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Poštovani čitatelji,

čast mi je i zadovoljstvo predstaviti vam prvo izdanje časopisa Strategos u 2026. godini. Kao što je obećano u prošlom broju, Strategos nastavlja s objavom aktualnih i visoko kvalitetnih radova iz sigurnosnih i obrambenih, ali i politoloških studija, s naglaskom na međunarodne odnose i geopolitiku.

Najnovije izdanje časopisa donosi rad o evoluciji dronskog ratovanja na primjeru rusko-ukrajinskog sukoba, te postavlja pitanje radi li se ovdje o (ograničenoj) revoluciji u vojnim poslovima ili o (široj) vojnoj revoluciji. Tu je i rad o presudnoj ulozi poluvodičkih uređaja u modernoj vojnoj i obrambenoj industriji, a čiji se opskrbeni lanci reflektiraju na cjelokupnu nacionalnu sigurnost država. Slijede tri rada iz sfere međunarodne politike: prvi analizira utjecaj klimatskih promjena na geopolitički položaj Arktika, te promišlja o mogućnosti transformacije same prirode Mackinderovog i Spykmanovog heartlanda, što bi moglo dovesti do jačanja ruske, ali i kineske (vojno)pomorske i gospodarske moći. Drugi rad uspoređuje aktualni spor oko Grenlanda s tursko-grčkim sukobom oko Cipra iz 1970-ih, te nudi potencijalna rješenja, ali i postavlja fundamentalna pitanja o američko-europskim odnosima, kao i o samoj srži i svrsi NATO-a kao vojnog saveza. Treći rad u ovome bloku predstavlja dubinsku analizu američke sigurnosne, vanjske i gospodarske politike u drugome mandatu Donalda Trumpe, s naglaskom na transakcijski realizam trenutne administracije u Washingtonu koji se podjednako primjenjuje kako na tradicionalne europske saveznike, tako i na strateške suparnike poput Narodne Republike Kine. Ovaj broj časopisa zatvaramo osvrtom na novu knjigu bosanskohercegovačke povjesničarke s austrijskom adresom Armine Galijaš – „Russkij mir i srpski svet. Ideje, projekti, ratovi“ – koja predstavlja temeljitu komparativnu studiju ruskog (neo)imperijalnog i velikosrpskog projekta, s potencijalnim dalekosežnim posljedicama za područje Istočne i Jugoistočne Europe.

Koristim ovu priliku kako bih se zahvalio autorima i recenzentima, te članovima uredništva i svima ostalima koji su svojim doprinosom pomogli da Strategos nastavi rasti i dosegne sve širu, međunarodnu publiku.

Glavni urednik
Janko Bekić

Editor's Word



Dear readers,

it is an honor and privilege to present to you the first issue of Strategos magazine in 2026. As promised in the last issue, Strategos continues to publish current and high-quality papers in security and defense studies, as well as political science, with an emphasis on international relations and geopolitics.

The latest edition of the magazine presents a paper on the evolution of drone warfare using the example of the Russian-Ukrainian conflict, and raises the question whether this is a (limited) revolution in military affairs or a (wider) military revolution. Another paper deals with the crucial role of semiconductor devices in the modern military and defense industry, whose supply chains affect the overall national security of countries. Three papers from the sphere of international politics follow: the first analyzes the impact of climate change on the geopolitical position of the Arctic, and reflects on the possibility of transforming the very nature of Mackinder's and Spykman's heartland, which could lead to the strengthening of Russian, but also Chinese maritime (naval) and economic power.

The second paper compares the current dispute over Greenland with the Turkish-Greek conflict over Cyprus from the 1970s, and offers potential solutions, but also raises fundamental questions about American-European relations, as well as about the very core and purpose of NATO as a military alliance. The third paper in this block presents an in-depth analysis of American security, foreign and economic policy in the second term of Donald Trump, with an emphasis on the transactional realism of the current administration in Washington, which is equally applied to both traditional European allies and strategic rivals such as the People's Republic of China. We close this issue of the magazine with a review of the new book by Armina Galijaš, a Bosnian historian with an Austrian address - "Russkiy mir and srpski svet. Ideas, projects, wars" - which presents a thorough comparative study of Russian (neo)imperial and Great Serbian designs, with potential far-reaching consequences for the area of Eastern and Southeastern Europe.

I take this opportunity to thank the authors and reviewers, as well as the editorial board members and everyone else whose contributions have helped Strategos to continue growing and reaching an ever-widening, international audience.

Editor-in-chief

Janko Bekić

Does the Evolution of Drone Warfare in Ukraine Constitute a Revolution in Military Affairs or a Military Revolution?

Dr. Fred P. Hoffman¹, Dr. Behsat Ekici², and Brock Ruth³

ABSTRACT

The widespread use of unmanned aerial vehicles, or drones, in the Russia-Ukraine war has significantly affected the way that conflict has been conceptualised, strategized, resourced, and fought by both sides. Major technological developments, coupled with innovations in how those technologies are integrated and used in warfare, can result in either a revolution in military affairs (RMA) or a military revolution. Whereas RMA refers to technological, tactical, doctrinal, or organisational changes limited to the military sphere, military revolutions not only affect how wars are fought but also reshape military organisations, societies, and states. Military revolutions are far less commonplace than RMAs; in fact, some military historians assert there have been

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just five military revolutions in the Western world since the 1648 Treaty of Westphalia. According to Andrew Krepinevich, then with the Pentagon's Office of Net Assessment, a military revolution has four components: Technological change, military systems evolution, operational innovation, and organisational adaptation. Given the considerable impact that drone warfare in Ukraine has had not only on combat and combatants, but on the organisations and societies that support them, would it be accurate to characterise drone warfare as a military revolution? Considering drone warfare in Ukraine through the prism of Krepinevich's four criteria enables us to understand how and why drone warfare in Ukraine indeed qualifies not only as an RMA but as a military revolution.

KEYWORDS: *unmanned aerial systems, drone warfare, military revolution, revolution in military affairs, Russo-Ukrainian war*

Introduction

Military revolutions

Two related but distinct terms used by strategic thinkers to characterise significant changes in how conflicts are waged are *military revolutions* and *revolutions in military affairs* (RMA). Historian Michael Roberts is credited with coining the phrase *military revolution* in 1956, then using it to describe “fundamental changes to the framework of war, recasting societies and states in addition to military organizations” (Morris, 2024). In 1992, Andrew Krepinevich of the Pentagon's Office of Net Assessment, identified four factors as contributing to military revolution: Technological change, military systems evolution, operational innovation, and organizational adaptation (Krepinevich, 1992). Murray and Knox (2001) identified five military revolutions that have occurred in the Western world since the 17th century: The first was the creation of the modern state and modern military institutions stemming from the 1648 Treaty of Westphalia, the second was the French Revolution and its *levée en masse* approach to national conscription, and the third was the Industrial Revolution. Morris (2024) concisely described the fourth military revolution, World War I, as “the combination of the first three revolutions” (para. 1). The fifth military revolu-

tion stemmed from the development of ballistic missiles and nuclear weapons (Murray & Knox, 2001).

Revolutions in Military Affairs (RMA)

Less expensive than a military revolution, but consequential, are RMAs, which are “clusters’ of technological, tactical, doctrinal, or organizational changes that are confined to the military sphere” (Morris, 2024). All five of the previously listed military revolutions were “associated with and resulted in certain RMAs” (Morris, 2024). Technology *alone* does not create an RMA; rather, that technology “requires organizational and doctrinal adaptation before the tactical and strategic potential of new weapons systems can be realized” (Murray & Knox, 2001). As an example, Murray and Knox pointed to the British longbow. This weapon had existed for at least half a century before doctrinal and organisational changes enabled it to achieve its devastating effectiveness fully (Murray & Knox, 2001). A more recent example of an RMA was Nazi Germany’s Blitzkrieg in France, which was based upon the exploitation of multiple “enabling technologies—tanks, radios, close air support—that had individually been around for some time” (Alach, 2008). More recently, the RMA concept gained renewed attention from American strategic thinkers in the 1990s, in the wake of the 1991 Gulf War, where the doctrinal, organizational, and operational synergy of multiple new technologies and capabilities enabled President Bush’s 35-nation Coalition to impose a crushing defeat on the fourth largest army in the world in just 100 hours (Collmer, 2007; Krepinevich, 1992).

The emergence and implications of drone warfare

Like the British longbow or the Nazi Blitzkrieg of 1940, drones and drone warfare have also been around awhile. However, recent technological developments have not only expanded the roles and missions of battlefield drones but also altered the very nature of armed conflict itself. Even non-state actors have become inspired to engage in drone warfare: The terror group ISIS “developed its own infrastructure, munitions, and aircraft without state patronage” (Achambault & Veilleux-Lepage, 2024). Hamas employed drones on 7 October 2023 to attack Israeli observation towers, while the Houthis in Yemen continue to use drones to attack commercial shipping and Western naval forces in the Red Sea (Ibid.).

This article addresses the question, “To what extent does the evolution of drone warfare in the Russia–Ukraine conflict constitute a military revolution rather than merely a revolution in military affairs (RMA)?” The answer to this question is not simply a theoretical matter: Given its low cost and high battlefield impact, drone warfare is already of considerable interest to both state and non-state actors, and the implications of drone warfare have already been revealed to have serious implications for military commanders, defence planners, and defence industries around the world.

We assert that drone warfare not only meets all the criteria for being considered an RMA but also Krepinevich’s four factors of military revolution: technological change, military systems evolution, operational innovation, and organisational adaptation.

Methodology

This study draws on a moderated technological determinist perspective, which holds that technological innovation, when coupled with doctrinal and institutional adaptation, can be a primary driver of social, organisational, and military change (Salsone et al., 2020). As Williams and Edge (1996) observed, Technological Determinism argues that “technological change thus produces social and organisational change” (p. 868). Also relevant to this study was Davis’ (1989) Technology Acceptance Model (TAM), which posits that perceived ease of use and perceived usefulness of a new technology drive user adoption of that technology. The way and extent to which Russian and Ukrainian armed forces embraced the use of drones on the battlefield not only changed how battles are fought but also had demonstrable, second- and third-order impacts on each side’s approach to targeting, defence, military resource allocation, logistics, and strategy. This study seeks to answer the question, “To what extent does the evolution of drone warfare in the Russia–Ukraine conflict constitute a military revolution rather than merely a revolution in military affairs (RMA)?” To answer this question, we examined drone warfare in the Russia–Ukraine conflict through the lens of Krepinevich’s (1992) four factors of military revolution: Technological change, military systems evolution, operational innovation, and organizational adaptation. Our qualitative methodology was two-fold: First, we reviewed publicly available literature on drone warfare and analysed it through the prism of Krepinevich’s four factors. Then, we conducted semi-structured

interviews with 10 subject matter experts (SMEs) on drone warfare in the Russia-Ukraine conflict and performed content analysis to interpret their responses thematically and in context (see Appendix A). Researchers compiled a list of individuals they collectively knew to have relevant, recent expertise on drones, drone warfare, and the Russia-Ukraine conflict. Using the “snowball effect” method to identify prospective interviewees (Noy, 2008), researchers first approached these individuals and asked whether they knew others with comparable backgrounds and experiences. Researchers created a semi-structured interview guide that enabled them to ask all interviewees the same core questions (for consistency) while also permitting follow-up questioning when deemed useful (Adams, 2015). Researchers requested, and received, approval from Mercyhurst University’s Institutional Review Board (IRB) to interview the identified prospective sources. Once the interviews were transcribed, researchers familiarised themselves with the data, coded and categorised it, identified themes, and developed a framework (Tumiran, 2025). The semi-structured interviews referenced in this article were conducted by the authors between March and July 2025; selected quotations are drawn from the co-author’s 2024 master’s thesis, which reports on the same interview corpus. Researchers acknowledge that, while the 10 interview respondents were extremely knowledgeable and forthcoming, they represented only a small sample of Western military thinking on the subject.

Findings

Our findings below are clustered according to Krepinevich’s (1992) four factors of military revolution: Technological change, military systems evolution, operational innovation, and organisational adaptation. Following this are our findings regarding some implications of developments in drone warfare.

Technological Change

The use of unmanned aerial vehicles in warfare is not new; in fact, the first recorded use of an unmanned aerial system to attack an enemy was in 1849, when Austrian forces dispatched explosives-laden balloons over Venice, Italy, as they besieged the city (Kozera, 2018). The U.S., U.K., and Nazi Germany all tinkered with unmanned aerial systems in World War II (Kindervater, 2016).

Interest in unmanned aerial systems continued during the Cold War, spurred in part by both the success and limitations of the U-2 spy plane. While the overhead imagery provided by the U-2 was incredibly useful, putting U-2 pilots at risk of capture or death made that imagery potentially too costly (Ibid.). For the U.S. and NATO, surveillance drones really attained operational maturity in Bosnia-Herzegovina in the 1990s and during the 78-day bombing campaign against Serbia in 1999, where “drones could direct a bomber to a target, watch the target (often undetected), and assess the aftermath of the bombing” (Ibid.). Weaponised drones are a more recent development; during the first two decades of the 21st century, the U.S. successfully conducted nearly 4,000 Predator and Raptor drone strikes in Afghanistan, Iraq, Pakistan, Yemen, Somalia, Syria, and Libya (Clark, 2024). Significantly, though, those operations all targeted technologically inferior enemies, rather than any peer or near-peer opponents (Bartosiak, 2019). In the fall of 2020, Azerbaijan achieved strategic surprise (and lopsided battlefield success) over Armenia when it employed both bomb-dropping and suicide drones to destroy very large numbers of Armenian tanks, armoured vehicles, anti-aircraft systems, and artillery (Reed & Rife, 2022). Although the Armenian military also possessed drones, their drone capabilities were limited to reconnaissance and surveillance (Reed & Rife, 2022). Today, the use of weaponised drones by both Russia and Ukraine in a major, peer-to-peer conflict represents a new chapter in the history of drone warfare.

The early success of Turkish Bayraktar-2 drones

Taking a page from the Azerbaijan-Armenia conflict two years earlier, Ukraine responded to Russia’s invasion in 2022 by using Turkish Bayraktar TB-2 drones, which “played an eye-catching role in Ukraine’s fight back during the initial stages of the invasion” (Milasauskas and Jaškūnas, 2024). In those early days of the war, Ukrainian TB-2s successfully struck “five tanks, six towed artillery pieces, six naval ships, two logistics trains, two multiple rocket launchers, two anti-aircraft guns and over a dozen surface-to-air missiles” (Gosselin-Mallo, 2023). After such initial success, however, Ukrainian commanders asserted that Russian air defense improvements had severely reduced the utility of those drones (Ibid.). As Interviewee C observed, larger drones achieved success early in the conflict. However, as air defences and electronic warfare became more sophisticated and involved, “there started to be very severe limitations to stuff like the Bayraktar” (Ruth, 2024).

First Person View (FPV) drones

Interviewee G asserted that Russia's four-to-one advantage in artillery was one of the main drivers for the Ukrainian military to turn to FPV drones:

The Russians, I do not know the exact ratios, but it was at least a four-to-one advantage [in artillery]. Their artillery capabilities meant that they were utterly pulverising Ukrainian positions and able to win ground, and Ukrainian soldiers were trying to find any way to equalise this imbalance. That is why FPVs came in, because soldiers on the ground were like, 'Well, we can take these little drones we have been using for reconnaissance, we can strap [on] a grenade, maybe we can find an artillery position.' That is what really drove it: this realisation that they can attempt to equalise the massive material disparities between the two armed forces in the field by using FPVs (Ibid.).

Purchasing or building multimillion-dollar drones under license was not an option for Ukraine, whose per capita GDP of \$5,760 is one seventh that of the Western European average of \$38,270 (Watling et al., 2023). Therefore, rather than attempt to build sophisticated, multimillion dollar drones like the Predator, Raptor, or TB-2, the Ukrainian Armed Forces (UAF) instead "began purchasing huge numbers of off-the-shelf fliers worth a few hundred dollars apiece – the kind used by filmmakers and enthusiasts – and turned them into highly lethal weapons" (Pultarova, 2025). Ukrainian First Person View (FPV) drones, costing as little as USD \$500 each, thus became "the preferred platform for mounting explosives and executing targeted strikes" (Milasauskas & Jaškūnas, 2024). As Interviewee D noted, "There has been a dramatic shift towards large numbers of locally made multicopters, in particular FPV attack drones" (Ruth, 2024).

The expansion of drone sizes and configurations

Initially, the UAF favoured seven-inch FPV drones because they were easy to assemble, "but growing operational demands have shifted preferences toward 9-10 inch quadcopters capable of carrying heavier payloads and achieving longer ranges" (Bondar, 2025). Modularity has enabled UAF operators to quickly transform a basic FPV platform into "a kamikaze drone; a bomber; an intelligence, surveillance, and reconnaissance (ISR) system; or a relay node" (Ibid.).

EW and EW countermeasures

Ukraine has employed a variety of techniques to combat Russian drones, ranging from pickup trucks mounted with machine guns and military aviation to FPV interceptor drones and laser weapons (Hunder, 2025). But the most significant threat to drones is EW jamming: at one point, Ukraine was losing around 10,000 drones a month, primarily due to EW jammers (Watling et al., 2023). “There are now tens of thousands of jammers straddling the front lines of the war” (Pultarova, 2025). FPV drones rely on radio control, so an adversary’s electronic warfare (EW) capabilities remain “the Achilles’ heel of FPV drones” (Milasauskas & Jaškūnas, 2024), Ukraine has also introduced drone control systems that use frequency-hopping systems and frequencies outside the standard range of Russian EW jammer systems (Pultarova, 2025). As one side develops a new technique, the other side soon counters it. As Interviewee G observed, “If the Ukrainians come out with a new prototype of FPV, within a month or two the Russians have already wised up in terms of EW countermeasures. So that is where the Russians are quite good” (Ruth, 2024).

Fiber optic guided (FOG) drones

In early 2024, the Russian military introduced fibre-optic-guided (FOG) drones that used spools of optical fibre, which could not be jammed by EW systems (Watling et al., 2023). As Interviewee I explained,

The drone flies from its launch position on a fibre-optic cable, and the cable can transfer all power and data, or it can be configured to do so. So, the signal emission is very low off of the platform. So, it is literally impossible to jam. ...We have seen in reporting [drones] flying missions up to thirty kilometres and hitting their targets. So that is a tremendous amount of fibre optic. But I would say that, predominantly, they fly on spools of fibre somewhere between 15 and 20 kilometres. Then they try to hit their target below 15 kilometres, so they have some extra fibre in the spool to divert the mission elsewhere (Ruth, 2024).

Drones controlled by fibre optic cables “are resistant to electronic warfare interference” (Ukrainian drones, 2025). One of the Ukrainian countermeasures used to defeat Russian FOG kamikaze drones was to deploy anti-drone nets over military positions (Hambling, 2025a).

