4.69	-13.91	34.16
Montenegro	4.49	-3.50	4.33	-1.34	7.29	1.36	10.02	1.48	-6.77
Netherlands	0.19	0.26	4.43	2.17	8.41	10.90	2.18	2.86	23.55
North Macedonia	-3.58	-0.09	-4.71	-6.75	8.40	26.82	4.26	20.42	12.65
Norway	5.35	4.78	10.70	0.90	1.51	8.61	6.46	-8.90	-7.86
Poland*	11.45	23.68	-7.24	-0.47	12.64	2.90	10.08	6.51	13.66
Portugal	-8.52	3.25	-2.51	1.03	11.40	5.32	-4.60	13.32	-4.05
Romania*	8.61	11.05	1.23	31.38	9.57	6.40	5.42	-2.50	-0.95
Slovak Republic	3.25	18.61	2.51	1.80	15.18	42.97	8.97	-5.02	1.16
Slovenia	-4.42	-2.37	11.42	2.45	7.31	8.06	-3.80	26.18	6.83
Spain	0.36	4.61	-10.15	15.30	4.81	-0.47	-1.57	9.11	9.37
Türkiye	0.78	1.44	8.64	11.61	23.91	3.00	2.12	-3.81	-10.43
United Kingdom	-1.07	-3.10	4.83	2.18	2.71	0.76	0.46	5.26	-1.73
United States	-5.19	-2.84	1.56	-3.81	2.18	9.21	0.77	1.33	1.26
NATO Europe and Canada	**-0.87**	**1.62**	**2.99**	**5.90**	**4.30**	**3.63**	**4.60**	**2.79**	**2.22**
NATO Total	**-4.04**	**-1.62**	**1.96**	**-1.03**	**2.83**	**7.48**	**1.92**	**1.78**	**1.56**

Notes: Figures for 2022 are estimates. The NATO Europe and Canada and NATO Total aggregates from 2017 onwards include Montenegro, which became an Ally on 5 June 2017, and from 2020 onwards include North Macedonia, which became an Ally on 27 March 2020.

* These Allies have national laws or political agreements which call for 2% of GDP to be spent on defence annually, consequently future estimates are expected to change accordingly. For past years, Allies defence spending was based on the then available GDP data and Allies may, therefore, have met the 2% guideline when using those figures. (In 2018 and 2021, Lithuania met 2% using November 2018 and June 2021 OECD figures respectively).

Table 4: Defence expenditure real change 2014-2022

Country	2014	2022e	Real change 2014-2022e (%)	Share of real GDP 2014 (%)	Share of real GDP 2022e (%)
	Million US dollars (2015 prices and exchange rates)				
Albania	150	220	46.65	1.35	1.57
Belgium	4,400	6,055	37.61	0.97	1.18
Bulgaria	643	944	46.86	1.31	1.54
Canada	15,562	22,420	44.07	1.01	1.29
Croatia	892	1,197	34.28	1.82	1.91
Czechia	1,683	2,892	71.78	0.94	1.34
Denmark	3,399	4,872	43.35	1.15	1.38
Estonia	431	615	42.46	1.93	2.12
France	43,937	49,972	13.74	1.82	1.89
Germany	39,274	53,868	37.16	1.19	1.49
Greece	4,358	7,578	73.90	2.22	3.54
Hungary	1,035	2,304	122.51	0.86	1.44
Italy	20,788	29,118	40.07	1.14	1.51
Latvia	246	662	169.73	0.94	2.07
Lithuania	357	1,293	261.96	0.88	2.47
Luxembourg	216	437	102.35	0.37	0.62
Montenegro	59	66	12.44	1.50	1.35
Netherlands	8,650	14,447	67.01	1.15	1.64
North Macedonia	106	182	72.63	1.09	1.61
Norway	5,862	6,760	15.32	1.55	1.57
Poland	8,561	15,100	76.37	1.87	2.42
Portugal	2,562	3,171	23.76	1.31	1.38
Romania	2,324	4,074	75.30	1.35	1.75
Slovak Republic	832	1,776	113.38	0.98	1.76
Slovenia	411	688	67.59	0.97	1.26
Spain	10,608	14,087	32.80	0.92	1.09
Türkiye	11,783	16,275	38.12	1.45	1.37
United Kingdom	61,409	68,553	11.63	2.14	2.16
United States	660,021	722,799	9.51	3.72	3.46

Note: Figures for 2022 are estimates.

