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Next Steps in NATO Deterrence and Resilience

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Introduction
Steven Keil

NATO's summit this month marks a new phase of the alliance's year-and-a-half long quest on how it will adapt to the challenges of the next decade and beyond. Secretary-General Jens Stoltenberg will unveil his proposals from the NATO 2030 initiative, which aims to make the alliance "even stronger. Strong militarily. Stronger politically. And more global."[1] This will be the first holistic rethink of alliance strategy in over a decade.

In principle, the Brussels summit will prove to be a pivotal milestone in the NATO's evolution. But this is only the beginning of a process that will enable NATO to face current and future security challenges. Summit and post-summit deliberations will confront many of the serious issues of political cohesion experienced over recent years, which ultimately instigated the NATO 2030 process at the 2019 London leaders meeting.

Today, many of these challenges remain. There are significant differences among allies on issues like threat prioritization and the balance between dialogue and deterrence vis-à-vis Russia. While defense spending has improved, adequate burden sharing is still lacking and discussions on how best to incentivize better practices or what those targets may indeed be are politically charged. There are also growing concerns about the democratic trajectory of certain NATO members. The chief difference in alliance dynamics since the start of the NATO 2030 effort is the new U.S. administration, which more naturally gravitates to multilateral approaches and has a long history in engaging and supporting Euro-Atlantic institutions.

The NATO 2030 effort and strategic concept review cannot paper over political problems, but they also must avoid fixating on these. NATO must adapt to larger strategic shifts and their consequences—namely the rise of China and its implications for U.S. engagement in and around Europe. This has consequences for how NATO counters Russia's threat to European security, the continued challenge of terrorism, the new challenges posed by emerging technologies and climate change, and strategic stability. As Stoltenberg has reiterated, enhancing consultations will be critical to NATO's adaptation in the new era. More frequent consultations may result in more public disagreements. But they are critical for allies to create the space to consider the deficiencies and opportunities of its approach in a new geopolitical era.

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In this spirit, the two parts of this paper seek to contribute to the discussion on NATO deterrence and key issues surrounding resilience, offering actionable recommendations for the allies to consider. The first, authored by Heinrich Brauß, takes a broad look at NATO's deterrence posture and the Enhanced Forward Presence effort. First outlining the strategic shifts in the geopolitical environment, Brauß then turns to how the alliance can augment and enhance its deterrence efforts from the Baltic to the Black Sea. He lays out ten specific recommendations as NATO considers how best to adapt its deterrence posture.

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1   NATO, Remarks by NATO Secretary General Jens Stoltenberg on launching #NATO 2030 – Strengthening the Alliance in an increasingly competitive world, June 8, 2020

The second contribution, authored by Elisabeth Braw, takes a deeper dive on resilience issues and the specific need to examine the nexus of supply chains, Euro-Atlantic security, and private-public partnerships. While supply-chain management is the responsibility of member states or institutions like the EU, developments like the coronavirus pandemic and various cyberattacks have revealed the vulnerability of NATO and its militaries. Braw draws out these challenges and offers suggestions on how to connect national security policy and important industries across societies, to including briefings and potential joint military-industry exercises. She argues that NATO can play a vital coordinating role in enhancing gray-zone activities interacting with critical supply chains and the private sector.

Launching the NATO 2030 effort, Stoltenberg remarked that "the best way to prevent a conflict, is to remove any room for doubt, any room for miscalculation about NATO's readiness, willingness to protect all Allies. Defense and Deterrence is central."[2] He also underscored that resilience is key and "that resilience—be it infrastructure, telecommunications, 5G or healthcare, access to protective equipment—all of that matters for the civilian society, but it actually also matters for NATO as a military alliance and our military capabilities."[3] The ideas put forth here offer an important and timely contribution to the current strategic dialogue facing NATO, and the transformation it will undergo following the Brussels summit.

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2   Ibid.

3   Ibid.

Deterrence and Resilience on NATO's Eastern Flank

Heinrich Brauß

In his Interim National Security Strategic Guidance published in March 2021, President Joe Biden states: "Our world is at an inflection point. Global dynamics have shifted. New crises demand our attention." What he has in mind are "accelerating global challenges—from the pandemic to the climate crisis to nuclear proliferation to the fourth industrial revolution."[1]

NATO, too, is at an inflection point—the second within a few years. In early 2014, Russia's aggression against Ukraine fundamentally altered the security environment in Europe. As a consequence, after some 20 years of focusing on international crisis management, NATO reinvigorated deterrence and defense as its core task. It has since been implementing a long-term program to significantly strengthen its relevant posture. Today, only seven years later, the transatlantic community is confronted with a new strategic challenge on a global scale. The rise of China to world-power status profoundly changes the global balance of power. We are entering an era of great-power competition and the alliance today faces two systemic rivals.

This begs the question of how this will impact NATO's role and posture in Europe. With this in mind, this chapter first recollects the principles, strategic rationale, and key elements of NATO's efforts to strengthen its deterrence and defense posture. This is followed by a brief analysis of the new strategic challenges the transatlantic community faces and their impact on NATO's approach to security. The last section offers proposals for how to further adapt NATO to ensure it is able to meet future challenges, with a particular focus on deterrence in the east.

A Strengthened Deterrence and Defense Posture

Russia's policy of persistent confrontation has become commonplace. Its hybrid warfare strategy, as well as its growing military potential and exercises on NATO's border, are designed to destabilize allies from within and intimidate them from without. In accordance with its military doctrine and as regularly rehearsed in its large ZAPAD exercises, Russia prepares for regional wars on its periphery, including the possibility of using nuclear weapons as integrated means of operational warfare. All this has made it the most serious potential military and geopolitical threat to NATO in Europe.