Countering EW through AI and autonomous navigation

Both the Russian and Ukrainian armed forces use electronic warfare, or EW, to jam or disrupt the communication signals between drone operators and their drones (Hunder, 2025). This has not only forced the development of EW-immune fibre optic guided (FOG) drones, but also the development of automated targeting that guides the drone to its target using artificial intelligence (Hunder, 2025). Not surprisingly, the UAF now “sees the future in autonomous navigation” (Watling et al., 2023). The UAF’s enthusiasm is understandable: By incorporating artificial intelligence (AI) into their drones, Ukrainian forces have increased targeting accuracy by up to 80 percent (Bondar, 2025). Using smaller datasets “enables fast and efficient onboard processing on the limited computing power of small and inexpensive chips” (Ibid.). In addition to being more accurate, drones possessing AI guidance reduce the cost of drone strikes because one or two AI-enabled drones can now achieve the effect of eight or nine earlier drones (Ibid.). Interviewee D asserted that, “AI-enabled drones have a higher hit rate than manually guided ones in a jamming environment” (Ruth, 2024). Another benefit of incorporating AI software is that UAF drone operator training has been dramatically reduced (Bondar, 2025). Just like Russia’s FOG drones, UAF’s autonomous drones can also evade jamming; however, unlike Russian FOG drones, which must sacrifice range and payload to compensate for carrying a spool of fibre optic cable, AI-enabled autonomous drones can carry more, and farther, while placing less demand on their operators (Watling et al., 2023). The Russians, too, have fielded AI-enabled drones: A new Russian kamikaze drone, first observed in May 2025, features a 14 MP camera, a laser rangefinder, and a 100 GB hard drive with a Jetson AI computing module, enabling it to navigate without GPS (Roy, 2025c). Interviewee C said, “Even if an FPV drone is jammed, say twenty yards from the thing it is trying to hit, if it is jammed, it could have that autonomous system kick in and continue that last twenty yards. If it loses signal, it does not just fall out of the sky unless it has been told to do that” (Ruth, 2024).

Military Systems Evolution

According to Krepinevich, *military systems evolution* refers to the integration of technologies and capabilities “into – and across – networks of systems” (Krepinevich, 1992). Some drone-related examples of this have been evident in the Russia-Ukraine conflict.

Russian importation and use of Iranian suicide drones

Russia has purchased and has made extensive use of Iranian Shahed suicide drones in its war with Ukraine. In April 2025, Russia launched nearly 2,500 Shaheds against Ukraine; while over 80% were shot down, almost 20% got through (a, 2025a). Shaheds originally carried a 100-pound warhead, and some were found to have been packed with ball bearings and other intended shrapnel; more recently, the Shahed warhead was upgraded to a more powerful thermobaric warhead (Hambling, 2025a). In addition to carrying an explosive warhead, Shaheds have also reportedly dropped delayed cluster munitions before impacting their targets (Hambling, 2025a).

Ambush drones

Ambush drones are the name given to Russian FOG drones that land near roads and are activated when approaching vehicles are detected. “Fiber drones need relatively little power to communicate, so they can perch in this way for long periods” (Hambling, 2025b).

The fielding of drone defence systems

Ukraine has deployed anti-drone systems, such as Sky Hunter, to direct FPVs against larger Russian fixed-wing drones, including the Shahed, Zala, Supercam, and Orlan (Roy, 2024). Sky Hunter software “automates the process of downing enemy UAVs with FPV drones, minimising human involvement in this process” (Yan 2025).

Operational Innovation

Krepinevich (1992) asserted that, “Having advanced technological capability and military systems does not guarantee success for those states seeking to realise a military-technical revolution. The manner in which these capabilities are employed also will determine whether their full combat potential is realised”. Both the UAF and the Russian armed forces (RAF) have been innovative in their use of drones, both offensively and defensively.

The expanding list of drone functions

Over the last three years in Ukraine, drones have been called upon by both sides to perform an expanding range of functions, to include intelligence, surveillance, and reconnaissance (Kunertova, 2023), land mine detection and elimination (Baur, 2024; Kasianchuk & Lastivka, 2023), serving as an airborne communication node for deployed FPV drones (Bondar, 2025), artillery spotting (Reed & Rife, 2022), dropping bombs and returning (Axe, 2025), suicide drones that fly one-way kamikaze missions (Hambling, 2025a), “mother ship” drones (Hunder, 2025), shooting down enemy drones with onboard shotguns (Baker & Epstein, 2025), and serving as ambush drones (Hambling, 2025b). Interviewee B described how Ukrainian drones were used to conduct battle damage assessments (BDA) after M142 High Mobility Artillery Rocket System (HIMARS) munitions strikes (Ruth, 2024).

Conceptualisation of the drone battlespace

Drone warfare has changed how combatants conceptualise the battlespace. The airspace above the battlefield is now characterised as “small air” (low-level, where FPVs operate), “middle air” (where reconnaissance drones tend to operate), and “big air” (where fighter jets operate) (Roy, 2025b).

The integration of drones into both sides’ military strategy

In August 2024, Ukraine’s surprise incursion into Russia’s Kursk region, which resulted in the capture of approximately 500 square miles of Russian territory, was enabled by Ukraine’s effective use of drones and EW (Hambling, 2025a). “Radio reconnaissance had established the operating frequencies of Russian drones flying in the area. At the start of the attack, these frequencies were jammed by a barrage of electronic warfare, sweeping the skies clear of Russian reconnaissance drones. The advantage would only be temporary until the Russians were able to change frequencies, but Ukraine used this window to send in its own attack drones in ‘an incessant barrage of high-precision FPVs, which go in swarms’” (Ibid.). After stabilising the front, the Russians deployed a large number of new FOG drones that were impervious to Ukrainian EW jamming; this, coupled with the introduction of North Korean troops, enabled the Russians to recapture most of the territory they had previously lost (Ibid.).

Soliciting foreign expertise (but on a shoestring budget)

Since the start of the war on February 24, 2022, both Ukraine and Russia have solicited outside expertise in the conduct of drone warfare. In 2022, Iranian military personnel were observed on Russian-occupied territory in Ukraine, advising Russian forces on how to make the most effective use of Iranian-made Shahed drones (Vergun, 2022). Ukraine, too, has benefited from foreign advice, expertise, and equipment; for example, the Estonian firm KrattWorks continues to provide Ukraine with its Ghost Dragon ISR quadcopter, now in its third generation (Pultarova, 2025). UAF soldiers liked foreign-made drones, such as the U.S.-provided Switchblade, but found them too expensive. Cheaper, Ukrainian-built models are often preferred because it is easier to obtain tech support for them (Gallagher, 2025).

Increasing drone range

In addition to short-range tactical drones, both the UAF and RAF possess and employ medium- and long-range drones. For example, Ukraine successfully operates drones like the Rubaka, which has a range of up to 500 km and a payload capacity of two to 15 kg, to target and disable Russian air defence systems or their critical components in Crimea (Khomenko, 2025).

Long-range drone strikes against targets in Russia

Ukraine has also successfully used long-range drones to conduct strikes on critical targets deep inside the Russian Federation. In April 2025, DeepStrike (long-range drones) hit 62 targets in Russia, destroying military facilities and undermining the aggressor's (Russian) military-industrial complex, according to UAF Commander-in-Chief, Oleksandr Syrskyi (Kirichenko, 2025). "Moscow's military planners now wake to urgent calls about facilities they thought untouchable, destroyed by weapons that didn't exist last year" (Ibid.).

Counter-drone team tactics

One tactic Ukrainians have recently developed to combat Russian fibre-optic-guided (FOG) drones is to attach a device to the fibre-optic thread of an impacted Russian drone that provides a traceable trail back to the immobile launch site of the drone. "Now if they stay in place, Russian FOG-FPV drone operators die too" (Telenko, 2025).

Drone versus drone systems

Ukraine uses its Techno Taras interceptor drone “to shoot down Russian reconnaissance UAVs” (Kozatskyi, 2025). “The Ukrainian ‘Techno Taras’ UAV intercepts and destroys Russian fixed-wing reconnaissance UAVs like ‘Zala-16’ and ‘Supercam-S350,’ and costs only \$1600. This is remarkably cost-effective as a “Zala-16”, for example, which costs the Russians approximately \$70,000 (Roy, 2025d). The Techno Taras drone system includes 20 drones (15 for day-time operations and 5 for nighttime operations), a ground control station, and a catapult (Kozatskyi, 2025). By late April 2025, 160 of the 274 deployed Techno Taras drones had shot down 133 Russian UAVs, giving them a success rate of 83% (Ibid.). Another Ukrainian counter-drone system involves equipping a reusable FPV drone with a modified 12-gauge shotgun (creating a so-called “shotgun drone”) that shoots down Russian Mavic drones “just like a fighter jet” (Zhluktenko, 2025).

The development of counter-countermeasures

Alarmed by the success of the Techno Taras system, the RAF began installing additional cameras atop their reconnaissance drones to detect Ukrainian interceptors (Yan, 2025). Whenever such UAF drones appear and approach, “the reconnaissance drone automatically executes a programmed manoeuvring algorithm to avoid the strike” (Ibid.). In addition to rear-facing cameras, other Russian countermeasures designed to protect their reconnaissance drones include net throwers, “dedicated jamming or decoy drones,” and flying their drones at four to five km altitudes to exceed the capabilities of Ukrainian anti-drone FPVs (Roy, 2024). The RAF have also experimented with installing EW systems on its reconnaissance drones intended to detect and disrupt Ukrainian FPV radio communications with its ground controller (Ibid.).

Infecting enemy drones with malware

Captured Ukrainian drones have allegedly been enabled to infect Russian systems with malware that burns out the USB port and prevents reflashing or hijacking the repurposed (captured) FPV while “revealing the operator location” (Mittal, 2025). An additional benefit of this capability is that it would impede the Russians’ ability to reverse-engineer a captured drone and develop countermeasures. UAF encryption of a drone’s onboard AI software prevents

the Russians from reverse engineering it, enabling Ukraine to maintain its technological advantage (Bondar, 2025).

Targeting of a Russian fibre optic cable factory

Because Russian FOG drones are reliant upon spools of fibre optic cable to operate, on 4 April 2025, UAF long-range drones struck Russian fibre optic and munitions factories in the Samara and Mordovia districts near Moscow (Ukrainian drones, 2025).

Development of reusable bomber drones

The UAF originally took the propeller-powered Aeroprakt A-22 civilian sport plane and modified it to serve as a long-range suicide drone; more recently, the UAF further modified it to fly up to 2,000 km away, carrying a 250 kg bomb – and return, making it “potentially the most powerful reusable drone” in the war (Axe, 2025).

The development of drone “mother ships”

Ukraine has reportedly developed a mothership drone capable of carrying a pair of FPV drones up to 70 miles, releasing them, and then acting as a communications relay back to the drone operators (Hunder, 2025). Interviewee C opined, “I think that that is something where we can see drones replacing manned operations entirely. Such operations would allow future military planners the option to approach targets from unexpected directions while also extending the range of smaller systems” (Ruth, 2024).

Ukrainian development of missile-drone hybrids

To increase both range and lethality, Ukraine has developed long-range missile-drone hybrids, such as the *Palianytsia* and *Peklo* models, “which use turbo-jet engines as cruise missile alternatives” (Taradiuk, 2025).

The increased scale of drone attacks

Seeking to overwhelm and confuse defenders, the Russians regularly launch more than a hundred drones into Ukraine at a time, mixing Shahed suicide

drones with “much cheaper, flimsier decoy models that can use up Ukraine’s limited stockpiles of air defence missiles” (Hunder, 2025).

Investing in technology to gain a technological edge

Colonel Vadym Sukharevskyi, head of Ukraine’s Unmanned Systems Forces, asserted that Ukraine is using AI, an increasing number of ground drones, and laser weapons to combat Russian drones (Hunder, 2025).

Organisational Adaptation

Although the UAF and RAF both use drones extensively, there are clear differences in their strategic intent and priorities. “While Ukrainian long range drone strikes target Russian weapons factories, oil storage sites and military airbases, Russia is focusing its efforts on waging a campaign of terror against civilians” (Hambling, 2025b). For example, Russia’s largest-ever drone attack in the war occurred in November of 2024, when 188 Russian drones were sent against the electric power grid in Ternopil in western Ukraine, cutting off water supplies and heat at the onset of winter (Malenko, 2024). Another key Ukrainian goal is to “remove warfighters from direct combat and replace them with autonomous unmanned systems” (Bondar, 2025). This objective stands in stark contrast to repeated instances of Russian human wave infantry assaults that invariably result in enormous Russian personnel and equipment losses. For Ukraine, given the numerical superiority of Russian forces, reducing combat losses has been “an existential necessity” (Ibid.).

The fielding of tactical drone teams

Ukraine’s establishment of drone warfare units that “typically serve in specialized teams located around two to five kilometers away from the front line”, which “provides them with relative security” (Milasauskas & Jaškūnas, 2024). Ukrainian drone teams are such “prized targets” for the Russian military that they routinely use 1,000-pound glide bomb munitions to attack them (Santora, 2024).

Establishment of the Unmanned Systems Forces

On 16 September 2024, the UAF established its “Unmanned Systems Forces (*Сили безпілотних систем*)” as a separate branch of its armed forces, “co-equal with the Special Operations Forces and the Territorial Defence Forces” (Matlack et al., 2025). Its commander, Colonel Vadym Sukharevskyi, “was simultaneously appointed to serve as a deputy to the Commander-in-Chief Oleksandr Syrskyi, underscoring the centrality of drones to the war effort” (Ibid.).

The development of a drone ecosystem

Matlack et al. asserted that rather than just the drones themselves, “it is the ecosystem comprising the military, volunteers, NGOs, drone schools - in short, ‘the crew’ - that produces positive results” (Ibid.). “Private companies, civilian volunteer organisations, NGOs, and the Ground Forces and Unmanned Systems Forces of the AFU comprise the primary actors within this constellation” (Ibid.). The drone ecosystem draws on the civilian sector for specialised skills and critical contributions in software development, production, and fundraising. Matlack et al., labelled this “indispensable” civilian-military collaboration as “War DevOps,” where “high-velocity pressures from war accelerate iterative cycles of drone development to warp speed” (Ibid.), “Within three years of the February 2022 Russian invasion, Ukraine produced a world-class defense-tech ecosystem that is not only attracting Western innovators into its fold, but also regularly surpassing them” (Watling et al., 2023). By November 2024, Ukraine’s Ministry of Defence had approved more than 30 schools for military drone operators to qualify for Military Occupational Speciality (MOS) 216, “UAV External Crew Members” (Matlack et al., 2025).

Increased investment in Ukraine’s drone sector

Krepinevich noted that, “An adaptive, flexible, and innovative acquisition system will become increasingly important as the rate of technological change increases” (Krepinevich, 1992). That appears to have been the case in Ukraine. “What began as a grassroots effort in 2014 has evolved into full-scale production: by late 2023, nearly 40% of frontline weapons were domestically made. In 2024 alone, Ukraine produced 1.5 million drones — with over 95% of those used at the front now built at home” (Kirichenko, 2025). In 2024, Ukraine produced 1.5 million drones, with over 330 approved drone models, the majority

of which were kamikaze drones (Ibid.). The success of Ukraine's long-range drones in entering and operating within Russian airspace, and in conducting precision drone strikes hundreds of miles inside Russian territory, led Ukraine to increase its production of long-range drones 100-fold, to over 500 per month (Haynes, 2025).

The pros and cons of crowdfunding

In this study, 9 of 10 interviewees noted that crowdfunding positively impacted the UAF's ability to acquire and field drones (Ruth, 2024). Crowdfunding enables UAF units to acquire the drones they need directly. As Interviewee D said, "Crowdfunding has been a key enabler on both sides [...], and many units would not have drones without crowdfunding" (Ibid.). Unfortunately, crowdfunding also has a downside: As Interviewee C noted, UAF units with English-speaking, social media-savvy members or supporters have an advantage in acquiring a drone through crowdfunding. Another downside of crowdfunding that Interviewees mentioned is the risk that donated funds could be misused or stolen (Ibid.).

The scale of investment in drones and related technology

Another indication of the impact drone use has had on this conflict is the massive expansion in drone production and use. "Since Russia invaded Ukraine in 2022, there has been a vast expansion in drone use. Ukraine says it made 2.2 million small First Person View (FPV) drones and 100,000 larger, long-range ones in 2024. Russia previously gave estimates that it would make 1.4 million FPV drones in the same year" (Hunder, 2025).

Conclusions

Thomas (2025) opined that, in Ukraine, "the use of drone warfare at the tactical level has signified a new epoch in modern warfare. Innovations in doctrine, specialized units, and technological advances, such as fibre-optic guided uncrewed systems, have all contributed to the drone supplanting contemporary military platforms as the prime lethal threat". Drone warfare certainly meets all the criteria to be considered an RMA, and as we have shown, it would also appear that drone warfare also meets Krepinevich's four factors of military rev-

olution: Technological change, military systems evolution, operational innovation, and organizational adaptation. As a military revolution, drone warfare has dramatically changed the way both state and non-state actors think about, strategize, equip for, and wage war – both offensively and defensively. A dozen or so of the implications of this tectonic shift are listed below.

The Appeal of Drone Warfare

Drones are a relatively low-cost option for combatants. “FPV drones can be produced for 500 USD and fixed-wing reconnaissance drones for 1,500 to 3,000 USD” (Matlack et al., 2025). Ukraine’s Serhiy Prytula Charity Foundation asserted that the cost of one Techno Taras drone, used to target Russian reconnaissance drones and with a range of around 35 km, is only USD \$1,600 (Kozatskyi, 2025). A larger, more sophisticated Russian reconnaissance drone, such as the Merlin, costs around USD 300,000. If Ukraine successfully uses a USD 1,600 drone to take down a Merlin, or a USD 2,000 FPV drone to destroy a Russian tank, armoured vehicle, or other weapons system costing millions of dollars, that is pretty favourable math (Ibid.). As one executive from a Kyiv-based EW firm explained, “A missile is worth perhaps a million dollars and can kill maybe 12 or 20 people. But for one million dollars, you can buy 10,000 drones, put four grenades on each, and they will kill 1,000 or even 2,000 people or destroy 200 tanks” (Pultarova, 2025). For Ukraine, cost is far from the only consideration; another one of the drivers causing the UAF to place so much emphasis on drone warfare is that using drones enables them to minimize exposing friendly soldiers on the battlefield (Rickli & Mantellassi, 2024).