Table 5: Real GDP

Country	2014	2015	2016	2017	2018	2019	2020	2021	2022e
	Billion US dollars (2015 prices and exchange rates)								
Albania	11	11	12	12	13	13	13	14	14
Belgium	453	462	468	476	484	495	469	497	512
Bulgaria	49	51	52	54	55	57	55	59	61
Canada	1,546	1,557	1,572	1,620	1,665	1,696	1,607	1,680	1,735
Croatia	49	50	52	54	55	57	52	59	63
Czechia	178	188	193	203	210	216	204	211	216
Denmark	296	303	313	321	328	333	326	342	353
Estonia	22	23	24	25	26	27	27	29	29
France	2,415	2,441	2,465	2,525	2,571	2,620	2,413	2,576	2,641
Germany	3,314	3,355	3,427	3,529	3,564	3,603	3,457	3,546	3,609
Greece	196	196	195	197	200	204	185	201	214
Hungary	121	125	128	133	141	147	141	151	160
Iceland	17	18	19	19	20	21	19	20	22
Italy	1,824	1,836	1,862	1,894	1,909	1,918	1,744	1,861	1,930
Latvia	26	27	28	29	30	31	30	31	32
Lithuania	41	41	42	44	46	48	48	51	52
Luxembourg	59	60	63	64	65	66	66	69	70
Montenegro	4	4	4	4	5	5	4	5	5
Netherlands	751	766	782	806	824	840	808	847	883
North Macedonia	10	10	10	10	11	11	11	11	11
Norway	378	386	390	399	403	406	404	419	430
Poland	457	477	491	516	547	571	560	598	625
Portugal	196	199	203	211	217	222	204	215	230
Romania	172	178	183	198	210	218	210	221	233
Slovak Republic	85	89	91	93	97	100	96	99	101
Slovenia	42	43	44	47	49	50	48	52	55
Spain	1,152	1,196	1,233	1,269	1,298	1,324	1,174	1,239	1,297
Türkiye	815	864	893	960	988	997	1,015	1,131	1,191
United Kingdom	2,867	2,936	2,999	3,072	3,125	3,175	2,825	3,037	3,172
United States	17,726	18,206	18,510	18,925	19,482	19,929	19,377	20,530	20,909
NATO Europe and Canada	**17,532**	**17,877**	**18,222**	**18,774**	**19,145**	**19,461**	**18,213**	**19,271**	**19,944**
NATO Total	**35,258**	**36,083**	**36,732**	**37,699**	**38,627**	**39,390**	**37,590**	**39,800**	**40,852**

Notes: Figures for 2022 are estimates. The NATO Europe and Canada and NATO Total aggregates from 2017 onwards include Montenegro, which became an Ally on 5 June 2017, and from 2020 onwards include North Macedonia, which became an Ally on 27 March 2020.

Table 6: GDP per capita and defence expenditure per capita
(2015 prices and exchange rates)