Given the extent and geography of Russia's territory and waters, NATO's adaptation is geared to enhancing its capability to respond at short notice to multiple, possibly simultaneous threats of various scale—that is, from limited incursions to large-scale attacks—and across several at-risk regions. This stretches from the High North and Norwegian Sea to the North Atlantic to the Baltic Sea and Black Sea regions, and to the Mediterranean. It spans the land, air, maritime, cyber, space, and nuclear domains. Therefore, NATO must retain maximum awareness, flexibility, and agility to ensure it has the right forces in the right place at the right time. Thus, rapid deployment of appropriate forces to where they would be needed rather than permanent forward positioning of large forces has been the paradigm for NATO's conventional posture.

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1   The White House, Interim National Security Strategic Guidance, March 2021,

However, with a view to the Baltic region, which borders Russia and is most exposed to a potential military threat, there is a critical time-distance gap between a possible deployment of superior Russian forces and a buildup of substantial NATO forces for reinforcement. Furthermore, Russia's anti-access/area denial capabilities (A2/AD)[2] in Kaliningrad could, in a conflict, impede the movement of allied forces into and across the region. This could lead Moscow to believe it has the option of launching a rapid regional land grab, together with cyberattacks, a disinformation campaign, and subversive actions on allied territories. This could be paired with the use of long-range precision strike capabilities to disable NATO defenses in Europe. The deployment of the new ground-based intermediate-range nuclear-capable cruise missiles SSC-8 underpins Russia's capability to strike key targets across Europe and signals its aim to decouple the continent from the United States' extended nuclear deterrence. Russia might conclude it could confront NATO with a fait accompli and convince it to stand down for fear of nuclear escalation, thus earning a strategic success without a long war.

Consequently, NATO's deterrence strategy aims to counter Russia's strategic intimidation efforts, to deny it the option of seizing territory with conventional forces in a short war, and to develop measures to counteract its nuclear threat. Hence, resilience, responsiveness, readiness, and rapid reinforcement are key imperatives for strengthening the alliance's deterrence and defense posture. To substantiate this approach, NATO's adaptation program[3] includes a wide range of measures, such as:

- enhancing situational awareness;
- advance planning for several regions;
- accelerating decision-making procedures for rapid response force deployment;

- enhancing the NATO Command Structure to reacquire capabilities to command and control the whole range of operations;[4]
- enhancing cyber defense;
- tripling the size of the NATO Response Force to 40,000 troops and establishing the Very High Readiness Joint Task Force of some 5,000 troops;
- launching the NATO Readiness Initiative to generate substantial land, air, and naval forces at very high readiness;
- working with the EU to create the legal, procedural, military, and infrastructural conditions to enable speedy movement of forces across Europe; and
- reinvigorating nuclear deterrence.

Since 2017, NATO has established its Enhanced Forward Presence (eFP) in the Baltic states and Poland through the persistent deployment of four multinational combat-ready battle groups of some 1,200 troops each. These battle groups have been led by the four "framework nations"—Canada, Germany, the United Kingdom, and the United States—and are seen by many as the most visible and relevant element of NATO's new posture. They demonstrate that, even in the event of a limited incursion, Russia would immediately find itself in a military conflict with the whole of NATO, including the three allied nuclear powers: the United States, France, and the United Kingdom. NATO's eFP has been complemented by the U.S. European Deterrence Initiative, which includes the deployment of a U.S. armored brigade combat team in Poland on a rotational basis, enhanced pre-positioning of equipment, more exercises, and improving infrastructure. Moreover, based on a bilateral agreement, some 1,000 additional U.S. troops are stationed in Poland, including a division headquarters (forward) and the

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2   Multiple air defence systems, long-range artillery, long-range high-precision strike capabilities, and electronic warfare systems.

3   For details see Heinrich Brauß and András Rácz, Russia's Strategic Interests and Actions in the Baltic Region, German Council on Foreign Relations, January 2021.

4   This includes 1,200 new posts, a new Cyber Operations Center, and two new commands in charge of managing the movement of forces across the Atlantic and across Europe—the Joint Force Command Norfolk, Virginia and the Joint Support and Enabling Command in Ulm, Germany.

infrastructure needed to support the rapid buildup of a U.S. army division.

Altogether, NATO's actions are balanced and proportionate. Its capabilities are enhanced, but they remain defensive. They do not pose a threat to Russia, but do send the message that coercion is ineffective, that an attack would not be a resounding success, that the disadvantages would be greater than the anticipated gain, and that, in extremis, an attack could result in unacceptable damage inflicted on Russia itself. At the same time, NATO remains open to meaningful dialogue with Moscow to avoid misunderstandings and maintain minimum predictability.