The Battlefield Impacts of Drone Warfare

As Kunertova (2023) asserted, “The war in Ukraine is clearly changing military thinking about drones and their deployment”. Drone warfare is what allows Ukraine to hold its own against numerically superior Russian forces: “If it wasn’t for drones, everything would be a lot worse. Drones are the things which allow us to give an asymmetrical response (when) the enemy is larger, stronger and on the attack” (Hunder, 2025). The proliferation of drones at lower tactical levels results in what Interviewee D described as “a pervasive, persistent sensor web which sees everything within 10km of the frontline” (Ruth, 2024). Interviewee H noted that drones provide a key component of the battlefield intelligence picture because drones provide “sensor fusion data integration into

battle management systems...I think this system is the most important development that we see, but it is always overlooked” (Ibid.). Not only are drones responsible for helping Ukraine hold their own against larger Russian forces, but they are also responsible for causing a staggering 80% of Russian casualties (Santora, 2024). At the end of April 2025, Ukrainian army chief Oleksandr Syrskyi claimed that Ukrainian drones had struck over 160,000 enemy targets in March and April of 2025 alone, enabling Ukraine to inflict heavy losses on Russian forces from a distance without putting infantrymen’s lives at risk (Zadorozhny, 2025). The Ukraine conflict “is by far the most lethal in generations and has brought industrial-level slaughter to Europe, only this time through the use of drone- and digital-era technology and efficiency” (Thomas, 2025).

Social media and the psychological, legal, and ethical impacts of drone warfare

Thanks to the widespread availability and use of social media, adversaries in a conflict can (and do) use drone footage to produce propaganda material. Drone footage captured by the UAF during the Russians’ bogged-down ground assault on Kyiv in 2022 is but one example of this (Ruth, 2024). While Interviewee G noted that, “it is also great fun to show your enemy you can get to him,” Interviewee E pointed out that there may be serious legal and ethical concerns associated with posting drone video to social media:

I think the whole problem is that even though I think that it is beneficial to spread that you are winning the war, and here you can see two or three Russian or Ukrainian soldiers, depending on which side you’re cheering for, being killed. It is not legal to do that. It is not lawful. You are not supposed to be able to identify who it is, so it is a war crime de facto, regardless of if it is on the Ukrainian or Russian side (Ibid.).

Have drones made infantry weapons like mortars and machine guns obsolete?

This is precisely the argument offered by Pukhov (2025), the director of the Moscow-based think tank Centre for Analysis of Strategies and Technologies, in a 17 February 2025 essay for the Russian state-run newspaper *Rossiyskaya Gazeta*. Pukhov argued that drones have brought about “almost total ‘transpar-

ency' of the battlefield," as a result of which "any covert transfer, deployment, concentration and use of forces become, in essence, systemically impossible". Drones have already replaced artillery as the main cause of casualties (Martyniuk, 2025), accounting for nearly 80% of Russian battlefield casualties in Ukraine (Thomas, 2025).

The West needs to develop and field inexpensive and effective counter-drone solutions

The financial disparity between a USD 500 FPV flying into and demolishing a multi-million dollar main battle tank (and killing its crew) has been evident for years. Unfortunately, the converse is also true: High-end NATO air defence systems conceptualised and built to counter ballistic missiles and jet aircraft are not cost-effective for engaging enemy drones. More suitable options now under development include the Leonidas system, developed by Epirus, Inc., in California, which uses a solid-state, high-powered microwave to emit electromagnetic pulses to disable drones individually or across a wide area (Khosia, 2025).

Air superiority no longer means what it once did

Air superiority describes a situation in which one side dominates a conflict, controlling the skies and denying the enemy the use of its airpower. For nearly a century, air superiority virtually ensured the success of land forces. But what if both sides in a conflict have drones capable of the range of missions both the UAF and RAF have conducted against each other?

Drones now put supply lines, high-value targets, and critical infrastructure at risk

As Ukraine's advance into Kursk and then Russia's recapture of its lost territory revealed, "drone strikes seem to have been an important factor" (Hambling, 2025b). In 2024, Ukraine began building so-called "tunnel nets" over main supply routes to guard against attack by Russian FPVs (Engineering Support Brigade, 2024). The drone threat to supply lines is not just tactical, but strategic as well: Russia has thus far proven unable to prevent Ukrainian precision, long-range drone strikes against petrochemical facilities, military airfields, Shahed drone storage sites, and fuel and ammo dumps deep inside Russia (Haynes,

2025). These long-range strikes allegedly reduced Russian petrochemical production by 10% and resulted in the loss of 3,000 Shahed drones (Ibid.).

Waging drone warfare against peer or near-peer competitors will be a new experience

While it is true that the U.S. has successfully conducted nearly 4,000 Predator and Raptor drone strikes in Afghanistan, Iraq, Pakistan, Yemen, Somalia, Syria, and Libya (Clark, 2024), those operations all targeted technologically inferior enemies, and not peer or near-peer opponents (Bartosiak, 2019). Interviewee C compared those types of drone strikes to ones more commonly seen in Ukraine, saying:

If you think about how the U.S. used Predator drones and stuff like that, there is a trailer in Nevada and a guy overseeing it, who is pretty far away from Afghanistan or Iraq or wherever. ...but now it is getting to the point where you would integrate a drone squad into very low levels, like in the order of battle, the platoon level, the company level (Ruth, 2024).

Every boat can now conceivably be an FPV aircraft carrier - or other kinetic threat

Although this article has singularly focused on *aerial* unmanned vehicles in the Ukraine conflict, UAF maritime drones have also been successfully used in this conflict. Not only can ships and boats be used to transport and launch airborne drones, but they can also be uncrewed and serve a variety of military purposes ranging from intelligence collection and resupply to kinetic attacks. Both Russia and Ukraine possessed maritime drones in 2022. Ukraine, which no longer has any manned surface ships in its navy, has nevertheless achieved tactical successes against Russia's Black Sea Fleet using maritime drones. On 29 October 2022, Ukraine used Mykola maritime drones to attack the Russian naval base on Sevastopol in Crimea, damaging the frigate *Admiral Makarov* and minesweeper *Ivan Golubets* (Sutton, 2024). On 2 May 2025, a pair of Ukrainian Magura uncrewed surface vehicles (USV) operating near the strategic Russian naval base at Novorossiysk achieved a historic "first" when they reportedly shot down two Russian Su-30 Flanker fighter aircraft with short-range, air-to-air missiles (Sutton, 2025).

Unmanned tactical vehicles

In addition to aerial and maritime drones, the UAF has successfully fielded unmanned, mobile weapons systems mounting heavy machine guns. The UAF fielded 600 unmanned weapons systems in 2024; this number will increase to 8,000 for 2025 (Naumov, 2025).

The West needs to study and learn battlefield lessons from Ukraine

NATO countries such as Estonia, Denmark, Finland, and Canada are among those stepping up investment in drone-related facilities, activities, training, and production (Martyniuk, 2025).

Western countries need to reassess their training practices

A pair of British parliamentarians told a *Financial Times* reporter that British soldiers on a field training exercise in the U.K. were prohibited from “flying drones over their comrades or using signal-jamming equipment” (UK military prevented, 2025). “The MPs warned that stringent rules potentially leave British troops heading to the Russian border without sufficient training in modern warfare” (Ibid.).

Western countries must better secure their drone production supply chain

U.S. drone manufacturers rely on China, which “controls close to 90 per cent of the global commercial drone market” for key drone components like “airframes, batteries, radios, cameras, and screens” (Jeans, 2025). On 1 June 2025, the Security Service of Ukraine (SBU) conducted a covert operation deep inside Russia, sending 117 FPV drones against five major Russian airbases. Reflecting on that operation, Participant I said:

The lesson learned from that is that all militaries are going to have to completely address that potential of an attack and also acknowledge that, in military operations, normally there is a forward line of troops, there is a front line. Then there is a more secure area where you have maybe logistics taking

place and then you might have medical facilities and things of that nature. Even in the homeland, you have the industrial base. None of those areas is secure given the advent or evolution of this technology. Everything is what we would call ‘touchable’ at this point (Ruth, 2024).

The enemy always gets a vote

Drones can be used in a variety of creative ways by both state and non-state actors, so it is more necessary than ever for Western countries to adequately understand how a state or non-state adversary thinks, know what their military doctrine and capabilities are, and avoid surprise by anticipating how (and where) their adversaries *could* conceivably employ drones in a conflict. As Interviewee A observed, events on the battlefield in Ukraine can influence the thinking and capabilities of state and non-state actors worldwide through the “seepage of information outside the conflict” (Ruth, 2024). Interviewee A said:

The internet enables the instantaneous, global transmission of information. We know that non-state armed groups (NSAG) across Africa coordinate and collaborate. We know they share information with criminal groups in South America, and that they talk to Middle Eastern NSAG and Asian NSAG organisations. This stuff is out there, so if it is just loose inspiration or specific manuals being disseminated, the more you do this, and let us say in Ukraine, the more this stuff is publicised, the more you are potentially going to spread the inspiration and the know-how around the world (Ibid.).

References

- Achambault, E., & Veilleux-Lepage, Y. (2024). *Tower 22: Innovations in drone attacks by non-state actors*. International Centre for Counter-Terrorism. <https://icct.nl/publication/tower-22-innovations-drone-attacks-non-state-actors>
- Adams, W. C. (2015). Conducting semi-structured interviews. *Handbook of practical program evaluation*, 492-505.
- Alach, Z. (2008). Slowing military change. *U.S. Army War College*, 1-108. <https://ssi.armywarcollege.edu/SSI-Media/Recent-Publications/Article/3659111/slowing-military-change/>
- Axe, D. (2025). Ukraine’s new drone bomber flies 1,200 miles with a 550-pound bomb—and returns to base. *Forbes*. <https://www.forbes.com/sites/>

- davidaxe/2025/01/31/ukraines-new-drone-bomber-flies-1200-miles-with-a-550-pound-bomb-and-returns-to-base/
- Baker, S., & Epstein, J. (2025). The Ukrainian soldier's best chance against Russia's advanced unjammable drones is as low-tech as it gets. *Business Insider*. <https://www.businessinsider.com/ukraine-soldiers-best-chance-russia-fiber-optic-drones-shotguns-2025-6>
- Bartosiak, J. (2019). The revolution in military affairs. *Geopolitical Futures*, 1-4. <https://geopoliticalfutures.com/the-revolution-in-military-affairs/>
- Baur, J. (2024). Ukraine is riddled with land mines: Drones and AI can help. *IEEE Spectrum*, 61, 42-49, <https://spectrum.ieee.org/ukraine-drones>.
- Bondar, K. (2025). Ukraine's future vision and current capabilities for waging AI-enabled autonomous warfare. *Center for Strategic & International Studies*, 1-39. <https://www.csis.org/analysis/ukraines-future-vision-and-current-capabilities-waging-ai-enabled-autonomous-warfare>
- Clark, J. (2024). U.S. strikes targets in Iraq and Syria in response to deadly drone attack. *DoD News*. <https://www.defense.gov/News/News-Stories/Article/article/3665734/us-strikes-targets-in-iraq-and-syria-in-response-to-deadly-drone-attack/>
- Collmer, S. (2007). Information as a key resource: The influence of RMA and network-centric operations on the transformation of the German armed forces. *George C. Marshall European Center for Security Studies*, 1-27. <https://www.marshallcenter.org/en/publications/occasional-papers/information-key-resource-influence-rma-and-network-centric-operations-transformation-german-armed>
- Davis, F. D. (1989). *User acceptance of information systems: The technology acceptance model (TAM)* [Unpublished discussion paper]. University of Michigan.
- Engineering Support Brigade. [@Бригада Инженерной Поддержки]. (2024). *ВСушники тоже устанавливают сетки для защиты от дронов на маршрутах движения*. [Post]. Telegram. <https://t.me/VIUKSIDV/51579>
- Gallagher, M. (2025). Drones in Ukraine: A frontline report. *Institute for Future Conflict*. <https://www.ifc.usafa.edu/articles/drones-in-ukraine>
- Gosselin-Malo, E. (2023). Are the once-vaunted Bayraktar drones losing their shine in Ukraine? *Defense News*. <https://www.defensenews.com/global/europe/2023/10/31/are-the-once-vaunted-bayraktar-drones-losing-their-shine-in-ukraine/>
- Hambling, D. (2025a). Horror as Russian drones target Kyiv with mystery cluster bombs. *Forbes*. <https://www.forbes.com/sites/davidhambling/2025/05/02/confusion-as-russian-drones-target-kyiv-with-mystery-cluster-bombs/>
- Hambling, D. (2025b). New drone tactics sealed Russian victory in Kursk. *Forbes*. <https://www.forbes.com/sites/davidhambling/2025/03/17/new-drone-tactics-sealed-russian-victory-in-kursk/>

- Haynes, D. (2025). Long-range drone strikes weakening Russia's combat ability, senior Ukrainian commander says. *Sky News*. <https://news.sky.com/story/inside-a-top-secret-ukrainian-drone-mission-as-commander-says-they-are-changing-the-war-13320824>
- Hunder, M. (2025). NATO armies unprepared for drone wars, Ukraine commander warns. *Reuters*. <https://www.reuters.com/world/nato-armies-unprepared-drone-wars-ukraine-commander-warns-2025-03-05/>
- Jeans, D. (2025). Silicon Valley's military drone companies have a serious "Made in China" problem. *Forbes*. <https://www.forbes.com/sites/davidjeans/2025/04/16/silicon-valley-drones-china-problem/>
- Kasianchuk, A., & Lastivka, H. (2023). UAV integration with neural networks in landmine and minefield detection tasks. *Security of Infocommunication Systems and Internet of Things*, 1(2), 1–5, <https://journals.chnu.edu.ua/sisiot/article/view/378>
- Khomenko, I. (2025). How Ukraine's lightweight drones keep crippling Russia's billion-dollar air defenses in Crimea. *United24*. <https://united24media.com/latest-news/how-ukraines-lightweight-drones-keep-crippling-russias-billion-dollar-air-defenses-in-crimea-8011>
- Khosia, A. K. (2025). One shot, 100 kills! U.S. unleashes "revolutionary" HPM weapon that can fry hostile UAVs within seconds. *The Eurasian Times*. <https://www.eurasiantimes.com/one-shot-100-kills-u-s-unleashes-revolutionary/>
- Kindervater, K. H. (2016). The emergence of lethal surveillance: Watching and killing in the history of drone technology. *Security Dialogue*, 47(3), 223–238.
- Kirichenko, D. (2025). No aid? No problem. Ukraine's engineers hit Russia 7,000 times with homegrown tech. *Euromaidan Press*. <https://euromaidanpress.com/2025/05/02/no-aid-no-problem-ukraines-engineers-hit-russia-7000-times-with-homegrown-tech/>
- Kozatskyi, S. (2025). Exclusive: Ukraine's Techno Taras budget interceptor drone detailed to *Militarnyi*. <https://militarnyi.com/en/articles/exclusive-ukraine-s-techno-taras-budget-interceptor-drone-detailed-to-militarnyi/>
- Kozera, C. A. (2018). Military use of unmanned aerial vehicles: A historical study. *Safety & Defense*, 4, 17–21. <https://sd-magazine.eu/index.php/sd/article/view/4>
- Krepinevich, A. F. (1992). The military-technical revolution: A preliminary assessment. *Office of Net Assessment*, 1-65. <https://csbaonline.org/uploads/documents/2002.10.02-Military-Technical-Revolution.pdf>
- Kunertova, D. (2023). Drones have boots: Learning from Russia's war in Ukraine. *Contemporary Security Policy*, 44(4), 576–591. <https://www.tandfonline.com/doi/full/10.1080/13523260.2023.2262792>

- Malenko, A. (2024). Russia strikes Ukraine's critical infrastructure in war's largest drone attack. *Reuters*. <https://www.reuters.com/world/europe/ukraines-kyiv-under-multi-wave-russian-drone-attacks-mayor-says-2024-11-25/>
- Martyniuk, Y. (2025). Ukraine showed how to kill Russians with drones—now Europe's all in. *Euromaidan Press*, <https://euromaidanpress.com/2025/04/28/ukraine-showed-how-to-kill-russians-with-drones-now-europes-all-in/>
- Matlack, J.-W., Schwartz, S., & Gill, O. (2025). Ukraine's drone ecosystem and the defence of Europe: Lessons lost can't be learned. *London School of Economics*, 1-28. <https://www.lse.ac.uk/ideas/publications/Research-Reports/Ukraine%27s-Drone-Ecosystem-and-the-Defence-of-Europe-Lessons-Lost-Can%27t-be-Learned>
- Milasauskas, T., & Jaškūnas, L. (2024). FPV drones in Ukraine are changing modern warfare. *Atlantic Council*. <https://www.atlanticcouncil.org/blogs/ukrainealert/fpv-drones-in-ukraine-are-changing-modern-warfare/>
- Mittal, V. (2025). Russians capture Ukrainian drones which infect their systems with malware. *Forbes*. <https://www.forbes.com/sites/vikrammittal/2025/04/02/russians-capture-ukrainian-drones-which-infect-their-systems-with-malware/>
- Morris, J. F. (2024). On the precipice of a new era of warfare? Reflections on military revolutions, past and future. *Modern War Institute*. <https://mwi.westpoint.edu/on-the-precipice-of-a-new-era-of-warfare-reflections-on-military-revolutions-past-and-future/>
- Murray, W., & Knox, M. (2001). Thinking about revolutions in warfare. In M. Knox & W. Murray (Eds.), *The Dynamics of Military Revolution, 1300–2050*, 1–14. Cambridge University Press.
- Naumov, A. [@Naumov_Andrii]. (2025). 8,000 ground military ROBOTS in 2025 are contracted for Ukraine's battlefield. [Post]. X. https://x.com/Naumov_Andrii/status/1918576347628065172
- Noy, C. (2008). Sampling Knowledge: The hermeneutics of snowball sampling in qualitative research. *International Journal of Social Research Methodology* 11(4), 327–344. <https://doi.org/10.1080/13645570701401305>
- Pultarova, T. (2025). Ukraine's bold gamble on an electronic warfare "wall." *IEEE Spectrum*, <https://spectrum.ieee.org/electronic-warfare-ukraine>
- Reed Jr, C. A., & Rife, J. P. (2022). New wrinkles to drone warfare. *Proceedings* 148 (1), in *US Naval Institute*. <https://www.usni.org/magazines/proceedings/2022/january/new-wrinkles-drone-warfare>
- Rickli, J. M., & Mantellassi, F. (2024). The war in Ukraine: Reality check for emerging technologies and the future of warfare. *Geneva Centre for Security Policy*. 1-53. <https://www.gcsp.ch/sites/default/files/2024-12/geneva-paper-34-24.pdf>

