

NATO's FUTURE SEMINAR

BOOKLET

NOVEMBER 8-10
BERLIN, GERMANY



LOGISTICAL INFORMATION

Travel

We will be able to reimburse travel expenses. For international connections, we cover up to 200€; for national connections (within Germany), we cover up to 100€.

A form will be distributed during and after the event. Please do not send us tickets before. We can cover costs ONLY if you send us the ORIGINAL travel documents (Tickets, Boarding Pass, etc.) via post service AND via mail. Costs can be covered only after your journey is concluded. Details can be found at the form.

Accommodation

We will provide you with accommodation at the Good morning + Berlin City East (Ruschestraße 45, 10367 Berlin)

Conference Location

The venue will be Andres Industries AG (Weißenseer Weg 37, 13055 Berlin).

Food and Drinks

From Friday 5:00 pm to Sunday 12:00 am, catering will be provided by YATA Germany. Saturday evening participants are required to cover their expenses for food and beverages themselves, as we will head to a bar in downtown Berlin. More information about the evening will be shared in time.

Dress Code

The dress code is business casual or service dress.

Social Media

Please note that we will also cover the seminar on Instagram (@dag_yata), Twitter (@yata_ger), LinkedIn (YATA Germany) and Facebook (YATA.Germany / DtAtlGes). So, make sure to follow us and feel free to share impressions. Hashtag will be: #NATOsFuture. Chatham House rules apply during workshop time. Panel discussions are open.

AGENDA

Thursday, November 7

Hotel Adlon Kempinski Berlin, Unter den Linden 77, 10117 Berlin

- 8:30 am Meeting for all at the YATA Booth
Optional
- 9:00 am – 4:00 pm NATO TALK by ATA Germany
Optional

Friday, November 8

Deutscher Bundestag, Platz der Republik 1, Berlin

- 10:40 am Meeting at Paul-Löbe-Haus, Entrance West
- 11:00 am Discussion: Thomas Erndl, Member of the Bundestag
- 12:00 pm Walking Tour through the Bundestag
- 01:00 pm Lunch (Self-üay basis) and joint tour to Stasi Museum

Normannenstraße 20, Haus 1, 10365 Berlin

- 02:30 pm Visit of the Stasi Museum

Andres Industries AG, Weißenseer Weg 37, 13055 Berlin

- 05:00 p.m. Welcome Remarks: Leonhard Simon
President, YATA Germany
- 05:15 p.m. Introduction & Networking
- 06:00 p.m. YATA Nerd Night: Cooking and Gaming
Manouchehr Shamsrizi
Author of a commissioned study on the potential of
Gaming/eSports for Public Diplomacy, Federal Foreign Office

Saturday, November 9

Andres Industries AG, Weißenseer Weg 37, 13055 Berlin

- 09:15 a.m. Workshop Session I
- 10:45 a.m. Break
- 11:00 a.m. Panel discussion I:
NATO's role in the global biosecurity architecture
The last few decades have seen unprecedented advances in biotechnology, bringing both remarkable benefits and significant risks. While these discoveries hold great promise, they also pose significant risks. As highlighted in NATO's 2024 Strategy for Biotechnology and Human Enhancement Technologies, biotechnologies can pose serious threats to armed forces, societies and the environment. For example, the proliferation of engineered viruses (e.g., superviruses) or the unpredictable

spread of biological agents with potentially irreversible consequences.

The global governance framework is inadequate to address these challenges. Despite the existence of international regulations and export control regimes, such as the Biological Weapons Convention (BWC) and the Wassenaar Arrangement, ratification and implementation of the frameworks remains uneven. As a result, the international biosecurity architecture remains underdeveloped, leaving the world and NATO vulnerable to the misuse of emerging biotechnologies.

Dr. Dunja Manal Sabra

Senior Research Assistant, Interdisciplinary Research Group for the Analysis of Biological Risks (INFABRI), Carl Friedrich von Weizsäcker-Zentrum für Naturwissenschaft und Friedensforschung (ZNF), University of Hamburg

Silke Bellmann

German Biosecurity Programme, Federal Ministry of Foreign Affairs

Colonel Michael Lutz

Head of Science, School NBC Defence and Legal Protection Tasks

12:15 p.m.

Lunch

02:00 p.m.

[Workshop Session II](#)

03:30 p.m.

Break

03:45 p.m.

[Spotlight on Defence Industry](#)

04:30 p.m.

Break

04:45 p.m.

[Panel discussion II:](#)

NATO's Climate Challenge: Adapting to new Security Threats
Extreme temperatures, rising sea levels and severe weather: Climate change is one of the greatest challenges of the 21st century and has significant implications for international security. This workshop will examine how climate change affects NATO and how the Alliance is and should adapt. Participants will examine the various challenges NATO faces as a result of climate change and the broader political and societal implications. The goal of the workshop is to develop a comprehensive understanding of the impact of climate change on defense issues and to develop innovative solutions for NATO's continued adaptation to this evolving environment.

What are the key climate change factors affecting NATO, and how is the Alliance responding? How is NATO responding to the adaptations of its peers, and what strategic proposals should be considered for future action? How are the varying impacts of climate change?

Irina Novakova

Head of Disaster Response at NATO

Nisreen Elsaim

Former Chair, United Nations Secretary General's Youth Advisory Group on Climate Change

Vice-Admiral (Ret) Ben Bekkering

Former Netherlands Military Representative to NATO and EU, International Military Council on Climate and Security

Tim Bosch

Research Fellow at the Centre for Climate and Foreign Policy

TAT Restaurant, Niederbarnimstraße 17, 10247 Berlin

07:00 p.m.

Dinner (Self-pay basis)

Sunday, November 10

Andres Industries AG, Weißenseer Weg 37, 13055 Berlin

09:30 a.m.

Panel discussion III:

From Support to Success: How Can NATO Ensure Victory for Ukraine?

Since Russia's invasion of Ukraine, NATO members have stepped up their support for the country. Together, NATO allies account for 99 percent of all military assistance to Ukraine. NATO members send weapons, ammunition, and many types of light and heavy military equipment to Ukraine. The country also receives millions of dollars in financial assistance from NATO. Through NATO's Comprehensive Assistance Package (CAP) and related funds, Allies have pledged about \$870 million (as of July 2024).

However, since Ukraine is not a NATO member, the collective defense commitment does not apply. The war continues, the news from Ukraine is not always positive, and there is no near-term end in sight.

If, as NATO leaders have repeatedly stressed, Ukraine must not lose, what exactly must the Alliance's support and action look like? What political, financial, and defensive measures are needed to help Ukraine win? Where should the line be drawn between feasible and unfeasible support and action?

Oleksii Makeiev

Ambassador Extraordinary and Plenipotentiary of Ukraine to Germany

Alexander Müller

Member of the Bundestag, Spokesman for Defence Policy of the FDP Parliamentary Group

Beata Patasova

Programme Officer, Engagements Section, Public Diplomacy
Division, NATO

Iryna Krasnoshtan
Program Director, International Centre for Ukrainian Victory

11:00 a.m.

Coffee Break

11:15 a.m.

Workshop Session III

12:00 p.m.

Presentation of the Recommendations & Wrap-up

01:00 p.m.

Farewell Snacks

PANEL 1 | NATO's Role in the Global Biosecurity Architecture



The last few decades have seen unprecedented advances in biotechnology, bringing both remarkable benefits and significant risks. While these discoveries hold great promise, they also pose significant risks. As highlighted in NATO's 2024 Strategy for Biotechnology and Human Enhancement Technologies, biotechnologies can pose serious threats to armed forces, societies and the environment. For example, the proliferation of engineered viruses (e.g., superviruses) or the unpredictable spread of biological agents with potentially irreversible consequences.

The global governance framework is inadequate to address these challenges. Despite the existence of international regulations and export control regimes, such as the Biological Weapons Convention (BWC) and the Wassenaar Arrangement, ratification and implementation of the frameworks remains uneven. As a result, the international biosecurity architecture remains underdeveloped, leaving the world and NATO vulnerable to the misuse of emerging biotechnologies.

This workshop will assess current governance gaps and explore strategies for strengthening international cooperation and regulatory frameworks. Participants will engage in discussions to develop policy recommendations for a safer and more resilient global biosecurity environment. We will consider the interplay between artificial intelligence and emerging biochemical threats, compliance and cooperation under the BWC, and the role of NATO in navigating the changing biotechnology landscape.

PANELISTS



Silke Bellmann

Deputy Head of Division Chemical and Biological Weapons Disarmament, G7 Global Partnership, German Biosecurity Programme

Born in Dresden, Germany. Highschool exchange year in Houston area. Master's degree in Political Sciences (major), Latin American Studies and Sociology (minors) from Universität Potsdam and Freie Universität Berlin. Exchange year at Universidad de los Andes in Bogotá. Has been working for the Federal Foreign Office since 2008 (German Embassy Kabul, German Embassy Hanoi, Division for Conventional Arms Control, German Embassy Minsk, Division for the Council of Europe, Division for the Western Balkans). Since 2022, Deputy Head of Division for Chemical and Biological Weapons Disarmament, G7 Global Partnership against the Spread of Weapons and Materials of Mass Destruction and Director of the German Biosecurity Programme.



Colonel Michael Lutz

Head of Science, School NBC Defence and Legal Protection Tasks

Michael Lutz is a colonel at the German armed forces leading the Scientific Division at the School for CBRN Defence and Statutory Protection Tasks, under the German Armed Forces' Chemical, Biological, Radiological, and Nuclear (CBRN) Defence Command. He is responsible for overseeing scientific expertise in CBRN defense across six specialized departments. For this purpose, the team operates training laboratories, develops technical documentation and expert reports, and provides the German armed forces with mobile CBRN analysis units for training, exercises, and deployment.



Dr Dunja Manal Sabra

Research Associate, Center for Natural Science and Peace Research, University of Hamburg

Dr. Dunja Sabra is a dedicated researcher specializing in biosecurity at the INFABRI working group within the Carl Friedrich von Weizsäcker Centre for Science and Peace Research. With a PhD in Environmental Biotechnology and Microbiology, she is an Assistant Professor (currently on leave) at Alexandria University's Faculty of Science. Her work spans academia and industry, including roles as a scientific translator in German, English, and Arabic for projects focusing on Saudi Arabia, the Gulf, and North Africa. An experienced intercultural trainer, she supports integration and diversity initiatives and leads projects promoting cultural dialogue. With years of teaching, research, and project management experience, she is well-versed in guiding complex, large-scale scientific endeavours and mentoring postgraduate researchers.

CHAIRS



Ana Romeral

Political Affairs Intern,
United Nations Office for
Disarmament Affairs

Ana Romeral is postgraduate student in Crisis and Security Management at Leiden University, where she completed her bachelor's degree in Security Studies. Simultaneously, Ana pursues a Biology degree at the RWTH Aachen. Her interests lay in the intersection of Security Studies and Biology. Ana is currently interning at the Biological Weapons Convention Implementation Support Unit at the UN Office for Disarmament Affairs. From 2022 to 2024 she worked as a student research assistant at the Interdisciplinary Research group for the Analysis of Biological Risks at the University of Hamburg.



Jan Quosdorf

Postgraduate student at
King's College London and at
the University of Hamburg

Jan Quosdorf is a Master's student in Security Studies at King's College London and the University of Hamburg. His research focuses on nuclear deterrence, arms control, and emerging technologies' impact on strategic stability, particularly regarding China and NATO. He currently works with the Arms Control Negotiation Academy and the Helmut Schmidt University/University of the Bundeswehr Hamburg. Previously, he gained experience at the University of Iceland, German Council on Foreign Relations, Peace Research Institute Frankfurt, and British American Security Information Council. He holds a B.A. in Political Science and East Asian Studies/Modern China, having studied at the University of Goettingen and Tsinghua University.



Theo Stoecker

Postgraduate student at the
Technical University of Munich

Theodor Stoecker is a German postgraduate student in Information Systems at the Technical University of Munich, focusing on explainable AI and machine learning interpretability. He contributes to research on AI-driven decision-making at the University of Regensburg and has practical experience in digital compliance. His studies at Yonsei University in Seoul have broadened his perspective on technology's role in global strategy, with a particular interest on the security implications of globalization and emerging technologies.

INVESTIGATING DISEASE OUTBREAK ORIGINS by Emil Iftekhar

Imagine a scenario where a highly infectious disease suddenly emerges. The origin of the pathogen and the outbreak is unclear, i.e. whether it is natural or man-made. However, from a biosecurity perspective it is crucial to know the origin to respond effectively to the outbreak, learn from incidents, and deter potential bioweapon use. In the following, I will first explain current problems with investigating and identifying the origin of an outbreak in the international system. Second, I will elaborate on the mentioned reasons on why the identification of the origin is important.

1. Disease outbreaks of unknown origin are difficult to investigate

There have been continuing discussions about whether the COVID-19 pandemic originated zoonotically or from a laboratory. This example shows that identifying the origin of an infectious disease outbreak is not always easy. Hence, it is sometimes necessary to actively investigate the origins of an outbreak. When a disease outbreak occurs, either the World Health Organization (WHO) - or another member of the Quadripartite – conducts the investigation or a country does it itself. However, there are problems in both cases.

Let us start with the first case with the example of the WHO: The WHO's primary mandate is to safeguard public health, and its investigations are geared towards natural outbreaks. If suspicions arise about the outbreak's artificial origin, the WHO faces a dilemma: Announcing such suspicions could anger implicated countries, potentially hindering the organization's ability to coordinate an effective public health response. This political sensitivity creates a gap in our ability to investigate potential bioweapon use. The Biological Weapons Convention, while prohibiting bioweapons, lacks any investigative capacity of its own. Another mechanism, the United Nations Secretary-General's Mechanism, does have the authority to investigate alleged bioweapon use, but activating it requires overcoming significant political barriers. A member state must formally request an investigation, a step many countries might hesitate to take without irrefutable evidence. This leaves the global community in a precarious position, lacking a clear, politically feasible

path to investigate disease outbreaks that may have resulted from bioweapon use without prematurely raising international tensions.

Let us turn to the second case of an affected country conducting the investigation on its own. As it is much more common for natural outbreaks to happen and awareness about lab-leaks and bioweapons is low, most disease outbreak investigations default to assuming natural origins, potentially overlooking crucial evidence of other origins. Current analytical methods are primarily designed to track natural evolution and spread. They may lack the specificity needed to detect subtle signs of human manipulation in pathogen genomes or unusual patterns in disease transmission dynamics. The challenge is compounded by the rapid pace of biotechnological and AI advancements, making it increasingly difficult to distinguish between natural and artificial genetic sequences. Additionally, many countries lack the advanced laboratory capabilities and trained personnel necessary to conduct thorough investigations. These limitations collectively hinder especially a low-resourced country's ability to rapidly and accurately identify the source of an outbreak, particularly if it originates from a deliberate act of bioengineering. Dealing with these limitations may ultimately require an international standing mechanism that can develop and maintain capacities to conduct such investigations.

Thereby, we see that there is a large barrier to identifying the origin of an outbreak due to the lack of an appropriate international mechanism and national capacities for conducting such investigations.

2. Knowing the origin of a disease outbreak is important

The ability to accurately identify the source of a disease outbreak, especially in cases of potential bioweapon use, is crucial for several reasons. Firstly, understanding the origin allows for a more tailored and effective outbreak response. If an outbreak is identified as resulting from an engineered pathogen, response strategies can be adjusted accordingly, potentially focusing on unique characteristics of the agent that might not be present in naturally occurring pathogens. This could include targeted treatment approaches, more effective containment strategies, or even the rapid development of specific countermeasures. Secondly, identifying the source is vital for learning from the incident and improving future preparedness. By understanding how a bioweapon

was developed, deployed, and initially spread, the country and the global community can enhance detection methods, strengthen biosecurity measures, and close vulnerabilities in current systems. This knowledge is invaluable for preventing similar incidents in the future. Moreover, the ability to trace an outbreak to its source serves as a powerful deterrent against the use of bioweapons. If potential actors know that a robust system exists to identify the origins of engineered pathogens, they may be less likely to consider developing or deploying such weapons. This deterrence effect extends beyond state actors to potentially discourage non-state groups or individuals from pursuing bioweapons. Additionally, accurate source identification supports justice and accountability, allowing for appropriate legal or diplomatic actions against those responsible for bioweapon development or use. Finally, in cases where an outbreak is conclusively identified as natural, this knowledge can allay fears, prevent misinformation, and allow resources to be directed more efficiently towards addressing the true cause of the outbreak. In essence, the ability to identify outbreak sources enhances

response effectiveness, improves preparedness, acts as a deterrent, supports accountability, and helps manage public perception and resource allocation.

In conclusion, we have seen the importance of and also barriers to successful disease outbreak origin investigations in the context of biosecurity. Firstly, I have identified a significant gap in the current international system for investigating outbreaks of unknown origin, stemming from political sensitivities and limitations in national capacities. Secondly, I have underscored the crucial importance of identifying the origin of disease outbreaks for effective response, deterrence, accountability, and future preparedness. Beyond WHO's recent framework that can guide how to investigate outbreak origins, there is the need for a robust, politically feasible international mechanism to investigate potential bioweapon use, coupled with efforts to enhance global investigative capabilities. Addressing these challenges is essential for strengthening our collective biosecurity in the face of evolving biological threats.



Emil Iftekhar
Researcher, Robert
Koch Institute / WHO
Pandemic Hub

Dr Emil Nafis Iftekhar specializes in biosecurity policy. He is researcher at the national public health institute of Germany (Robert Koch Institute) in Berlin. There, he works on improving disease outbreak response in collaboration with the WHO Hub for Pandemic and Epidemic Intelligence.