New Strategic Challenges—NATO 2030

While NATO's long-term adaptation to the Russian challenge continues, it must also cope with several simultaneous global and transnational challenges. This includes China's rise in political, economic, technological, and military terms, as well as enduring terrorism, risks emerging from pandemics, and the strategic implications of climate change, with particularly significant consequences for the Arctic region where geopolitical competition will spill over. NATO must also adapt to emerging and disruptive technologies that will have a profound impact on security and defense, transforming the way armed forces are organized, equipped, and operate.[5]

All these demanding and interconnected challenges require NATO to redefine its political-strategic role to enable it to fulfil its enduring core mission of safeguarding the security of all its members. Allies must develop a new common strategic vision. They must therefore strengthen NATO as the permanent forum for proactive political consultation and coordination and "determined pursuit of convergence"

of political and strategic priorities.[6] Thus, the alliance needs to develop a new strategic concept for the coming decade to help solidify political cohesion and solidarity, and to define its path towards 2030. At their meeting in London in December 2019, the alliance's political leaders mandated a "forward-looking reflection process … to further strengthen NATO's political dimension including consultation."[7] When launching this reflection process, NATO Secretary-General Jens Stoltenberg set three priorities to frame his NATO 2030 initiative: the alliance must "stay strong militarily, be more united politically, and take a broader approach globally."[8] Informed by the recommendations made by the independent Reflection Group,[9] a transatlantic agenda for the future will be adopted at this month's NATO summit in Brussels. This focuses on political and practical measures to reinforce the alliance's unity, broaden its approach to security, and extend its role in safeguarding the international rules-based order. Continued and enhanced investment in defense remains an important part of NATO's agenda.

China poses a systemic challenge to the transatlantic relationship cutting across the domains of security and economics. Its One Belt, One Road strategy attempts power projection through economics. Its investments in telecommunications, energy, and transport infrastructure in Europe, including through cooperation agreements with several Central and Eastern European countries, could pose a risk to allies' unity and NATO security. Allies must carefully monitor and consult each other on China's geo-economic activities and the resulting security

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5   Richard Barrons, European Defence for the 21st Century, London School of Economics and Political Science, 2018

6   NATO, NATO 2030: United for a New Era – Analysis and Recommendations of the Reflection Group appointed by the NATO Secretary General, November 25, 2020, p.10.

7   NATO, London Declaration – Issued by the Heads of State and Government participating in the meeting of the North Atlantic Council in London 3-4 December 2019, December 4, 2019.

8   NATO, Remarks by NATO Secretary General Jens Stoltenberg on launching #NATO 2030 – Strengthening the Alliance in an increasingly competitive world, June 8, 2020.

9   NATO, NATO 2030: United for a New Era.

risks, and develop a common approach on how to tackle them. Beijing's geopolitical claims and intimidating behavior in the Indo-Pacific and beyond, and its violation of human rights and democratic values, require NATO to develop a political containment strategy. Enhancing its partnership and regular consultations with like-minded democracies of the Indo-Pacific—such as Australia, Japan, New Zealand, and South Korea, as well as perhaps India—should be part of this.

However, while actively addressing global developments and their implications, NATO remains a regional alliance. It continues to be focused on Euro-Atlantic security. This is all the more important as there are growing indications of Russian-Chinese "convenient cooperation" in power politics and confronting the Western democracies with the risk of concurrent strategic challenges in the Euro-Atlantic and Indo-Pacific regions. For example, Russia's recent buildup of large forces along its border with Ukraine was paralleled by China conducting amphibious assault exercises and air incursions into Taiwan's air defense identification zone at the highest frequency in nearly 25 years.[10]

Balancing Russia's strategy and military potential necessitates the United States' enduring military presence in Europe and its extended nuclear deterrence. The Biden administration has decided not to reduce the size of the U.S. forces in Europe but to enhance it by some 500 troops to augment existing capabilities, including in the cyber, electronic warfare, and space domains. However, the United States considers China as its primary strategic competitor and a full-spectrum systemic rival. Washington is therefore shifting its strategic focus to the Indo-Pacific. The U.S. is currently reviewing its global force posture and will likely strengthen its military presence in the Asia-Pacific. However, containing China, countering Russia, and protecting freedom of navigation globally exceed

even its capabilities. This has three major consequences. First, NATO must ensure Euro-Atlantic strategic stability when the United States is engaged in the Indo-Pacific. Second, the NATO 2030 vision must be anchored in maintaining credible deterrence and defense against Russia. Third, European allies must do much more for the security of Europe—deterring and defending against Russia, crisis management in Europe's periphery, and supporting the United States in protecting the sea lines of communications.

Deterrence and Resilience on the Eastern Flank

While NATO must broaden its approach to security, deterrence and defense against Russia must remain its main effort. Substantial progress in strengthening its posture has been made, but this process has not yet been completed. The posture must expeditiously be implemented in full. Also, in light of recent developments, such as Russia's enhanced hybrid activities, its deployment of the new SSC-8 missiles in its Western Military District, and the deteriorating security situation in the Black Sea region, additional measures must be taken to ensure credible deterrence and resilience on NATO's eastern flank.

The effectiveness of NATO's deterrence along its eastern flank, particularly in the Baltic states but increasingly also in the Black Sea region, is key to the security of the entire alliance. At the same time, NATO must ensure the coherence of its entire posture so that there are no gaps elsewhere that Russia could exploit in a crisis or conflict. NATO has developed a comprehensive concept for deterrence and defense in the Euro-Atlantic area—that is, the area of responsibility of the Supreme Allied Commander in Europe, which stretches from the North Pole to the Tropic of Cancer and from the eastern coast of North America to the eastern border of NATO. This concept has identified those regions where threats could arise in a crisis or conflict. For implementing this concept, the following measures should be taken into account.

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10   See Andrea Kendall-Taylor and David Shullman, China's and Russia's dangerous convergence, Foreign Affairs, May 3, 2021.