Country	2014	2015	2016	2017	2018	2019	2020	2021	2022e
GDP per capita (thousand US dollars)									
Albania	3.9	4.0	4.1	4.3	4.4	4.5	4.4	4.8	5.0
Belgium	40.4	41.0	41.3	41.8	42.4	43.1	40.6	42.9	44.0
Bulgaria	6.8	7.1	7.3	7.6	7.9	8.2	8.0	8.6	9.0
Canada	43.6	43.6	43.5	44.3	44.9	45.1	42.3	43.9	45.0
Croatia	11.6	11.9	12.5	13.0	13.5	14.1	12.9	15.2	16.2
Czechia	16.9	17.8	18.2	19.2	19.7	20.2	19.1	19.7	19.4
Denmark	52.4	53.3	54.5	55.7	56.6	57.2	55.9	58.4	60.1
Estonia	17.0	17.4	17.9	18.9	19.6	20.2	20.1	21.7	21.9
France	36.4	36.7	36.9	37.6	38.1	38.7	35.5	37.8	38.7
Germany	40.9	41.1	41.6	42.7	43.0	43.4	41.6	42.6	43.0
Greece	18.0	18.1	18.1	18.3	18.6	19.0	17.3	18.8	20.2
Hungary	12.2	12.7	13.0	13.6	14.4	15.1	14.4	15.5	16.5
Iceland	51.2	53.0	55.5	56.5	57.7	57.8	53.0	54.4	57.0
Italy	30.2	30.5	31.0	31.6	31.9	32.1	29.3	31.5	32.7
Latvia	13.2	13.8	14.2	14.9	15.6	16.1	15.8	16.6	17.2
Lithuania	13.9	14.3	14.8	15.7	16.4	17.3	17.2	18.2	18.9
Luxembourg	105.1	105.4	107.9	107.0	106.2	106.5	104.0	107.6	108.1
Montenegro	6.3	6.5	6.7	7.0	7.4	7.7	6.5	7.4	7.9
Netherlands	44.5	45.2	45.9	47.0	47.8	48.4	46.3	48.3	50.2
North Macedonia	4.7	4.9	5.0	5.0	5.2	5.3	5.1	5.6	5.8
Norway	73.7	74.3	74.5	75.6	76.0	76.0	75.0	77.5	78.8
Poland	11.9	12.4	12.8	13.4	14.2	14.9	14.6	15.7	15.9
Portugal	18.8	19.3	19.7	20.4	21.1	21.6	19.8	20.9	22.4
Romania	8.7	9.0	9.3	10.1	10.8	11.2	10.9	11.5	12.3
Slovak Republic	15.6	16.4	16.7	17.2	17.8	18.2	17.6	18.2	18.2
Slovenia	20.5	20.9	21.5	22.6	23.5	24.1	22.9	24.7	25.9
Spain	24.8	25.8	26.5	27.3	27.8	28.1	24.8	26.2	27.3
Türkiye	10.6	11.0	11.3	12.0	12.1	12.1	12.2	13.4	14.0
United Kingdom	44.4	45.1	45.7	46.5	47.0	47.5	42.1	45.0	46.8
United States	55.6	56.7	57.3	58.2	59.6	60.7	58.7	62.1	63.1
NATO Europe and Canada	**29.3**	**29.7**	**30.1**	**30.9**	**31.4**	**31.7**	**29.5**	**31.2**	**32.1**
NATO Total	**38.4**	**39.1**	**39.6**	**40.4**	**41.2**	**41.8**	**39.7**	**42.0**	**42.9**
Defence expenditure per capita (US dollars)									
Albania	52	46	45	47	51	58	57	59	79
Belgium	393	373	370	370	378	383	412	451	521
Bulgaria	89	88	91	93	114	258	127	131	138
Canada	439	523	505	637	583	585	599	564	582
Croatia	210	210	199	214	210	226	220	301	310
Czechia	160	182	173	198	218	239	248	274	260
Denmark	602	592	626	634	723	740	769	773	830
Estonia	328	353	371	381	394	415	461	437	463
France	663	653	660	668	689	700	707	722	731
Germany	485	488	500	526	537	585	629	622	642
Greece	400	418	434	435	474	465	504	696	713
Hungary	105	115	131	163	145	201	254	261	237
Italy	345	325	365	379	391	376	466	495	493
Latvia	123	142	204	237	321	324	340	343	357
Lithuania	122	162	219	268	323	345	357	358	466
Luxembourg	387	438	410	531	532	582	600	508	674
Montenegro	95	92	95	94	101	102	113	115	107
Netherlands	513	512	532	540	582	641	652	667	821
North Macedonia	51	51	48	45	49	62	65	83	93
Norway	1,141	1,183	1,299	1,300	1,311	1,414	1,497	1,357	1,241
Poland	222	275	256	254	287	295	325	348	383
Portugal	246	255	250	253	282	297	283	321	309
Romania	117	130	133	175	193	206	219	215	215
Slovak Republic	154	182	186	189	218	311	338	322	321
Slovenia	199	194	216	222	237	254	243	306	326
Spain	228	239	215	247	258	255	249	272	297
Türkiye	153	153	164	180	221	224	227	216	192
United Kingdom	951	914	950	965	985	988	988	1,033	1,012
United States	2,071	1,998	2,015	1,926	1,958	2,128	2,134	2,159	2,180
NATO Europe and Canada	**418**	**423**	**433**	**457**	**474**	**489**	**509**	**522**	**531**
NATO Total	**992**	**971**	**985**	**969**	**992**	**1,061**	**1,075**	**1,093**	**1,105**

Notes: Figures for 2022 are estimates. The NATO Europe and Canada and NATO Total aggregates from 2017 onwards include Montenegro, which became an Ally on 5 June 2017, and from 2020 onwards include North Macedonia, which became an Ally on 27 March 2020.