Previously, he has gathered various experience in biosecurity policy: at the UN Office for Disarmament Affairs and the Implementation Support Unit of the Biological Weapons Convention (BWC), researching and advocating for national COVID-19 policy in Germany, and managing a working group on Pandemic Prevention and Biosecurity at the Global Health Hub Germany. He has a PhD in Physics of Biology and Complex Systems from the Max Planck Institute for Dynamics and Self-Organisation in Göttingen, Germany.

BUILDING A COHESIVE GLOBAL BIOSECURITY ARCHITECTURE: FROM TOP-DOWN TO BOTTOM-UP

by Anne Martina Kraus

In the realm of biosecurity, every strategy, no matter how well-designed, requires people and systems to bring it to life. Biosecurity threats, from pandemics to bioterrorism, don't recognize borders. NATO's 2024 Strategy on Biotechnology and Human Enhancement underscores this urgency. Yet, to truly bolster global biosecurity, we must look beyond intervention alone. We need to reinforce the architecture of stakeholders who enact these measures—a complex web spanning governments, research institutions, and international alliances. For NATO and its allies, achieving robust biosecurity means being both models of preparedness and connectors in a global network that includes countries with fewer resources.

Biosecurity, after all, cannot be optional. The COVID-19 pandemic underscored that preparedness is a necessity, not a luxury. While the world learned hard lessons from COVID-19, the pandemic also revealed major gaps in how countries, including resource-rich NATO members, handle biosecurity. Many interventions were implemented on a “try-and-fail” basis, often at high cost and with mixed results. Measures like school closures and lockdowns were enacted with minimal data-driven insights, highlighting the lack of preparedness for evaluating and deploying effective interventions. This is why NATO, with its extensive network of partners and resources, must lead the way in making biosecurity a cornerstone of national defense, ensuring that every intervention is both evidence-based and supported by a coordinated network.

To reach this goal, NATO countries should invest in biosecurity research to build a robust evidence base for effective interventions. For example, while one country might choose to invest in better indoor air quality measures, another may focus on building protective equipment stockpiles. Implementing different measures allows each country to be better prepared in their unique contexts. Just like how diversified investments protect an economic portfolio, having varied biosecurity strategies helps ensure resilience in unpredictable crises. At the same time, these countries can evaluate the efficacy of

different measures and learn from each other's implementations, not only from theoretical concepts.

However, even among NATO countries, advancing such research poses challenges. Norway, for example, has stringent consent requirements that make it difficult to conduct large-scale research on the effects of already implemented measures. Take, for example, improved air quality in schools. Though the intervention itself is permissible, legal constraints prevent evaluating its efficacy as with many other randomized trials.¹ This challenge reveals a need for more adaptive research policies that respect privacy and consent but are also flexible enough to serve public health goals effectively. This balance is crucial if we are to both protect citizens' rights and prevent future pandemics.

Another positive effect of bolstering biosecurity research is that NATO countries can become models for resource-limited nations. Unlike wealthier nations, countries with fewer resources cannot afford a “try-and-fail” approach to biosecurity; without capital to recover from missteps, they face greater risks if initial interventions fall short. NATO's member states, by learning from their COVID-19 responses and honing proven biosecurity measures, can establish resilient, cost-effective protocols that serve as a roadmap for other nations.

Through thorough preparation at the national level, NATO could shift from a top-down approach to a bottom-up approach to global biosecurity. Shifting from a model of prepared countries to a prepared world tackles inefficiencies in the current multilayered biosecurity architecture, which consists of numerous international and national players. Currently, this architecture is rife with silos; information and resources pass through multiple layers, slowing response times and complicating communication between key stakeholders. NATO is well-positioned to address these gaps by strengthening collaboration among member states and fostering cooperative relationships with non-member states working to improve their biosecurity. Enhanced collaboration would allow us to bridge gaps that, in times of crisis, could otherwise lead to costly delays.

Taken together, strengthening the global biosecurity architecture with a bottom-up approach allows us to benefit from each country's unique approaches to pandemic response. COVID-19 showed us that while nations faced a common challenge, responses varied

¹ <https://trialsjournal.biomedcentral.com/articles/10.1186/s13063-024-08547-2>

widely, with differing levels of success. But why did some succeed where others struggled? Learning from these varied approaches is essential if we are to avoid repeating costly mistakes in the future.

NATO's biosecurity strategy, therefore, should focus on strengthening member states' preparedness and encouraging each country to build a robust biosecurity and pandemic preparedness framework. Building on this foundation, NATO can then facilitate communication to

help other nations adopt effective interventions. The pandemic proved that we are only as strong as our weakest link. Helping nations being prepared will help prevent another global disaster. As NATO implements its strategy, it should aim to make biosecurity a global public good—rooted in the efforts of resource-rich countries building robust biosecurity responses and sharing these approaches with those who cannot afford failure.



**Anne Martina
Kraus**

Medical Doctor at the
Norwegian Institute
of Public Health in
Oslo, Norway

My journey in biosecurity began as a pediatric resident dealing with infectious diseases, witnessing the challenges posed by viruses like RSV, influenza, and COVID-19 in a German children's hospital. Motivated to focus on prevention, I transitioned into public health. Currently at the Norwegian Institute of Public Health, I contribute to strengthening healthcare through research on evidence-based interventions. My doctorate in bioinformatics and attendance at the Oxford Machine Learning Summer School deepened my understanding of biosecurity threats from AI and biotechnology. Working in countries like China, Portugal, and Colombia broadened my perspective, reinforcing my belief in international collaboration to enhance global biosecurity

***STRENGTHENING GLOBAL BIOSECURITY:
LESSONS FROM AUSTRALIA'S APPROACH FOR
NATO'S BIOTECHNOLOGY STRATEGY***
by Kimberly Locher

Australia's proactive biosecurity strategies, including strict regulations, advanced monitoring systems, and collaboration with global partners, address biotech risks. This essay examines Australia's role in enhancing international biosecurity and offers recommendations for NATO.

Biotechnology encompasses a range of advanced technologies that allow for the change and control of biological functions in humans, animals, and plants. Focusing on the medical field, possibilities of changing live DNA through CRISPR/Cas9 are creating huge breakthroughs in order to treat genetic illnesses, however the same technology can also be used to create biological weapons. The coronavirus pandemic has made it clear what possible benefits but also heavy risks biotechnology research can include. The same has been possible in the agricultural field, where genetically modified plants are created. Fears of advancement in this field are large, including issues such as losing diversity of crops, that homogeneity could lead to a plant that is more susceptible to pests or environmental factors, as well as ethical dilemmas deriving from the mixing of species.

Australia's Biosecurity Framework

Australia's biosecurity is upheld by a network of dedicated agencies and frameworks that manage risks to human and environmental health. The Australian Centre for Disease Preparedness (ACDP) specializes in early detection and response to potential biological threats. The Department of Agriculture, Fisheries, and Forestry (DAFF) plays a vital role in enforcing policies at entry points to prevent the introduction of harmful organisms into the country. This network of agencies ensures coordinated biosecurity and fast action against potential risks. Australia's regulatory frameworks are designed to adapt to emerging biotechnologies, making it one of the few countries capable of rapidly adjusting its protocols to address advancements in genetic engineering and biotechnology.

The country's approach is relatively technology-driven, combining techniques in pathogen detection and genetic monitoring to prophylactically address biosecurity threats. When facing biotechnology risks, Australia has a focus on

genetic surveillance to identify and lessen the potential of biohazards, whether from invasive agricultural pests to engineered biological agents. With this proactive idea, the country not only protects its own environment, but sets the way for a global biosecurity strategy that NATO and other actors could make use of.

Australia's compliance with international biosecurity frameworks, such as the Biological Weapons Convention (BWC), the Wassenaar Arrangement, and the Australia Group, shows its active contribution to international biosafety standards. The BWC, established in 1972,

prohibits the development, production, and stockpiling of biological weapons and promotes international biosecurity standards. The Wassenaar Arrangement of 1996 is an export control agreement that restricts the transfer of dual-use technologies, including biotechnology, to prevent their use in military settings. Similarly, the Australia Group, founded in 1985, is an informal forum of countries that coordinates export controls on materials and technology to prevent the spread of chemical and biological weapon capabilities. The country puts a focus on sharing its progress in genetic monitoring and supports an international cooperative model, which is crucial for counteracting international biotechnology threats, which aligns with NATO's 2024 biotechnology strategy aimed at managing biochemical threats. This cooperation with NATO member countries and other international actors reinforces compliance under the BWC and encourages member states to prioritize biotechnological safety, creating a comprehensive global biosecurity architecture. (Carnegie Endowment for International Peace, 2020; NATO, 2024).

Recommendations for NATO

Based on Australia's approach, NATO could enhance biosecurity through three key strategies:

Enhanced Pathogen Detection: Following Australia's example of real-time genetic surveillance, NATO can adopt advanced pathogen detection systems for early identification of biohazards. By integrating similar monitoring tools, NATO member countries can proactively address emerging biological threats before they escalate, thereby improving crisis response preparedness (Department of Agriculture, Fisheries and Forestry, 2024).

Regulatory Flexibility for Emerging Technologies:

Australia's adaptability, especially concerning new gene-editing technologies, illustrates the need for NATO to create frameworks that grow with technological advancements. This approach ensures that safety measures keep pace with innovation, particularly for dual-use research technologies like CRISPR (BIO Web of Conferences, 2020).

International Collaboration and Data Sharing:

Following Australia's active participation in global biosecurity frameworks, NATO can foster increased information exchange and collaborative research to strengthen compliance under the Biological Weapons Convention (BWC) within its member states. This cooperative strategy could heighten biosecurity standards across member states, while decreasing misuse and promoting a unified response to biotechnology threats (Carnegie Endowment for International Peace, 2020).

Conclusion

Australia's biosecurity model offers a practical framework that NATO and global stakeholders can use as inspiration to lessen biotechnological risks. By adopting Australia's strategies in pathogen detection, regulatory flexibility, and international cooperation, NATO can strengthen its biosecurity posture, thereby building a comprehensive, resilient framework for handling future biotechnology challenges. These recommendations provide NATO with a proven blueprint to maintain secure, adaptable, and cooperative biosecurity measures, essential for safeguarding public health and global stability in an era of rapid biotechnological advancement.



**Kimberly
Locher**
Student

Kimberly Locher grew up in South Africa before moving to Germany to further her education. She is currently pursuing a Bachelor's degree in International Emergency and Disaster Relief while working as a paramedic in Frankfurt. Her passion lies in foreign policy, which is why she volunteers and is a board member in a local university group for security and foreign policy.

HOW NATO COULD HELP DURING THE NEXT PANDEMIC

by Mariya Martiyenko

The Earth's surface is constantly changing. Evolution, adaptation, and the spread of organisms, as well as frequent first encounters between species, are as old as life itself on Earth. However, since the dawn of the Holozoic era, it seems as if the fast-forward button has been continually pressed on the development and interaction of life on Earth, forcing a highly dynamic equilibrium out of balance.

This process is commonly described as "climate change" or the "sixth great wave of extinction," depending on the focus. Both terms describe the drastic transformation of environmental habitats—whether it be the thawing of millennia-old ice masses, deforestation, desertification, or landscape remodelling driven by temperature increases.

These changes are largely either directly caused or catalyzed by human activity and carry consequences for both humans and the other inhabitants of affected ecosystems. Additionally, impacts on one species can create a cascade, affecting others down the line. From a human perspective, there are several downstream consequences of these environmental changes beyond the immediate physical dangers of rising temperatures (e.g., heat-related fatalities), including increases in extreme weather events, potential food shortages, and freshwater supply loss. One such consequence is the increasing likelihood of new pathogens and viruses emerging and infecting humans.

The impact of such an event was vividly illustrated by the COVID-19 outbreak in Wuhan, China—an event that caused the deaths of millions of people worldwide, led to disruptions in international trade and shortages in critical sectors, forced governments to order lockdowns, hindered educational and social processes, and spurred spikes in domestic violence and the spread of conspiracy theories.

In the case of COVID-19, the infection of "patient zero" with SARS-CoV-2 most likely occurred in a spillover event known as "zoonosis," where a virus jumps from one species to another. A zoonotic virus adapts to a new host via favorable mutations in its genome or by recombination of different viruses. While the exact chain of events for COVID-19 is not entirely clear, it is believed to have originated from a bat reservoir and likely spilled over to humans through an intermediate host species.

COVID-19 may be the most prominent example, but it is not the only virulent spillover in recent times. The 2014 Ebola outbreak in Guinea, the seventh and largest

recorded, claimed over 11,000 lives out of 28,000 cases. By comparison, COVID-19 has a mortality rate of around 1%.

Human encroachment on wildlife habitats heightens the likelihood of such zoonotic events as it increases the frequency of interactions with animal populations. This likelihood is further exacerbated by shifting temperatures, which allow certain animals, such as mosquitoes that transmit hitherto "exotic" diseases, to migrate into previously inhospitable regions. This shift poses a new set of health threats to populations in these areas, where treatments and preventative measures may not yet exist.

Additionally, rising temperatures are causing ice masses and permafrost to thaw, potentially releasing ancient pathogens and viruses to which humans have little or no immunity. One such event was the first anthrax outbreak after 70 years in Siberia in 2016 infecting thousands of reindeers and a couple of humans. The potential threat of these developments is amplified by our increasingly globalized world, which enables emerging diseases to spread quickly and heightens the risk of future pandemics.

Beyond the immediate health risks, pandemics bring significant social impacts. The COVID-19 pandemic increased societal insecurity, fueled conspiracy theories, and intensified social divisions. The far-reaching social impacts of pandemics also include economic repercussions that exacerbate inequalities. During the COVID-19 pandemic, vulnerable communities experienced disproportionate hardship, with limited access to healthcare and financial support, widening the socioeconomic divide. The pandemic underscored the urgent need for robust, inclusive systems that enhance societal resilience. In facing future outbreaks, countries will need to reassess public health investments, focusing on equitable access and distribution to bolster societal resilience across demographic and economic boundaries. This shift is essential in building adaptive systems that can withstand and respond to emergent public health crises on a global scale.

As with climate change in general, preventing and addressing health issues related to it is more effectively accomplished through international cooperation. In principle, the more countries involved, the better. However, given current circumstances—with the "West" and its allies being the targets of hybrid warfare from Russia and its proxies, as well as China's demonstrated unreliability during the COVID-19 pandemic—the effectiveness of joint global action to prevent pandemics is not guaranteed.

Given the complex and cascading threats posed by climate change and zoonotic disease spillover, NATO's role in addressing this multidimensional challenge should expand beyond traditional defense. While NATO's core mission remains collective defense and security, the alliance is uniquely positioned to contribute to a global strategy that mitigates the security risks associated with environmental change and health crises. In particular,

NATO can play a crucial role in fostering resilience against these new-age threats through a combination of surveillance, coordinated response, and strategic partnerships.

First, NATO could establish a robust early-warning system focused on zoonotic disease outbreaks, aligning this system with existing intelligence and surveillance capabilities. Leveraging its extensive intelligence infrastructure, NATO could monitor potential disease hotspots and rapidly disseminate information about emerging health threats. This system could function in close collaboration with national public health agencies and international bodies such as the World Health Organization, aiming to provide real-time data on disease spread and cross-border health risks. By coordinating military and health-sector intelligence, NATO can strengthen both the accuracy and timeliness of global health responses.

Moreover, NATO should consider fostering cooperation on climate adaptation and resilience as a strategic objective. The alliance can support member states by developing training programs that prepare military personnel to respond to natural disasters and health emergencies linked to climate change. By acting as a stabilizing force, NATO can help prevent crises from escalating into security threats, while also promoting resilience in allied countries. This strategic pivot would not only enhance NATO's relevance in a rapidly evolving global landscape but also demonstrate its commitment to addressing non-traditional threats to peace and stability.



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Mariya Martiyenko is a master student in Peace and Security Studies at the University of Hamburg and works as a freelance journalist for ZEIT and ZEIT ONLINE. She holds a bachelor's degree in Biochemistry from the Free University of Berlin. She is originally from Kharkiv, Ukraine.

A MODERN SECURITY APPROACH SHOULD NOT SHY AWAY FROM BIG CHANGES
by Felix Pfaff

CHANGING CHARACTER OF THE OPERATIONAL ENVIRONMENT

Nowadays, whenever a political, research, or military figure speaks on broader aspects of security – particularly in ensuring the present and future well-being of a given population – one cannot help but notice the surge in the use of the word “resilience.” It seems to be trending, as one encounters “resilience” across numerous topics, including defense, infrastructure, supply chains, energy production, economics, natural disasters, and the introduction of new technologies. A heightened awareness of vulnerability has emerged, sparking calls for greater resilience.

It doesn't take long to identify the causes of this new sense of vulnerability. After years of relative peace, or at least a feeling of peace, war has broken out in Europe, unleashed by an aggressive, imperialistic, and revanchist nuclear power that aims not only to annihilate its neighbor but to reshape Europe's political landscape – if not the world's – by any means necessary. This mission is bolstered by other antiliberal powers working to remodel the world order. European NATO countries must now prepare for potential armed conflicts and fortify themselves against various forms of hostile measures intended to destabilize and unsettle their societies.

This confrontation has painfully underscored dangerous dependencies in the critical energy sector. This issue aligns with a broader list of dependencies on unreliable trade partners, issues that were highlighted during the Covid pandemic or became apparent upon reevaluation as the war continued.

Further, the world recently endured a pandemic that claimed over 7 million lives, led to a breakdown of essential supplies and public life, and brought the healthcare systems of some countries to the brink of collapse. To make matters worse, scientists emphasize that this pandemic is not an isolated event, warning of future outbreaks.

All of this is occurring as the impacts of climate change are increasingly evident. Extreme weather events are becoming more frequent, landscapes are shifting, habitats are disappearing, species are going extinct,

ecosystems are collapsing, and tipping points are being reached. Life will likely become less safe in the foreseeable future, not to mention the potential for cascading downstream effects. In light of these issues, it's no wonder that authorities are stressing the need for better preventive and response capabilities across various sectors. This approach is best exemplified by Sweden's total defense strategy, which includes measures not only against external military threats but also against diverse threats to public security.