Strengthening Resilience

The resilience of societies and systems against cyber-attacks and disinformation are the first line of NATO's defense. Allies have made progress in implementing the 2016 Cyber Defense Pledge. Cyberspace has been designated a military domain. National "offensive cyber" capabilities can be integrated into NATO missions. However, as the number of cyberattacks is growing, enhancing resilience must continue. Leveraging appropriate emerging and disruptive technologies, including cooperation with the private sector and academia, would help foster resilience in cyberspace. NATO should set concrete national resilience targets for allies to ensure a minimum standard of shared resilience. However, in light of China's geo-economic strategy, the protection of critical transport infrastructure, energy supplies, power grids, and digital communications requires broadening the approach to resilience. To this end, NATO should conduct an annual review of vulnerabilities in critical infrastructure, assets, and technologies stemming from foreign ownership, investment, and influence.[11]

Fostering Enhanced Forward Presence

The primary function of eFP is deterrence. By contributing forces to the battle groups, allies demonstrate that they are ready to place their troops at risk and have "skin in the game,"[12] and would thus not abandon the Baltic states in a crisis. On the contrary, they would speedily invoke Article 5 in case of a military aggression. The possibility that all allies would take action to defend the Baltic states or restore their territorial integrity deny Russia full confidence that an incursion would be successful. Rather, it could bear substan-

tial costs and carry the risk of nuclear escalation.[13] However, as the Baltic states are geographically most exposed to a potential military threat, it is essential to signal to Moscow that their territory enjoys the same strategic value as that of the other allies. Therefore, the battle groups in the Baltic states should be augmented by U.S. combat units, which would considerably enhance the eFP's deterrence effect.

It is also clear that deterrence and defense overlap. Allies' visible commitment to defend the region is what matters most to Russia. The battle groups in the Baltic states reinforce the national defense forces. Allies should therefore further improve their combat readiness by adding appropriate combat support capabilities (for example, artillery and ground-based air defense). This would enhance the local capacity to fight and delay a Russian incursion and thus complicate Moscow's risk calculus.[14] Moreover, the framework nations should work on plans and arrangements for rapid reinforcement of "their" battle groups in a crisis, including prepositioning of supplies.

Should military cooperation between Moscow and Minsk be further enhanced and lead to permanent stationing of Russian ground and air forces in Belarus, this would significantly change the regional military equation. NATO would then need to consider further strengthening its forward presence and should undertake appropriate advance planning. In this context, the provisions of the NATO-Russia Founding Act, to which the alliance is still committed although Russia has comprehensively violated it, leave considerable room for upgrading the eFP battle groups up to reinforced mechanized brigades.[15]

11   NATO, Food-for-Thought Paper: NATO 2030 – A Transatlantic Agenda for the Future, February 11, 2021.

12   Michael A. Hunzeker, "The United States as framework nation," in Alexander Lanoszka, Christian Leuprecht, and Alexander Moens (eds), Lessons from Enhanced Forward Presence 2017-2020, NATO Defense College, November 30, 2020.

13   Heinrich Brauss, Kalev Stoicescu, and Tony Lawrence, Capability and Resolve – Deterrence, Security and Stability in the Baltic Region, International Centre for Defence and Security, February 12, 2020, pp. 12-14.

14   Ibid.

15   William Alberque, 'Substantial Combat Forces' in the context of NATO-Russia Relations, NATO Defense College, June 2016.

Enhancing Coherence in the Baltic Region

From an operational perspective, the Baltic region constitutes a coherent theater of operations from Russia's and NATO's viewpoint. Hence, close coordination between the various allied and national headquarters and forces is essential. This includes planning of defense, particularly relating to the Suwałki corridor, and coordinated reception of reinforcement forces by land, air, and sea, as well as cross-border exercises. The command-and-control authorities of the Headquarters Multinational Division Northeast and North in Poland and Latvia over their affiliated national defense forces must be clear for peacetime activities, in a crisis, and in war, and tested in exercises.[16] In a conflict, both division headquarters must be fully able to command and control tactical-level operations and support their respective brigade-level forces.

Tailored Forward Presence

Full implementation of NATO's tailored Forward Presence (tFP) in the Black Sea region is essential for coherence and credibility of its posture along its entire eastern flank. This provides deterrence primarily through frequent peacetime exercises, as well as the ability to rapidly assemble forces in the region to further strengthen deterrence in a crisis or for collective defense in a conflict. The Multinational Brigade South-East in Craiova, Romania, and the Headquarters Multinational Division South-East in Bucharest, Romania, provide the framework for regular multinational exercises in Bulgaria and Romania. Also, Romania is setting up the Headquarters Multinational Corps Southeast that will presumably be in charge of contributing to movement and defense planning, coordinating reception, exercising, and commanding larger reinforcement forces. This headquarters should achieve full operational capability as soon as possible,

as it fills a gap in the command-and-control structure in southeastern Europe. Several allies have committed to contributing to tFP. Others contribute to Enhanced Air Policing in Bulgaria and Romania as well as increased naval presence and air patrolling in the Black Sea. In light of Russia's campaign of intimidation toward Ukraine, all these activities must continue consistently. Furthermore, NATO should enhance its support for capability development and capacity-building in Georgia and Ukraine.