- Roy [@GrandpaRoy2]. (2024). The Russians are discussing countermeasures to Ukrainian FPVs downing their reconnaissance drones. [Post]. X. <https://x.com/GrandpaRoy2/status/1837902830734282947>
- Roy [@GrandpaRoy2]. (2025a). Milblogger “Russian Engineer” recognizes the success of Ukraine’s campaign against fixed-wing reconnaissance UAVs and the consequences for the Russian summer offensive. [Post]. X. <https://x.com/GrandpaRoy2/status/1907850225055891754>
- Roy [@GrandpaRoy2]. (2025b). Fixed-wing reconnaissance UAVs that patrol the “middle air” (small air = FPVs, big air = fighter jets) have a vital role in maintaining situational awareness and providing targeting information. [Post]. X. <https://x.com/GrandpaRoy2/status/1918626479841399128>
- Roy [@GrandpaRoy2]. (2025c). A still unnamed Russian kamikaze UAV has a powerful 14 MP camera and a laser rangefinder that allows it to navigate using a digital map. [Post]. X. <https://x.com/GrandpaRoy2/status/1919784859041718756>
- Roy [@GrandpaRoy2]. (2025d). The Ukrainian “Techno Taras” UAV intercepts and destroys Russian fixed-wing reconnaissance UAVs like “Zala-16” and “Supercam-S350”, and costs only \$1600. [Post]. X. <https://x.com/GrandpaRoy2/status/1918400406402809888>
- Ruth, B. (2024). *The evolution of drone warfare over Ukraine and its implications for future military thought* (Unpublished master’s thesis). Mercyhurst University.
- Salsone, B., Stein, P. S., Parsons, K. G., Kent, T., Nielsen, K., & Nitz, D. T. (2020). Technological determinism. In *Science, Technology, and Society*. Clemson University. <https://opentextbooks.clemson.edu/sciencetechnologyandsociety/chapter/technological-determinism/>
- Santora, M. (2024). Russia intensifies assaults on an exhausted Ukraine. *The New York Times*. <https://www.nytimes.com/2024/11/20/world/europe/russia-ukraine-war-attacks-trump.html>
- Sutton, H. I. (2024). Overview of maritime drones (USVs) of the Russo-Ukrainian war, 2022–24. *HISutton.com*. <http://www.hisutton.com/Russia-Ukraine-USVs-2024.html>
- Sutton, H. I. (2025). World first: Ukrainian maritime drone shoots down Russian Flanker jet. *Naval News*. <https://www.navalnews.com/naval-news/2025/05/world-first-ukrainian-maritime-drone-shoots-down-russian-flanker-jet/>
- Taradiuk, Y. (2025). Ukrainian army retook 115 positions in April, Syrskyi says, *Kyiv Independent*, https://kyivindependent.com/ukrainian-army-retook-115-positions-in-april-syrskyi-says/?mc_cid=ooc6b362dd&mc_eid=125adb314
- Telenko, T. [@TrentTelenko]. (2025). Ukraine has fielded a new counter to Russian radio jamming proof fiber optic guided (FOG) drones. [Post]. X. <https://x.com/TrentTelenko/status/1908662882587599034>

- Thomas, R. (2025). Drones now account for 80% of casualties in Ukraine–Russia war. *Army Technology*. <https://www.army-technology.com/news/drones-now-account-for-80-of-casualties-in-ukraine-russia-war/>
- Tumiran, M. A. (2025). How to develop a framework manually from qualitative interview data. *Quantum Journal of Social Sciences and Humanities*, 6(4), 222-238.
- Ukrainian drones hit Russian explosives, fiber optic factories near Moscow. (2025). *The Kyiv Independent*. <https://kyivindependent.com/ukrainian-drones-hit-russian-fiber-optic-factory-east-of-moscow/>
- Vergun, D. (2022). General says Iranian drones, troops operating in Ukraine. *DoD News*. <https://www.defense.gov/News/News-Stories/Article/Article/3195380/general-says-iranian-drones-troops-operating-in-ukraine/>
- Watling, J., Danylyuk, O., & Reynolds, N. (2023). Preliminary lessons from Russia's unconventional operations during the Russo-Ukrainian war, February 2022–February 2023. *Royal United Services Institute (RUSI)*, 1-39. <https://static.rusi.org/202303-SR-Unconventional-Operations-Russo-Ukrainian-War-web-final.pdf>
- Williams, R., & Edge, D. (1996). The social shaping of technology. *Research Policy*, 25(6), 865–899. [https://doi.org/10.1016/0048-7333\(96\)00885-2](https://doi.org/10.1016/0048-7333(96)00885-2)
- Yan, O. (2025). Russians modify UAVs to protect against Ukrainian interceptor drones. *Militarnyi*. <https://militarnyi.com/en/news/russians-modify-uavs-to-protect-against-ukrainian-interceptor-drones/>
- Zadorozhny, T. (2025). Ukraine destroyed 83,000 Russian targets using drones in April, Syrskyi says. *The Kyiv Independent*. <https://kyivindependent.com/ukraine-destroys-83-000-russian-targets-with-drones-in-april-syrskyi-says/>
- Zhluktenko, D. [@dimokq]. (2025). This is Ukrainian air defense shotgun drone with no recoil. [Post]. X. <https://x.com/dimokq/status/1907015071425081469>
- Пухов, Р. (2025). “Это уже другая война.” Дроновая революция кардинально меняет облик боевых действий и армии (“It’s a different war.” The drone revolution is radically changing the face of warfare and the military). *Russian Council*, <https://russiancouncil.ru/analytics-and-comments/comments/eto-uzhe-drugaya-voyna-dronovaya-revolyutsiya-kardinalno-menyaet-oblik-boevykh-deystviy-i-armii/>

Appendix A: Interviewees

Table 1. Interview Participants

Participant	Participant Background	Date of Interview	Length of Interview	Location of Interview
Participant A	British military	18 March 2025	45 minutes	Virtual (Microsoft Teams)
Participant B	United States military	24 March 2025	1 hour 30 minutes	Virtual (Microsoft Teams)
Participant C	United States Intelligence community	26 March 2025	1 hour 18 minutes	Virtual (Microsoft Teams)
Participant D	Journalist covering war in Ukraine	26 March 2025	1 hour	Virtual (Microsoft Teams)
Participant E	Swedish military	14 May 2025	58 minutes	Virtual (Microsoft Teams)
Participant F	United States military, United States intelligence community	20 May 2025	56 minutes	Virtual (Microsoft Teams)
Participant G	Researcher on drone warfare	25 May 2025	1 hour 45 minutes	Virtual (Microsoft Teams)
Participant H	Researcher on drone warfare, AI expert	27 May 2025	49 minutes	Virtual (Microsoft Teams)
Participant I	United States Military, drone consulting	8 July 2025	45 minutes	Virtual (Microsoft Teams)
Participant J	United States Military	12 July 2025	1 hour	Virtual (Microsoft Teams)

Predstavlja li evolucija dronskog ratovanja u Ukrajini revoluciju u vojnim poslovima ili vojnu revoluciju?

SAŽETAK

Široka upotreba bespilotnih letjelica, ili dronova, u ratu između Rusije i Ukrajine značajno je utjecala na način na koji zaraćene strane koncipiraju, strateški planiraju, opremaju i vode taj sukob. Značajni tehnološki razvoj, u kombinaciji s inovacijama u načinu na koji se te tehnologije integriraju i koriste u ratovanju, može rezultirati ili revolucijom u vojnim poslovima (RMA) ili vojnom revolucijom. Dok se RMA odnosi na tehnološke, taktičke, doktrinarne ili organizacijske promjene ograničene na vojnu sferu, vojne revolucije ne utječu samo na način na koji se vode ratovi, već također preoblikuju vojne organizacije, društva i države. Vojne revolucije su daleko rjeđe od RMA; zapravo, neki vojni povjesničari tvrde da je od Vestfalskog mira 1648. u zapadnom svijetu bilo samo pet vojnih revolucija. Prema Andrewu Krepinevichu, tada zaposlenom u Pentagonovom Office of Net Assessment, vojna revolucija ima četiri komponente: tehnološke promjene, evoluciju vojnih sustava, operativne inovacije i organizacijsku prilagodbu. S obzirom na značajan utjecaj koji je ratovanje dronovima u Ukrajini imalo ne samo na borbe i borce, već i na organizacije i društva koja ih podržavaju, bi li bilo točno opisati ratovanje dronovima kao vojnu revoluciju? Promatranje ratovanja dronovima u Ukrajini kroz prizmu Krepinevicheva četiri kriterija omogućuje nam da shvatimo kako i zašto ratovanje dronovima u Ukrajini doista nije samo RMA, već i vojna revolucija.

KLJUČNE RIJEČI: bespilotni sustavi, dronsko ratovanje, vojna revolucija, revolucija u vojnim poslovima, rusko-ukrajinski rat

Modern Semiconductors in Military and Defense Industry Applications

Jelena Čulić-Viskota¹ and Andrej Razumić²

ABSTRACT

The modern military and defence industry is heavily dependent on semiconductor devices. This paper will provide a brief overview of the military application of semiconductor devices, outline their design and manufacturing requirements, and discuss supply chain considerations. Special focus will be placed on highlighting the challenges of modern packaging applications in the military and defence industry, ensuring products meet the required reliability and security specifications. Additionally, the importance of securing a steady supply of devices for national security considerations will be discussed. The paper aims to provide an overview of the most common types of military semiconductor devices, their role and future technology developments.

KEYWORDS: *military semiconductors, reliability, manufacturing, supply chain, semiconductor trends*

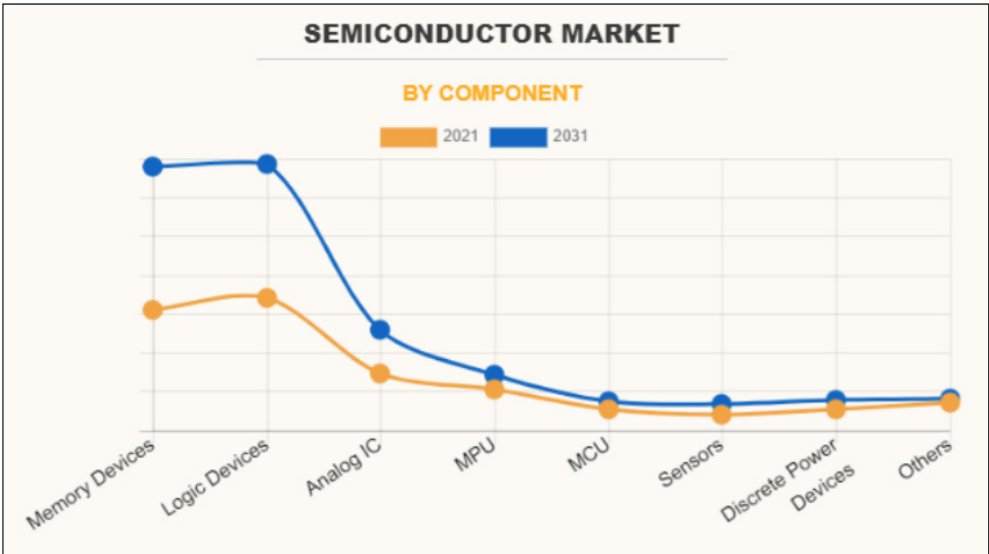
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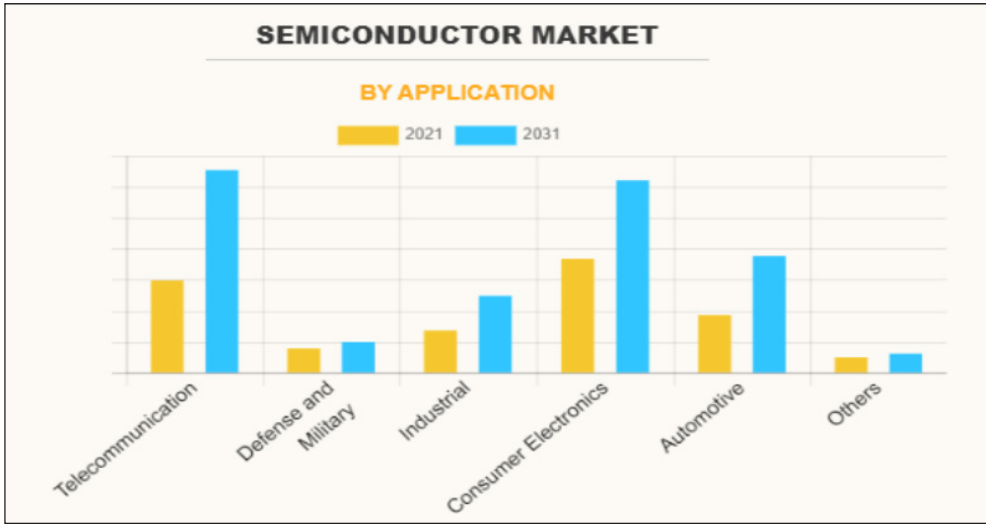
Introduction

Semiconductors can be divided into logic, memory and other devices. Logic devices are composed of computational and graphics processing units (CPUs and GPUs, respectively). Memory devices consist of read-only memory (ROM), which is non-volatile, and random-access memory (RAM), which is volatile. The other group comprises discrete, analogue, and optoelectronic devices. Logic and memory devices dominate the semiconductor market (Figure 1). The technical specifications and use of each device’s subgroup vary by application. The military and defence industry utilises devices across all three high-level subgroups, including radars, satellites, unmanned vehicles, precision targeting systems, sensors, actuators, and onboard computers (Pathan et al., 2024). Even though the defence semiconductor market segment is not a key driver of the industry (Figure 1b), it remains of great importance for national security and is increasingly an asset in diplomatic negotiations. The total available market for military semiconductor devices was 23 billion USD and is projected to reach 55 billion USD in 2032, based on a 2023-2032 analysis (Global Market Insights, 2023).

Figure 1: Comparison of Semiconductor Market Segments: 2021 and 2031 Forecast



a) Breakdown of semiconductor market by component type



b) Breakdown of semiconductor market by application

Note. (a) Breakdown by component type; (b) breakdown by market segment. Reprinted from Upadhaya et al. (2022).

One key characteristic of military semiconductor devices is their need to be reliable in the field. Failure to do so comes at the high price of lost human lives. To address this concern, devices are designed leveraging older silicon (Si) wafer technology process nodes, as they are higher-yielding and more reliable. (Pathan et al., 2024). Additional economic benefits of choosing a more established process node include manufacturing facilities that are fully depreciated, thereby reducing manufacturing costs. Newer Si process nodes are needed to enable advanced artificial intelligence (AI) capabilities and offer improved performance in the field. Additional considerations for military and defence devices are the extreme environmental conditions they must withstand, such as high temperatures, pressures, winds, low or no light, radiation, and shock. Under those extreme conditions, defence semiconductor products must be effective, reliable, tamper-proof, fast-communicating, easily maintainable, and manufactured cost-effectively (Gargeyas, 2022).

The use of wide-bandgap wafer materials (silicon carbide and gallium nitride) can provide higher thermal stability, greater power efficiency, more compact dimensions, and higher-frequency switching. (Aborah Yeboah et al., 2025; Buffolo et al., 2024; Kolawole, 2025; Masoud Beheshti, 2020; Pathan et

al., 2024). Compared to silicon, gallium nitride (GaN) and silicon carbide (SiC) have wider band gaps and superior electron mobility, enabling semiconductor devices to withstand higher electric fields before breakdown and to switch faster, respectively. (Kolawole, 2025) as shown in Table 1. Additionally, they have a wider thermal operating range (temperature sensitivity shown in Table 1), enabling sustained performance under extreme temperatures. The disadvantages of SiC and GaN wafers lie in the complexity of their manufacturing, which makes the process more costly and limits their widespread application. Innovation in manufacturing techniques and materials will enable greater applicability as process costs and yields improve. (Amano et al., 2018). Nonetheless, the adoption of GaN in the military and defence industry is strong due to the improved technical performance. The ability to operate at higher voltages and frequencies without detriment enables use in power electronics and communications (5G, RF, and radar). The high thermal conductivity of SiC makes it favourable for use in high-temperature and high-power applications, as well as in the electric vehicle industry.

Table 1. Comparison of properties of semiconductor wafer materials

GaN vs SiC vs Si Comparison			
Property	Silicon (Si)	Silicon Carbide (SiC)	Gallium Nitride (GaN)
Energy Band Gap	1.1 eV	3.2-3.3 eV	3.4 eV
Temperature Sensitivity	150°C max operating	200°C+ operating range	200°C+ operating range
Electrical Conductivity	1450 cm ² /V·s (electron mobility)	650-900 cm ² /V·s (electron mobility)	1500-2000 cm ² /V·s (electron mobility)
Thermal Conductivity	150 W/m·K	490 W/m·K	130 W/m·K
N-Type Doping Capability	Excellent (phosphorus, arsenic)	Good (nitrogen)	Excellent (silicon)
P-Type Doping Capability	Excellent (boron)	Challenging (aluminium)	Difficult (magnesium)

Electron Mobility	1450 cm ² /V·s	650-900 cm ² /V·s	1500-2000 cm ² /V·s
Relative Cost	Low (baseline)	Medium-High (3-5x Si)	High (5-10x Si)
Availability	Excellent	Good	Growing
Best Applications	General-purpose electronics, low-power devices	High-power, high-temperature applications	High-frequency, high-efficiency power conversion

Note. Adapted from Component Parameters & Applications (2025).

All three wafer materials listed in Table 1 are used in military and defence semiconductor devices. They address different technical requirements for different device types and applications.

Military and Defense Semiconductors

In this paper, only some of the most prominent semiconductor devices used in the military and defence industries are presented: sensors, logic FPGA devices and memory. Focus will be on typical use cases and component requirements, as well as considerations for key future technology development trends.

Sensors

Sensors used in military applications are widespread. Some examples include identifying and disposing of targets, improving situational awareness, and monitoring changes in environmental conditions that affect vehicles and soldiers' physiological states (Gargeyas, 2022; Nayak et al., 2023; Shaw & Harrell, 2023). Sensors improve performance on the battlefield by aiding military personnel's decision-making under significant physical and psychological stress, ensuring high-quality data-driven decisions are made in the field.

General requirements for sensors are that they maintain their placement when in use, are resistant to tampering, have rapid and secure data communication with a sufficiently large communication range, are cost-effective, have tolerable physical dimensions and weight to the system, ideally with small electromagnetic emissions, are energy efficient and are integrable with many different types of wireless sensors in the network. (Đurišić et al., 2012). Sensors

can be divided into eight categories: radar, infrared, acoustic, electro-optical, magnetic, biochemical, light detection and ranging (lidar), and quantum sensors. Table 2 highlights the operating mechanisms of different sensor types and some of their key applications.

Table 2. Breakdown of defence sensor types, their operational mechanisms, and military applications.

Sensor type	Operation mode	Application
Radar	Transmitting pulses and capturing the reflection of radio waves	Air defence systems, missile guidance, and perimeter security
Infrared	Detect heat signatures	Surveillance, night vision, and targeting systems
Acoustic	Capture sound waves	Help detect and classify threats on the battlefield
Electro-optical	Converting light (or changes in light levels) into electronic signals	Detect electromagnetic radiation to find and track objects across the spectrum missile guidance, reconnaissance, and surveillance drones
Magnetic	Detect changes in magnetic fields caused by metallic objects	Submarine, landmine and vehicle detection; navigation and positioning when GPS is unavailable
Biochemical	Detecting chemical or biological agents in the surroundings	Mapping chemical and biological threats
Lidar	Transmitting pulses and capturing the reflection of lasers	Mapping of the battlefield Virtual reality/Augmented reality training
Quantum	Leverage quantum mechanical phenomena for accurate mapping	Underwater surveillance, navigation

Note. Adapted from Sumaria (2025).