These diverse threats include the potential of a new pandemic and the dangers of climate change, and both are either accelerated or amplified by daily human behavior and customs. Climate change in its present speed is human-driven; its consequences result from accelerating consumerism based on fossil fuels and the exploitation of raw materials. The byproducts of these practices have tipped the world's ecosystems out of balance, leading to rising temperatures.

While the evolution of pathogens such as viruses (like the SARS-CoV-2 virus responsible for the pandemic) is natural – proliferation is inherently accompanied by changes, which, if favorable, drive evolution. This poses a potential risk, since viral or bacterial evolution can enable these organisms to target hosts, they previously could not infect.

The Covid-19 pandemic likely resulted from such an evolutionary process, allowing the SARS-CoV-2 virus to spill over from bats, potentially via an intermediary host (not yet definitively identified), to humans by evolving to bind to a cell-surface receptor protein. Diseases resulting from such animal-to-human spillovers are called zoonoses. Zoonoses have been responsible for three-quarters of all newly emerged human pathogens in recent decades, thereby posing a major threat to public health.

There are various ways a pathogen can jump from an animal source to humans, though this does not guarantee it will be able to transmit from human to human and so, one zoonotic event does not necessarily cause a pandemic. However, certain factors facilitate zoonotic events, thereby making a pandemic more likely.

One factor is human encroachment on wildlife, which forces wild animals into closer proximity to humans and domestic animals. This proximity creates new points of contact between species, increasing the risk of unknown or uncommon pathogens spilling over into human

populations, which would have little to no immunity to them, with potentially disastrous consequences.

Encroachment on wildlife is also connected to another major facilitator of zoonotic events: industrial livestock farming. Global demand for animal products has led to a surge in farm animals, resulting in large populations of low-diversity animals within often strongly confined spaces. Such conditions allow pathogens that infect these animals to spread quickly and multiply, thereby potentially evolving into forms that could infect humans. Increasing the animals' living space and letting them roam freely may not be the solution to this issue, as this heightens the likelihood of encounters with wild animals. This is problematic, given that livestock farming has played a direct role in recent influenza outbreaks, and a straightforward solution is not easily achievable. Furthermore, while close monitoring of emerging pathogens can certainly help, it cannot always prevent outbreaks, as seen with yearly influenza cases in animal

farms. Monitoring often only detects an outbreak, upon which appropriate measures aimed to prevent a spread of the pathogen can be implemented. Under the current farming models risks of a pandemic outbreak can be mitigated but never nullified.

Now, if it is indeed the overarching aim of decision-makers and political entities like NATO to ensure public security by strengthening resilience, then the risks posed by our current way of life should be thoroughly examined. New strategic concepts should take into account the threats inherent in our present lifestyle and evaluate whether notable changes are necessary to secure future well-being. If changes are deemed necessary, decision-makers should be transparent and honest in advocating them and should not sugar-coat the ease of implementation.



**Felix
Pfaff**

Intern and high-level
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Felix Pfaff is a master's student in biochemistry at the Freie Universität Berlin. He researched the effects of temperature on the processing of mRNA. He also worked in a malaria research group at the Max Planck Institute for Infection Biology.

PANEL 2 | NATO's Climate Challenge: Adapting to New Security Threats



Extreme temperatures, rising sea levels and severe weather: Climate change is one of the greatest challenges of the 21st century and has significant implications for international security. This workshop will examine how climate change affects NATO and how the Alliance is and should adapt. Participants will examine the various challenges NATO faces as a result of climate change and the broader political and societal implications. The goal of the workshop is to develop a comprehensive understanding of the impact of climate change on defense issues and to develop innovative solutions for NATO's continued adaptation to this evolving environment.

What are the key climate change factors affecting NATO, and how is the Alliance responding? How is NATO responding to the adaptations of its peers, and what strategic proposals should be considered for future action? How are the varying impacts of climate change?

PANELISTS



Nisreen Elsaim

Former Chair, United Nations Secretary General's Youth Advisory Group on Climate Change

Nisreen Elsaim is an accomplished environmental and climate activist with a Bachelor's degree in physics from the University of Khartoum, Sudan. She furthered her academic pursuits by obtaining a master's degree in renewable energy from the same university. Notably, she serves as the General Coordinator for Youth and Environment - Sudan (YES), a platform dedicated to providing networking opportunities for environmentally-conscious youth. Additionally, Nisreen holds the position of Chair at the Sudan Youth Organization on Climate Change (SYOCC), a youth-led organization committed to addressing climate issues.

Nisreen's expertise is further showcased through her contributions to policy papers on climate change, renewable energy, gender equality, and youth empowerment. Her exceptional abilities were acknowledged when she was appointed to chair the UN Secretary General Youth Adviser on Climate Change in 2020.

In 2022, Nisreen was selected as part of the inaugural cohort of the Marianne Initiative for Human Rights Defenders, a prestigious program initiated by the French president. And in the same year different Media communications said she was short listed to win the Nobel Prize for peace.



**Vice-Admiral (Ret)
Ben Bekkering**

Fellow, International Military Council on Climate and Security;
Former Netherlands Military Representative to NATO and EU

After 40 years as a naval officer, including three commands at sea and a number of staff jobs at the Ministry of Defense, Ben retired from the senior service in 2019. In his last seagoing appointment, leading NATO's counter piracy operation off Somalia, he witnessed first-hand the close ties between climate change and security. In his last job, serving as the Netherlands military representative to NATO and the EU, he saw how the effects of climate change slowly but surely entered the policy making arena of both organisations. Since retirement, he has been active to promote the relevance of the climate change and security nexus and the role of water and the maritime domain within it. Currently, he mentors the Top-Level Staff Course of the Netherlands Ministry of Defense, acts as a Vice Chairman of the Netherlands Atlantic Association and is attached to the Clingendael Institute as a senior associate. Ben lives in the Bloemendaal, close to the sea as one could expect, with his partner Jolande. They share a passion for travel, most of all in their vintage VW T2 campervan.



Tim Bosch

Research Fellow,
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Tim Bosch is a research fellow in DGAP's Center for Climate and Foreign Policy. His focus areas include the security implications of climate change and the foreign policy and geopolitical challenges arising from the green transition.

If you would like to add more context, you may also include: Tim joined DGAP in 2021 as a research assistant. Later, he worked as a project manager in a DGAP dialogue project which accompanied the establishment of the German Federal Foreign Office's first Climate Foreign Policy Strategy. Tim holds an interdisciplinary bachelor's degree in international relations from Dresden University of Technology and a master's in international security from Sciences Po Paris.

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CHAIRS



Anne Runhaar
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Anne Runhaar studies International Politics and International Law at the University Kiel. Her focus lies on maritime strategy and security, with a special emphasis on the Arctic Region. Next to her studies she works at the Institute for Security Policy in the maritime security and strategy department. Additionally she is Co-Founder of Model NATO Germany, works with Student Young Pugwash Germany, where she was a speaker at an official sideevent at the munich security conference 2024 and is board member of IFAIR, an organization with foreign policy specialisation.

CLIMATE CHANGE AND GLOBAL SECURITY: NATO'S EVOLVING RESPONSE TO EMERGING THREATS

by Cristina Dinca

1. Context: Addressing Climate-Driven Security Risks

Climate change is reshaping the global security landscape, driving new risks and amplifying existing vulnerabilities in ways that demand attention from defence organisations around the world. In addition to being environmental problems, rising temperatures, changing ecosystems, and frequent extreme weather events, all directly and significantly affect security and stability.

NATO has identified climate change as a defining challenge of our time, acknowledging its crucial security implications. NATO's 2022 Strategic Concept makes this clear by highlighting the substantial impact that climate change would have on Allied security and by urging NATO to take the lead globally in understanding and preparing for these threats.

Building on this, NATO has made progress in tackling security issues brought on by climate change. At the crucial 2023 NATO Summit in Vilnius, the Allies approved the creation of a NATO Center of Excellence (COE) for Climate Change and Security in Montreal, Canada, to promote strategic adaptation and research. In 2024, the Secretary General's annual Climate Change and Security Impact Assessment highlighted how crucial it is for NATO to remain "fit for purpose" in an environment that is rapidly evolving. For the first time, the report extended its analysis to look at how climate impacts NATO's adversaries and strategic competitors, signalling a broader understanding of climate-related risks beyond Allied borders. The environmental impact of Russia's full-scale invasion of Ukraine was also covered in the research, with a focus on how military conflicts increase environmental degradation and regional instability while posing new security threats in already vulnerable regions. Together, these initiatives demonstrate NATO's commitment to adapting its strategies to tackle the complex security challenges posed by climate change. However, NATO's actions will need to get even stronger as climate-driven threats continue to increase.

2. NATO's Strategic Response to Climate-Driven Security Challenges

The following section explores three key aspects of NATO's response to climate change: first, the **direct**

impacts of climate change and the Alliance's steps to adapt; second, **the ecological impact of military activities** and NATO's efforts to mitigate it; and third, **the role of energy security** as NATO shifts toward sustainable energy practices.

2.1. Climate Change and the Alliance's Adaptation Strategies

Rising sea levels, extreme temperatures, and more frequent severe weather events threaten NATO installations, disrupt supply chains, and restrict troop mobility.

Strategic proposals:

- a. **Adopting new technologies:** NATO could improve its use of satellite and AI-based climate data to monitor environmental changes and coordinate responses more effectively with allies and partners.
- b. **Strengthen partnerships with non-military organisations:** Working with civilian agencies and international governmental/non-governmental organisations could enhance NATO's ability to address non-traditional security threats, including climate-driven crises.

2.2. Environmental Impact of Military Activities

Military activities contribute to environmental harm, something NATO is increasingly realising. Activities related to military operations such as heavy equipment use, fuel use, and transportation emissions have a significant carbon footprint. Large-scale drills and operations in sensitive areas can potentially destabilise ecosystems, deplete natural resources, and worsen environmental degradation.

Strategic proposals:

- c. **Incorporation of circular economy principles:** NATO may use circular economy ideas to reduce waste and improve resource efficiency in logistics and supply networks. This includes reusing materials, recycling, and reducing single-use products throughout operations and exercises.
- d. **Development of environmental impact assessments:** Before carrying out military exercises or operations, NATO could conduct environmental impact assessments to analyse potential ecological consequences. This proactive strategy can help guide

decision-making and reduce harm to sensitive ecosystems.

2.3. Energy Security

Energy security is becoming an increasingly important component of NATO's policy, as the Alliance attempts to minimise dependency on fossil fuels and strengthen resilience to energy disturbances. To enhance energy security, NATO could consider the following solutions.

Strategic proposals:

- e. **Investment in sustainable technologies:** Using green technologies for bases, such as solar and wind power, would reduce dependency on traditional fuel sources and increase operational autonomy, while also reducing emissions in logistics.
- f. **Further investments in energy innovation:** Hydrogen fuel cells offer a promising alternative for powering military bases and vehicles, providing a clean, efficient, and reliable energy source. Equipment that runs on hydrogen only emits water vapor as a

byproduct, which makes it perfect for cutting emissions. Secondly, the integration of electric vehicles into NATO's fleet could also reduce its carbon footprint, especially when it comes to non-combat operations and on-base transportation. Finally, hybrid systems that integrate solar, electric, and hydrogen energy could improve NATO's energy resilience even more.

3. Conclusions

Climate change has far-reaching implications for NATO, affecting operational preparedness, infrastructure resilience, and strategic positioning. NATO's adaptation will require a combination of traditional military preparation and forward-thinking strategies centered on sustainability, and resilience. NATO can better handle the changing security scenario affected by climate change by investing more in innovation and developing partnerships outside of traditional military alliances.



Cristina Dinka

Cristina-Florentina Dinca is a Romania-born expert in international relations and sustainable development, now based in the Czech Republic. She holds a bachelor's degree in International Relations and a master's in Security and Diplomacy, and completed the Erasmus Mundus Joint Master's in Euroculture with studies in the Netherlands, Germany, and the U.S.

Cristina's career spans both public and private sectors, including roles at Romania's Ministry of Environment and consulting firms. As a former European Commission Blue Book trainee, she worked on integrating sustainable development into trade agreements. Now at AMIRES, she manages EU-funded projects in sustainable energy, aligning with her interests in innovation and the security-climate nexus.

NATO'S POTENTIAL ROLE IN CLIMATE SECURITY IN THE MENA REGION
by Francesca Fassbender

The escalating effects of climate change pose a profound challenge to global security, fundamentally altering NATO's operational landscape. Scholars like Thomas Homer-Dixon and Nils Petter Gleditsch have examined the "vicious cycle": where environmental stressors fuel conflict, which in turn intensifies environmental damage and depletes natural resources, thus perpetuating a cycle of vulnerability. Recognizing this interplay, NATO has expanded its mandate to include climate security. This shift, reflected in the 2021 NATO Climate Change and Security Action Plan (CCSAP), integrates climate considerations into NATO's strategic and operational frameworks. Climate-driven risks that destabilize neighboring regions present direct security concerns for NATO member states, demanding proactive management.

The Middle East and North Africa (MENA) region has long been one of the most conflict-affected regions in the world and is also particularly susceptible to climate-induced pressures, e.g. severe water scarcity, extreme heat, and environmental degradation. These pressures exacerbate local conflicts, fuel displacement, and increase migration, posing significant security challenges for NATO. This essay examines how NATO's climate security framework can support stability in the MENA region through resilience-building and cooperative security initiatives tailored to the region's vulnerabilities.

NATO's Climate Change and Security Action Plan (CCSAP): A Framework for Climate Security

Introduced in 2021, NATO's Climate Change and Security Action Plan (CCSAP) marks a significant shift in NATO's mission, traditionally focused on collective defense. The CCSAP prioritizes enhancing awareness of climate threats, adapting NATO's operations to climate impacts, reducing its environmental footprint, and strengthening partnerships with regional stakeholders.

Addressing Regional Instability: Climate Security in MENA Post-October 7

The recent escalation in the Middle East, particularly following the October 7, 2023, attacks and subsequent war, highlights the interconnectedness of security, climate, and political stability in the region. The conflict has led to a multi-layered crisis, including a humanitarian emergency, widespread environmental damage, and significant infrastructure degradation in areas like Gaza, Lebanon, and parts of Israel. Beyond the humanitarian toll, the environmental impact includes the contamination of water sources, destruction of agricultural land, pollution from explosives and airstrikes, and forest fires.

These environmental damages compound the breakdown of essential services, such as wastewater treatment, which threatens public health and intensifies socio-political instability. This disruption creates fertile ground for radicalization, displacement, and increased migration pressures, amplifying long-term security risks in the region.

NATO's approach in the MENA region should emphasize crisis management, resilience-building, and cooperative security to address these compounded challenges. By reinforcing local institutions, restoring critical infrastructure, and supporting environmental recovery, NATO can help mitigate the impacts of conflict and foster stability.

Operationalizing Climate Resilience: Infrastructure, Crisis Management, and Regenerative Security

Implementing a climate resilience strategy in MENA requires coordinated, phased actions aligned with NATO's core capabilities. Initially, NATO should prioritize rebuilding essential infrastructure, particularly for water, food, and energy security. An example of such efforts is the mission led by U.S. forces in Iraq in 2005. In this mission, soldiers worked alongside local engineers to restore Baghdad's essential services, repairing power

grids, water systems, and sanitation infrastructure. This approach not only stabilized the city but also fostered goodwill with local communities, creating a foundation for security and stability—a "first crucial step" before any other military goals could be achieved (as described by Sherri Goodman in *Threat Multiplier*, 2024).

NATO could adopt a similar approach in MENA, focusing on infrastructure projects that support local resilience while aligning with NATO's operational strengths.

In the medium term, environmental remediation initiatives—such as clearing land mines and addressing soil contamination and air pollution—should be prioritized to protect public health and ensure safe access to essential resources. NATO could lead these clean-up efforts in partnership with local governments and international organizations, and setting standards for environmental accountability.

Long-term efforts should focus on establishing climate-adaptive infrastructure and fostering regional partnerships for sustainable growth. This includes collaborations on renewable energy, water management projects, and trade infrastructure, which promote resilience and economic stability. Such initiatives are essential for reducing vulnerabilities to radicalization and conflict, as economic security is closely linked to socio-political stability.

Strengthening Partnerships: The Istanbul Cooperation Initiative and Mediterranean Dialogue

NATO's Istanbul Cooperation Initiative (ICI) and the Mediterranean Dialogue provide established platforms for engaging regional partners in MENA on climate security issues. Through these initiatives, NATO collaborates with Gulf countries, Jordan, Tunisia, Morocco, and Egypt to address climate resilience challenges. By focusing on shared priorities—such as water management, disaster preparedness, and renewable energy—these partnerships create a foundation for regional stability and integration.

These frameworks also offer neutral forums for cooperation among traditionally adversarial states, fostering integration and reducing climate-induced risks. Through the ICI and Mediterranean Dialogue, NATO can promote cooperative security and resilience across the MENA region, mitigating drivers of instability that could have far-reaching consequences for NATO member states.

Conclusion

Instability in the MENA region, recently intensified by the October 7 attacks and the subsequent regional conflicts, has severe implications for NATO member states due to the region's proximity and strategic importance. An approach focused on de-escalation and stabilization, emphasizing climate resilience and environmental recovery, is essential. The conflict has led to extensive environmental degradation and infrastructure damage, increasing the region's vulnerability to climate change.

By enhancing resilience, facilitating environmental remediation, and fostering climate-adaptive infrastructure, NATO can help reduce the socio-political vulnerabilities that contribute to radicalization and human suffering. NATO's established partnerships and cooperative frameworks, such as the ICI and Mediterranean Dialogue, provide a strategic foundation for promoting stability in MENA through climate security initiatives, thus supporting NATO's broader security interests.