Adjusting NATO Rapid reinforcement

The credibility of NATO's forward presence demands a viable reinforcement concept. Given the multitude of potential risk regions and particularly the geographical conditions in the Baltic region, as well as Russia's ability to mass forces on its border rapidly, alliance reinforcement forces must be available within a very short timeframe. Therefore, the NATO Response Force should be adjusted to provide several light and medium combat formations that could be employed in different regions very rapidly to enhance the alliance's military presence and demonstrate resolve. This must be exercised frequently. The 2018 NATO Readiness Initiative committed allies to providing 30 battalions, air squadrons, and combat vessels requiring no more than 30 days to be employed in theater. As also agreed, these forces must be developed into several land combat brigades, maritime task groups, and enhanced air wings at very high readiness. European allies, in particular those with larger armed forces, must provide these forces in the coming years.

Enabling Military Mobility

The ability to move such forces rapidly over distance, across several national borders and territories in Europe, to regions at risk in a crisis is key to effective reinforcement of allies. NATO and the EU are working together to create the various conditions that will enable military mobility across Europe, on land and in the air, in peacetime and during crises. This includes harmonizing national legislations, rules, and regula-

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16   Piotr Szymański, "Poland as host nation," in Alexander Lanoszka, Christian Leuprecht, and Alexander Moens (eds), Lessons from Enhanced Forward Presence 2017-2020, NATO Defense College, November 30, 2020.

tions for cross-border movements of military forces and equipment, as well as improving transport infrastructure and ensuring effective command and control, resilience, and military support. The implementation of the EU Action Plan on Military Mobility and of NATO's Enablement Plan is ongoing, supported by the Structured Dialogue on Military Mobility established between the relevant NATO and EU staffs. The EU's commitment, including through co-funding of infrastructure projects, facilitates the deployment of NATO forces across Europe and is therefore an important factor in transatlantic burden sharing. But given the political and military importance of military mobility, progress must be speeded up. Leadership awareness and engagement at the highest levels is required in NATO, the EU, and European capitals at the political and military levels.[17] Countries that are members of both NATO and the EU should engage to accelerate implementation. The Dutch-led EU Permanent Structured Cooperation (PESCO) Project on Military Mobility has recently been opened to participation of the United States, Canada, and Norway. This offers the opportunity to enhance transparency, mutual understanding, coordination, and alignment between non-EU allies—particularly the North American allies—and EU member states in an area of eminent common interest and responsibility. The Netherlands and Germany, as the central hub for military mobility in Europe, should make every effort to advance the work within the two organizations and cooperation of the relevant staffs.

Enhancing Air and Missile Defense

In 2019, NATO decided not to respond to the deployment of Russian land-based, nuclear-capable, intermediate-range missiles by deploying new nuclear missiles in Europe. Instead, it is primarily looking at advanced conventional capabilities.[18] The provision of effective air and missile defense capabilities by European allies to protect critical infrastructure and forces for reinforcement is of utmost importance. During the 20 years of focusing on crisis-response missions beyond NATO's borders in regions where there was no air threat, while European allies continuously reduced their defense budgets, this capability was almost abandoned in Europe. It now needs to be reconstituted expeditiously to protect critical infrastructure and reinforcement forces. This should include capabilities able to strike Russian cruise missiles during early flight phases as well as defense against drones. The acquisition of these capabilities should be a top procurements priority for European allies. It offers the potential for multinational cooperation among them, including within the framework of PESCO.

Enabling Joint Air Power and Joint Fires

Given the geography and space-forces-time relationship in Europe, NATO's airpower would likely be the first-choice reinforcement force in a crisis or conflict. Joint fires, particularly with long-range precision strike weapons, drones, and electronic warfare capabilities are required to be able to defeat Russian A2/AD capabilities and strike relevant command-and-control centers and massed forces, thus impeding Russia's ability to wage a regional war. All relevant arrangements related to alert, decision-making, and command and control must be in place to ensure the rapid availability of allied air forces, which should be visibly exercised in peacetime.

Enhancing European Efforts

European countries must play a full part in ensuring security for their continent and provide some 50 percent[19] of the conventional forces and capabilities, including strategic enablers, required for collective

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17   Heinrich Brauss, Ben Hodges, and Julian Lindley-French, Moving Mountains for Europe's Defense: The CEPA Military Mobility Project, Center for European Policy Analysis, March 3, 2021.

18   See NATO, Press Conference by NATO Secretary General Jens Stoltenberg following the meetings of NATO Defence Ministers, June 26, 2019.

19   This figure is essentially based on the comparable size of the GDPs: U.S. vs. European Allies collectively.

defense in Europe and military crisis management. The European allies should set themselves a "European Level of Ambition" for their fair share of the forces and capabilities NATO needs. On that basis, they should aim to develop a coherent set of forces capable of covering the whole mission spectrum—from high-end maneuver warfare operations to crisis management and peacekeeping missions. Such a European force within NATO should be capable of acting as a first responder alongside the U.S. forces in Europe. It would strengthen the "European pillar" of NATO and at the same time constitute the EU's core military capacity to act on its own in crisis management, since the 21 European allies that would contribute to it are also EU members.

Upholding Nuclear Sharing Arrangements

NATO's response to the new Russian SSC-8 includes enhanced readiness of its sub-strategic nuclear capabilities, which are provided by the United States, are stored in several European countries, and would be carried by dual-capable aircraft (DCA) in a military conflict. It is the only nuclear capability in Europe establishing the link to the United States' strategic nuclear potential. DCA and U.S. sub-strategic nuclear weapons also embody transatlantic nuclear risk sharing and the participation of European allies in NATO's nuclear planning. DCA exercises should at times be conducted concurrently with, or in the context of, conventional exercises to demonstrate the relation between conventional defense and nuclear deterrence. Russia must be made to realize that its territory is not a sanctuary if it were to threaten European allies with "euro-strategic" nuclear missiles. NATO must therefore uphold its nuclear-sharing arrangements, which remain central to the United States' extended nuclear deterrence.