In an effort to ensure human lives are protected, and the quality of decision making is high, the military and defence industry continues to network large systems of interconnected devices (Internet of Things (IoT))- where a multitude of different sensor device types are used. The use of interconnected devices enables smart, efficient, and fast decision-making systems. It also allows for improved logistics and supply chain management, ensuring that the correct resources are deployed in the needed locations at the right time (Nayak et al., 2023). As the use of interconnected systems expands with more and more devices, so does the need for faster, more efficient communication channels between them (driving the adoption of faster networking technologies like 5G and 6G). Additionally, as all of the data collected by the various sensors needs to be processed by a logic device, greater performance logic devices continue to be needed.

Logic devices

Field-programmable gate arrays (FPGAs) are among the most commonly used logic devices in military and defence applications. These semiconductor logical circuits enable real-time, high-performance, and low-cost systems (Saday, 2022). They contain configurable logic blocks (CLBs) that can be configured to perform specific functions. Programmable interconnects connect the different CLBs, enabling low-latency signal transfer between them. Unlike traditional CPU and GPU devices, FPGAs are programmable, typically of low power consumption and with high computational capacity (Saday, 2022). Properties that make FPGAs suitable for military applications are their reconfigurability, radiation resistance, fast and secure processing of large data sets, making them suitable for image processing applications, communication systems, electronic warfare and other military uses (Saday, 2022).

Design and manufacturing of FPGA devices is complex, resulting in a high initial product cost, but a lower total lifetime cost due to their re-programmability in field. There is a growing demand for FPGA parts, as they are used across all high-growth semiconductor market segments, including high-performance computing (AI and machine learning (ML)), telecommunications, and IoT. Globally, two manufacturers hold the majority of the FPGA market: AMD (after the purchase of Xilinx) and Altera (previously owned by Intel Corporation) (Saday, 2022). For national security reasons, the military and defence industry may have priority in obtaining parts during periods of higher demand than manufacturing capacity can meet. However, to avoid such scenarios, prop-

er supply chain planning and ensuring that general-use parts are suitable for military and defence industry applications and carry appropriate certifications are paramount.

Memory

Another vital component to ensure properly functioning and reliable systems are memory devices. Many different types of memory devices are used in numerous products to store data either permanently or temporarily. Low latency of data communication to and from the memory is crucial to ensure fast and reliable communication between the complex integrated systems, like those of wireless sensor networks (Sañudo et al., 2020). Military and defence applications benefit from using non-volatile memory, ensuring data is not lost when the memory is powered off. In addition to non-volatile, volatile RAM-type memory applications in defence are also common (Infineon, 2025). Independent of the type, memory devices used require physical and functional durability when exposed to challenging environmental conditions for quality performance (Gargeyas, 2022). High-reliability memory devices require special certifications and are used in communications, GPS equipment, ground-based radar, flight recorders and other applications.

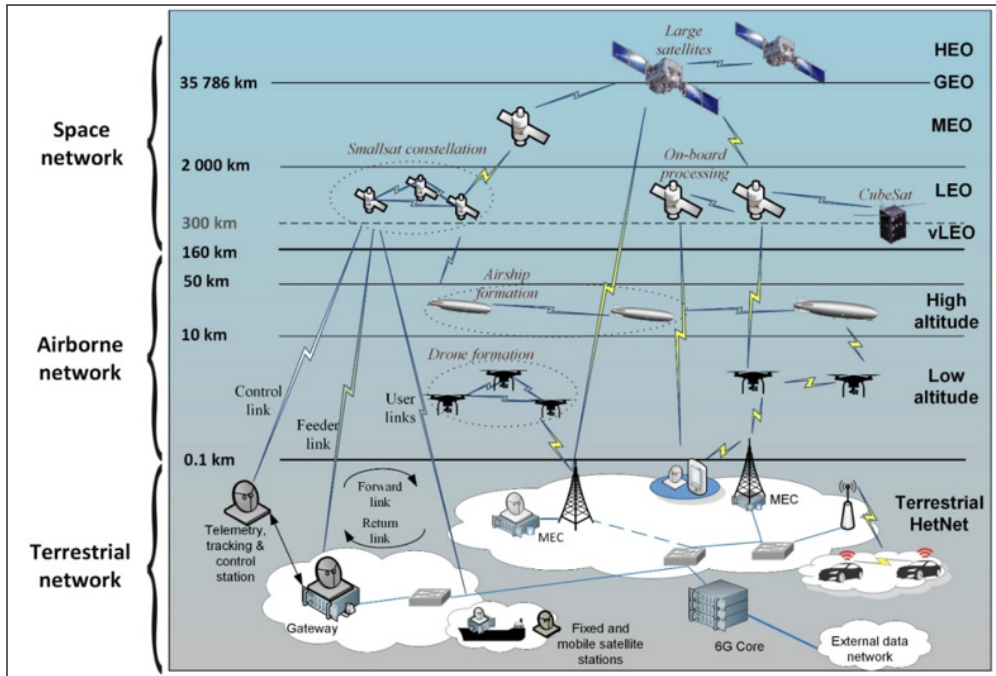
Future considerations

Future technology development areas for the military and defence industry will focus on enabling 5G and 6G communications, greater use of AI, and the integration of a wide array of connected devices.

The ability to track different assets, man-made and human resources, is important for the military and defence industry to ensure asset safety, recoverability, and optimise logistics and decision-making in real time. As the number and variety of interconnected semiconductor devices continue to grow, the need for reliable, fast communication grows. The need to enable direct, fast Machine-to-Machine (M2M) communication is the driver behind the implementation of 5G and 6G networks. Enablement of 5G in military applications will benefit from lower latency of signal, higher reliability and security (Bastos et al., 2020; Miličević & Bojković, 2024). Additionally, it provides a pathway for implementing AI and machine learning.

AI devices with 6G technology will enable more efficient, faster communication and data processing of large datasets generated by heterogeneous networks of diverse communication devices and scenarios, leveraging a greater number of antennas and wider bandwidths (Abdel Hakeem et al., 2022). Additionally, 6G technology will enable integrated, all-terrain, multilayer communications (as shown in Figure 2), with new radio bands that will improve communication capacity and data speeds and enhance security and privacy (Abdel Hakeem et al., 2022; Miličević & Bojković, 2024).

Figure 2: Representation of multi-terrestrial communication with 6G technology



Note. Reprinted from Wang (2023).

The AI-enabled technology allows for predictive maintenance, threat detection, and autonomous decision-making (Bhatia & Pallvi, 2025). To enable AI use, greater adoption of newer process technology nodes is expected, which will trigger additional testing during manufacturing to ensure devices sent to the field meet military standards. Heavy capital investment is expected for the adoption of AI (Pathan et al., 2024). Countries with clear AI implementation strategies will benefit by ensuring they are not at a technical disadvantage and

that they have a fully capable military and defence ecosystem ready for potential conflicts with the most technologically advanced foes. A comprehensive strategy would encompass ensuring that all resources are available at military-standard quality and that a highly reliable supply chain supports all components and software needed to achieve the national defence strategic goals.

Considerations for Reliable Supply

Quality and Reliability requirements

Military semiconductor devices must meet specific technical specifications to operate under extreme environmental field conditions. Those conditions include high temperature, humidity, vibration, radiation and long operating hours. Additionally, the service life of military components exceeds that of commercial parts. (Biddle, 1996). It is imperative that these parts are defect-free, as lives depend on them. To ensure this is met, in addition to designing chips on older, more reliable process nodes, military technical specifications must be followed during manufacturing. Only those manufacturing suppliers and facilities, and parts that comply with their requirements, are included in the list of qualified products (QPL) and manufacturers (QML) for military applications (Pecht et al., 1997; Yarbrough et al., 2020). Different nations have different governing standards for the electrical, electronic, and electromechanical (EEE) components. In the United States (US), military performance standards (MIL-PER) and military standards (MIL-STD) are followed. In the European Union (EU), the European Space Components Coordination (ECSS) is responsible for EEE specifications and preferred products and suppliers' lists. The European Space Agency (ESA) governs ECSS, and Croatia became an ESA cooperating state in 2023. Additionally, the International Electrotechnical Commission (IEC), of which Croatia is a full member state, has its own set of standards for EEE. There are additional governing standards that specify how circuits, components and devices should be manufactured.

The above-noted military standards are sets of specifications for products and services used by the military, which allow those products to be deemed ready for military and defence use. An example of the comparison of differ-

ent global standard specifications is shown in Figure 3 for the MIL-STD-883 standard, one of the key standards used for microcircuit test methods. Special certifications required to qualify a component for the QPL drive up the cost of parts used in military and defence applications. Due to the strict technical requirements, commercial parts that may have the same performance ratings, if not manufactured and tested per the required military standards, are not to be used in the military and defence applications (Pecht et al., 1997). Sourcing parts cross-referenced to another national standard can be an efficient way to ensure a healthy supply chain for semiconductor components sourced outside the national QPL while still meeting all national standard specifications. The complete list of standards that a semiconductor device needs to meet will depend on its final application, manufacturing process, and the materials and components used in its construction.

Figure 3: Cross-reference of European and United States military standards

SPECIFICATION CROSS REFERENCE – SUMMARY: MIL-STD-883, IEC AND OTHER TEST METHODS																						
IEC and Other Test Methods	MIL-STD-883 Test Methods																				No Identified Equivalent	
	1004	1005	1008	1010	1011	1014	1015	1019	2001	2002	2003	2004	2007	2009	2010	2011	2012	2015	2018	2019		2020
IEC 747-1		E*																				
IEC 748-1							E*															
IEC 749			E*			E*										E*						
IEC 68-2-6													E*									
IEC 68-2-7									E*													
IEC 68-2-14				E*	E*																	
IEC 68-2-17						E*															N*	
IEC 68-2-20											E											
IEC 68-2-21												E*										
IEC 68-2-27										E*												
IEC 68-2-38	E																					
ESCC 20400																E*						
ESCC 20500															E							
ESCC 20900																		E				
ESCC 21400																			E			
ESCC 22900									E*													
ESCC 24800																		E				
CECC 90000 Test Method															E*							
No Identified Equivalent												N*								N	N	

NOTES
E = Equivalent.
N = No identified equivalent.
* = Refer to comparison tables for further detail on equivalence status.

Note. Reprinted from European Space Components Coordination (2014)

Supply chain considerations

Semiconductor devices are complex integrated systems of many components. Ensuring components are available for the product's useful life is paramount. Military devices share components with non-military application devices. (Microchip USA, 2025a). For national security reasons, it is paramount that defence forces have a reliable supply chain for all components of military-approved devices. (Sultan & Sultan, 2024). Geopolitically, most of the semiconductor devices are manufactured in Southeast Asian countries. Even with the European Union's Chips Act initiatives, it is not feasible to ensure the supply chain of all types of components (Microchip USA, 2025b; Pathan et al., 2024). Therefore, many countries have realised the importance of maintaining a sufficient, readily available supply when needed. (Arjunamahanthi et al., 2025; Bonheim et al., 2003). Failure to do so could result in assets being out of commission and weakened national defence positions.

In order to overcome the supply chain constraints, a country can: a) manufacture their own components, b) stockpile components from allies that are of national interest for the military, and c) negotiate support with allied nations to source qualified parts when needed. Manufacturing independence is an expensive proposition and not feasible unless a reliable supply of raw materials, equipment, and manufacturing facilities is available from the ingot stage through the final packaged device stage. The United States and the European Union have agreed to support national semiconductor manufacturing through the US and EU Chips Acts, respectively. These investments are strategic and do not address current supply chain constraints, in which both the US and the EU rely heavily on Asian partners for semiconductor devices, components, and materials (Microchip USA, 2025a; Pathan et al., 2024).

The other two proposed avenues are more feasible, and many governments are enhancing supply chain resilience by investing in semiconductor companies (as in the USA government's funding of Intel Corporation in 2025) or by stockpiling parts. To ensure supply chain continuity, it is important to cross-reference the equivalency of military standards with other standards agencies, such as the Automotive Electronics Council (AEC) (Yarbrough et al., 2020), to open equivalent supply-chain avenues. It is paramount that cross-references to component equivalencies are available and up to date, as standards are regularly updated by their governing agencies. Resilience in the supply chain needs to be ensured to maintain national security. The military industry does not nec-

essarily have priority over consumer electronics, since its market share is low relative to other sectors (Figure 1b). This becomes a potential chokehold, especially when advanced technologies are required, as capable manufacturing facilities are in short supply and in high demand globally.

Conclusion

The use of modern semiconductors will remain paramount in the military and defence industry. Semiconductor devices and the ecosystem are critical components for ensuring robust national security. The design of military devices must keep pace with the latest technologies to ensure adversaries do not gain a competitive advantage. The drivers for growth will be enabling compact, easily maintainable, reliable, high-performing, fast-decision-making, and secure devices. With the increasing number of interconnected device types, improvements in parts' performance, inter-part communication, and computational performance are expected to enable fast, efficient decision-making that will provide a technological advantage on the battlefield. Continued strategic investments in the military-based semiconductor device sector are needed. These investments will drive advancements ranging from novel design capabilities to processes and materials that improve manufacturing capabilities and yields. Novel design capabilities will allow for the implementation of AI and the latest communication techniques. New processes and materials will help reduce manufacturing costs and the complexity of manufacturing processes. New testing processes will be needed to ensure the devices adhere to strict standards and specifications, ensuring reliable, high-quality parts that withstand extreme conditions, are tamper-resistant, and deliver defect-free performance.

Short-term, to maintain the existing fleet of military and defence semiconductor devices, the supply chain of critical components should be assessed to ensure reliable national stockpiles of QPL parts for the service life of critical devices. Failure to do so can result in the grounding of key assets and the inability to perform national security duties. In addition to capital investments, strategic investments in developing human resources to maintain and drive technological advancements are paramount. National governments should work with academia to ensure talent is familiar with the latest technologies and skilled to work in the fast-developing semiconductor ecosystem. Ultimately, those na-

tions that ensure strong capabilities with modern military semiconductors will have a very strong negotiation position in the ever-changing geopolitical arena.

References

- Abdel Hakeem, S. A., Hussein, H. H. & Kim, H. (2022). Security Requirements and Challenges of 6G Technologies and Applications. *Sensors*, 22(5). <https://doi.org/10.3390/s22051969>
- Aborah Yeboah, L., Abdul Malik, A., Agyemang Oppong, P., Sarfo Acheampong, P., Arko Morgan, J., Akua Adwubi Addo, R., Williams Henyo, B., Takyi Taylor, S., Makafui Zudor, W. & Osei-Amponsah, S. (2025). Wide-Bandgap Semiconductors: A Critical Analysis of GaN, SiC, AlGaN, Diamond, and Ga₂O₃ Synthesis Methods, Challenges, and Prospective Technological Innovations. *Intelligent and Sustainable Manufacturing*, 2(1), 10011–10011. <https://doi.org/10.70322/ism.2025.10011>
- Amano, H., Baines, Y., Beam, E., Borga, M., Bouchet, T., Chalker, P. R., Charles, M., Chen, K. J., Chowdhury, N., Chu, R., De Santi, C., De Souza, M. M., Decoutere, S., Di Cioccio, L., Eckardt, B., Egawa, T., Fay, P., Freedman, J. J., Guido, L., ... Zhang, Y. (2018). The 2018 GaN power electronics roadmap. In *Journal of Physics D: Applied Physics* (Vol. 51, Number 16). Institute of Physics Publishing. <https://doi.org/10.1088/1361-6463/aaaf9d>
- Arjunamahanthi, P., Reddy Kottur, H., Roy, A., Shafkat, M., Khan, M., Varshney, N., Woychik, C., Patti, R. & Asadizanjani, N. (2025). A Global View Versus a U.S. Focus on Outsourced Assembly and Test (OSAT) Facilities to Support Wafer Level Packaging. *Wafer-Level Packaging Symposium*, 23–35. <https://doi.org/10.37665/waPMVOH98951>
- Bastos, L., Capela, G. & Koprulu, A. (2020). *Potential of 5G technologies for military application*.
- Bhatia, M. & Pallvi. (2025). Mapping Emerging Digital Technologies in Defense: A Scientometric and Systematic Review. *IEEE Internet of Things Journal*, 12(16), 32725–32748. <https://doi.org/10.1109/JIOT.2025.3579067>
- Biddle, S. R. (1996). Commercial Plastic Microcircuits-A Total Solution For Military Applications? *NASA Electronic Parts and Packaging Program*. <https://nepp.nasa.gov/docuploads/6000C904-3093-44CA-96A78169BC195A26/Commercial%20Plastic%20Microcircuits%20A%20Total%20Solution%20For%20Military%20Applications.pdf>
- Buffolo, M., Favero, D., Marcuzzi, A., De Santi, C., Meneghesso, G., Zanoni, E. & Meneghini, M. (2024). Review and Outlook on GaN and SiC Power Devices:

- Industrial State-of-the-Art, Applications, and Perspectives. *IEEE Transactions on Electron Devices*, 71(3), 1344–1355. <https://doi.org/10.1109/TED.2023.3346369>
- Đurišić, M. P., Tafa, Z., Dimić, G. & Milutinović, V. (2012). *A Survey of Military Applications of Wireless Sensor Networks*.
- Gargeyas, A. (2022). The Role of Semiconductors in Military and Defence Technology. *Defence and Diplomacy Journal*, 11(2). <https://swarajyamag.com/news-brief/>
- Infineon memory solutions for defense applications. (2025, August). www.infineon.com/memory
- Kolawole, M. I. (2025). International Journal of Engineering Technology Research & Management. *International Journal of Engineering Technology Research & Management*, 9(2), 335–353. <https://www.ijetrm.com/>
- Masoud Beheshti. (2020). *Wide-bandgap semiconductors: Performance and benefits of GaN versus SiC*. Texas Instruments Analog Design Journal. chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/https://www.ti.com/lit/an/slyt801/slyt801.pdf?ts=1770470577686
- McNair, F. & Washington, D. C. (2003). *Electronics Industry Study Report: Semiconductors and Defense Electronics*.
- Microchip USA. (2025a). *How Current Military Conflicts Are Reshaping Semiconductor Lead Times*. <https://www.microchipusa.com/industry-news/how-current-military-conflicts-are-reshaping-semiconductor-lead-times>
- Microchip USA. (2025b). *Semiconductors A National Defense Priority*. <https://www.microchipusa.com/industry-news/semiconductors-a-national-defense-priority>
- Miličević, Z. M. & Bojković, Z. S. (2024). Review of 5G and 6G applications for mobile wireless communication in the military environment. *Military Technical Courier*, 72(1), 435–451. <https://doi.org/10.5937/vojtehg72-47037>
- Nayak, D., Ganguly, I., Mishra, S. & Anand, K. (2023). Investigation and Implication of Advanced Sensory Computing in Military and Defense Applications. *SCCTT 2023: CEUR Workshop Proceedings*, 11–25.
- Pathan, M. K., Weston, N. & Mavris, D. (2024). Critical Materials in Aerospace: A Comprehensive Analytic Study on The Strategic Importance of Semiconductors. *AIAA SCITECH 2024 Forum*, 1536.
- Pecht, M. G., Fink, J., Hakim, E., Wyler, J., & Hakim, E. (1997). An Assessment of the Qualified Manufacturer List (QML). *IEEE Aerospace and Electronic Systems Magazine*, 12(7).
- Saday, A. (2022). A review of FPGA-based applications and FPGA usage in the industrial area. In S. Taşdemir & İ. A. Özkan (Eds.), *Innovations and technologies in engineering* (1st ed., pp. 171–184). Eğitim Yayınevi.
- Saleem Sultan, M. & Shahid Sultan, M. (2024). Strategic Semiconductor Leadership: Securing U.S. Economic and National Defense Resilience in the 21st Century.