Table 7: Military personnel (Thousands)

Country	2014	2015	2016	2017	2018	2019	2020	2021	2022e
Albania	6.7	6.2	5.8	6.8	6.8	6.8	6.7	6.6	6.6
Belgium	30.5	29.7	28.8	27.8	26.5	23.3	22.8	22.7	22.5
Bulgaria	27.5	24.9	24.7	24.3	24.4	24.6	25.0	25.8	27.4
Canada	65.9	70.3	70.5	68.2	70.3	71.8	70.3	71.0	76.2
Croatia	15.4	15.1	14.8	14.8	15.0	14.8	14.7	14.4	15.2
Czechia	20.2	21.5	22.7	23.8	24.7	25.3	26.1	26.4	26.9
Denmark	16.9	17.2	17.3	16.7	17.2	16.3	16.9	16.9	17.2
Estonia	6.3	6.0	6.1	6.0	6.2	6.3	6.7	6.8	6.9
France	207.0	204.8	208.1	208.2	208.2	207.8	207.6	207.5	207.1
Germany	178.8	177.2	177.9	179.8	181.5	183.8	183.9	184.8	188.5
Greece	107.3	104.4	106.0	106.9	109.2	102.5	106.6	110.4	111.4
Hungary	17.5	17.4	17.9	18.7	19.9	18.9	19.8	19.8	21.4
Italy	183.5	178.4	176.3	174.6	174.1	176.4	173.4	171.5	174.8
Latvia	4.6	4.8	5.2	5.5	5.9	6.0	6.4	6.6	7.5
Lithuania	8.6	11.8	11.8	13.5	14.3	14.9	15.1	15.2	17.2
Luxembourg	0.8	0.8	0.8	0.8	0.9	0.9	0.8	0.8	0.9
Montenegro	1.9	1.7	1.5	1.5	1.5	1.5	1.9	1.6	1.7
Netherlands	41.2	40.6	40.0	39.5	39.3	39.7	40.4	40.8	41.6
North Macedonia	6.5	6.8	6.6	6.3	6.5	6.4	6.4	6.1	6.2
Norway	21.0	20.9	20.5	20.2	20.2	19.2	20.6	22.2	22.6
Poland	99.0	98.9	101.6	105.3	109.5	113.1	116.2	120.1	122.5
Portugal	30.7	28.3	29.8	27.8	26.9	23.8	23.7	24.5	26.5
Romania	65.1	64.5	63.4	64.0	64.0	64.5	66.4	68.6	78.5
Slovak Republic	12.4	12.4	12.2	12.2	12.2	12.7	13.1	13.1	13.8
Slovenia	6.8	6.6	6.5	6.3	6.2	6.0	6.0	6.0	5.9
Spain	121.8	121.6	121.0	117.7	117.4	117.0	118.7	118.7	118.2
Türkiye	426.6	384.8	359.3	416.7	444.3	441.8	433.0	439.1	446.9
United Kingdom	168.7	141.4	139.5	149.4	146.6	144.0	147.3	156.2	156.2
United States	1,338.2	1,314.1	1,301.4	1,305.9	1,317.4	1,329.2	1,346.7	1,348.4	1,346.4
NATO Europe and Canada	**1,891**	**1,811**	**1,788**	**1,857**	**1,893**	**1,884**	**1,897**	**1,924**	**1,968**
NATO Total	**3,229**	**3,125**	**3,090**	**3,163**	**3,210**	**3,213**	**3,243**	**3,273**	**3,315**

Notes: Figures for 2022 are estimates. The NATO Europe and Canada and NATO Total aggregates from 2017 onwards include Montenegro, which became an Ally on 5 June 2017, and from 2020 onwards include North Macedonia, which became an Ally on 27 March 2020.