Francesca Fassbender

Francesca Fassbender is a Ph.D. candidate at Tel Aviv University, specializing in environmental peacebuilding and climate diplomacy in the Middle East. Her research emphasizes environmental cooperation between Israel and the UAE in areas like green technology and renewable energy, particularly in the context of the Abraham Accords. Recently, she published two collaborative papers with her advisor, Dr. Udi Sommer. Her first paper, "Environmental Peacebuilding: Moving Beyond Resolving Violence-Ridden Conflicts to Sustaining Peace," appeared in *World Development*, and her second, "Environmental Diplomacy: The UAE and Israel before and after October 7," was featured in *Strategic Assessment*.

In addition to her academic work, Francesca serves as a Foreign and Security Policy Project Coordinator at ELNET in Berlin, where she leads ELNET's largest research project, the "Israel Survey". She holds a Master's degree in Public Policy, Conflict Resolution, and Mediation from Tel Aviv University and a Bachelor's degree in Economics from Humboldt University in Berlin.

***CLIMATE CHANGE AS A STRATEGIC CONCERN
FOR NATO: ADAPTING TO NEW SECURITY
CHALLENGES***
by Milessa Klein

I. Introduction

Climate change has rapidly shifted from an environmental issue to a profound security challenge over the past years, impacting global stability in unprecedented ways with rising sea levels, the increasing frequency of extreme weather events, and the increase in resource scarcity. With that, the conflict potential intensifies on a global scale. These climate-induced changes are critical for NATO. Addressing climate change is no longer optional but essential to maintain security, peace, and resilience among member states.

II. Security risks caused by climate change

NATO's operational capabilities are directly threatened by the severity and frequency of extreme weather events such as hurricanes, wildfires, droughts, and heat waves. NATO's readiness and ability to respond to crises can be impaired by infrastructure damage from these events, whether it be disruption of transportation networks or flooding of bases. For instance, the devastation of Hurricane Michael (2018) illustrates how such extreme weather events severely affect military readiness since the hurricane caused massive damage to the Tyndall Air Force Base in Florida.

For NATO, the rising sea level not only represents a financial and logistical burden but also endangers regional stability by potentially displacing communities and disrupting economies in member states. Naval bases or logistical hubs can be impacted, which affects military readiness. The problem is that this increasing threat of climate-induced damage to NATO installations and other military bases within member states presents a serious threat to military readiness and operational capacity during crises. These infrastructural vulnerabilities could be strategically exploited by states like Russia, which has already openly threatened the Western nations.

During the next years, climate change will drive displacements and migrations on a massive scale, with millions of people being forced to leave their homes due to floodings or droughts. Social, political, and economic pressure can be placed on host countries and neighboring countries due to the destabilization of mass migrations of entire regions. The influx of climate refugees can strain resources and services in host

countries, leading to political conflict and increased tensions. These demographic shifts can also lead to instability in member states countries of NATO and along NATO's borders and therefore emphasize the need for policies that incorporate climate-driven migration risks into the strategic framework.

The displacement of communities can present an issue caused by rising sea levels. The countries must be prepared for relocations since many coastal cities will not be habitable in the future. Also, NATO will face the need for humanitarian aid in these regions.

The increase in resource scarcity can spark an increase in competition and even conflict in many countries, especially those with already existing instabilities. This development directly impacts NATO, as conflicts over resources create power vacuums and intensify geopolitical tension in the future. Regions such as the Middle East and North Africa will face a heightened risk of destabilization due to water shortages, impacting the security landscape.

III. Recommendations for NATO

NATO's mandate as a defense alliance is to protect its member states from threats to their security and stability. Traditionally, climate change was viewed as a non-military threat, whereas it now intersects with NATO by threatening to destabilize its goals. Climate change blurs the line between military and non-military risks since natural disasters such as floods, hurricanes, and droughts will destabilize regions, leading to humanitarian crises that require military interventions. Therefore, climate change must be recognized as a core security issue that can exacerbate economic and political vulnerabilities. It is important to redefine security with climate change as a military threat.

To safeguard NATO's operational capabilities, NATO should mandate comprehensive climate risk assessments in its operational and planning processes. NATO has already begun to recognize the impacts of climate change, but formalizing these assessments can ensure adaptive and proactive strategies that address environmental vulnerabilities across all levels of decision-making. This approach enables a more effective crisis response and will enhance situational awareness. NATO should build on existing initiatives and prioritize integrating renewable energy solutions across its military operations. This idea includes investing in green technologies for NATO installations and encouraging member states to adopt similar practices. NATO can enhance operational flexibility and resilience by reducing

dependency on fossil fuels, and with that, they set an example for global climate leadership.

NATO should develop specialized training programs focused on climate adaptation. Therefore, it trains the resilience and readiness of its forces. Simulations of climate-related scenarios could be included in this training. To do that, NATO could establish a specialized unit that focuses mainly on rapid response to climate-induced crises, including humanitarian aid, infrastructure stabilization, and disaster relief. It enables personnel to better understand and respond to unique challenges posed by resource scarcity and extreme weather events and prepares NATO forces for diverse operational environments impacted by drastic climate change.

A comprehensive Climate Action Framework that outlines specific goals, accountability measures, and initiatives can be developed by NATO to address climate threats. The framework ensures that climate change is systematically integrated into all aspects of defense planning and operations. Also, an emergency plan for

vulnerable regions could be developed to ensure readiness in cases of extreme weather events or mass migrations. In the beginning, NATO could create emergency plans for vulnerable or endangered countries and over time establish emergency plans for every member state.

Further, NATO should invest in development and research focused on understanding the security implications of climate change by funding studies and projects that explore innovative solutions for enhancing resilience against climate change within military operations. With that, NATO can remain at the forefront of addressing emerging climate-related security challenges.

With the recommendations mentioned above, NATO could potentially enhance its capacity to address the complex security challenges posed by climate change and also focus on greener solutions to reduce its dependence on fossil fuels.



Milessa Klein

Milessa Klein lives in northern Germany and is currently studying International Politics and International Law (3. Master semester) at Christian-Albrechts-University in Kiel. Her research interests are climate protection and its integration into security policy. Beyond her academic pursuit, she is the co leader of the Y-project, a youth-led initiative dedicated to environmental protection and the promotion of democratic values. Additionally, she is a member of the transatlantic student initiative (TSI), YATA Germany and the Green Party in Germany.

CLIMATE CHANGE AND NATO by Sandra Meerwein

While consequences of climate change such as sea-level rise and rising temperatures pose a significant security challenge on their own, they become increasingly intricate with dynamics of growing geopolitical and economic competition. This becomes especially evident under consideration of outlooks into the Arctic, which is a significant part of NATO's strategic interests. Recent data and reports by NASA and the National Snow and Ice Data Center (NSIDC) reveal that Arctic sea ice is significantly decreasing. As the NSIDC's current assessment states, "[s]ea ice loss has far-reaching effects on the planet because the ice helps regulate Earth's climate, influence global weather patterns, and affects ocean circulations." With the increasing melting of ice and glaciers, climate change-induced security challenges are likely exacerbating as it has detrimental effects on sensitive marine ecosystems and amplifies the intensity of natural disasters. Aspects of food, labor, and human security are inextricably linked to such issues which presents to be especially evident in Oceania and the wider region of the Pacific Ocean. But also the Atlantic Ocean is, for example, affected by global fish redistributions due to oceanic warming, and increases tensions in gray zones of maritime territorial jurisdictions and access rights. A joint research paper by the Royal United Services Institute (RUSI) for Defence and Security Studies from 2023 points at the example of the Atlantic mackerel as a key species in the region and its change in migratory patterns challenges the negotiation mechanism for fishing rights as they move further north.

In terms of security concerns for NATO, climate change implies an increasing need for disaster response, an enhanced understanding and pronunciation of maritime domain awareness (MDA), and measures to amplify, adapt and enhance defense and deterrence activities, especially in the High North. Growing regional tensions and economic competition in both Europe and Asia due to the war in Ukraine, China's increasing assertiveness, and recent developments in North Korea's enhancement of provocative actions gradually interlink with socio-ecological concerns such as overfishing/Illegal, Unreported, and Unregulated (IUU) fishing, climate-induced migration, or deep-sea mining. The potential of facilitated access to natural resources in the Arctic and new prospects of trade due to the gradual opening of new routes in the Northern region are carrying an increasing conflict potential.

With changing landscapes, competition over territorial, exploration, and exploitation rights, especially with regard to the exploitation of potential oil and gas resources and the Arctic Nation's overlapping claims of exclusive economic zones (EEZ), are likely to amplify tensions. As pointed out by the Icelandic NGO Arctic Portal, "[t]he Arctic region is of increasing global importance due to its vast reserves of oil, gas, minerals, and its strategic shipping routes that are becoming more accessible due to melting sea ice caused by climate change."

In response, NATO aims to enhance its deterrence and defense capabilities in the High North. This includes the execution of new exercises and operations, as Chair of the NATO Military Committee, Admiral Rob Bauer, emphasized at the 11th edition of the Arctic Circle Assembly in October this year. General trends in current strategic competition implicate the enhancement of military capabilities and capacities. As military forces are one of the biggest consumers of fuel, they tend to be large contributors to greenhouse gas (GHG) emissions in this context. An increase in military exercises and operations will add to environmental strains and are an exacerbating force of climate change. Although many defense strategies integrate the objective of green technology transition by now, challenges remain regarding the amount of time this process requires as well as the increasing demand for alternative resources that nevertheless needs to be provided. This contradiction poses the complex challenge at the intersection of geostrategic and environmental security concerns. It implicates the need to balance the enhancement of deterrence and defense measures that support the maintenance of the existing rules-based international order while mitigating climate change through sustainable regulations and actions under consideration of the effects human interference has on sensitive ecosystems.

While contemporary regional and global developments suggest the necessity to enhance defense and deterrence capabilities and operations in the framework of geostrategic and economic concerns, NATO should consider the following points regarding environmental security challenges:

- Enhancement of regional and global maritime domain awareness in terms of information-sharing among partners and allies, but also including

the increase of understanding the interconnectivity between oceans in an intersectional (geostrategic, economic, socio-ecological) manner, and specifying legal regulations and enhance diplomacy on maritime jurisdictions (in cooperation with multilateral, international institutions like the International Seabed Authority (ISA), or the International Tribunal for the Law of the Sea (ITLOS)),

- Enhanced integration of green technology efforts, exploring opportunities of interagency and interoperability between NATO members to alleviate costs and enhance approaches to collective (environmental) resilience and shared responsibility,

- Enhancement of education about the complex nature of rising regional and global environmental challenges and their intersectionality with other security areas, including the areas of science and civil society. In this context, closer engagement between governmental, military, civil, and scientific research institutions like the U.S.' Ted Stevens Center (TSC) for Arctic Security Studies, the GEOMAR Helmholtz Centre for Ocean Research Kiel, or The Arctic Institute.

Further issues that should be considered at the intersection of environmental, geostrategic, and economic security concerns but are not further elaborated on due to the short nature of the essay's format, are, for example: changes in submarine operation in the Arctic, enhanced cooperation between Russia and China on maritime security cooperation, and societal impacts of climate-induced migration.



Sandra Meerwein

Sandra Meerwein is a research assistant, lecturer and PhD candidate at the Obama Institute for Transnational American Studies, JGU Mainz. Her research interests lie at the intersection of Transpacific Studies and Critical Ocean Studies with a focus on issues of maritime security, interpretations of territoriality, and foreign policy. Her dissertation project deals with various aspects of ocean governance and management in the Pacific region. In this context, she attended the research fellowship and internship program at the Daniel K. Inouye Asia Pacific Center for Security Studies in Honolulu, Hawai'i, 2021-2023.

CASCADING CLIMATE SECURITY RISKS IMPACTS ON NATO PREPAREDNESS: PROMOTING SYNERGIES AND COLLABORATION BETWEEN THE EURO-ATLANTIC DISASTER RESPONSE COORDINATION CENTRE (EADRCC) AND THE CLIMATE CHANGE AND SECURITY CENTRE OF EXCELLENCE (CCASCOE)

by Tristan Norman

Introduction

Climate change is altering the global risk and security landscape for NATO countries and partners. Our current models of risk governance are unprepared for the complexity, magnitude, and scale of interconnected and transboundary cascading risks that transmit across countries and regions. Cascading climate risks can generate multiplier effects that transmit across borders and transfer from one impacted system to another. Cascading climate risks are difficult to identify and manage. They have the potential to impact societal resilience, exacerbate geopolitical tensions, and amplify human insecurity.

To be resilient, NATO must anticipate and prepare for climate security risk scenarios that cascade across international borders and between regions. This paper suggests ways for NATO EADRCC and CCASCOE to co-design capacities and strategies by addressing climate risk cascades with NATO states and partners.

Cascading Climate Risks and Climate Security

Climate change hazards such as wildfires, extreme weather events, heatwaves, floods, and droughts are intensifying and growing in complexity. The recent 2022 IPCC Sixth Assessment Report on impacts, adaptation, and vulnerability stated that ‘climate change impacts and risks are becoming increasingly complex and more difficult to manage. Multiple climate hazards will occur simultaneously, and multiple climatic and non-climatic risks will interact, resulting in compounding overall risk and risks cascading across sectors and regions’.

Key concepts to consider are cascading climate risks and compound risks. Cascading climate risks transmit across borders, interconnected systems, and sectors. On the other hand, compound risks ‘occur when multiple risks, such as extreme weather events, economic disruptions, or pandemics (like COVID-19), coincide or interact, amplifying their collective impact’. Both present novel challenges to NATO countries and partners.

Adding to these dynamics are climate-influenced shifts in international peace and security. Climate security risks are often context-specific. These risks are driven by a range of factors like environmental degradation, food insecurity, migration, political instability, water scarcity, inequalities, and humanitarian disasters. Climate security risks present challenges, particularly for highly climate vulnerable countries in the MENA and Africa. These risks can create security hotspots that transmit new risks to the Euro-Atlantic region via risk transmission pathways like food shocks, climate-magnified extremism, mass migration, etc.

However, climate security risks also impact NATO allies and partners directly. From a human security perspective, cascading climate hazards undermine societal resilience, reduce adaptive capacities, undermine national adaptation planning, and can induce strong humanitarian disasters. For NATO collective resilience, this will produce significant consequences for civil preparedness, disaster response, and human security.

NATO Capacities and Challenges

The 2022 NATO strategic concept note states that climate change is a crisis and threat multiplier with profound implications for Alliance security. Threatened by both cascading and compounding risks, NATO must focus on resilience-building and civil preparedness to ‘withstand or absorb shocks and recover rapidly’ from disruptions. Responding to this, NATO has two key actors that remain siloed from each other despite shared goals and challenges: the Euro-Atlantic Disaster Response Coordination Centre (EADRCC) and the Climate Change and Security Centre of Excellence (CCASCOE).

The EADRCC is NATO’s civil emergency response mechanism and promotes cooperation among allies and partners. In principle, EADRCC responds to natural disasters, industrial disasters, migration flows, health emergencies (COVID-19), and conflict zones.

Increasingly, EADRCC is tasked with improving climate-related civil preparedness and disaster response capacities. Experts claim that NATO’s role in responding to climate-related disasters and security risks shall be greatly informed by EADRCC’s preparedness level.⁹ EADRCC is also supported by the NATO Resilience Committee, which implements the NATO resilience agenda.

Launched in 2023, CCASCOE serves as a hub of experts tasked with integrating climate change considerations into NATO defense and security thinking. Within NATO, CCASCOE promotes Allied climate awareness, mitigation and adaptation efforts, and international

cooperation. Furthermore, they conduct annual climate security risk impact assessments for NATO, which consider climate change impacts on NATO adversaries and adjacent regions like the Arctic, MENA, and Africa.¹² CCASCOE has strong competency and capacity in analyzing and preparing for climate security risks. However, managing risk also entails bolstering resilience and disaster response mechanisms, an ideal area for EADRCC.

Based on these competencies, EADRCC and CCASCOE should avoid siloed responses and duplicated efforts when preparing the Alliance and partners for cascading climate risks and disasters. Greater cooperation is needed to bolster NATO civil preparedness, humanitarian assistance and disaster responses (HADR), and climate security risk preparedness in the Euro-Atlantic area and abroad. Due to shared challenges, cooperation and knowledge-sharing between EADRCC and CCASCOE could bring many co-benefits to the alliance and improve operational readiness, interoperability, and resilience.

NATO Policy Recommendations

Based on these synergies, EADRCC and CCASCOE should cooperate closely to:

- Conduct comprehensive risk assessments of existing and potential cascading climate risks

transmission pathways that cross Allied and partner borders, particularly in high-risk regions such as MENA, Africa, and the Arctic.

- Engage in multi-hazard risk mapping, forecasting, and simulation exercises to examine the impact of cascading climate and compound risks on civil preparedness and interoperability within the Euro-Atlantic area.
- Compile and distribute joint documents on best practices for climate-related disaster risk management and civil preparedness from across the Alliance and partner countries.
- Conduct joint-training sessions for EADRCC and CCASCOE personnel to inform disaster response and climate security risk preparedness.
- Co-organize periodic consultations, scenario-building exercises, and training for military and civil experts with support from the Partnership for Peace (Pfp) programme, the National Military Authorities, and the NATO Resilience Committee.
- Enhance civil-military interoperability on Humanitarian Assistance and Disaster Responses (HADR) to climate-related disasters.



Tristan Norman

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CLIMATE CHANGE, A MULTIPLIER OF CHALLENGES

by Camilla Ravagnan

NATO is increasingly focusing on climate change as a critical security challenge. This is also demonstrated by the October 29, 2024 inauguration of the NATO Climate Change and Security Centre of Excellence (CCAS CoE) in Canada, which is devoted to the topic of the impact of climate change on security, and which draws inspiration from the Action Plan on Climate Change and Security adopted in Brussels in 2021.