- International Journal of Science and Research (IJSR)*, 13(8), 1221–1229. <https://doi.org/10.21275/sr24820050457>
- Sañudo, I., Cortimiglia, P., Miccio, L., Solieri, M., Burgio, P., Di Biagio, C., Felici, F., Nuzzo, G. & Bertogna, M. (2020). The Key Role of Memory in Next-Generation Embedded Systems for Military Applications. *Advances in Intelligent Systems and Computing*, 925, 275–287. https://doi.org/10.1007/978-3-030-14687-0_25
- Shaw, D. M. & Harrell, J. W. (2023). Integrating physiological monitoring systems in military aviation: a brief narrative review of its importance, opportunities, and risks. In *Ergonomics* (Vol. 66, Number 12, pp. 2242–2254). Taylor and Francis Ltd. <https://doi.org/10.1080/00140139.2023.2194592>
- Yarbrough, A. D., Harzstark, L. I. & Cozzolino, M. J. (2020). A *Qualitative Comparison of EEE (Electrical, Electronic, Electromechanical) Component Requirements: Part I-MIL-PRF (Military Performance) vs AEC (Automotive Electronics Council) Standards*.

Moderni poluvodički uređaji u vojnoj i obrambenoj industriji

SAŽETAK

Moderna vojna i obrambena industrija uvelike ovisi o poluvodičkim uređajima. Ovaj rad pruža kratak pregled vojne primjene poluvodičkih uređaja, opisujuje njihove odrednice za dizajn i proizvodnju, te specifičnosti opskrbnog lanca. Poseban naglasak stavljen je na isticanje izazova modernih primjena poluvodičkih uređaja u vojnoj i obrambenoj industriji, osiguravajući da proizvodi zadovoljavaju potrebne standarde pouzdanosti i sigurnosti. Nadalje, opisana je važnost stabilnosti opskrbnog lanca poluvodičkih uređaja zbog nacionalne sigurnosti. Cilj rada je pružiti pregled najčešćih tipova vojnih poluvodičkih uređaja, njihove uloge i budućih trendova tehnoloških razvoja.

KLJUČNE RIJEČI: vojni poluvodiči, pouzdanost, proizvodnja, opskrbni lanac, trendovi poluvodiča

Modifikacija geostrateških obilježja Heartlanda uslijed klimatskih promjena i utjecaj na promjenu globalne pomorske (vojnopomorske) i gospodarske moći

Marko Zečević¹

SAŽETAK

Dosadašnja istraživanja pokazuju da se Arktik zagrijava dvaput brže od ostatka Zemlje, te da se led (ledena kapa) povlači prema sjeveru oslobađajući sjevernu obalu Ruske Federacije za plovidbu. To dovodi do modifikacije geostrateških obilježja „Heartlanda“ u odnosu na prvobitne postavke koje je iznio u svojoj teoriji Halford Mackinder, a isto tako i Nicholas Spykman u svojoj teoriji o rubnoj zemlji („Rimland“) koja kontrolira prostor „Heartlanda“. Sjeverni rub „Heartlanda“, u novim klimatskim okolnostima, postaje prostor nadmetanja pomorskih sila za resurse i nadzor novih plovnihi puteva. Razlog zbog kojeg Sjeverna morska ruta (uz rusku sjevernu obalu) ima potencijal preuzeti značajan dio prometa rute koja iz jugoistočne Azije prolazi Sueskim kanalom i

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razdvaja se različitim smjerovima prema lukama u Europi, su veliko skraćenje u vremenu plovidbe, jer je za približno 1/3 kraća. Uz navedeno Sjeverna morska ruta, za razliku od rute koja prolazi Sueskim kanalom, ne prolazi kroz područja koja su krizna žarišta i u kojima operativno djeluju pirati (na primjer Somalijski pirati na ulazu u Adenski zaljev i pirati u Malajskom tjesnacu) pa je u tom kontekstu sigurnija. Ovaj rad otvara pitanje modifikacije geostrateških obilježja Heartlanda uslijed klimatskih promjena i mogući utjecaj na promjenu pomorske (vojnopomorske) i gospodarske moći Rusije i Kine, jer Rusiji (i njenim saveznicima) te promjene geostrateških obilježja daju operacijsku osnovicu za nadzor strateških područja pomorske moći na novim važnim pomorskim rutama.

KLJUČNE RIJEČI: *Klimatske promjene, Heartland, pomorska moć države, Rusija, Kina, pomorske rute*

Uvod

Ovaj rad analizira značenje promjena geografskih i geostrateških obilježja „Heartlanda“ uslijed klimatskih promjena i moguće posljedice te promjene u odnosima pomorske i gospodarske moći pojedinih država u Euroaziji, a time i u ostatku svijeta. Halford Mackinder (1904) je osmislio teoriju o „Srcu Euroazije“ (*Heartland*) na prijelazu iz 19. u 20. stoljeće. U međuvremenu su se mnoge postavke njegove teorije promijenile. Na primjer, izgrađena cestovna i željeznička mreža i povećanje plovnosti riječnih puteva omogućava puno veću dostupnost prema „Srcu Euroazije“ kopnenim putem nego što je to bilo početkom prošlog stoljeća. Područje Heartlanda (*Pivot Area*) Halford Mackinder opisuje kao teško dostupno područje srednje Euroazije, sa sjevera „zatvoreno“ ledom, a koje je brodovima nepristupačno (Mackinder, 1904; Liddell Hart, 1985). Međutim, zbog utjecaja promjene klime na geostrateška obilježja Heartlanda i te su se prvobitne postavke Halforda Mackindera promijenile. Sjeverna obala Rusije sve je manje i vremenski kraće tijekom godine pod utjecajem ledene „kape“ s Arktika, a permafrost (trajno smrznuto tlo na sjeveru Rusije) se topi i smanjuje u najvećem opsegu od kad postoje mjerenja. Planet Zemlja se dodatno zagrijavala za oko 0,8° C od kraja 19. stoljeća do danas, dok se Arktik zagrijao za 2° do 3°, te se samo tijekom posljednjeg desetljeća Arktik dodatno zagrijavao za 0,75° C, daleko nadmašujući globalni prosjek (Post et al., 2019). Kao posljedica klimat-

skih promjena sjeverne obale Heartlanda, Grenland i Arktik postaju područje nadmetanja svjetskih sila za resurse (nafta, plin, rijetki zemni metali) i nadzor pomorskih ruta.

Približavanjem zajedničkog ekonomskog prostora Rusije, Bjelorusije (i pojedinih azijskih država koje su bile dio Sovjetskog Saveza) u Euroazijski savez s jedne strane i Kine koja strebi da postane najveća gospodarska sila svijeta dolazi do formiranja velikog gospodarskog područja koje u kontekstu korelacije s teorijom Halforda Mackindera o „Heartlandu“ (engleski: srce zemlje ili središnje područje) uključuje gotovo čitav Heartland, manje segmente europskog „Rimlanda“ (na primjer Kalinjingradska oblast) kao i značajan dio azijskog primorskog Rimlanda (kineska obala i ruska obalna područja u Aziji). Navedene države osim gospodarskog približavanja imaju i intenzivnu vojnu suradnju (na primjer zajedničke vojne vježbe). Važno je pritom naglasiti da su gospodarstva Rusije i Kine komplementarna i da se nalaze unutar političko-gospodarske asocijacije BRICS koja je u procesu proširenja.

Rusija je bogata energentima i mineralnim sirovinama, u prvom redu naftom i plinom, a upravo je Kina velika uvoznica tih energenata, te su prema Kini izgrađeni plinovodi „Snaga Sibira 1“ i „Snaga Sibira 2“ koji dopremaju u Kinu plin iz ruskih sibirskih plinskih polja u Irkutsku i Jakutiji. Izgradnja ovih plinovoda i njihovo proširenje može se smatrati jednim od najvećih energetske i strateške projekata na području Euroazije od početka ovog stoljeća. S druge strane, Kina postaje najveći proizvođač robe široke potrošnje pa njima može zadovoljiti potrebe tržišta Rusije i Europske unije, a ekonomski najpovoljniji trgovački pravac dopreme dobara je preko Sjeverne pomorske rute koja vodi od Beringovog prolaza uz obale Sibira. Otvaranjem Sjeverne rute (koja prolazi obalom sjeverne Rusije) i povlačenjem leda prema središtu Arktika, azijske države BRICS-a (Kina i Indija) dobivaju još jednu alternativnu rutu izvoza svojih dobara prema industrijskom središtu Europe i istovremeno rutu uvoza ruske nafte, plina i minerala iz područja Arktika i Sibira (Connolly, 2023). Uz već proklamiranu glavnu rutu Kine na „Putu svile 2.0“ kroz Sueski kanal i kopneni put kroz Malu Aziju otvaraju se nove pomorske rute. To smanjuje ovisnost azijskih država BRICS-a (Kine i Indije) o samo jednom pravcu i povećava sigurnost izvoza država BRICS-a, pogotovo uzimajući obzir djelovanje somalskih pirata (Jacobsen et al., 2026) i jemenskih Huta u Adenskom zaljevu. S obzirom da je nacionalna moć, između ostalog, temeljena i na geografskim obilježjima prostora (Lozančić i Fuerst-Bjeliš, 2017) moguću promjenu globalne pomorske (vojnopomorske) i gospodarske moći uzrokovanu klimatskim promjenama može se promatra-

ti kroz teorijski okvir dvaju teorija koje su postavili britanski geograf Halford Mackinder i američki politolog Nicholas John Spykman (Holmila, 2019).

Dodatna integracija kritičke geopolitike u ovaj rad omogućuje teorijsko proširenje klasičnih geopolitičkih koncepata. Ona pruža analitički okvir za razumijevanje Arktika kao prostora u kojem se istodobno odvijaju procesi fizičke transformacije, ekonomske eksploatacije i diskurzivne konstrukcije moći, čime se dodatno produbljuje analiza odnosa između klimatskih promjena i globalne pomorske i gospodarske moći.

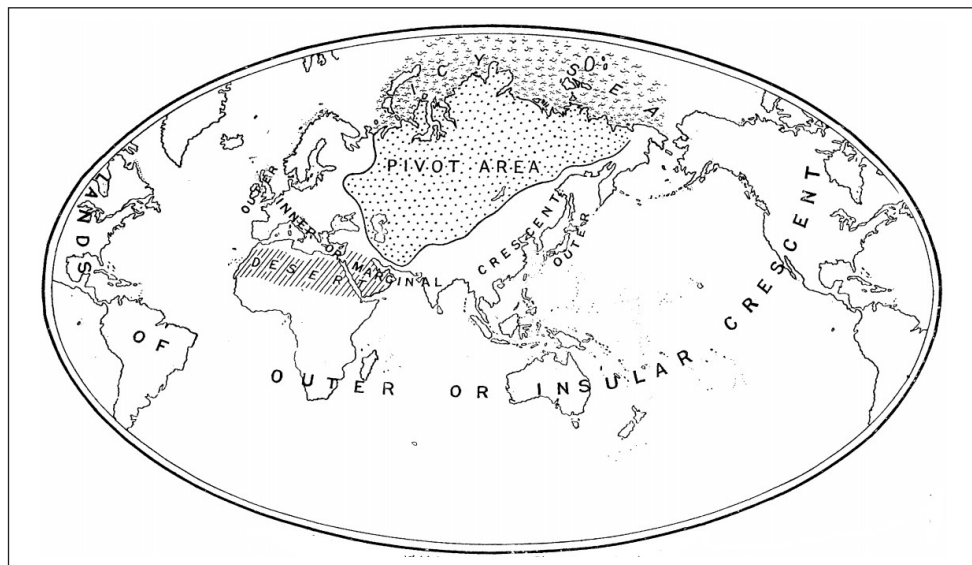
Mackinderova teorija „Srca Euroazije“ i njoj suprotstavljene teorije Nicholasa Spykmana i Alfreda Thayera Mahana

Kad se analizira geopolitički i geostrateški položaj Rusije onda se to vrlo često čini unutar teorijskog okvira dvaju teorija koje su postavili Halford Mackinder i Nicholas John Spykman (Ibid.). Uz te dvije teorije, u razmatranju moguće promjene globalne pomorske (vojnopomorske) i gospodarske moći, u obzir je potrebno uzeti i teoriju o pomorskoj moći Alfreda Thayera Mahana (1922, 1960) koja je u znatnoj mjeri komplementarna s teorijom Nicholasa Spykmana, te koja ju nadopunjuje i podupire.

Mackinderova teorija „Srca Euroazije“

Halford Mackinder je svijet podijelio u tri geostrateške cjeline (Mackinder, 1904): 1. Heartland (*Pivot Area*) ili stožerni dio Euroazije, 2. Rubni (unutrašnji) polumjesec koji obrubljuje Heartland sa zapada, juga i jugoistoka, a obuhvaća obalne dijelove Euroazije, 3. vanjski ili otočni polumjesec koji obuhvaća otoke (Japan, Velika Britanija, Indonezija) i kontinente oko Euroazije (sl. 1). Mackinder je „Srce Euroazije“ (prvobitno ga 1904. godine naziva *Pivot Area*, odnosno „Stožerno područje“, a potom mu kod daljnjih razrada svoje teorije daje ime „Heartland“) kasnije dodatno teritorijalno proširio na zapad uključivši u njega dijelove istočne Europe. „Heartland“ je opisao kao kontinentalno, teško dostupno područje srednje Euroazije, koje predstavlja stratezijsko središte svijeta. Carsku Rusiju Mackinder identificira kao stožernu državu u području „Heartlanda“ koja ima centralni stratezijski položaj (Liddell Hart, 1985) s mogućno-

sti prodora u države „Rubnog polumjeseca“ i „Vanjskog polumjeseca“, kao i na svjetska mora što joj omogućuje poziciju za vladavinu svijetom (Mackinder, 1904; Tunjić, 2007).



Slika 1. Podjela svijeta u tri geostrateške cjeline (Mackinder, 1904)

Spykmanova teorija Rimlanda i teorija o pomorskoj moći Alfreda Thayera Mahana

Američki politolog Nicholas John Spykman je, nasuprot teoriji Heartlanda, osmislio geopolitički koncept Rimlanda (Slika 2) koji bi se mogao sažeti u rečenicu: „Tko kontrolira Rimland upravlja Euroazijom; a tko upravlja Euroazijom upravlja sudbinom svijeta“ (Holmila, 2019). Rimland sa zapada, juga i jugoistoka „zatvara“ Heartland i onemogućava pristup svjetskim morima, a na sjeveru je Heartland „zatvoren“ ledenom kapom Arktika. Teorija Rimlanda Nicholasa Johna Spykmana komplementarna je teoriji o pomorskoj moći Alfreda Thayera Mahana. Na području europskog dijela Rimlanda (Slika 2). nalazile su se (ili su imale svoja pomorska uporišta) kroz povijest velike pomorske sile poput Britanskog imperija, Španjolske, Portugala, Nizozemske, Francuske i Njemačkog Carstva. Te su države imale kolonijalne posjede i ratnu mornaricu te kontrolirale značajni dio teritorija „Rubnog polumjeseca“ i „Vanjskog polumjeseca“ (Slika 1).



Slika 2. Pojednostavljena karta s prikazom „Heartlanda“ i „Rimlanda“ i naznačenom približnom srednjom vrijednosti (median) granice leda za razdoblje 1981.-2010. (CROMETEO, 2020) te dvjema važnim pomorskim rutama; (1) Ruta kroz Sueski kanal, (2) Sjeverna morska ruta

U azijskom dijelu Rimlanda, Japansko carstvo se nalazilo početkom prošlog stoljeća u ekspanziji, te je u rusko-japanskom ratu vođenom 1904. i 1905. godine pobijedilo Carsku Rusiju i zaustavilo daljnje širenje Rusije u Aziji. Japanska ratna mornarica je pritom u bitci kod Tsushime 1905. godine teško porazila rusku mornaricu, značajno smanjila njezine sposobnosti, te zaustavila njen daljnji razvoj, uspon i utjecaj na Pacifiku. Rusija (čak niti u vrijeme Sovjetskog Saveza) unatoč jakoj mornarici nikad nije bila prvorazredna pomorska sila i nije kontrolirala svjetske trgovačke pravce, između ostalog i zato što su ključne ruske (sovjetske) luke bile veći dio godine okovane ledom ili daleko od glavnih trgovačkih putova, pa mornarica nije imala operacijsku osnovicu za održivi nadzor tih ruta. Flota koja nema vojne baze ili savezničke luke na pomorskim rutama u morima i oceanima, u cilju osiguravanje kontinuirane opskrbe i nužne logističke infrastrukture, treba uzeti u obzir značaj udaljenosti od matičnog kopna (operacijske osnovice) na vojne operacije koristeći princip „gradijenta gubitka snage“ (engl. *loss-of-strength gradient*) koji je predložio Kenneth E. Boulding 1962. godine (Sakaguchi, 2011).