Russia must also be induced to embark on arms control as a means to reduce risks and enhance strategic stability in Europe. Presidents Joe Biden and Vladimir Putin have extended the New START Treaty by five years. The United States and Russia will presumably commence negotiations on a new agreement, hopefully leading to further reductions of their strategic nuclear arsenals. Sub-strategic weapons threatening Europe should be included in these negotiations and NATO should be the forum for consultations among allies on any future arrangements.

Conclusion

NATO has entered an age of global competition and strategic simultaneity. The spillover effects bear on Europe's security, which has a regional and global dimension. China's geo-economic strategy has the potential of shaking NATO's cohesion. Resilience has acquired an additional dimension and must include protection against vulnerabilities in alliance critical infrastructure including stemming from Russian or Chinese ownership or investment.

NATO must broaden its approach to security. It should help build a community of democracies, including in the Indo-Pacific. It must maintain its technological edge and allied interoperability. It must also address the manifold security implications of climate change as a crisis multiplier and its geopolitical implications.

While addressing global developments, NATO must remain a regional alliance. It must ensure Euro-Atlantic stability. Ensuring credible deterrence and defense against Russia remains its priority task. Therefore, its agreed posture must be implemented expeditiously and fully. In light of the evolving strategic environment further actions are required to ensure that NATO's posture is fully credible.

Boosting Transatlantic Resilience through Secure Supply
Elisabeth Braw

When the superfreighter Ever Given accidentally blocked the Suez Canal for nearly a week in March, a global public discovered the vulnerability of global shipping. It was a much-needed realization. Ships transport 80 percent of the world's trade,[1] but most consumers have minimal understanding of the complexities and vulnerabilities involved in transporting their goods around the clock. Today's advanced economies depend on globe-spanning supply chains operated by private companies around the world. The supply chains involve not just shipping companies and other transportation providers, but companies all the way from end manufacturer to third-tier supplier as well. Today virtually every Western company is in some way connected to global supply chains. So are defense ministries, which rely on private companies for a range of goods and services. This makes supply-chain vulnerability a matter for NATO too.

The Ever Given incident caused bemused postings by Twitter users, most of whom were unaware of the extreme precision involved in guiding through the narrow Suez Canal such ships, which carry up to 20,000 containers filled with every conceivable type of product. But delays in key global shipping arteries are no laughing matter. The incident was resolved within a week, after specialist crews managed to unmoor the Ever Given. By then, hundreds of other cargo ships were either waiting to go through the canal or had embarked on the longer route via the Cape of Good Hope. Three days after the Ever Given became lodged sideways, 248 cargo ships originally bound for the Suez Canal were already underway to

their destinations by the longer route around the Cape of Good Hope.[2] The delays resulting from the accidental blockade continued for weeks after it had been resolved. By April 6, 66,480 containers carrying everything from furniture to auto parts had still not reached their destinations.[3] The journeys of up to 200,000 live animals being transported on cargo ships were also delayed by the blockade;[4] it is unclear how many of them survived.

A Wicked Problem

The Ever Given incident demonstrated why global supply chains are an attractive target for hostile states and their proxies: they span the globe and are extremely complex, and advanced economies in particular depend on them to function without disruption. Supply chains are, of course, nothing new. In ancient Rome, wealthy citizens arranged for fine goods such as marble and amber to be transported long distances so that they could use them for anything from construction to jewelry. In the past three decades or so, however, globalization has accelerated. The end of the Cold War led to market economies being introduced in more European countries and elsewhere, and the advent of World Trade Organization and China's accession to it sped up the process even more. As late as the 1990s, for example, Western automakers sourced most of their components from their home countries

1   United Nations Conference on Trade and Development, [Review of maritime transport](), undated.

2   James Baker, "[Container lines avoiding Suez turn to long route to Asia for backhaul]()", Lloyd's List, March 26, 2021.

3   Jennifer Smith, "[From Beer to Flat-Pack Furniture, Suez Blockage Offers a Global Trade Snapshot]()", Wall Street Journal, April 6, 2021.

4   Cristian Gherasim, "[Some 200,000 animals trapped in Suez canal likely to die]()", EU Observer, March 30, 2021.

or nearby countries. Today their supply chains span the globe and do not just involve the direct suppliers.

While relatively simple products such as shoes often involve suppliers in other countries, complex products can involve not just first-tier but second-tier and third-tier suppliers as well. A car, for example, consists of around 30,000 components. According to one estimate, an auto manufacturer has around 5,000 direct (first-tier) suppliers and each of them in turn has around 250 subcontractors (second-tier suppliers).[5] This means that the end manufacturer has a supply chain of 1.25 million suppliers and has to manage not just its complexity but also the fact that it is impossible to know—let alone scrutinize—every part of the supply chain. The end manufacturer cannot know how vulnerable each part of the chain is.