Table 8a: Distribution of defence expenditure by main category
(percentage of total defence expenditure)

Country	2014	2015	2016	2017	2018	2019	2020	2021	2022e
				Equipment (a)					
Albania	16.65	8.92	8.01	6.96	9.42	14.61	15.00	15.12	19.96
Belgium	3.52	3.44	4.72	6.52	10.15	11.06	13.88	19.47	19.30
Bulgaria	1.03	3.47	9.15	8.10	9.65	59.74	8.44	11.05	22.63
Canada	13.03	10.47	10.61	10.70	11.94	13.84	14.67	13.69	18.76
Croatia	5.56	8.01	7.51	5.69	3.37	6.55	9.06	30.01	30.64
Czechia	6.53	11.75	6.70	11.55	11.16	16.44	17.31	20.47	24.51
Denmark	10.99	11.50	13.68	10.39	11.66	16.21	17.65	17.19	29.90
Estonia	22.15	12.82	17.86	19.22	16.51	15.50	23.00	23.18	21.57
France	24.64	25.04	24.44	24.17	23.66	24.53	26.62	27.80	28.55
Germany	12.94	11.93	12.21	11.77	12.36	14.69	17.45	16.69	19.93
Greece	8.17	10.40	13.45	11.28	11.03	11.55	10.70	37.24	45.33
Hungary	7.76	9.75	13.37	18.54	12.63	36.46	45.57	37.16	48.02
Italy	10.92	9.72	19.09	20.68	19.13	17.00	18.56	23.22	22.69
Latvia	7.55	13.60	19.05	15.01	31.85	21.65	20.53	22.07	24.58
Lithuania	14.06	21.55	30.06	31.61	36.98	37.57	33.71	22.32	34.54
Luxembourg	22.61	33.33	30.07	42.06	45.18	49.71	50.15	39.58	39.08
Montenegro	7.46	5.43	4.46	4.97	11.14	14.96	20.96	20.54	22.85
Netherlands	10.68	11.16	14.14	14.75	16.39	20.34	22.13	23.82	23.74
North Macedonia	5.92	11.13	8.37	6.47	11.09	13.82	11.53	21.77	25.14
Norway	20.42	21.83	23.37	24.63	25.60	28.76	28.41	29.19	31.62
Poland	18.84	33.20	21.62	22.04	27.51	23.36	29.31	33.89	35.92
Portugal	8.43	8.70	9.95	11.42	15.48	16.61	17.36	16.83	17.93
Romania	15.77	19.65	20.43	33.34	33.47	25.59	23.12	21.57	25.52
Slovak Republic	11.12	18.28	15.32	17.74	22.27	40.07	31.84	32.34	29.74
Slovenia	0.66	1.85	1.02	4.04	5.98	7.11	5.69	14.56	21.32
Spain	13.49	14.82	6.65	20.39	21.83	21.02	19.43	22.47	26.05
Türkiye	25.08	25.13	25.55	30.30	37.64	34.32	30.73	29.31	25.52
United Kingdom	22.82	21.75	21.24	22.29	22.25	22.85	23.83	26.13	28.06
United States	25.97	25.41	25.05	25.73	27.06	29.06	29.69	28.90	27.23
				Personnel (b)					
Albania	68.05	78.15	68.05	68.20	70.70	62.89	64.41	63.57	46.62
Belgium	77.84	78.23	76.80	75.20	70.69	68.38	63.58	56.79	49.50
Bulgaria	72.84	73.66	65.64	68.33	62.99	29.42	63.79	65.59	56.77
Canada	50.90	53.76	53.11	57.37	51.02	49.54	49.23	48.30	45.44
Croatia	76.55	72.28	75.40	71.72	76.96	73.71	76.15	56.71	53.65
Czechia	61.40	55.25	61.95	56.11	54.57	51.82	49.72	44.70	44.22
Denmark	51.27	52.01	49.51	47.01	49.88	48.25	46.07	48.31	43.06
Estonia	38.62	39.56	38.70	34.89	33.83	34.18	32.67	33.61	29.31
France	48.59	47.79	47.94	47.98	46.90	45.59	44.01	42.89	41.65
Germany	50.67	49.86	48.35	48.96	47.99	45.26	42.22	42.28	39.06
Greece	77.18	72.05	73.13	76.56	78.76	77.08	74.58	53.78	43.68
Hungary	49.77	48.21	49.66	37.13	42.33	35.37	27.18	29.43	30.39
Italy	76.41	77.55	70.79	67.58	68.16	70.21	67.52	63.70	62.00
Latvia	52.97	50.06	43.87	38.59	34.32	33.53	37.15	37.24	35.51
Lithuania	57.53	48.49	45.50	40.79	37.47	40.02	41.33	42.58	33.94
Luxembourg	49.31	42.77	45.56	34.40	33.42	30.76	30.13	34.58	24.11
Montenegro	78.53	78.03	75.32	80.87	73.50	71.39	64.66	59.90	61.12
Netherlands	56.50	55.51	51.77	52.19	51.16	49.27	48.49	47.91	38.84
North Macedonia	72.49	70.95	71.26	75.25	71.53	61.93	63.33	51.03	42.01
Norway	40.64	39.96	38.60	37.08	36.43	34.78	34.51	34.15	32.97
Poland	51.45	41.96	47.15	50.04	46.14	46.91	44.71	43.55	40.07
Portugal	81.27	81.90	81.38	80.19	74.75	70.51	71.15	63.09	63.06
Romania	71.15	63.30	65.01	54.67	54.48	57.90	59.20	57.80	55.05
Slovak Republic	69.14	56.24	58.72	58.21	54.74	40.81	42.34	46.61	45.29
Slovenia	82.31	82.23	76.03	75.04	72.38	69.07	72.75	61.99	53.32
Spain	67.34	65.18	72.61	61.64	59.64	61.86	62.54	58.70	53.70
Türkiye	56.88	56.82	57.60	51.02	45.18	48.38	50.64	47.88	48.45
United Kingdom	36.59	36.80	35.27	34.54	33.75	34.07	33.80	31.80	30.96
United States	35.45	36.64	45.01	41.53	39.74	38.72	38.47	39.00	38.84