Iz navedenih povijesnih primjera vidljivo je da su pomorske države u području „Rimlanda“, koristeći svoju pomorsku moć, u znatnoj mjeri doista priječile prodor stožerne države „Heartlanda“ (Rusije) u područje „Rubnog polumjeseca“ i „Vanjskog polumjeseca“ (Slika 1). To se izrazito odnosi na kontrolu obalnog dijela „Rimlanda“ uz koji se odvijao i još se uvijek odvija značajni dio tijeka svjetske trgovine. Admiral Alfred Thayer Mahan je smatrao da je temeljna svrha ratne mornarice osiguravanje prevlasti nacije na moru, kroz nadzor pomorskih komunikacija za vlastite ratne i trgovačke brodove, kao i ključnih točaka stratejske moći na tim komunikacijskim pravcima, te istovremeno onemogućavanje protivnika da koristi te iste komunikacijske pravce za vlastite ratne i trgovačke brodove (Mahan, 1922; Mahan, 1960). Veliku Britaniju je u svojoj teoriji iznio kao primjer pomorske države koja je osigurala prevlast na moru, te kroz mornaricu kao dio nacionalne moći gospodarila kroz povijest značajnim dijelom svijeta. U svojim analizama djelovanja britanske mornarice Mahan ističe, kroz povijesne primjere, da postoje točke stratejske moći na ključnim pomorskim komunikacijskim pravcima. Kao primjer ističe da se na važnom komunikacijskom pravcu britanske mornarice između Britanije i Indije nalaze točke, odnosno područja stratejske moći kao što su Gibraltar, Malta i Egipat (Sueski kanal). Mahan Maltu naziva važnom točkom stratejske moći za vladanje Indijom, a Gibraltar je bitan za britansku flotu kao opskrbeni centar i pomorska baza za kontrolu Sredozemlja (Mahan, 1960).

Kritička geopolitika kao proširenje teorijskog okvira koji su postavili Mackinder, Mahan i Spykman

Klasične geopolitičke teorije koje su razvili Halford Mackinder, Nicholas John Spykman i Alfred Thayer Mahan polaze od pretpostavke da geografski prostor predstavlja objektivnu i relativno stabilnu osnovu političke moći. U tim pristupima, teritorij, prirodni resursi, prometna dostupnost i vojna sila (mornarica, zrakoplovstvo i kopnena vojska) određuju geostrateški položaj države i njezinu sposobnost projekcije moći. Međutim, suvremeni pristupi unutar teorijskog okvira kritičke geopolitike dovode u pitanje takvo shvaćanje geoprostora.

Kritička geopolitika razvijena je krajem 20. stoljeća kao teorijski i metodološki odgovor na ograničenja klasične geopolitike. Njezini ključni predstavnici,

poput Gearóida Ó Tuathaila, Simona Dalbya i Johna Agnewa, polaze od pretpostavke da geopolitički prostor nije samo materijalni objekt proučavanja fizičke geografije, već rezultat političkih interpretacija, diskursa i reprezentacija (Ó Tuathail, 1996; Agnew, 2003; Dalby, 2009). U tom kontekstu, geopolitika nije isključivo analiza teritorijalne moći, nego i analiza načina na koji se geografska područja konstruiraju kao strateški važna, opasna ili poželjna.

Primjena kritičke geopolitike na koncept „Heartlanda“ omogućuje reinterpretaciju izvornih postavki Halforda Mackindera. U njegovoj teoriji, Heartland je definiran kao geografski izolirano i teško dostupno područje, zaštićeno prirodnim barijerama, uključujući arktički led. Međutim, iz perspektive kritičke geopolitike takva definicija može se promatrati kao diskurzivna konstrukcija koja odražava geopolitičke percepcije i sigurnosne narative početka 20. stoljeća (Ó Tuathail, 1996). Drugim riječima, „nepristupačnost“ Heartlanda nije bila isključivo činjenica fizičkog opisa geografskog prostora, već i rezultat interpretacije prostora u specifičnom povijesnom, klimatskom i tehnološkom kontekstu.

Klimatske promjene dodatno naglašavaju ovu distinkciju između fizičkog i diskurzivnog prostora. Povlačenjem arktičkog leda mijenjaju se geografski i prometni uvjeti dostupnosti sjevernih obala Euroazije, ali istodobno dolazi i do transformacije načina na koji se Arktik interpretira u geopolitičkom diskursu. Arktik se sve manje promatra kao periferna i nepristupačna regija, a sve više kao prostor ekonomskih mogućnosti, prometnih koridora i sigurnosnog nadmetanja. Prema Klausu Doddsu, suvremeni diskursi o Arktiku mogu se grupirati u nekoliko dominantnih narativa koji uključuju promatranje Arktika kao prostora koji sadrži važne resurse, Arktika kao područja novih pomorskih ruta, Arktika kao zone sigurnosnog nadmetanja i Arktika kao simbola značajnih klimatskih promjena (Dodds, 2018).

Značenje promjene geostrateških obilježja Heartlanda i utjecaj na promjenu globalne pomorske (vojnopomorske) i gospodarske moći

Mackinder je osmislio svoju teoriju na prijelazu iz 19. u 20. stoljeće, te objavio 1904. godine. Mnoge su se geopolitičke promjene na području Euroazije od tada dogodile, a sada se opaža i utjecaj promjene klime na geostrateške karakteristi-

ke Heartlanda. U vrijeme kada je početkom prošlog stoljeća Halford Mackinder opisivao obilježja „Heartlanda“ Carska Rusija je bila uglavnom slabo naseljeno i teško dostupno područje. Carska Rusija je bila pretežno agrarna država, cestovna i željeznička mreža se tek počela razvijati, luke i lučka postrojenja nisu bili razvijeni, a sjeverne obale Rusije bile su okovane ledom (Slika 1.). Ugljen je bio glavni energent početkom 20. stoljeća, a nafta se tek počela značajnije koristiti i crpiti na naftnim poljima.

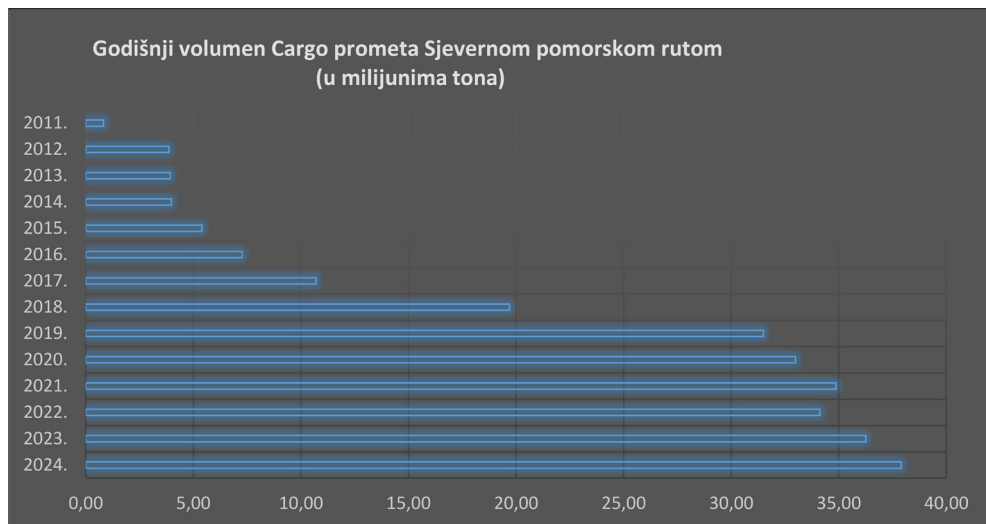
Danas je područje Ruske Federacije premreženo znatno gušćom željezničkom i cestovnom prometnom mrežom a zbog klimatskih promjena povećao se i riječni promet. Također, povećala se mreža plinovoda i naftovoda. Ruska Federacija danas ima nekoliko većih luka sa razvijenom lučkom infrastrukturom uzduž svoje sjeverne obale, od kojih treba posebno izdvojiti Murmansk i Arhangelsk. Navedene luke su imale vrlo važnu ulogu u opskrbi Rusije za vrijeme Prvog svjetskog rata i Sovjetskog Saveza u vrijeme Drugog svjetskog rata, a imaju i danas. Obje luke su dobro povezane željeznicom s europskim dijelom Rusije. Luka Arhangelsk (Slika 2) ima odličan geografski položaj na mjestu gdje je Bjelo more duboko uvučeno u europsko kopno, a nedaleko Arhangelska u more utječe rijeka Sjeverna Dvina, te postoji i mogućnost riječnog transporta prema jugu, odnosno središnjem dijelu europske Rusije. Taj riječni pravac ima veliki tranzitni potencijal (Nenasheva & Olsen, 2018), koji sve više dolazi do izražaja zbog klimatskih promjena, jer je rijeka Sjeverna Dvina sve kraće vremensko razdoblje tijekom godine prekrivena ledom.

Ruski strateški (geopolitički i ekonomski) interesi u području Arktika

Beringovim tjesnacem prolaze dvije arktičke pomorske rute čiji značaj raste, te će ukoliko dođe do preusmjerenja jednog značajnijeg dijela svjetske trgovine na te dvije rute, Beringov prolaz dobiti značaj strategijske točke koju je tijekom povijesti pa sve do danas imao Sueski kanal ili Gibraltar na Mediteranu. Beringov prolaz je ujedno i područje na Zemlji gdje su Rusija i SAD geografski najbliži. Arktik i sjeverni rub „Heartlanda“ predstavlja i perspektivnu regiju za istraživanje i eksploataciju nafte i plina. Procjene su da samo ruski dio Arktika sadrži preko 35.700 milijardi kubičnih metara prirodnog plina i preko 2.300 milijuna metričkih tona nafte i kondenzata (The Arctic Institute, 2020). Međutim, uspješna industrija ugljikovodika u hladnim podnebljima ne ovisi samo o pronađenim i dokazanim rezervama ugljikovodika, već i o fizičkoj infrastrukturi

(morske luke, flota ledolomaca, naftovodi, plinovodi), strategiji, geografskim karakteristikama područja (na primjer klima). Rusija kao jedan od najvećih proizvođača prirodnog plina i nafte, te država sa značajnim dokazanim rezervama tih energenata, projicira svoju moć i interese prema području Arktika kako bi dodatno povećala svoje rezerve ugljikovodika, a time i gospodarsku moć kao sastavnicu ukupne nacionalne moći. Rusija je već u prošlosti koristila svoj položaj glavnog izvoznika prirodnog plina za Europu i ovisnost država istočne i središnje Europe o uvozu ruskog plina za širenje svojeg geostrateškog i geopolitičkog utjecaja, a sad energente izvozi u Aziju, djelomično i Sjevernom morskom rutom (na primjer ukapljeni prirodni plin - LNG) preko luke Sabetta (slika 2). U tom kontekstu treba promatrati zahtjev koji je Ruska Federacija podnijela Komisiji za granice epikontinentalnog pojasa Ujedinjenih Naroda u kojem polaže pravo na veći dio podmorja Arktika (Kulović, 2017).

Otvara se pitanje hoće li Arhangelsk, povijesno važna ruska luka koja se nalazi u blizini ušća rijeke Sjeverne Dvine u Bijelo more u europskom dijelu Rusije, preuzeti dio važnosti i lučkog prometa (osobito onog koji dolazi iz južne Azije) koje su imale ruske luke na Crnom moru koje su trenutno na udaru ili blokiranje djelovanjem ukrajinskih snaga. Osim dvije navedene povijesno važne ruske luke (Arhangelsk i Murmansk) na Sjevernoj pomorskoj ruti dolazi do izgradnje i razvoja niza pomorskih luka od kojih posebno treba istaknuti luku Sabetta u Karskom moru (slika 2) koja je sagrađena u sklopu energetskog projekta „Jamal“ kao izvozna luka za ukapljeni prirodni plin (LNG). Strateški energetski projekt „Jamal“ predvodi ruska plinska tvrtka Novatek, a udjele imaju i kineske tvrtke „China National Petroleum Corporation“ i „Silk Road Fund“ (Nord University, 2020). Luka Sabetta je u zadnjih nekoliko godina značajno proširila svoje kapacitete, te je tijekom 2019. promet koji je prolazio kroz luku Sabetta iznosio 55% ukupnog brodskog prometa na Sjevernoj pomorskoj ruti (Nord University, 2020). Rusija je preko luke Sabetta Sjevernom morskom rutom (NSR) opskrbljivala tijekom ljetnih i jesenskih mjeseci velike uvoznike energenata - Kinu, Japan i Južnu Koreju, te ruske luke na obali Pacifika, a tijekom gotovo cijele godine luke u sjeverozapadnoj Europi. Nakon ruske agresije na Ukrajinu 2022. godine ruski izvoz energenata se preusmjerio s europskog tržišta na tržište Kine i Indije te kontinuirano raste. Prijevoz tereta Sjevernom morskom rutom (NSR) u Rusiji bilježi brz rast od 2011. do 2024., potaknut projektima eksploatacije arktičke nafte i LNG-a. Promet se povećao na Sjevernom morskom putu s manje od milijun tona (0,820 milijuna tona) u 2011. godini, da bi dosegao 37,9 milijuna tona u 2024. godini (The Diplomat, 2026).



Grafikon 1. Rast obujma prometa Sjevernom morskom rutom od 2011. do 2024. godine (izradio autor prema podacima iz Serova & Serova 2019; The Diplomat, 2026; Northern Sea Route, 2026)

Analiza rasta obujma prometa Sjevernom morskom rutom (Grafikon 1) otvara pitanje da li će postupno u budućnosti i značajni dio robnog prometa trgovačke flote Kine i Indije biti preusmjeren Sjevernom morskom rutom prema ruskim sjevernim lukama ili dalje prema Sjevernoj Europi, Velikoj Britaniji i Kanadi sa kojima je tijekom 2026. godine Kina obnovila trgovinske odnose.

Značaj nadzora morskih prostora i plovnih puteva raste u ruskoj (sveobuhvatnoj) velikoj strategiji koja uključuje iskorištenje prirodnih resursa u području Arktika u jačanju ekonomske i vojne moći (Connolly, 2023). Iako dio vojnih analitičara i povjesničara dvoji predstavlja li Rusija uopće klasičnu pomorsku silu, jer njezina državna moć povijesno nije ovisila o dominaciji svjetskim pomorskim pravcima (Lambert, 2023), Till (2023) ističe da je Rusija ipak „pomorska sila svoje vrste“, s vlastitim konceptualnim okvirom uporabe pomorskih snaga i morskih prostora, koji se bitno razlikuje od zapadnog (angloameričkog) shvaćanja pomorske strategije i pomorske sile. Ruski pomorski eksperti smatraju da kombinacija pomorskih resursa, pomorskih instrumenata djelovanja i pomorskih aktivnosti čini Rusiju jednom od „tri pomorske sile“ današnjice, uz Sjedinjene Američke Države i Kinu (Monaghan, 2023). Iako je sposobnost djelovanja ruske mornarice izvan litoralnog područja znatno manja nego što ju je imala bivša mornarica Sovjetskog Saveza u vrijeme „Hladnog rata“, jer ima

manje brodova, podmornica i nosača zrakoplova, ipak ima značajne vojne sposobnosti od konvencionalnih (na primjer udar krstarećim raketama „Kalibr“) do mogućnosti nuklearnog udara (Kofman, 2023). Nakon agresije Rusije na Ukrajinu 2022. godine, povećan je broj ruskih pomorskih vojnih vježbi u Barentsovom moru, a jedna od ponuđenih hipoteza je da je tome uzrok povećan ruski naglasak na potrebi jačanja nuklearnog odvraćanja (Åtland et al., 2024).

Definiranje Rusije kao pomorske sile koja spaja vojne i nevojne sposobnosti i resurse u cilju jačanja svoje pomorske moći dio je ruske velike strategije koja se ogleda i u velikom ulaganju u pomorsku infrastrukturu (luke i brodogradilišta) kao i u vojnu i civilnu flotu (Connolly, 2023). Pojačano ulaganje u rusku mornaricu i njene sposobnosti, uz istodobno povećanje ruskih pomorskih aktivnosti i povećanu prisutnost ruske mornarice od Atlantskog oceana, Arktika, Baltika i Mediterana pa do Pacifika, otvara pitanja ruskih pomorskih ambicija u pojedinim regijama, kako samostalno, tako i u kombinaciji s kineskom ratnom mornaricom s kojom provodi vojne vježbe (Kofman, 2023).

Kao odgovor na ruske i kineske ambicije u arktičkom području, potaknute klimatskim promjenama i otvaranjem arktičkih plovni putova Ministarstvo obrane Sjedinjenih Američkih Država donijelo je 2019. godine Arktičku Strategiju (*Department of Defense Arctic Strategy*, 2019). Uslijed klimatskih promjena mijenjaju se i geostrateška obilježja Grenlanda (najveći otok na svijetu koji je dio Kraljevine Danske) koji plovnošću obalnih voda uz ovaj otok postaje idealna operacijska osnovica za kontrolu Arktika baziranjem mornaričkih, zračnih i kopnenih snaga, te postavljanjem raketnih sustava.

Kineski su znanstvenici (Yangjun et al., 2018) koristeći matematički model izradili simulaciju ekonomskog potencijala pomorskih plovni puteva kroz sjeveroistočni prolaz i kroz Sueski kanal. Kao krajnje točke u matematičkom modelu uzete su luke Yokohama u Japanu i Rotterdam u Nizozemskoj. Matematički model koji su koristili u istraživanju (*Nash equilibrium model*) predviđa da će sve više profitirati brodarske tvrtke koje koriste Sjevernu pomorsku rutu (*Northern Sea Route*) i da će promet na ovoj ruti rasti kako se površina leda smanjuje i povlači sjeverno prema Arktiku. Gotovo u cijeloj dužini od Murmanska do Istočnog kineskog mora Sjeverna pomorska ruta prolazi uz rusku i kinesku obalu i pod nadzorom je mornarica ovih dvaju država. To je posebno bitno za Rusiju, jer nakon ruske invazije na Ukrajinu 2022. godine dolazi do formiranja ruske „flote u sjeni“, odnosno mreže trgovačkih brodova koji se koriste za zaobilaznje međunarodnih sankcija i transport ruskih energenata (nafta, naftni derivati, ponekad LNG), na primjer, prema Kini i Indiji.