Climate change will have serious impacts on the security of allies and collective defense. It acts as a threat multiplier by increasing instability, geostrategic competition, insecurity and conflict. The resilience and efficiency of our military infrastructure and equipment and the way we conduct operations will be affected by climate change including extreme temperatures, changes in water acidity, air density and the Atlantic Southern Circulation, thawing permafrost, sea level rise, changes in precipitation patterns and extreme weather events. In addition, droughts, floods, soil erosion and loss of biodiversity are already severely impacting populations in some regions of the world, particularly in the global south, causing famine and loss of land and livelihoods and intensifying forced migration. This insecurity can also increase social and political instability and create a breeding ground for terrorism.

Concerning the impact of climate change on military operations, the NATO Climate Change and Security Impact Assessment 2023 captures the increasing risks of missions and operations in extreme weather conditions and in response to natural disasters. Heat waves and droughts have impacts on ground operations, while turbulence and rising temperatures hamper aviation. It is not difficult to imagine the effects of excessive heat on troop health, but it is less well known that already at 40°C the warmer, less dense air prevents helicopters from taking off. In the maritime domain, ocean acidification makes more frequent fleet maintenance necessary, and higher water temperatures affect the quality of submarine communications.

Climate change also impacts geopolitics. In the Arctic, for example, the melting of ice is opening up new routes and new possibilities for the extraction and exploitation of natural resources, hydrocarbons but also raw materials

needed for the ecological transition, in territories that remain hostile, with the risk of disputes. The thawing of permafrost has already caused critical issues for the North American Aerospace Defense Command's radar sites in Alaska and Canada that enable detection of air threats and intercontinental ballistic missiles. With Finland joining NATO and Sweden moving closer to the alliance, Russia remains isolated among the eight countries of the Arctic Council, whose work was suspended following the invasion of Ukraine. China has also strengthened its presence in the region.

It must be highlighted that from its side, the military sector has a heavy impact on greenhouse gas emissions. However, it seems that operational readiness will not be sacrificed to the ecological transition. Reportedly, it is estimated that if the U.S. Department of Defense were a nation, it would be ranked 54th in the world in terms of emissions. In fact, efforts are currently limited to reducing the climate impact of military bases only.

The NATO Action Plan on Climate Change and Security mentioned above first involves developing the awareness of individual nations in the Alliance, but only one-third of them have already integrated climate change into their national security plans. Given NATO's growing focus on climate as a security threat, here are five key policy recommendations that could allow the alliance to address climate change proactively, ensuring that the alliance is resilient, sustainable, and prepared for the evolving landscape of global security.

- 1) Incorporate Climate Risk in Strategic Planning and Operations:** This would ensure that potential climate-driven disruptions—such as resource scarcity, migration, and extreme weather—are evaluated. By preparing for these scenarios, especially in vulnerable regions like the Arctic, NATO can enhance mission readiness and adapt to evolving security risks. Climate-focused training exercises would further strengthen NATO forces' capacity to operate in these challenging conditions.
- 2) Accelerate Transition to Renewable Energy Sources:** This would reduce NATO's carbon footprint while increasing energy resilience. Using electric and hybrid vehicles, sustainable fuels, and energy-efficient infrastructure at bases are also steps that align with NATO's sustainability goals. By adopting clean energy,

NATO reduces its reliance on traditional fuel logistics, which are costly and vulnerable to disruptions.

- 3) **Strengthen Infrastructure for Climate Resilience:** By reinforcing bases against extreme weather and ensuring redundant power and water supplies, NATO can maintain operational capabilities in emergencies. These upgrades would protect personnel and equipment, particularly in areas prone to climate

impacts, and ensure the alliance can sustain its missions under adverse conditions.

- 4) **Enhance International Collaboration on Climate Security:** To share data, coordinate disaster response, and jointly address climate-driven security challenges. Collaborating on climate resilience projects and sharing knowledge across borders would strengthen collective security, enabling NATO and allies to effectively respond to climate-related risks.



Camilla Ravagnan

Camilla Ravagnan is an ESG Research Analyst at the Berlin office of RepRisk. Before, she worked for the FAO Council Presidency in Rome. Also, she interned at the Asian Development Bank, the Italian Presidency of the Council of Ministers, and the European Parliament Liaison Office in Milan. Camilla speaks six languages and she has been living around the world in several countries. Besides, she has participated to several seminars at the NATO Stability Policing Centre of Excellence. On the side, she is studying the impacts on climate change on defense, in particular for NATO.

PANEL 3 | From Support to Success: How Can NATO Ensure Victory for Ukraine?



Since Russia's invasion of Ukraine, NATO members have stepped up their support for the country. Together, NATO allies account for 99 percent of all military assistance to Ukraine. NATO members send weapons, ammunition, and many types of light and heavy military equipment to Ukraine. The country also receives millions of dollars in financial assistance from NATO. Through NATO's Comprehensive Assistance Package (CAP) and related funds, Allies have pledged about \$870 million (as of July 2024).

However, since Ukraine is not a NATO member, the collective defense commitment does not apply. The war continues, the news from Ukraine is not always positive, and there is no near-term end in sight.

If, as NATO leaders have repeatedly stressed, Ukraine must not lose, what exactly must the Alliance's support and action look like? What political, financial, and defensive measures are needed to help Ukraine win? Where should the line be drawn between feasible and unfeasible support and action?

PANELISTS



Oleksii Makeiev
Ambassador Extraordinary
and Plenipotentiary of
Ukraine to Germany

Oleksii Makeiev, born on November 25, 1975, in Kyiv, graduated in 1997 from the Taras Shevchenko University with a degree in international relations and as a Spanish translator. His diplomatic career began in 1996 at Ukraine's Ministry of Foreign Affairs, focusing on international security issues.

From 1999 to 2002, he served in the Political Department of the Ukrainian Embassy in Switzerland. Later, he worked on political analysis at the Ministry of Foreign Affairs in Kyiv. From 2005 to 2010, he was Counselor at Ukraine's Embassy in Germany, fostering Ukrainian-German relations. As Political Director of Ukraine's Foreign Ministry (2014-2020), he significantly shaped Ukraine's strategy to counter Russian aggression and threats in the information sphere.

In 2020, Foreign Minister Dmytro Kuleba appointed Makeiev as Special Envoy for Sanctions Policy. After Russia's invasion in 2022, he played a key role in coordinating the coalition's sanctions against Russia. In September 2022, President Volodymyr Zelenskyy appointed him Ukraine's Ambassador to Germany, where he began his mission in October.

Makeiev is an author of several publications on international security. Fluent in German, English, Spanish, and French, he enjoys piloting, badminton, and tennis.



Iryna Krasnoshtan
Program Director,
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Iryna is an analyst with extensive experience of work on security and defence matters and NATO-Ukraine relations. She worked for more than 11 years for the NATO Representation to Ukraine, including as a Political Analyst. She holds an MA in Linguistics from the National Technical University of Ukraine "Kyiv Polytechnic Institute" and an MA in European Interdisciplinary Studies from the College of Europe.

Other international organization and diplomatic experience includes working with the Embassy of France in Ukraine, OSCE/ODIHR Election Observation Mission to Ukraine, and an internship in the House of Commons in Ottawa, Canada. Iryna is also an Alumna of the George C. Marshall Center and has engaged with GCMC as an adjunct professor and co-seminar leader for the Seminar on Regional Security. She was also a James S. Denton Transatlantic Fellowship holder with the Center for European Policy Analysis (CEPA) in 2022.



Alexander Müller
Member of the Bundestag,
Spokesman for Defence Policy
of the FDP
Parliamentary Group

Alexander Müller has a degree in computer science, is a lieutenant colonel in the Reserve Command Cyber and Information Space (CIR) and a member of the Bundestag since 2017 of the FDP. He is chairman of the defense committee, since 2022 defense policy spokesman for the FDP parliamentary group and Deputy Chairman of the Subcommittee on Disarmament, arms control and non-proliferation. He has been a member of the Parliamentary Control Committee.



Beata Patašova
Programme Officer,
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Beata Patašova is a Programme Officer for Russia and East European partners at the NATO Headquarters. She is in charge of NATO public diplomacy engagements in Eastern European partners. Beata also leads NATO's communications effort towards Russian-speaking audiences. She acts as a NATO face in Russian-language on social media.

Beata has previously worked in NATO Press Office performing long-term, data driven analysis of media and Russian disinformation. Her previous assignments include Ministry of National Defence of Lithuania and Lithuanian Embassy to the EU.

CHAIRS



Christoph Bauerschmidt

Strategy Consultant at PwC Strategy&

Christoph Bauerschmidt is a strategy consultant at PwC Strategy& (formerly Booz & Company), focusing on public and private clients in the firm's aerospace & defense practice. He graduated with a master's and a bachelor's degree in physics from RWTH Aachen University, where he focused on nanoelectronics and nano optics. He was a scholar of "Studienstiftung des Deutschen Volkes" and was awarded with the Friedrich von Klinggraeff medal 2023. Before Strategy&, he was a teaching assistant at the German University of Technology in Oman and gained experiences at Volkswagen Consulting, goetzpartners, KPMG Deutschland, Lufthansa Technik, and at the German Parliament. Furthermore, he is a member of the Youth Economic Council of "Wirtschaftsrat der CDU" and has experience in humanitarian aid from projects in Ukraine and Benin with Mission Siret and Rotary International.



Matilda Wriske

Matilda Wriske holds a Master's degree in International Politics and International Law from Kiel University. She holds a Bachelor's degree in Politics and Law from the University of Münster. She has gained experience working for a German Member of Parliament as well as at the Representation of the States of Schleswig-Holstein and Hamburg to the European Union and at the Federal Office for Migration and Refugees (BAMF).

In the course of her Master's degree, she developed an interest in security and conflict research. She was also involved in the Federal Association for Security Policy at Universities (BSH) and YATA Germany.



Mariam Kublashvili

Vice President of Youth Atlantic Treaty Association (YATA) International and YATA Germany

Mariam Kublashvili is a project manager and moderator. She earned her master's degree in political science with a focus on international relations at the Ruprecht Karls University of Heidelberg. Among others, Mariam Kublashvili gained work experience at the Friedrich Naumann Foundation for Freedom and in the German Bundestag. She is Vice President for Public Diplomacy on the international board of YATA and a board member of YATA Germany.

ATTRITION AND ADAPTATION: NATO'S EVOLVING ROLE IN UKRAINE

by Veronika Achor

NATO's support for Ukraine has reached unprecedented levels. For NATO, the pursuit of a clear "victory" has become an increasingly inconclusive outcome, as modern conflicts often persist in fragmented, ongoing struggles without decisive conclusions. To help Ukraine navigate its war of attrition with Russia, NATO must strike a balance between the risk of escalation by embracing offensive cyber and electronic warfare, and ensuring sustained financial and military aid amid changes in the domestic politics of members that could impact the political will of Allies. Recognizing outright victory is unfeasible, focusing on realistic measures bridges the gap between NATO ambition and practicality.

A Prolonged Conflict of Attrition

The annexation of Crimea in 2014 and the conflict in the Donbas region set the stage for Russia's war of attrition in Ukraine. These initial actions demonstrated Russia's intent to erode Ukrainian sovereignty gradually, first by annexing territory and then by supporting separatist forces in eastern Ukraine. By 2022, Russia escalated its campaign, launching a full-scale invasion aimed at weakening Ukraine's military, economy, and public resolve over time. The war has since become a prolonged struggle, with both sides enduring heavy losses and aiming to exhaust each other's resources and morale. In this war of attrition, victory hinges on who can maintain resources and resilience longer, with neither side willing to concede and both deeply invested in outlasting the other.

In a war of attrition like the ongoing conflict in Ukraine, peace talks often prove ineffective because each side is deeply invested in exhausting the other's resources rather than seeking a negotiated settlement. Russia's approach to the conflict has consistently been to weaken Ukraine through attacks on critical infrastructure, energy supplies, and hinges on a belief that Western support will eventually wane. Since the start of the conflict, multiple rounds of peace negotiations have failed to produce lasting results. For instance, the Minsk agreements were attempts to establish a ceasefire and a framework for peace, but they ultimately collapsed as both sides continued to prepare for further hostilities, and Russia's support for separatist movements in eastern Ukraine

undermined the agreements. Similarly, early 2022 negotiations held in Istanbul following Russia's full-scale invasion appeared promising but failed when Russia escalated its military operations, showing a lack of commitment to a diplomatic resolution. In such a context, traditional peace talks risk becoming stalling tactics that allow one side to regroup and consolidate without making meaningful concessions.

NATO's policy toward Ukraine has evolved through a series of key commitments that balance robust support with caution against direct conflict, especially given that Ukraine is not a NATO member and thus does not benefit from the collective defense guarantee under Article 5. Moving forward, NATO can enhance Ukraine's ability to disrupt Russian operations and increase battlefield pressure, shifting from passive defense to active deterrence. This approach may push Russia to reconsider its objectives and reduce the appeal of a costly stalemate, particularly as diplomatic solutions have failed to bring lasting peace. How can NATO sustain this momentum while managing the unique risks of Ukraine's non-member status?

Next Steps

The solution to this challenge consists in:

- **Expanding Tactical Horizons**

To counter Russia's increasing reliance on drones and critical infrastructure, NATO should support Ukraine in expanding its offensive cyber and electronic warfare (EW) capabilities. Offensive cyber tools would enhance Ukraine's intelligence gathering, enabling it to monitor and pre-empt Russian movements and disrupt critical infrastructure, including command, control, and logistical networks. Simultaneously, advanced EW capabilities would allow Ukraine to intercept and jam Russian drones, reducing Russia's situational awareness and precision-strike capacity. Together, these measures would give Ukraine a tactical advantage, weaken Russia's operational effectiveness on the front lines, and limit its ability to adapt in real time.

- **Deterrence through Capability Signaling**

A robust cyber and electronic warfare strategy also serves as a deterrent. NATO should adopt this approach to signal the Alliance's readiness to expand its support to Ukraine without direct

military engagement. Demonstrating offensive cyber capabilities could pressure Russia to reconsider escalation, knowing its own infrastructure and communications could be at risk. While some NATO members are cautious about potential cyber retaliation, a carefully managed cyber and EW strategy would enhance Ukraine's offense, and provide critical support while minimizing escalation risks.

- **Establishing a NATO Advisory Body for Strategic Continuity**

While NATO leaders reinforced their commitment to Ukraine at the 2024 Summit through several key measures, leadership changes and evolving public sentiment may influence foreign policy priorities in member states, hindering the Alliance's unified stance on

Ukraine. To address this challenge, NATO should establish a dedicated advisory group tasked with monitoring political changes within member states and assessing their potential impact on long-term Alliance commitments, like support for Ukraine. This group would proactively analyze shifts across the Alliance, providing strategic recommendations to mitigate potential disruptions to NATO cohesion and prioritize adaptive responses in support of Ukraine.

Redefining success for NATO warrants the stabilization and management of Russia's complex security threat rather than a traditional win-lose scenario. Through these measures, NATO can support Ukraine's resilience and sovereignty, aiming for long-term stability rather than a singular, elusive victory.



**Veronika
Achor**

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Veronika Achor is policy analyst with the International and Border Policy Directorate at Public Safety Canada. Her previous work experience includes roles across various departments within the Government of Canada, where she contributed to policy development in areas such as health, intelligence, and agriculture. She holds a Master's degree in Conflict Studies from Saint Paul's University/University of Ottawa and a Bachelor's degree in Political Studies from Queen's University. As a first-generation South-Sudanese Canadian and a young professional deeply interested in policy analysis, peacebuilding, and conflict management, her research interests lie in understanding the dynamics of intercommunal violence, the political economy of conflict, and the impact of small arms and light weapons supply and circulation on regional stability, particularly in post-conflict societies like South Sudan.

HOW CAN NATO ENSURE VICTORY FOR UKRAINE? WHAT POLITICAL, FINANCIAL, AND DEFENSIVE MEASURES ARE NEEDED TO HELP UKRAINE WIN?

by Anete Bike

Russia's defeat is achievable through Ukraine's victory plan presented by President Volodymyr Zelensky earlier in October, 2024.

Firstly, Ukraine sees itself in NATO. Values of democracy, human rights and rule of law are aligned. Ukraine's accession to NATO will deter further Russian expansion. The wartime knowledge and technology that Ukraine holds will modernize and give strategic advantage to the alliance. NATO should continue affirming the irreversibility of Ukraine joining the alliance and work closely with Ukrainian political and military leadership to implement the necessary defence reforms to assure interoperability of forces and mutual trust and transparency. Simplification of bureaucratic processes to accelerate accession are important due to the context of a war and time sensitivity. Ukraine is already actively fighting on behalf of NATO.

Secondly, it is of utmost importance NATO members completely reject the notion that momentous support to Ukraine is a provocation of Russia. A global war is currently underway in most domains short of kinetic – cyber, informational, political, economic, energy. Supporting Ukraine is a direct response to Russia's exercising of hybrid campaigns in the West, including election meddling that directly attacks NATO members' political sovereignty of equally protected alongside territorial integrity by the UN Charter. Supporting Ukraine for its victory is an act of self-defence.

Therefore, the following support to Ukraine is needed. Continued military support through providing advanced weaponry is necessary. Ukraine needs artillery and ammunition. Anti-air and anti-drone systems are particularly important as they allow for cost-effective neutralizing of Russia's air offensive. Air defence missiles and the permission to use allies' long-range weapons on Russian territory should be granted to neutralize long-range offensives from Russia to Ukrainian territory. Russia's war waging capabilities cannot be decreased without targeting its critical military infrastructure. This is also the most effective way to protect Ukrainian civilians. As long as the principle of proportionality and protection of civilians

under International Humanitarian law is respected, there are no prohibitions of targeting military objects in the territory of the other party of the international armed conflict.