Notes: Figures for 2022 are estimates.
(a) Equipment expenditure includes major equipment expenditure and R&D devoted to major equipment.
(b) Personnel expenditure includes military and civilian expenditure and pensions.

Table 8b: Distribution of defence expenditure by main category
(percentage of total defence expenditure)

Country	2014	2015	2016	2017	2018	2019	2020	2021	2022e
				Infrastructure (c)					
Albania	0.86	1.40	1.37	0.92	1.09	1.64	1.39	3.61	11.42
Belgium	1.81	0.93	0.96	1.05	1.43	1.19	1.00	0.82	2.67
Bulgaria	0.63	1.27	0.63	0.83	2.62	1.09	7.71	4.93	4.75
Canada	3.81	3.63	3.03	2.98	3.58	2.72	3.07	3.22	3.46
Croatia	1.24	1.98	1.26	3.59	1.00	1.41	1.53	0.55	2.59
Czechia	2.34	3.32	3.91	3.99	5.31	5.27	7.41	6.24	9.93
Denmark	0.97	1.09	2.16	1.95	1.49	1.85	1.84	4.08	4.67
Estonia	8.20	8.45	12.15	11.27	8.52	6.13	6.65	5.55	9.16
France	2.33	2.80	2.70	2.88	3.51	3.13	2.88	3.03	3.03
Germany	3.75	3.60	3.39	4.06	4.15	3.99	3.78	3.74	3.58
Greece	1.10	0.65	0.58	0.79	0.62	0.20	0.18	0.26	0.05
Hungary	1.07	1.21	1.13	1.31	1.68	2.64	1.41	3.59	2.95
Italy	1.40	1.30	0.70	0.94	1.29	0.67	0.97	1.53	2.19
Latvia	8.89	6.64	12.83	15.02	6.45	10.30	11.85	5.28	8.68
Lithuania	2.17	2.16	3.59	3.92	2.24	2.40	1.25	2.47	3.44
Luxembourg	10.26	7.79	6.64	4.64	5.05	3.16	3.42	7.28	11.22
Montenegro	0.96	2.47	2.41	0.88	1.86	1.48	1.33	5.26	0.49
Netherlands	4.77	3.19	3.90	3.02	3.46	3.26	3.14	2.98	3.35
North Macedonia	1.24	1.67	1.28	1.01	0.95	3.89	2.78	3.09	3.03
Norway	5.71	5.30	6.56	6.93	6.67	5.87	6.55	6.45	5.99
Poland	5.47	4.74	4.62	4.21	3.45	4.78	4.31	3.71	3.91
Portugal	0.11	0.25	0.06	0.03	0.05	0.11	0.08	0.11	0.06
Romania	1.09	1.27	2.77	2.09	1.54	3.53	4.29	7.06	4.19
Slovak Republic	0.57	1.99	3.75	2.97	2.00	1.17	5.21	1.46	2.08
Slovenia	0.65	0.61	1.14	0.45	1.40	0.57	1.10	1.31	3.10
Spain	0.66	0.97	0.97	0.68	0.64	0.98	1.07	1.08	0.93
Türkiye	2.77	2.56	2.42	2.95	2.53	2.26	2.22	7.49	6.91
United Kingdom	1.95	1.63	1.87	2.25	2.99	2.11	1.72	1.49	2.05
United States	1.71	1.45	1.22	1.23	1.17	1.38	1.33	1.21	1.52
				Other (d)					
Albania	14.44	11.53	22.57	23.92	18.79	20.86	19.20	17.70	22.00