End manufacturers may not discover a vulnerability until a problem occurs. That was the case in 2011 when a tsunami hit Japan and caused a devastating nuclear-reactor accident in Fukushima prefecture. This forced a large number of companies there to temporarily close, including ones that are not particularly big but supply customers with crucial components. At the time of the accident, 22 percent of the global supply of 300 mm silicon wafers came from one plant in the area, and 60 percent of key car components also came from the prefecture.[6] One company making the pigment that gives cars their shimmery finish was several brands' sole supplier. The just-in-time model that most major companies around the world have been introducing since the 1970s meant that all these customers lacked pigment supplies to see them through a temporary disruption. Ford and Chrysler, among others, found themselves having to suspend sales of cars in certain colors.[7] The Fukushima accident taught companies an invaluable lesson regarding

the use of single-source suppliers, and they have also tried to at least partly move away from just-in-time deliveries. Just-in-time is, however, highly cost-effective, and shareholders prefer executives who run a tight ship and maximize profits over those who plan for "just-in-case" scenarios.

Democracies' Dilemma

The fundamental dilemma facing liberal democracies today is that their way of life rests on the smooth functioning of the private sector, which is in turn dependent on the smooth functioning of their supply chains and provision of vital services. Businesses make strenuous and successful efforts to perfect the efficiency of their operations and supply chains to minimize or eliminate the risk of disruption. They have done so with such success that the public now takes constant convenience for granted: uninterrupted provision of water, power, and internet access, or goods built and assembled in different countries speedily delivered to them at low cost. The port of Rotterdam,[8] the world's 11th-largest and the busiest in the Western world, services on average per hour 13 ocean-going ships that deliver and receive thousands of containers carrying everything from fruit and clothes to construction material. If there were to be a mishap somewhere in the port operations, several hundred ships could be delayed each day. This would cause potentially catastrophic disruptions in manufacturing and food provision. As for the provision of water, power, and internet, they are so crucial to daily life that even a small disruption brings severe disarray.

The past year has delivered stark warnings of the consequences of disrupted critical national infrastructure and disrupted supply chains. When the coronavirus pandemic struck, many countries found themselves with severe shortages of personal protective equipment (PPE) as demand on their international suppliers skyrocketed. As with many other goods, domestic production of PPE has dwindled over

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5   Elisabeth Braw, "The Manufacturer's Dilemma," Foreign Policy, April 27, 2019.

6   Dennis Fisher, "Japan Disaster Shakes Up Supply-Chain Strategies," Harvard Business School Working Knowledge, May 31, 2011.

7   Naomi Tajitsu, "Five years after Japan quake, rewiring of auto supply chain hits limits," Reuters, March 30, 2016.

8   Port of Rotterdam, Arrivals and Departures of Vessels, undated.

the past several decades in favor of more cost-efficient imports from other countries. As the pandemic demonstrated, while this arrangement may be convenient, countries stand to suffer if imports fail to materialize. Supply-chain vulnerabilities are, in fact, merely one aspect of modern societies' inherent vulnerability to disruption. In February, a snow storm caused Texas's electricity generation to malfunction, leading to widespread chaos and deaths as households and businesses were left without power.[9] In a different area of modern economies, in February it emerged that China's government had proposed export controls on rare earth minerals, a crucial component in products from smartphones to fighter jets whose production the country dominates. "Industry executives said government officials had asked them how badly companies in the US and Europe […] would be affected if China restricted rare earth exports during a bilateral dispute," the Financial Times reported.[10]

A Complex Threat Landscape

The globalization of supply chains and ever-increasing convenience have produced a situation that is not just vulnerable to human error and natural disruption but also provides opportunities for hostile states. Targeting these by non-military means could become increasingly attractive for hostile states since NATO and its partners would respond with military force to any military aggression. As lifestyles in Western countries become more dependent on global supply chains, they become more vulnerable to such gray-zone aggression.[11]

Supply-chain disruption poses an immediate risk not just to the civilian economy but to the armed forces as well. Today they depend on private companies not just for military equipment but for virtually all other supplies including food. As NATO Secretary-General Jens Stoltenberg noted last year,

> today [NATO] face[s] a far broader range of challenges. That is why boosting resilience is a key task for the future. We need robust infrastructure and systems. Power grids, ports, airports, roads and railways. Our deterrence and defence depend on it. For example, for large operations, around 90% of military transport relies on civilian ships, railways and aircraft.[12]

Addressing the Challenge Through Comprehensive Security Approaches

Many ministries of defense use private contractors for services such as transportation and food provision, and every ministry of defense relies on private companies to make its equipment. This is why China has weighed suspending rare-earth mineral exports. This reality makes it even more logical for NATO to lead and coordinate multinational gray-zone exercises with industry participation. As with traditional military ones, these would complement cooperation at the national level.

While most NATO members and partners have been slow to adapt to this quickly changing reality, Estonia's volunteer cyber defense unit for private-sector IT experts and Sweden's recently resurrected total defense exercises are initiatives other countries could adopt or adapt.[13] Germany's new Your Year for Germany scheme[14]—in which citizens undergo one year of training and service in homeland protection—is another constructive initiative. So is Latvia's new and

9   Erin Douglas et al, "Texas leaders failed to heed warnings that left the state's power grid vulnerable to winter extremes, experts say," The Texas Tribune, February 17, 2021.

10   Sun Yu and Demetri Sevastopulo, "China targets rare earth export curbs to hobble US defence industry", Financial Times, February 15, 2021.

11   Elisabeth Braw, The Case for Joint Military–Industry Greyzone Exercises, Royal United Services Institute, September 28, 2020.

12   NATO, Keynote speech by NATO Secretary General Jens Stoltenberg at the Global Security 2020 (GLOBSEC) Bratislava Forum, October 7, 2020.