Furthermore, NATO should not only play harder but also smarter. Increasing intelligence gathering and sharing efforts for Ukrainian agencies can be done without direct involvement. Western intelligence was key in protecting Kyiv in the beginning of the conflict. Intelligence cooperation is an untapped potential.

On the non-kinetic side, supporting Ukraine's cyber-defence and informational resilience allows Ukraine to concentrate on war strategy in the battlefield. It is vital that member states amp up bilateral and EU streamlined support to Ukraine from military and humanitarian aid to reconstruction efforts and development cooperation. Through mutually beneficial partnerships transparency and trust can be increased alongside directly increasing the resilience of the civil society and social systems, as well as lessening corruption.

Lastly, Ukraine's victory is conditioned on no territorial concession made. Territorial concession sets a dangerous precedent in which an unjustified aggressive offence is rewarded leading to non-lasting peace. Putin's rationale behind Russia's war in Ukraine and hybrid campaigns in the near abroad is the upholding of Russia's great imperial legacy. History reveals conquests persists as long as the empire itself is not dismantled. Continued advocacy and coordinated diplomatic efforts should be coupled with continued economic sanctions to sustain pressure, weaken the Russian regime and decouple it from its allies in all domains from military to economic to diplomatic. The resolution of this war is not only about the victory of Ukraine, it is about the fall of the empire known as modern day Russia.



**Anete
Biķe**

Anete Biķe, born in 1998 in Riga, Latvia, is a PhD student at Riga Stradins University. Her research interests include hybrid warfare and the role gender plays in conflicts. She holds an MA in International Security from Institut d'études politiques de Paris (Sciences Po). During her BA studies at Sciences Po she completed an exchange to the George Washington University in D.C. Anete returned to Latvia to join the foreign service. She currently works on humanitarian aid and development cooperation as a Senior Desk Officer at the Ministry of Foreign Affairs. Anete served as the Youth Delegate of Latvia to the United Nations in 2022. She has experience in competitive debate and has co-authored books about the evolving role of international organizations.

FROM SUPPORT TO SUCCESS: HOW CAN NATO ENSURE VICTORY OF UKRAINE?

by Alona Bondarenko

On the 24th of February 2022, Russia launched a full-scale military aggression against Ukraine. Since the beginning of the war, NATO has provided significant military support to Ukraine, deterring Russia's attempts to alter the global balance of power and increase its influence in Europe. The reason for this is that Russia is fighting not only to suppress Ukraine and destroy it as an independent and sovereign state with the subsequent creation of a so-called 'Empire of Slavs' but also against the entire Western world, seeking to dominate the U.S., the liberal international order and Western values. As a result, Ukraine got:

- heavy weapons, including 200 155 mm calibre howitzers with more than 3 million shells, HIMARS systems and their associated missiles, and more than 50,000 Remote Anti-Armour Munitions (RAAM) (Gerry, Rao, and Kawoosa 2023);
- military equipment, in particular armoured vehicles and tanks such as Abrams, Leopard and Challenger 2. Aircraft and drones, such as F-16 fighter jets, have also been provided (Ibid.; NATO 2024);
- air defence systems, including 12 NASAMS systems, Patriot missiles and more than 2,000 Stinger anti-aircraft missiles, and anti-tank systems, including 10,000 Javelin items (NATO 2024);
- ammunition, in particular, tens of thousands of rounds of ammunition for various weapons.

On this basis, it is certain that as of July 2024, NATO plays a key role in coordinating the aid delivery from allies and partners. NATO member countries account for 99 per cent of all military assistance to Ukraine. Also, NATO, especially the armed forces of its member states, are training the Ukrainian military to use Western weapons in practice (Ibid.).

This assistance prevents defeat, but it does not yet reach the necessary level for the victory of Ukraine and the complete exhaustion of combat capabilities, weakening or even elimination of the aggressor – Russia. It is time to move from support to real success for Ukraine in the Russia-Ukraine war. NATO faces several critical challenges that make it difficult to respond quickly to the needs of the frontline and, therefore, the success of the Ukrainian military in this war, namely, inadequately

established arms supply corridors, logistical delays, and limited resources (Dowd, Jankowski, and Cook 2023).

For instance, supplies of critically needed weapons to Ukraine have been delayed for weeks and months, and by mid-2024, training has covered only about 90,000 Ukrainian NATO's Future Seminar 2024 Alona Bondarenko soldiers, while the number needed is much higher (Harris 2023). The combination of these factors generates some important consequences. First, Ukraine is limited in its ability to actively resist the enemy, losing even more of its territory and soldiers. As a result, it could lead to the enemy moving even further inland, and Ukraine simply will not have the manpower left for physical battles. Second, the longer NATO supplies Ukraine with military materiel, the more time Russia must rebuild and prepare to destroy Ukraine's defence capabilities. It is essential to remember that the use of Western weapons in Ukraine provides Russia with an opportunity to learn and adapt, which in turn allows it to improve its methods of destruction. Therefore, the prolongation of the Russia-Ukraine war is not favourable to Ukraine, NATO or its member states.

The important point is to move from discussing problems to considering potential solutions and their implementation. Firstly, NATO needs to modernise and optimise its logistics because this is what will make it possible to deliver resources to the front faster and more efficiently. It is critical in the conditions of combat operations on the territory of Ukraine. Secondly, to achieve Ukraine's successes on the frontline, NATO should expand the training of Ukrainian soldiers. It is the training of Ukrainian soldiers by professionals from NATO member states that will give Ukrainian troops the necessary skills and knowledge, increasing their effectiveness in fighting Russian aggression. Thirdly, it is vital to increase funding for NATO defence capabilities sent to Ukraine. This is not a new issue, but it remains extremely important, as it will ensure the delivery of more modern and effective weapons. It is worth emphasising that arms transfers to Ukraine are significantly restricted due to a multitude of obstacles, ranging from political and legislative to social obstacles. Furthermore, NATO and its member states face a secondary problem for this study – the inability to produce enough weapons in such a short time frame. Finally, NATO should develop a relevant and adapted long-term strategy to assist and support Ukraine, even after the end of the war. It is precisely such a strategy that will help prevent potential destabilisation of

the region and contribute to Ukraine's recovery and modernisation, as well as its further accession to NATO.



**Alona
Bondarenko**

Alona Bondarenko is a researcher specialising in Political Science and International Relations, with expertise in EU and NATO studies, particularly in foreign relations, neutrality, and international defence and security. She is currently enrolled in the Advanced Master's programme in European Interdisciplinary Studies at the College of Europe in Warsaw, Poland. Alona has also worked as a researcher at the Research Centre in Political Science at the School of Economics and Management at the University of Minho in Braga, Portugal. In addition, she is a member of YATA Portugal and has participated in numerous conferences, seminars, and other activities organised by YATA.

THE CURRENT BATTLEFIELD SITUATION by Ben Brücher

The situation in Ukraine remains dire. No individual piece of military equipment from NATO appears sufficient to turn the tide of the conflict in the near term. Although Russia's initial missteps in the war were evident, it has demonstrated adaptability to various NATO-supplied technologies, such as HIMARS, Leopard tanks, and Storm Shadow missiles. Even the anticipated delivery of F-16 fighter jets is unlikely to alter Ukraine's current strategic disadvantage. The deployment of 10,000 North Korean troops to Russia has been a significant escalation and further internationalisation of the conflict. Yet, there remain critical areas where Ukraine's international partners can provide essential support, such as artillery, air defences, electronic warfare, and engineering vehicles. To mitigate further territorial losses, Ukraine's allies must urgently focus on replenishing munitions, establishing comprehensive training pipelines, and investing in long-term industrial capabilities.

The Strategic Path Forward

A critical component of this strategy is institutionalising NATO's support for Ukraine, thereby insulating it from electoral fluctuations in member states. This would involve transitioning from reactive, ad hoc military assistance to structured, long-term defence agreements and integrating Ukraine into NATO's procurement frameworks. Most aid is provided bilaterally, coordinated through the US-led Ukraine Contact Group. Meanwhile, NATO's contribution to non-lethal aid through its Comprehensive Assistance Package (CAP) remains limited due to concerns over escalating tensions with Russia. Established at the 2016 NATO Summit in Warsaw, the CAP aims to bolster Ukraine's defence capabilities, align its security infrastructure with NATO standards, and streamline resource allocation for command and control systems. At the 2022 NATO Summit in Madrid, members committed approximately €800 million to strengthen the CAP. Since the onset of the full-scale conflict, NATO has provided various forms of aid, including combat rations, fuel, medical supplies, winter clothing, and counter-drone technology; all, however, non-lethal.

Historically, NATO's Trust Funds have had a broader mandate. By emulating the Afghan National Army (ANA) Trust Fund (2007-2021), NATO could provide financial assistance for military equipment and bolster Ukraine's defence industrial sector, demonstrating a unified commitment to Ukraine's sovereignty. This model offers

a framework for extensive international cooperation, potentially serving as a blueprint for an expanded CAP Trust Fund for Ukraine by moving the ad-hoc Ukraine contact group support – including lethal aid – under the umbrella of the CAP.

Integration with the NATO Support and Procurement Agency

The NATO Support and Procurement Agency (NSPA) has often been the executive body in developing and implementing NATO Trust Fund projects. The NSPA could start handling all aspects of ammunition procurement and management of ammunition donated by NATO nations, including storage, transportation, and surveillance. Ukraine could join the various NSPA's Support Partnerships to participate in multinational procurement efforts for air defence systems, aviation, and land combat systems (including artillery, missile systems, and land combat vehicles like the PzH2000 and the Leopard) to reduce costs and ensure a secure, interoperable supply with NATO forces.

Furthermore, the NSPA's defence equipment life cycle management ranges from logistics to maintenance for critical defence systems like helicopters, tanks, and missile defence. The support is provided throughout the weapon's system life cycle, even in-service support. NSPA's work in ground-based air defence is notable, with long-range systems such as PATRIOT and NASAMS systems, as well as STINGER Missiles. Such air defence systems are already deployed in Ukraine, and the supply of ammunition and maintenance of these systems is desperately needed to protect Ukrainian soldiers at the front line, as well as civilians at home. Besides this example, NSPA's life-cycle management includes aircraft & helicopters, combat missiles (land & air), cryptographic, communications and electronic equipment, and land systems like armoured vehicles and artillery systems.

Conclusion

By expanding the CAP Trust Fund and integrating Ukraine into the full breadth of NSPA programmes, Ukraine could secure long-term, sustainable support from NATO. The NSPA has a proven track record in managing Trust Fund projects and supporting NATO operations, including ammunition management, life-cycle maintenance of defence systems, and rapid deployment of infrastructure. Its capabilities in air defence logistics, fuel supply, and equipment life-cycle management could significantly enhance Ukraine's operational effectiveness. Moreover, NSPA's consolidated procurement processes would ensure cost efficiency and

reliability in supplying Ukraine's defence needs. It would provide access to NATO members' defence industrial base and align Ukraine's defence procurement and logistics systems with NATO standards. Not only would this approach enhance Ukraine's defence infrastructure,

it would send a powerful signal of NATO's unwavering commitment to Ukraine's territorial integrity. Such measures would undermine Russian expectations of waning Western resolve and solidify Ukraine's position as a resilient and capable ally.



**Ben
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Ben holds a Masters in Contemporary History from the Ludwig-Maximilians University Munich and a Masters in History of War from the Department of War Studies at King's College London. After graduating in 2022, he worked as a research associate at the Bundeswehr University Munich and as Head of Operations and Treasurer of the Young Security Conference (YSC). During his time at the YSC, Ben collaborated in the strategic planning of the 2023 and 2024 flagship conferences.

Currently, Ben is a Project Leader at the Ax:son Johnson Institute for Statecraft and Diplomacy (AJI), a transatlantic consortium between Cambridge University, King's College London, Johns Hopkins SAIS, and the Stockholm School of Economics. Here, he is an integral contributor to AJI's operations, event planning, and programme development, fostering historically informed statecraft, strategy, and diplomacy.

***FROM SUPPORT TO SUCCESS: HOW CAN
NATO ENSURE VICTORY FOR UKRAINE?***
by Friedrich Conradi

As the third year of the full-scale invasion of Ukraine by Putin's Russia is drawing to a close, it becomes apparent that the approach taken so far to achieve long-lasting peace in Ukraine is misguided and ineffective. Supporting Ukraine in a way that barely empowers it to prevail but not to attain decisive advantages over the Russian aggressor led to a bloody war of attrition in which many lives are lost, and little is gained. The piecemeal support of Ukraine has also clearly emboldened Putin: He is fighting a destructive war against the Ukrainian civil society, targets critical infrastructure to tire out the country's population and army, and, lately, is bringing North Korean troops to the front. Only in August, the Russian forces launched the largest missile and drone attack on Ukrainian cities since the war began. Weeks prior, Okhmydyt, Ukraine's largest children's hospital in Kyiv, became the target of a Russian Kh-101 missile.

Simply put, Putin's escalation shows that the strategy to support Ukraine by drop-feeding its military aid has failed. The country needs a firm commitment to a guaranteed quantity of weapons by NATO in each calendar year until the war ends and a lifting of the restrictions on the long-distance missile range. In 2024, we cannot tolerate a situation in which our democratic neighbors in Europe have to beg for sufficient support against a dictatorial aggressor imposing a war of destruction upon their people. In the long term, Ukraine must become a NATO member state to ensure the country's integrity, the alliance's security, and peace in Europe. These objectives are in line with Zelenskyy's victory plan, which must form the basis for the composition of weapons systems for Ukraine and any further support.

To reach these goals, the European allies must swiftly step up their production of military equipment and coordinate their supply of weapons and ammunition to Kyiv. In Middle and Western Europe, many politicians have made a rhetorical rather than a political transition in their approach to Putin's Russia after the 22nd of February 2022. Whether it's Macron's remarks about sending ground forces to Ukraine or Scholz's *Zeitenwende* speech: Europe falls short of delivering the necessary quantities for all of Ukraine's military objectives -- even those concerning basic self-defense needs. It is almost ironic that the threat from Russia is taken more seriously and acted upon accordingly by decision-makers

on the other side of the Atlantic. Although China is at the center of the USA's global security policy efforts, almost 70 percent of military aid to Ukraine comes from the US. As it is unlikely that the Democratic Party will be able to maintain a majority in the Senate, this could change radically after the 2024 presidential elections -- regardless of the winning candidate. So, first and foremost, it is up to Europe to boost support for Ukraine. NATO should accelerate this process by adjusting the alliance guideline, particularly by raising the current two percent Defense Investment Pledge to three percent of the member's GDP. This would send a signal to Western European allies to finally boost and stabilize production in the weapons and ammunition industry with the necessary resolve.

The development and production of military sector technologies have to be initiated without delay. The inspector general of the German armed forces recently highlighted the European military backlog regarding drones: "When it comes to drones, we are currently experiencing how far behind we are and how painful the catch-up process is. We cannot let this happen again." Apart from that, the range restriction on long-range weapons provided to Ukraine must be lifted immediately. The Ukrainian military has had to defend its people with both arms tied behind its back for too long. The prevailing circumstances have resulted in a scenario in which the Russian military can launch its missiles at Ukrainian cities without impediment, provided that it does so from a position of relative distance from the border. Lastly, it is imperative and long overdue that Germany provide Ukraine with the Taurus cruise missile.

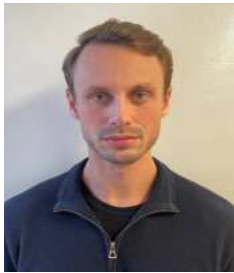
Overall, the goal should be the following: NATO members agree to a certain amount of weaponry for Ukraine that will be delivered each year until Putin ceases his invasion. There are numerous tanks and other weaponry currently in storage in the EU that are urgently needed in Ukraine. This, combined with an invitation by NATO, will deprive Putin of the hope that Ukraine's allies will soon draw back. This scenario that the Kremlin has been speculating on since the annexation of Crimea must be off the table. Only then will Russia be forced to consider backing out of Ukraine for good.

The European allies have to finally wake up to the new era of unrelenting threat from Russia. European leaders must recognize that a belligerent dictator is pointing a gun at our heads and realize that Ukraine is not merely defending its territory but that its fight for freedom is safeguarding a free and democratic Europe. In this, the country needs and deserves a much stronger

commitment from the NATO allies to a Ukrainian victory over the Russian aggressor.

Finally, a cautionary reminder of the insufficiency of the current approach. It was only at the end of October that the lieutenant general of the Ukrainian armed forces,

Dmytro Martshenko, said, “I am not revealing a military secret when I say that our front has collapsed.” The window in which it is possible to arm an intact Ukrainian military to win and reach the objectives outlined above might soon close. For Ukraine and its allies, it is now or never.



**Friedrich
Conradi**

Friedrich Conradi was born in Berlin and pursued his studies in literature and education at both Humboldt Universität and Freie Universität. Following his academic training he spent four years in journalism, during which he worked for German public broadcaster political talk show “Anne Will” and several German newspapers. In 2024 he returned to academia, as a Master’s Candidate in International Relations and research assistant at Johns Hopkins University.

FROM SUPPORT TO SUCCESS: HOW CAN NATO ENSURE VICTORY FOR UKRAINE?

by Marianne Gaertner

The West, with the North Atlantic Treaty Organization (NATO) founded in 1949, and Russia, with its BRICS states founded in 2009, are fighting a battle on Ukrainian soil. The BRICS alliance is raising up in its members states and more countries show interest in membership. China as a currently closed partner to Russia is enhancing the military resources for its Chinese People's Liberation Army (PLA). NATO's number of member states has also increased in recent years. Since the tensions between world nations in the indo-pacific region raised further, the United States will focus its military power more on this area. The European states will therefore be left more to their own devices to defend their continent in the future without support from the United States. Especially, Germany as a western country needs to support Ukraine and therefore defend the democratic values in Europe in the Ukrainian war.