Belgium	16.83	17.40	17.52	17.23	17.72	19.36	21.54	22.92	28.52
Bulgaria	25.51	21.60	24.57	22.74	24.74	9.74	20.05	18.43	15.85
Canada	32.26	32.14	33.25	28.95	33.46	33.90	33.04	34.79	32.33
Croatia	16.65	17.73	15.83	18.99	18.67	18.33	13.27	12.73	13.12
Czechia	29.73	29.67	27.45	28.35	28.95	26.47	25.56	28.58	21.34
Denmark	36.78	35.40	34.65	40.66	36.97	33.69	34.44	30.42	22.37
Estonia	31.03	39.18	31.30	34.62	41.14	44.20	37.68	37.65	39.95
France	24.43	24.37	24.92	24.97	25.92	26.74	26.49	26.28	26.76
Germany	32.63	34.61	36.05	35.20	35.49	36.06	36.55	37.29	37.43
Greece	13.55	16.90	12.84	11.37	9.60	11.17	14.55	8.72	10.93
Hungary	41.40	40.83	35.84	43.01	43.36	25.53	25.84	29.82	18.63
Italy	11.27	11.42	9.42	10.80	11.43	12.11	12.95	11.55	13.12
Latvia	30.59	29.69	24.25	31.38	27.38	34.51	30.46	35.42	31.23
Lithuania	26.24	27.79	20.85	23.67	23.30	20.01	23.71	32.63	28.08
Luxembourg	17.82	16.11	17.73	18.90	16.35	16.37	16.30	18.57	25.59
Montenegro	13.06	14.07	17.80	13.27	13.50	12.16	13.06	14.30	15.53
Netherlands	28.05	30.14	30.20	30.04	28.99	27.13	26.24	25.29	34.07
North Macedonia	20.34	16.25	19.09	17.26	16.43	20.36	22.37	24.10	29.82
Norway	33.24	32.90	31.46	31.36	31.30	30.59	30.53	30.21	29.42
Poland	24.24	20.11	26.61	23.71	22.89	24.95	21.67	18.85	20.10
Portugal	10.19	9.15	8.61	8.35	9.72	12.77	11.41	19.97	18.95
Romania	11.98	15.78	11.79	9.90	10.51	12.99	13.38	13.57	15.24
Slovak Republic	19.16	23.49	22.22	21.08	20.99	17.95	20.60	19.59	22.89
Slovenia	16.38	15.31	21.80	20.47	20.24	23.25	20.46	22.14	22.26
Spain	18.50	19.03	19.78	17.28	17.89	16.14	16.96	17.76	19.33
Türkiye	15.27	15.49	14.43	15.73	14.65	15.04	16.41	15.32	19.13
United Kingdom	38.63	39.82	41.62	40.92	41.01	40.97	40.65	40.59	38.93
United States	36.87	36.51	28.73	31.52	32.03	30.84	30.51	30.89	32.41

Notes: Figures for 2022 are estimates.
(c) Infrastructure expenditure includes NATO common infrastructure and national military construction.
(d) Other expenditure includes operations and maintenance expenditure, other R&D expenditure and expenditure not allocated among above-mentioned categories.