13   Elisabeth Braw, Competitive National Service: How the Scandinavian Model Can Be Adapted by the UK, Royal United Services Institute, October 23, 2019, and Building a wall of denial against gray-zone aggression, American Enterprise Institute, April 12, 2021.

14   Bundeswehr, Dein Jahr Für Deutschland, undated.

ambitious Comprehensive Approach, which includes a new national security curriculum for all high-school students.

When governments and parliaments want changes in the private sector, they typically turn to legislation. Tackling aggression in the gray zone, however, requires government-industry collaboration. It is in the interest of both sides to work together to minimize the risk of disruption of operations and supply chains. The question is how can governments work with the private sector to limit companies' vulnerabilities and reduce the impact of hostile-state aggression.

Harnessing Public-Private Sector Cooperation

Holding regular government-industry briefings on national security is a measure that can be easily implemented. These would be offered by the government to senior executives in selected companies and would be an opportunity for the government to present an overview over national security developments. While virtually every major company uses risk consultancies, the services provided by these firms are of a tactical nature; for example, information about election violence in a particular country or about the risk of kidnapping in another. In the area of strategic risk—which includes businesses being targeted as part of geopolitical aggression—governments could keep executives informed in a way that private consultancies simply cannot. The briefings would also help establish trust between the government and the private sector on matters of national security. While governments would not tell companies how to act, the briefings would allow executives to better judge the strategic landscape in which their companies operate. Because executives are acutely aware that businesses are now in the line of geopolitical fire, they would be highly likely to want to participate in such briefings.

Because the information delivered would not concern specific intelligence but rather be of a general, strategic nature, and because most senior executives do not have security clearances, the briefings would be held on an unclassified basis. They would also

not contain any information that would provide the participants with commercial advantages. Governments would need to decide how to select the companies invited, which would clearly have to be done in a transparent manner. Invitees could, for example, include top companies (as measured by revenue) in each sector. Considering that every sector can be targeted by hostile-state aggression in the gray zone, all sectors would benefit from being invited.[15]

Governments could also launch joint military-industry gray-zone exercises. While businesses regularly conduct crisis-management exercises, these again concern tactical risks such as factory fires or kidnappings of staff in dangerous countries. Because today's hostile-state aggression does not only concern a specific company, businesses cannot prepare for it on their own. Conversely, Western countries' armed forces constantly prepare for kinetic threats but understandably have less expertise in defending against threats in the gray zone. There is a clear need for joint military-industry exercises focusing on gray-zone threats.

The exercises would be of a purely defensive nature, feature a range of scenarios, and would involve different parts of the government that would be called upon in a crisis, such as the police. As with traditional military exercises, the participants would range—at different stages—from the most senior level (including ministers and generals) to the most junior levels. To maximize the exercises' benefits, they would primarily feature computer-simulated scenarios with only small table-top exercise components.

As with national security briefings with industry, governments would invite leading companies for participation. Those not specifically invited would be able to apply for participation. After each completed exercise, the participating companies would be awarded ISO 9000-style certification. Such certification stands to become extraordinarily important as shareholders, customers, and prospective customers

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15   For more on this proposal, see Braw, Building a wall of denial against gray-zone aggression.

want reassurance that businesses can minimize the impact of natural or hostile disruption.

Since I proposed such exercises in a report in September 2020, the Czech Republic has implemented the concept.[16] For its first exercise, in January, the Ministry of Defense invited key companies in the country's defense sector, and it plans to conduct exercises with companies in the energy, IT, healthcare, and food-production sectors later this year. Tomáš Kopečný, deputy minister for industrial co-operation in the Ministry of Defense, who leads the initiative, said: "we see industrial policy as part of not only economic welfare, but geopolitics and also defence and security. This exercise is basically about creating [a] nexus between the military and civilian, between the government and private side."[17]

The fact that the Czech Ministry of Defense turned the concept from a report to an executed exercise within four months demonstrates that it is possible for governments and industry to act swiftly to make private-sector operations and supply chains more resilient. NATO members and partners can learn from the Czech example and speedily launch their own versions.

What Role Can NATO Play?

Considering that large companies operate in many different countries, including across several alliance members, NATO could build on the pioneering work done by the Czech Republic. An obvious step would be for the alliance to lead and coordinate gray-zone exercises involving armed forces and companies from several or all member states. Such a step would be particularly suitable given NATO's long-standing role in leading and coordinating alliance-wide military exercises. To date NATO, like individual member, has only involved private companies that have commercial relationships with a country's armed forces, for example through logistics or armament contracts. Gray-zone exercises are fundamentally different.

In addition, NATO member states conducting national gray-zone exercises could regularly brief allies on the outcome, and especially any supply-chain complications discovered as part of the exercises. This would be of enormous benefit as neither NATO headquarters nor individual governments regularly conduct stress tests on their supply-chain resilience through exercises with the private sector.

Launching government-industry briefings would be implemented even faster than gray-zone exercises. To be sure, neither government-industry briefings nor military-industry gray-zone exercises will eliminate the risk of business disruption. They will, however, significantly reduce the harm caused by such disruption. It is not only in the interest of governments and private sectors in NATO countries to do so. It stands to reason that other governments will follow the Czech Republic's example. Indeed, another NATO member is currently pursuing such plans.

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16   For further details about joint military-industry exercises, see Braw, The Case for Joint Military–Industry Greyzone Exercises.

17   Helen Warrell, "Czech Republic turns to war-games to build cyber defences," Financial Times, February 17, 2021,

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