Firstly, NATO and its partner, particularly the European allies, need to continue and expand military deterrence. Each country should keep expanding their military capabilities and resources to be able to defend against its enemies, especially Germany as a leading economic power. In the Military Strength Comparison of 2024 by Global Firepower the United States are on the top, followed by Russia, China, India and South Korea. The United Kingdom is in 6th place, Italy in 10th, France in 11th, Ukraine in 18th and Germany in 19th. NATO is lagging in total of artillery, rocket artillery and infantry vehicles in comparison to Russia. On the other hand, the transatlantic alliance has three times more active soldiers, almost 600,000 more reservists and almost six times more people of military age for possible military service. In addition, it is heavily outweighed in its air forces and naval forces. Without the United States, however, Europe is far weaker and so it should expand its capabilities in the armies, air forces, navies and cyberspace. Especially with their ammunition and the current state of the art of the device. As soon as a more modern level is reached, the soldiers' skills need to be trained. Germany is not allowed to have any kind of aircraft carrier. It's Trainer Aircraft Fleet and Tanker Fleet is also non-existent. Nor does the German Navy own any destroyers. Nor does Germany have any towed artillery for the ground forces. Within the framework of the legal possibilities, the German Federal Ministry of Defense should object to the procurement of these assets. In

addition, the bureaucratic effort must be reduced so that this equipment can be used more quickly to train soldiers. By increasing its defense budget and rapidly procuring new and modern equipment, Germany is making its contribution to deterrence. This will allow Germany to maintain its credibility and position in Europe and the world and not have a reputation as an unreliable and hesitant partner, as has been the case recently.

Secondly, the West's allies should continue to maintain or even increase military, financial and humanitarian support to Ukraine. In total, the United States has already given over €25 billion to Ukraine. Germany, the United Kingdom, the Netherlands, Canada and Japan have each given €6-25 billion in support. France, Italy, Poland and the Scandinavian countries have each given less. France, Italy and Switzerland can increase these contributions as it corresponds to less than 0.25% of their GDP. The continued support sends a signal of determination and cooperation with Ukraine. This also contributes to deterrence.

Thirdly, the NATO countries should cooperate further with Ukraine and use the experience of the Ukrainian armed forces as lessons learned and train their own soldiers. The training of all soldiers, from enlisted personnel to officers, is one of the most important current tasks, according to the former Deputy Supreme Allied Commander Europe, retired British General Sir James Everard. True to the motto 'Train as you fight'. The war experience from Ukraine should not be gained by NATO soldiers personally on the ground. Furthermore, the nations' reservists must be trained regularly. In addition, some NATO states are to create the conditions for compulsory military service. Law, infrastructure and facilities for admission procedures are just a few of the issues. Within this framework, all societies should be further prepared for a possible war. Citizens of some states have already adopted this mentality. Unfortunately, other countries, such as Germany, have not yet done so. These measures and the public reporting of them also serve as a deterrent.

Fourthly, states should continue to strive for diplomatic talks and be prepared to do so, but also define clear boundaries in a united manner. If these lines are crossed, the states must draw unified consequences and follow through on their threats, even if this means a possible escalation. The boundaries should be based on their own military and economic resources. These resources must be constantly increased or improved to withstand the

development of the enemy. For example, the quantitative and qualitative resources of the military. In order to avoid economic or energy dependencies, further partnerships between countries should be created. The NATO countries must continue to work on unity and cooperation. It is not expedient for countries to put their national interests first and not be able to guarantee national defense independently in the coming years. As things stand at present, no state in Europe is in a position to do so.

Finally, it should be noted that deterrence by the NATO states must be maintained and pursued. This must be pursued through military rearmament, military training and support for Ukraine. This will not prevent a possible escalation. It is currently difficult to predict how the war will progress and what actions and reactions Russia will take.



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PAVING THE WAY TO NEGOTIATIONS: A THREEFOLD STRATEGY FOR WEAKENING RUSSIA

by Lea Haupt

Ukraine has only two paths to victory in this war: either achieve a decisive military triumph or enter negotiations from a position of strength. However, as the conflict approaches its fourth year, the feasibility of the first option is diminishing. Historically, interstate wars that last beyond the first year tend to end in ceasefires or negotiated settlements rather than total military triumph - if they end at all. Moreover, a total military victory for Ukraine over Russia, while desirable, may not be in NATO's broader strategic interests, given the potential for Russia to resort to extreme measures, such as nuclear strikes, if pushed to the brink.

Given this reality, the best way for NATO to ensure success in Ukraine is to create conditions that bring Russia to the negotiating table as the weaker party. To do this, NATO must weaken Russia to the point where the costs of continuing the war - militarily, economically, and politically - outweigh any potential benefits to the Kremlin. This requires a comprehensive strategy that integrates military, economic, and information efforts to make the war unsustainable for Moscow and, ultimately, to secure a favorable outcome for Ukraine at the negotiating table.

On the military front, NATO's focus should be on maintaining Ukraine's resilience to ensure that Russia cannot make the strategic gains that are a necessary condition for Ukraine's success. Rather than pushing for large-scale offensive operations that could further escalate the conflict, NATO should prioritize defensive measures that stabilize the front lines and gradually degrade Russian military capabilities. By providing Ukraine with air defense systems, anti-tank weapons, and surveillance technologies, NATO can help sustain Ukraine's position while exhausting Russian resources. However, sustaining this military support will require a significant increase in arms production among NATO's European members. The European Defense Industrial Program, launched in 2024, is a step in the right direction, but concrete follow-through is essential. With U.S. support likely to wane in the future, Europe must take the lead in ensuring a steady supply of weapons to Ukraine. Failure to meet these requirements would hamper NATO's ability to enable Ukraine's success in the negotiations, making any progress toward a favorable settlement illusory.

While military attrition is critical, economic sanctions are equally important to achieving success in Ukraine by weakening Russia's war effort. Although Russia has attempted to project the image of a resilient war economy, its extensive military spending has strained its broader economic stability. The Kremlin's focus on defense has increased its vulnerability in other sectors, providing an opportunity for NATO to exploit. Tightening and expanding sanctions, especially those targeting Russia's energy exports and technology imports, can further cripple its war economy. Currently, while sanctions have weakened Russia's economy, they have not completely cut off its ability to finance the war. Many Western companies continue to operate in Russia, indirectly supporting the Kremlin. For Ukraine to succeed, NATO must close these loopholes by imposing tougher sanctions and improving enforcement mechanisms. This includes providing more resources to NATO members' national authorities to ensure compliance with sanctions and to tighten the noose around the Russian economy. This economic pressure is critical to making it harder for the Kremlin to keep its war machine running.

Another critical factor in Ukraine's success is countering Russia's growing influence, particularly in the Global South, where Russia has portrayed itself as an anti-colonial ally. Kremlin-led disinformation campaigns have gained traction not only in Europe and the United States, but also in Africa, the Middle East, and Latin America, where Russia is increasingly seen not as an aggressor but as a force resisting Western imperialism. The recent BRICS summit in Kazan underscored that Russia is far from a pariah on the world stage - a fact that NATO must take seriously. To shift the global narrative in Ukraine's favor and secure international support, NATO must expand targeted information campaigns and diplomatic outreach in the Global South, actively dismantling Russian narratives and building a consensus that recognizes Russia as the aggressor. Without this shift, it will be much more difficult for Ukraine to achieve a strong negotiating position, undermining NATO's efforts to ensure a successful outcome.

The success of NATO's strategy to ensure Ukraine's victory depends on its ability to integrate the military, economic, and informational dimensions into a cohesive and unified approach. Each component reinforces the other - military pressure reduces Russia's battlefield strength, economic sanctions cripple its ability to finance the war, and efforts to counter disinformation challenge its ability to control the narrative. This gradual, sustained pressure is key to ensuring that Russia faces escalating

costs on multiple fronts, ultimately driving it toward a negotiated settlement that reflects NATO and Ukrainian interests. Through this calculated, multidimensional

approach, NATO can help secure a fair peace for Ukraine and turn its support into lasting success.



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UNTITLED
by Jonas Heinemann

Russia's full scale invasion on 22 February 2022 showed the failure of the West's Policy towards Ukraine and Russia. Since then most NATO Partners have changed course, sending weapons on a large scale, on top of financial and humanitarian support. Despite this, Ukraine is struggling against the invaders, which was very much in the focus of attention when the US aid Package was withheld, but is still the case today. They are outgunned, firing way less artillery shells per day, have less of almost any weapon system and a much smaller population to mobilise. In addition their supply of ammunition and equipment is not guaranteed. In the US there will be an election where one candidate has yet to commit to further shipments to Ukraine, and Germany has temporarily stopped new orders from Ukraine due to budget constraints. With those problems of the two biggest providers of weapons deliveries to the Armed Forces of Ukraine and others being far from certain to keep up their deliveries, Ukraine could get into a tough position.

Russia on the other side, many analysts suggest, is just waiting for Western support to end. The Kremlin, so the argument goes, plays the long game. Through their autocratic system of government they could keep going no matter what public opinion thinks of their war, and the Western democracies on the other hand will be forced to stop deliveries at some point, because their populations demand different priorities for spending.

To make sure Ukraine can stay in the fight as long as needed, and thus making clear to Russian leadership they can't just sit out Western support, Ukraines partners need to make long term commitments to deliver weapons and ammunition, in addition to general and financial support.

Another problem for Ukraine is an increasing number of weapon systems. This makes logistics a nightmare, with different spare parts needed, mechanics behind the front needing to learn how to repair multiple tanks, IFVs or Artillery systems and soldiers need to be retrained when a different model gets delivered to their unit. NATO should act now to solve these two problems at once. The alliance should start coordinating procurement of long term contracts for the Ukrainian Armed Forces. Through the pooling of resources of the supporters for Ukraine they should place orders for a continuous stream of artillery shells, tanks, armoured vehicles, firearms and everything else Ukraine needs to fend off Russian aggression. They should, at the same time, order as little a number of different weapon systems as possible. This way the Ukraine can use it more effectively, and at the same time this could be the start to a consolidation of weapons manufacturers in the alliance. Since not only Ukraine has the problem of too many weapon systems, but both NATO war fighting capability and the efficiency of its military-industrial-complex are massively constrained by the abundance of different equipment in member states armies.



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Jonas Heinemann is currently in the last year of his undergraduate studies at the University of Bonn with a major in History and a minor in Law. There his focus is economic, political, conflict and diplomatic history of the nineteenth and twentieth centuries as well as constitutional and international public law. Beside his studies he is working in the Head Office of German Sparkassenstiftung for International Cooperation, an NGO working on financial development cooperation all over the globe.

***FROM SUPPORT TO SUCCESS: HOW CAN
NATO ENSURE VICTORY FOR UKRAINE?***
by Wilson Jones

As of October 2024, an estimated 140,000 square kilometers amounting to 23% of Ukraine's territory, has been contaminated with Russian explosive ordnance (United Nations Development Program 2024). This includes deliberately placed landmines as well as unexploded missiles, shells, and bombs. The entire country has been affected, but the problem is especially pronounced in Eastern Ukraine, the primary combat theatre since 2014.

Unexploded ordnance creates enormous issues for Ukraine, both for battlefield victory in the near term and independent development in the long term. Landmines have featured heavily in Russian defenses, and the Ukrainian military has acknowledged these hindered their advances (Reuters 2024). For Ukraine to preserve its territorial integrity, it must penetrate Russian minefields to recapture occupied land.

Equally important is the effect that unexploded ordnance has on the Ukrainian civilian population. The primary victims of landmines and unexploded ordnance are civilians, and these explosives represent a hazard long after fighting concludes. The unexploded ordnance also makes land uninhabitable and unproductive and contributes to regional depopulation. In Ukraine, this particularly affects farmland. From 2022 to 2023, an estimated 5 million hectares of farmland were rendered unusable due to Russian ordnance, causing \$30 billion in lost productivity (World Bank 2023). Maritime mines have also hampered Ukrainian shipping, carrying these farm products to the world market. All forms of ordnance carry a significant environmental toll, leaving shrapnel that destroys farm equipment, and poisoning soil and water with chemicals, plastics, and heavy metals.

Ukraine's long-term viability after the war will require a vibrant economy, which is essential to paying for the strong defenses to deter potential future aggression. To ensure Ukrainian victory, NATO should fund an explosive ordnance clearance program in Ukraine. This project would have clear mission boundaries and defined costs, not risk NATO escalation with Russia, and fully comply with international humanitarian law.

Producing a cost estimate to demine Ukraine is difficult for several reasons. The cost of clearance can vary significantly in different terrains. As Ukraine is officially the most heavily mined region in the world, the scale of this project also does not compare to any other operation. Russia is using a variety of explosive ordnance, from modern shells and guided missiles to Cold War-era stockpiles manufactured decades ago. The inconsistency of ordnance types increases the danger and time needed to clear an area. The World Bank estimated that full clearance would cost \$35 billion and 3.5 years of continuous work, assuming current ordnance levels and unimpeded access to affected areas. In 2022, an estimated \$162.3 million went to Ukraine for demining purposes; total global spending only amounted to \$913.5 million. While these amounts have risen, they fall well short of the totals needed to help Ukraine and other affected regions.

Fully demining Ukraine cannot realistically happen while the war continues. Instead, the NATO demining program can focus on three subsections. These are: Western regions that are out of the combat theatres, recaptured territories that are no longer combat theatres, and the Eastern frontlines.

The first zone represents areas where a Russian advance is unlikely. Kyiv and Western Ukraine are essential to the war effort, and host much of the unaffected farmland and industry. This is also where new munition factories have been built since 2022 with Western assistance. These areas need to be fully clear of explosives to maintain Ukraine's war effort, specifically essential infrastructure that ensures material flows to the frontlines. Mykolaiv Oblast is one area in particular that is outside of major combat operations but immediately next to the Kherson front. It has been heavily affected by bombardments, diminishing agricultural production and frontline logistics. Clearing this area would increase Ukraine's ability to fight and fund the war. The second area, occupied by Russia until the Spring 2022 withdrawal, has seen more significant destruction. In addition to unexploded ordnance, the region was deliberately mined by withdrawing Russian forces. With the Ukrainian incursions in Belgorod and Kursk, demining this area ensures Ukrainian security in case of greater regional operations. In both regions, clearance must also consider civilian safety so families can return home and restart local economies.

The third area is the Eastern Ukrainian frontlines, which are the most heavily affected. The full

extent of ordinance and minefields in the Russian-occupied zones is unknown but presumed to be heavy after ten years of continuous fortification. Clearance here must be focused on the immediate tactical needs of the Ukrainian military to assist with field victory, rather than on humanitarian clearance. This sacrifice is justifiable given the military situation and how most civilians have fled this area.

Explosive ordinance clearance in Ukraine will be an expensive and time-consuming task. However, this project will directly improve Ukraine's ability to defend and secure its territory in the near and long term. NATO aid to Ukraine should expand to fund explosive ordinance

clearance both on the military frontlines and the hinterland regions essential to the war effort.

It may be possible to coordinate demining with Russia in the future, given that these humanitarian concerns apply to all sides. However, given their belligerent rhetoric and refusal to engage in ceasefire negotiations, this is highly unlikely while hostilities continue. Ultimately, if NATO is truly committed to Ukrainian victory, it must also commit to an ordinance clearing program.



**Wilson
Jones**

Wilson Jones is a Philadelphia native and graduate of the University of St Andrews. There, he specialized in post Soviet conflicts and insurgencies, and his research was published by *Parameters*, the U.S. Army War College journal. Wilson currently works as a Defense Analyst with GlobalData in London, and continues to focus the American, European, and global military affairs.

***FROM SUPPORT TO SUCCESS: HOW CAN
NATO ENSURE VICTORY FOR UKRAINE?***
by Diana Kuznetsova

The ongoing war in Ukraine marks a defining moment for NATO's role in maintaining European and global security. As Ukraine resists Russian aggression, NATO's support has proven critical in sustaining Ukraine's defense. However, to secure a true and lasting victory, NATO must implement a comprehensive and coordinated strategy that goes beyond short-term military aid. This essay examines how NATO can achieve this by increasing military aid and trainings, exploring conditional membership and enhancing Ukraine's hybrid warfare capabilities.

One of the most direct ways NATO can support Ukraine is by supplying advanced military equipment, particularly long-range missile systems. These weapons would allow Ukrainian forces to target Russian military facilities deep within Russian territory, disrupting supply lines, airfields, and command centers. This strategy of targeting infrastructure would force Moscow to shift resources toward defending its territory, reducing its capacity for continued offensives against Ukraine. Evidence from past conflicts highlights the effectiveness of weakening an opponent's logistics and communication hubs to destabilize its military effectiveness.

Moreover, increasing air defense capabilities remains vital as Ukraine faces ongoing missile threats to critical infrastructure and urban centers. Protecting these areas from attack not only ensures the safety of civilians but also prevents significant disruptions to the economy and national morale. An improved air defense system can transform Ukraine's position from reactive to proactive, enabling it to address threats before they endanger key assets. NATO's air defense contributions would thus serve as both a defensive shield and a deterrent.

Another pivotal step for NATO is considering conditional membership for Ukraine. This approach involves offering Ukraine a form of membership in which NATO's collective defense commitment (Article 5) applies exclusively to Ukrainian territories under government control. This conditional guarantee would signal to Russia that further territorial aggression would be met with NATO resistance, while limiting the risk of a direct NATO-Russia confrontation. The concept of conditional membership strikes a balance between supporting Ukraine and managing potential escalation risks with Russia. Historical precedents, such as NATO's integration of

Eastern European countries, demonstrate how strategic signaling can discourage adversaries from pursuing further territorial gains. Conditional membership would provide Ukraine with a security assurance, potentially emboldening it to pursue a more stable defense strategy without fear of unchecked Russian aggression.