NATO defence expenditure

NATO defines defence expenditure as payments made by a national government specifically to meet the needs of its armed forces, those of Allies or of the Alliance. A major component of defence expenditure is payments for Armed Forces financed from within the Ministry of Defence (MoD) budget. Armed Forces include Land, Maritime and Air forces as well as Joint formations such as Administration and Command, Special Operations Forces, Medical Service, Logistic Command, Space Command, Cyber Command, etc. They might also include "Other Forces" like Ministry of Interior troops, national police forces, gendarmerie, carabinieri, coast guards etc. In such cases, expenditure is included only in proportion to the forces that are trained in military tactics, are equipped as a military force, can operate under direct military authority in deployed operations, and can, realistically, be deployed outside national territory in support of a military force. Also, expenditure on Other Forces financed through the budgets of ministries other than MoD is included in defence expenditure.

Pension payments made directly by the government to retired military and civilian employees of military departments is included regardless of whether these payments are made from the budget of the MoD or other ministries.

Expenditure for peacekeeping and humanitarian operations (paid by MoD or other ministries), the destruction of weapons, equipment and ammunition, contributions to eligible NATO-managed trust funds, and the costs associated with inspection and control of equipment destruction are included in defence expenditure.

Research and development (R&D) costs are included in defence expenditure. R&D costs also include expenditure for those projects that do not successfully lead to production of equipment.

Expenditure for the military component of mixed civilian-military activities is included, but only when the military component can be specifically accounted for or estimated.

Expenditure on NATO common infrastructure is included in the total defence expenditure of each Ally only to the extent of that nation's net contribution.

War damage payments and spending on civil defence are both excluded from the NATO definition of defence expenditure.

NATO uses United States dollars (USD) as the common currency denominator. The exchange rate applied to each Ally is the average annual rate published by the International Monetary Fund (IMF).

Iceland has no armed forces. For nations of the Euro zone, and Montenegro, monetary values in national currency are expressed in Euros for all years. Latvia adopted the Euro from 2014, Lithuania from 2015 and Croatia from 2023. Montenegro joined the Alliance in 2017 and North Macedonia in 2020.

To avoid any ambiguity, the fiscal year has been designated by the year which includes the highest number of months: e.g. 2022 represents the fiscal year 2022/2023 for Canada and United Kingdom, and the fiscal year 2021/2022 for the United States. Because of rounding, the total figures may differ from the sum of their components.

Conventional signs:

e	estimated
-	nil
..	not available
|	break in continuity of series
.	decimal point

Nomenclature of NATO defence expenditure:

1	Operating costs
1.1	Military personnel
1.1.1	Pay and allowances
1.1.2	Employer's contributions to retirement funds
1.1.3	Other
1.2	Civilian personnel
1.2.1	Pay and allowances
1.2.2	Employer's contributions to retirement funds
1.3	Pensions
1.3.1	Paid to military retirees
1.3.2	Paid to civilian retirees
1.4	Operations and maintenance
1.4.1	Ammunition and explosives (excluding nuclear)
1.4.2	Petroleum products
1.4.3	Spare parts
1.4.4	Other equipment and supplies
1.4.5	Rents
1.4.6	Other operations and maintenance
2	Procurement and construction
2.1	Major equipment
2.1.1	Missile systems
2.1.2	Missiles (conventional weapons)
2.1.3	Nuclear weapons
2.1.4	Aircraft
2.1.5	Artillery
2.1.6	Combat vehicles
2.1.7	Engineering equipment
2.1.8	Weapons and small arms
2.1.9	Transport vehicles
2.1.10	Ships and harbour craft
2.1.11	Electronic and communications equipment
2.2	National military construction
2.3	NATO common infrastructure
2.3.1	Expenditure as host country
2.3.2	Payments to other countries
2.3.3	Receipts from other countries
2.3.4	Land and utilities
3	Research and development
3.1	Devoted to major equipment
3.2	Other
4	Other expenditure
5	Total
6	Statistical discrepancy
7	Adjusted total

Main categories of defence expenditure:

- Equipment (Table 8a) — lines 2.1 + 3.1
- Personnel (Table 8a) — lines 1.1 + 1.2 + 1.3
- Infrastructure (Table 8b) — lines 2.2 + 2.3
- Other (Table 8b) — lines 1.4 + 3.2 + 4

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