NATO can also ensure victory by increasing training support and interoperability between its forces and Ukrainian troops. Establishing joint training centers in Ukraine would allow NATO to equip Ukrainian forces with both advanced technical skills and operational strategies suited for modern warfare. Such training would be invaluable in fostering a self-reliant defense structure that could secure Ukraine's borders even after NATO's direct involvement decreases. Training exercises would familiarize Ukrainian soldiers with NATO equipment and tactics, ensuring Ukraine's readiness for future challenges. Enhanced interoperability also provides a strong signal of commitment to both Ukraine and Russia, reinforcing the sense that NATO's support for Ukraine is not a one-time occurrence, but rather part of a larger security framework.

Russia's use of hybrid warfare which includes cyberattacks, disinformation, and sabotage—has been a persistent threat to Ukraine's stability. NATO, with its resources and expertise in cyber defense, can assist Ukraine in building a more robust defense against these non-traditional threats. The importance of cyber resilience in modern warfare cannot be understated, as cyberattacks have the potential to paralyze critical infrastructure and disrupt military communications. NATO can reduce the risk of destabilization through nonmilitary methods by deploying resources to assist Ukraine in developing strong cybersecurity protocols. Furthermore, coordinated efforts to combat disinformation would keep Russian narratives from inciting dissension among Ukrainian civilians. Strengthening these areas would improve Ukraine's ability to withstand hybrid warfare, shielding the country from Russia's more covert forms of aggression.

Reinforcing NATO's eastern border with extra troops and equipment serves as both a deterrent and a preemptive step in the event of war escalation. By deploying NATO forces in Eastern Europe, the alliance can prepare for potential spillovers from the Ukraine war while also assuring the security of NATO member nations bordering Russia. This reinforcement strategy demonstrates NATO's commitment to collective defense. Troops deployed in recent years in Poland and the Baltic states reflect the alliance's readiness to defend its members and oppose further Russian aggression.

Reinforcing the eastern flank also reassures member states that NATO is ready to respond quickly, discouraging Russia from pushing its influence westward and minimizing the likelihood of future conflict.

To conclude, NATO can secure a meaningful and sustainable victory for Ukraine by pursuing a multi-pronged strategy. By enhancing Ukraine's immediate defense capabilities, exploring conditional membership, investing in training and interoperability, countering hybrid warfare, intensifying economic sanctions, and reinforcing its eastern flank, NATO can provide Ukraine with the resources and assurance needed to withstand and eventually defeat Russian aggression. These approaches not only align

with Alliance's commitment to supporting Ukraine's sovereignty but also strengthen NATO's position as a defender of European stability.

FROM SUPPORT TO SUCCESS: HOW CAN NATO ENSURE VICTORY FOR UKRAINE?

by Elene Meterveli

The Russian Federation's annexation of Crimea in 2014, followed by its full-scale invasion of Ukraine in 2022, has raised profound concerns about European and Euro-Atlantic security. These acts challenge NATO's defense posture along its eastern flank and question NATO's core values, including democracy, sovereignty, and territorial integrity. Although Ukraine is not a NATO member, its strategic location and resources make its stability crucial for the region. A secure, sovereign Ukraine serves as a barrier to Russian ambitions in Europe, reinforcing European stability.

To counter Russian aggression and secure Ukrainian victory, NATO must enhance its involvement in Ukraine's military theater, with robust military aid, stronger sanctions, and a comprehensive post-war action plan. A unified NATO response will not only support Ukraine but also strengthen the Euro-Atlantic security framework.

Enhanced Military Support and Intelligence-Sharing

Securing a Ukrainian victory aligns with NATO's goals, as a defeat of Russian aggression would restore stability to Euro-Atlantic capitals. While Ukraine has received substantial aid, it has often been limited to defensive purposes. To tip the balance, NATO must remain united in providing Ukraine with continued military support - essential for ending the war and deterring future aggression.

NATO should ensure the steady delivery of critical military equipment, including air defense systems, artillery, drones, fire jets, and long-range missiles. These assets are crucial for strengthening Ukraine's military capacity. Establishing a long-term, coordinated plan for ammunition deliveries would enable Ukraine to focus on strategic operations without financial strain, solidifying its defense capabilities.

Ukraine's defense in the Black Sea is also critical, impacting both national sovereignty and regional stability. NATO support should extend to bolstering Ukraine's naval capabilities, equipping it to secure maritime dominance and protect Black Sea trade routes. A strengthened Ukrainian presence in the Black Sea would signal NATO's commitment to safeguarding international waters and stability in the surrounding region.

Intelligence-sharing is another vital component of NATO's support strategy. Enhanced mechanisms would provide Ukraine with real-time insights into Russian troop locations and vulnerabilities, improving Ukraine's operational effectiveness. Sharing surveillance data and satellite imagery would significantly enhance Ukraine's ability to counter Russian maneuvers.

Political and Diplomatic Support Through Sanctions

Economic sanctions are a powerful tool to weaken Russia's ability to sustain aggression. Although the European Union has imposed multiple sanctions packages, they have not fully exhausted Russia's resources. A more rigorous, unified sanctions strategy is needed. NATO must work with allies in diplomatic forums to impose sanctions targeting Russia's energy exports and financial flows - key sources of its war funding.

NATO should also prioritize diplomatic outreach to countries of other continents, encouraging a global stance on sanctions. Effective sanctions require coordination to limit Russia's ability to circumvent them through non-European markets. NATO should target Russian-aligned entities that facilitate economic channels, discouraging global actors from supporting Russia economically.

For example, Russia has exploited ties with certain nations, such as Georgia, which offer pathways to circumvent sanctions. NATO and its allies must address such loopholes, implementing targeted sanctions on governments and entities that enable Russian exports or financially support Russian interests. Sealing these gaps will increase pressure on Russia to cease aggression, ensuring sanctions remain effective.

Moreover, Russia's weaponization of energy supplies has strained European economies, underscoring the need to reduce dependence on Russian energy. By accelerating the shift to diversified energy sources and using reserves as shell gas reserves in countries such as Georgia, NATO can help Europe achieve energy independence. A self-sufficient Europe would be better equipped to withstand Russian coercion and maintain a united stance against aggression.

Action Plan for Ukraine's Post-War Reconstruction

While securing Ukraine's victory is NATO's immediate priority, it is equally important to plan for post-war recovery. In conjunction with the European Union, NATO should begin preparing for institutional rebuilding, economic recovery, and infrastructure development in Ukraine. A long-term goal of creating a stable, resilient state would show NATO's commitment to Ukraine's sovereignty and highlight the Alliance's role as a stabilizing regional force.

A comprehensive post-war reconstruction plan should focus on rebuilding Ukraine's infrastructure, strengthening its economic foundations, and enhancing its defense capabilities. Institutional support could include technical assistance for reforming governance, combating corruption, and building transparent institutions - essential for Ukraine's stability and growth.

From a defense perspective, NATO's involvement could include advisory programs and extended training initiatives to bolster Ukraine's military resilience. Deploying advisors or conducting joint training exercises would enable Ukraine to establish efficient defense protocols without requiring NATO's direct presence,

which could provoke Russian backlash. Such initiatives would demonstrate NATO's commitment to Ukraine's defense, deterring potential future aggressions.

Conclusion

NATO's support for Ukraine's victory is both a strategic and moral imperative. By providing enhanced military aid, enforcing rigorous sanctions, and developing a post-war recovery plan, NATO can help secure Ukraine's sovereignty and reinforce Euro-Atlantic security. These pillars of support are interdependent, with military aid bolstering Ukraine's defense, sanctions weakening Russia's war capabilities, and reconstruction efforts ensuring Ukraine's resilience.

NATO's values - democracy, rule of law, sovereignty, and territorial integrity - are intertwined with Ukraine's fight for independence. The Alliance must remain united, leveraging its collective strength to counter Russia's aggression. A Ukrainian victory is essential not only for Ukraine but also for the security and stability of the entire Euro-Atlantic community. By committing to Ukraine's success, NATO underscores its dedication to a secure, stable, and democratic Europe, affirming its resolve to protect the international order.



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DEFENSIVE REALISM IN NATO'S SUPPORT FOR UKRAINE: STRATEGIES FOR RESTORING SOVEREIGNTY

by Hark Rink

Since Russia's invasion of Ukraine, the international community has grappled with effective responses that avoid escalating the conflict. Grounded in defensive realism as characterized by Kenneth Waltz, this essay examines how NATO can support Ukraine without provoking direct confrontation with Russia. Defensive realism emphasizes that states prioritize security over power maximization. NATO must support Ukraine to prevent Russian expansion, which threatens European balance and NATO security, while avoiding actions that could lead to direct conflict with nuclear-armed Russia.

Providing Advanced Defensive Weapons and Financial Support

Enhancing Ukraine's defenses aligns with defensive realism. In alignment with Ukraine's victory plan, their demands for advanced military support should be met to restore sovereignty effectively. Ukraine requests advanced air defense systems like Patriot and NASAMS to intercept Russian attacks, protecting infrastructure and civilians. Supplying fully enabled long-range missiles such as ATACMS and Taurus cruise missiles allows Ukraine to target Russian positions deep within occupied territories, disrupting supply lines. Ukraine also seeks counter-drone technology to neutralize Russian drones and continued support with heavy artillery like HIMARS and tanks to strengthen ground defenses. Meeting these demands empowers Ukraine to defend itself and shifts the balance, discouraging further Russian aggression.

While concerns exist that providing such weaponry could escalate the conflict, Russia's options are limited. According to Freedman (2023), Putin indicates Russia's nuclear threshold is confined to existential threats. Enhancing Ukraine's defenses does not pose such a threat and is unlikely to trigger nuclear escalation. International leaders, including Xi Jinping and Narendra Modi, have advocated for de-escalation, signaling that nuclear options are not supported globally, reducing escalation likelihood. Furthermore, Russia's ties with North Korea raise destabilization concerns, potentially prompting militarization in East Asia, which is not in China's interest. Strengthening Ukraine's defenses counters Russia's actions while considering international implications.

To finance this support, intensifying economic sanctions on Russia weakens its war capacity. Utilizing frozen Russian assets (approximately \$300 billion) to fund Ukraine's defense addresses domestic concerns about taxpayer burdens, especially in the U.S. Redirecting these funds maintains pressure on Russia while alleviating domestic opposition, though legal complexities must be managed.

Intelligence Sharing

Sharing real-time intelligence enhances Ukraine's situational awareness without NATO's direct combat involvement, aligning with defensive realism's emphasis on self-help.

A Diplomatic Pathway: Implementing a Sustainable Solution

While military support is essential, a sustainable resolution requires diplomacy addressing all parties' security concerns. Drawing from the Istanbul Communiqué, a potential pathway includes:

1. **Ukraine's Neutrality and Security Guarantees:** Ukraine adopts permanent neutrality, refraining from NATO membership. In exchange, powerful countries guarantee its security, committing to protect Ukraine's sovereignty.
2. **United Nations Peacekeeping Mission:** Deploying UN peacekeepers to monitor and enforce a ceasefire, building trust.
3. **Russian Withdrawal and Demilitarization:** Russia withdraws to pre-2014 borders; Crimea is demilitarized as an interim solution.
4. **Ukraine's Integration into the European Union:** Ukraine pursues EU membership, enhancing stability without posing a military threat to Russia.

This solution aligns with defensive realism by maintaining security through balance rather than dominance. It addresses both Ukraine's and Russia's security dilemmas, aiming for a stable equilibrium. Furthermore, after peace, integrating Russia into the global economy should be considered. Learning from past mistakes of dependence and drawing lessons from Germany's post WWII integration, economic cooperation can be a powerful tool for peace. Linking investments to democratic reforms in Russia encourages positive change. Democratic peace theory suggests democracies are less likely to engage in war, and economic entanglement raises conflict barriers. Thus, integrating Russia economically and promoting democracy can prevent future hostilities.

NATO Unity as a Deterrent

Maintaining NATO unity is crucial. By collectively meeting Ukraine's demands and endorsing a diplomatic solution, NATO demonstrates strength, deterring further Russian aggression and reducing divisions.

Conclusion

Applying a defensive realist framework, NATO can support Ukraine by providing advanced weapons, intelligence sharing, and facilitating a diplomatic solution addressing all parties' security concerns. By adopting the pathway from the Istanbul Communiqué—Ukraine's neutrality, security guarantees, UN peacekeepers, Russian withdrawal, and Ukraine's EU integration—a sustainable resolution is achievable. Integrating Russia into the global economy post-conflict, with investments linked to democratic reforms, promotes long-term peace,

mirroring Germany's integration after World War II. This leverages democratic peace theory and economic interdependence to reduce future conflicts. These measures enhance Ukraine's defense without provoking direct conflict with Russia. By maintaining NATO unity and addressing funding complexities, the alliance can help restore Ukraine's sovereignty. Given Russia's limited capacity to escalate and the global stance against nuclear warfare, these support measures are necessary and unlikely to provoke uncontrollable escalation. This approach ensures NATO members' security, contributes to regional stability, and offers a viable pathway to lasting peace in Ukraine.



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FROM SUPPORT TO SUCCESS: HOW CAN NATO ENSURE VICTORY FOR UKRAINE? by Stepan Rusyn

Russia's invasion of Ukraine has shattered the post-Cold War security architecture, forcing NATO to confront its most consequential challenge in decades. As Moscow demonstrates its willingness to redraw borders through force, the Alliance faces a stark choice: commit fully to Ukraine's victory or watch the international rules-based order crumble beneath an emboldened wave of autocratic expansion.

The scale of this challenge becomes clearer through numbers. Moscow's projected military spending of 6.3% of GDP in 2025 – supported by a defense industrial base reinforced with technology and materials from North Korea, Iran, and China – will enable Russia to outproduce the whole of Europe in military equipment. Against this mobilization, NATO's traditional 2% GDP spending target appears dangerously inadequate.

With the United States increasingly focused on challenges in Asia, Europe must assume greater responsibility for its own security. Security experts advocate for a new minimum of 3% GDP defense spending – not as an arbitrary target, but as the essential minimum required to re-launch large-scale production of critical military systems. The U.S. defense industry alone cannot meet combined Ukrainian and NATO requirements; therefore, European manufacturers must step up to meet this historic challenge. Europe's future prosperity depends on substantial and long-term investments in resilience and defense.

Investing in Ukraine's military-industrial base represents another crucial avenue for strengthening collective defense capabilities. It must be viewed as an integral part of NATO's future arsenal – not just a recipient of aid but a vital contributor to European security. The substantially lower production costs in Ukraine, combined with battle-tested expertise, make purchasing weapons from Ukrainian manufacturers one of the most cost-efficient ways to support the frontline while minimizing the financial burden on partner countries.

In certain sectors, particularly drone warfare, Ukraine has emerged as a global leader, far surpassing Western industrial capabilities. Strategic partnerships and joint ventures with Ukrainian manufacturers could help bridge this knowledge gap, enabling Europe to rapidly

modernize its defense capabilities. Such collaboration would create a win-win scenario: accelerating Ukraine's path to victory while strengthening NATO's long-term defensive capabilities against potential adversaries.

Still, Russia's assault extends far beyond conventional warfare. Recent months have exposed an unprecedented escalation in Moscow's hybrid operations across Europe: sabotage of defense facilities, assassination attempts on industry leaders, tailored disinformation campaigns targeting specific nations, and systematic breaches of military installations. This multi-domain offensive demands an equally sophisticated response.

NATO must establish a dedicated Hybrid Threats Command, leveraging Ukraine's hard-won expertise in countering Russian subversion. This new structure should coordinate international investigations to expose and dismantle Russian networks operating within Europe. Given some member states' continued prioritization of lucrative deals with Russia over their own and collective security, this initiative should proceed on a volunteer basis rather than being held hostage to consensus requirements. Such coordinated action would significantly degrade Russia's ability to undermine European support for Ukraine.

The question of Ukrainian NATO membership requires particular boldness. While the 2024 Washington Summit reaffirmed Ukraine's path to NATO as "irreversible," Moscow remains unconvinced, continuing to demand Ukrainian neutrality as a prerequisite for any kind of conflict settlement. The time has come to move beyond rhetorical support: NATO should formally invite Ukraine to begin accession negotiations, backed by concrete security guarantees during the transition period.

This is not merely about Ukraine. The broader challenge facing NATO is the fundamental restructuring of European security. Given Russia's long track record of violating international agreements and the absence of any prospective leadership change in Moscow, NATO membership represents the only viable security guarantee for Russia's Western neighbors who wish to preserve their independence. Finland and Sweden's recent accession demonstrated NATO's capacity to rapidly incorporate new members when political will exists. Ukraine, having paid an enormous price in defending European security, must become the cornerstone of this reformed security architecture.

Success requires preparing NATO societies for a prolonged contest of wills with Russia. Leaders must communicate honestly about the costs while articulating a compelling vision of a Europe whole and free – with Ukraine as an integral member of the Euro-Atlantic community.

The stakes transcend Europe. A Russian victory would signal to Beijing and other revisionist powers that military aggression and nuclear blackmail are effective tools for reshaping the international order. The resulting world would be immeasurably more dangerous, requiring far greater military expenditures and accepting far greater risks than those associated with ensuring Ukrainian victory today.

In this pivotal moment, NATO's response will define its relevance for the 21st century. The era of viewing Russia as a potential partner has ended; the task now is to demonstrate that the Alliance remains capable of its core mission: defending democracy and deterring aggression in Europe. The price of decisiveness today is far lower than the cost of hesitation tomorrow. The time has come for NATO to transform from a supportive partner to the architect of Ukrainian success – and by extension, the guarantor of European security for generations to come.



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