Kroz povijest je poznato da vojno jake države projiciraju vojnu moć kao sastavnicu ukupne nacionalne moći u procesu vladanja kopnenim i morskim prostorima (uključujući trgovačke koridore) pri ostvarivanju gospodarskih interesa (Mahan, 1922; Mahan, 1960; Lozančić & Fuerst-Bjeliš, 2017). Mahan (1922; 1960) je analizom geostrateških elemenata pojedinih država, kao što su geografski položaj, fizički oblik, stanovništvo, gospodarstvo i klima, došao do zaključka da je pomorska moć odlučujuća za nacionalnu sigurnost i gospodarski rast države. Analizu je napravio na povijesnom primjeru razvoja i uspona Velike Britanije i njezinog kolonijalnog carstva, kao i na usponu njemačkog gospodarstva, pomorske trgovine, te razvoju i usponu njemačke carske ratne mornarice od 1879. godine (Mahan, 1960). Do sada je pomorska moć ruske mornarice bila raspodijeljena na regionalna litoralna područja uz obale Ruske Federacije. Sjeverna flota sa sjedištem u Severomorsku ima područje djelovanja u Arktičkom području, Barentsovom moru i sjevernom Atlantiku i po snazi i ulozi je najvažnija flota Ruske Federacije. Raspolaze najvećim flotnim sastavom i najvećim brojem nuklearnih podmornica. Pacifička flota sa sjedištem u Vladivostoku pokriva Azijsko-pacifičku regiju. Baltička flota sa sjedištem u Kalinjingradu nadzire Baltičko more. Crnomorska flota sa središtem u Sevastopolju pokrivala je Crno more i djelomično Mediteran do početka agresije Rusije na Ukrajinu, ali je u međuvremenu izgubila cijeli niz brodova iz svojeg flotnog sastava (uključujući zapovjedni brod flote krstaricu „Moskva“), te je njezin utjecaj trenutno sveden na područje istočnog dijela Crnog mora. Još treba pridodati i Kaspijsku flotilu u Astrahanu koja nadzire zatvoreno Kaspijsko jezero (neki ga nazivaju morem) i nema pristup otvorenom moru. Raspored, struktura i flotni sastav ruske mornarice u litoralnim područjima čini flotu ovisnom o nizu luka, pomorskih baza i aerodroma (zračna potpora mornarici) uz rusku obalu, te relativna pomorska moć, odnosno snaga ruske mornarice opada (takozvani „gradijent gubitka snage“) udaljavanjem od obale (operacijske osnove pomorskih snaga) prema otvorenom moru i oceanima (Petersen, 2023).

Kineski strateški (geopolitički i ekonomski) interesi u području Arktika

Kina promatra Arktik kao strateški važan geopolitički prostor zbog klimatskih promjena koje ubrzano smanjuju morske ledene pokrove i otvaraju nove pomorske komunikacijske rute te pristup velikim energetske i mineralnim resursima. Arktik sadrži značajne zalihe ugljikovodika i sirovina, što ga čini potencijalno bitnim izvorom za kinesku ekonomiju i izvoz koji je u ekspanziji.

Kina je u posljednjih nekoliko godina intenzivno povećavala veličinu svoje trgovačke flote kroz kupovinu i izgradnju brodova. Kineski brodovlasnici danas posjeduju trgovačku flotu od približno 283 milijuna bruto registarskih tona. Ovo uključuje komercijalne teretne brodove različitih tipova (suhi teret, tankeri, kontejnerski brodovi) čime je 2024. postala najveća trgovačka mornarica u svijetu mjereno u bruto registarskim tonama (Apollo, 2024). Važno je naglasiti da se između 80% i 90% svjetske trgovine odvija pomorskim putevima (Monaghan, 2023). Procjene su da je tijekom 2025. godine proizvodnja brodova u kineskim brodogradilištima iznosila više od 50% (53,3%) svjetske brodogradnje mjereno u brodskim registarskim tonama (CIMSEC, 2026).

Prema dokumentu Američkog Kongresa pod nazivom „*China Naval Modernization: Implications for U.S. Navy Capabilities—Background and Issues for Congress*“ objavljenog 2025. godine kineska ratna mornarica je po broju plovniha jedinica postala najveća ratna mornarica na svijetu (U.S. Naval Institute, 2025), premda po kvaliteti, iskustvu koje se stječe u ratovima i borbenoj moći još nije dokazala da je najjača mornarica na svijetu. Prema navedenom dokumentu kineski program modernizacije mornarice obuhvaća širok spektar programa nabave i opremanja naoružanjem i vojnom opremom, uključujući protubrodске balističke rakete, protubrodске krstareće rakete, krstareće rakete za napade pomorskih snaga na kopnene ciljeve, pomorske mine, podmornice, razarače i fregate, ophodne brodove, amfibijske brodove i program izgradnje nosača zrakoplova.

Industrijska i tehnološka baza Kine omogućuje ubrzanu proizvodnju modernih nuklearnih podmornica i nosača zrakoplova u velikim razmjerima, što u konačnici govori o velikom potencijalu projekcije kineske pomorske moći izvan kineskih litoralnih područja, prema svjetskim morima i oceanima.

U svom dokumentu („bijeloj knjizi“) kojim definira svoju politiku prema Arktiku (*White Paper on China's Arctic Policy*, 2018) Kina je formalizirala svoje arktičke interese, te se deklarirala kao „bliskoarktička zemlja“ (*near-Arctic state*). U navedenom dokumentu naglašava važnost znanstvenih istraživanja, zaštite okoliša, razvoja trgovinskih ruta i korištenja prirodnih resursa, u skladu s postojećim međunarodnim pravom (The State Council Information Office of the People's Republic of China, 2018). Kao dio šire vizije „Polarnog Puta svijle“ (*Polar Silk Road*), Kina nastoji integrirati arktičke pomorske komunikacijske rute u svoju stratešku mrežu globalne trgovine (sistemizirano kroz inicijativu „Pojas i put“ - *Belt and Road*), potencijalno skraćujući svoje pomorske trgovačke rute između Azije i Europe (Monaghan, 2023).

Uloga ruske i kineske suradnje pri zajedničkoj projekciji pomorske vojne moći

Najvjerojatniji način za projekciju kineske vojne moći u Arktiku jest kroz suradnju s Rusijom, koja već ima uspostavljene baze uzduž svoje sjeverne obale (npr. Murmansk i Arhangelsk) i značajnu vojnu infrastrukturu, odnosno operacijsku osnovicu. Ta suradnja može omogućiti kineskoj ratnoj mornarici upotrebu ruskih luka i logističkih kapaciteta, zajedničke vježbe i operacije, te sinergiju u nadzoru pomorskih ruta. Od 2022. do 2024. godine Rusija i Kina održale su 27 zajedničkih vojnih vježbi, od kojih je 16 bilo zajedničkih pomorskih vježbi, uključujući sedam samo u 2024. godini (The Diplomat, 2026). Zajedničko djelovanje ove dvije mornarice u području sjeverne obale „Heartlanda“ ublažilo bi nedostatke koje imaju svaka zasebno. Kineskoj mornarici nedostaju luke za baziranje i opskrbu, a ruska mornarica nema dostatne vojne kapacitete za duže vremensko djelovanje izvan vlastitog litoralnog područja i tehnološki zaostaje za zapadnim mornaricama. Ruska Federacija, primjerice, Arktik smatra prirodnim produžetkom svojeg teritorija i ključnim prostorom nacionalne sigurnosti, dok Narodna Republika Kina kroz koncept „Polarnog puta svile“ konstruira vlastitu ulogu u regiji unatoč geografskom izostanku neposredne teritorijalne pripadnosti tom području (Dalby, 2009; Wilson Rowe, 2018 i 2020). Ovi primjeri ukazuju na to da geopolitička moć proizlazi ne samo iz kontrole teritorija i resursa, nego i iz sposobnosti oblikovanja dominantnih narativa o prostoru.

Rasprava i zaključak

Površina ledene kape Zemlje se smanjuje, a nastaviti će se smanjivati u ovom desetljeću, a vjerojatno i dalje, do kraja stoljeća. Sjeverna pomorska ruta je plovna četiri do šest mjeseci (srpanj – listopad). Također, plovnost puta se može značajno dodatno produžiti učinkovitom flotom ledolomaca po čemu je Rusija poznata. Zbog toga Rusija aktivno prilagođava svoje kapacitete na svojoj sjevernoj obali kroz povećanje broja patrolnih brodova i ledolomaca, što uključuje i ledolomce na nuklearni pogon klase „Arktik“ (Connolly, 2023).

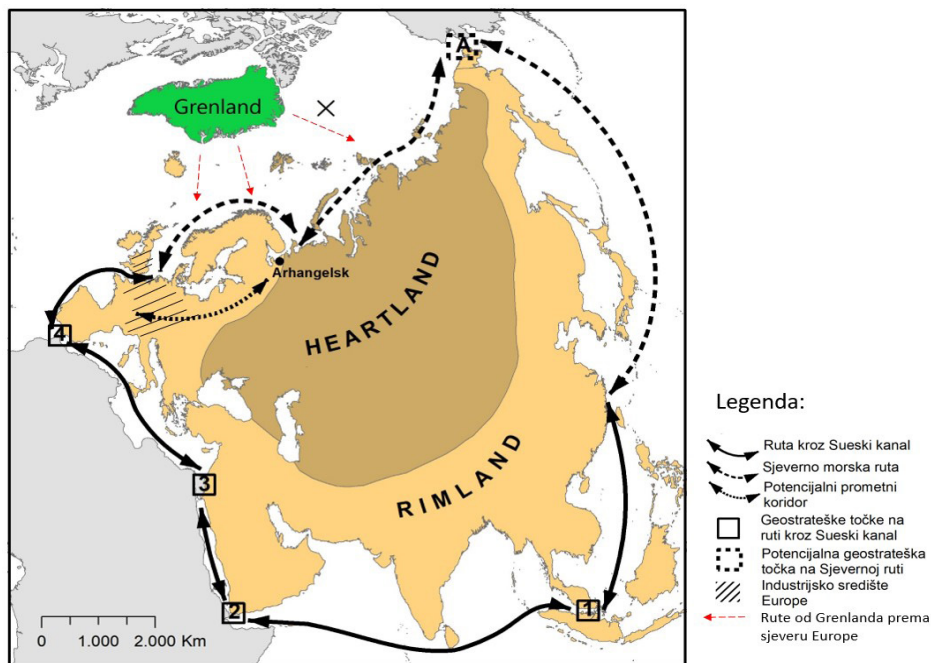
Ukoliko Sjeverni morski pravac postane aktivan tijekom ljetnih i jesenskih mjeseci i ne bude ovisan o sezonskim pomacima leda u mjeri kako je to bilo do sada, najvažnije strategijske točke pomorske moći vezane za svjetsku trgovinu neće biti samo u području „Rimlanda“ (Gibraltar, Malta, Sueski kanal, Hor-

muški tjesnac, Singapur), već se nove točke pomorske moći vezane za svjetsku trgovinu djelomično premještaju i na sjeverni rub „Heartlanda“ (na potezu od Murmanska do Beringovog prolaza) i uz Grenland prema Sjevernoj Americi. U tijeku je tranzicija u djelomičnom preusmjeravanju dijela trgovačkog prometa s trgovačkih pomorskih putova koji su bili pod nadzorom „Rimlanda“ na pomorske rute pod nadzorom „Heartlanda“. Dinamika i obim postupnog prijelaza značajnijeg dijela svjetske pomorske trgovine na Sjevernu pomorsku rutu zavisit će, osim o dinamici klimatskih promjena i učinkovitosti ruskih ledolomaca, i o mnogim čimbenicima kao što je na primjer sigurnost brodova koji prolaze kroz Adenski zaljev i Malajski tjesnac na putu za Sueski kanal, kao i o samoj protočnosti Sueskog kanala u kojem je u prošlosti bilo problema zbog nasukavanja velikih brodova, kao i zbog ratnih sukoba.

Promjena geografskih obilježja sjeverne obale Ruske Federacije ukazuje da su se geostrateška obilježja Heartlanda promijenila u toj mjeri da niti je danas Heartland nedostupan sa sjevera (na primjer iz smjera Grenlanda, Slika 4), niti Rimland zbog promjene geostrateških obilježja Heartlanda ima i dalje strategijski položaj da u potpunosti kontrolira Heartland, kako je to bilo u prethodnim stoljećima. Koncentracija vojne i gospodarske moći u širem području Heartlanda poprima obilježja koja je „prorekao“ Mackinder, a pomorske rute svjetske trgovine premještaju se, u za sada manjoj mjeri i postupno, i uz rubne obale Heartlanda a time stvaraju i nove strategijske točke, odnosno područja pomorske moći vezana za svjetsku trgovinu (slika 4).

Povlačenje leda na sjever omogućava Rusiji širenje gospodarskog i vojnog interesa na sjever (ali i lakši pristup Atlantskom oceanu). To uključuje istraživanje i eksploataciju nafte i plina u širem području Arktika. Sjeverne obale Heartlanda uslijed klimatskih promjena i modifikacije geostrateških obilježja postaju povoljna operacijska osnovica za provedbu vojnih operacija na sjeveru. To znači da se stvaraju povoljni klimatski uvjeti za korištenje i održavanje lučkih postrojenja, zrakoplovnih baza i druge vojne infrastrukture nužne za održivost vojne operacije. Također, za očekivati je da će se povećati operativni radijus djelovanja ruske sjeverne flote, te da će biti sve manje ovisan o sezonskim utjecajima. Kao što povlačenje leda omogućuje povećanje operativnog radijusa djelovanja ruske sjeverne flote, omogućuje i (znatno više nego u povijesti) pristup Rusiji sa sjevera, odnosno dolazak flote i iskrcavanje ekspedicijskih snaga na rusko tlo. U vrijeme kad je Halford Mackinder 1904. godine iznio svoju teoriju o „Srcu Euroazije“ i definirao geostrateška obilježja Heartlanda, pristup strane flote i iskrcavanje ekspedicijskih snaga na sjevernim obalama Heartlanda

predstavljalo bi vojnu operaciju visokog rizika uzimajući u obzir tadašnje klimatske značajke, ali i dosege u vojnoj tehnologiji, naoružanju i vojnoj opremi na početku 20. stoljeća, pa je bila upitna, između ostalog, i logistička održivost takve operacije.



Slika 4. Usporedba Sjeverne morske rute i rute kroz Sueski kanal s naznačenim strateškim točkama na ruti kroz Sueski kanal i potencijalnom strateškom točkom na Sjevernoj morskoj ruti (1- Malajski tjesnac, 2 – Adenski zaljev, 3 – Sueski kanal, 4 – Gibraltar, A - Beringov prolaz)

Dinamičan rast međunarodne trgovine potiče potragu za novim globalnim pomorskim prometnim pravicima uslijed klimatskih promjena, koje neizbježno utječu na razvoj pomorske infrastrukture i sigurnosti. Vojna moć proizlazi iz ekonomske moći, a značajan pokazatelj vojne moći jesu vojni izdaci. Također, jedan od relevantnih pokazatelja ekonomske moći predstavlja obujam lučkog prometa, osobito kontejnerskog prometa. U prošlosti su važne trgovačke i vojne luke dobivale i gubile na važnosti zbog promjena u gospodarskoj i sigurnosnoj važnosti pojedinih pomorskih ruta za koje su bile vezane. Također, biti će potrebno analizirati kako će nove transportne rute i nove promjene u globalnim trgovinskim odnosima utjecati na važnost i promet dosadašnjih europskih sje-

verozapadnih lučkih odredišta - Antwerpena, Rotterdama i Hamburga i kako će se odraziti na promet mediteranskih luka - Marseillea, La Spezie, Genove, Trsta, Rijeke, Pireja i Soluna. Hoće li se narednih godina vidjeti postupni pad važnosti i sezonskog (u ljetnim i jesenskim mjesecima) pada prometa pojedinih luka na Mediteranu (što uključuje i Riječku luku) ili će pojedine mediteranske luke ipak zadržati svoje kapacitete i količinu pretovarene robe.

Geopolitičke napetosti u svijetu u stalnom su porastu i potiču diverzifikaciju trgovačkih pravaca. Kineska politika prema Arktiku kombinira ekonomske, geopolitičke i sigurnosne interese. Peking koristi Arktik kako bi, uz potporu Rusije, diversificirao globalne trgovinske rute (kroz koncept „Polar Silk Road“), osigurao pristup resursima i učvrstio međunarodni ugled Kine kao globalne pomorske sile. Iako Kina trenutno nema veliku stalnu vojnu prisutnost u Arktiku, njezine aktivnosti, osobito uz podršku Rusije, ukazuju na postupno povećanje kapaciteta koji bi mogli podržati snažniju projekciju pomorske moći u budućnosti. Brzina kojom raste pomorska i vojnopomorska moć Kine, ali i ukupna pomorska moć država članica BRICS-a s razlogom zabrinjava zapadne vojne i gospodarske analitičare i stratege. Kina za sada nije u poziciji dominirati vojnim prisustvom u Arktiku samostalno jer je održavanje dugotrajnih vojnih operacija u klimatski izazovnom području Arktika rizično bez potrebne infrastrukture (mreža luka, pomorskih baza za održavanje i opskrbu). Međutim, suradnja s Rusijom i drugim državama BRICS-a, te povećana vojna koordinacija ukazuju na postupni prijelaz prema većoj sposobnosti projekcije pomorske (vojno-pomorske) moći u nadolazećim desetljećima. Velika prednost Kine nije samo tehnologija nego velik broj i veličina modernih brodogradilišta uzduž kineske obale. Kineska ratna mornarica ima na raspolaganju najveću brodograđevnu industriju na svijetu, gdje civilna i vojna brodograđevna proizvodnja dijele infrastrukturu i resurse, pa brodogradilišta mogu brzo prebaciti proizvodnju na isključivo izgradnju ratnih brodova. To u slučaju rata visokog intenziteta i angažmana većine pomorskih snaga, znači bržu nadopunu odnosno zamjenu potopljenih i oštećenih brodova, ubrzanu masovnu proizvodnju novih tipova brodova i veliku logističku bazu vezanu za remont i popravak oštećenih brodova.

U ovoj dinamici šire područje oko Arktika postaje središte geopolitičkog natjecanja gdje se kineski i ruski interesi sve više sukobljavaju sa strategijama drugih globalnih aktera, uključujući NATO i arktičke države. Iako se ruska ratna mornarica suočava s ozbiljnim gubicima na Crnom moru, te s mnogobrojnim strukturnim i operativnim ograničenjima, ona i dalje raspolaže sa spektrom različitih vojnih sposobnosti, osobito u domeni dalekometnih preciznih udara i

strateškog nuklearnog odvrćanja, što joj omogućuje da na sjevernim obalama „Heartlanda“ i Arktika ostane relevantan, i u kombinaciji s kineskom flotom potencijalno odlučujući čimbenik u suvremenim vojnopomorskim odnosima snaga.

U kontekstu kritičke geopolitike, Sjeverna morska ruta ne predstavlja samo infrastrukturni i logistički pravac, već i diskurzivni alat kojim države legitimiraju svoje strateške interese. Uvođenje kritičke geopolitike u analizu odnosa između Heartlanda i Rimlanda omogućuje i dodatnu reinterpretaciju teorije Nicholasa Johna Spykmana. Dok Spykman naglašava važnost kontrole obalnog pojasa Euroazije kao ključnog prostora globalne moći, kritički pristup pokazuje da je i sama percepcija Rimlanda kao „zone kontrole“ rezultat specifičnog geopolitičkog diskursa koji privilegira pomorske sile i njihove interese. U suvremenim uvjetima, otvaranje arktičkih plovni puteva dovodi do djelomične transformacije tog odnosa, pri čemu se dio strateške važnosti premješta prema sjevernom rubu Heartlanda.

Beringovim tjesnacem prolaze dvije arktičke pomorske rute (Sjeverni morski pravac i Sjeverozapadni prolaz) čiji značaj raste (tjesnac postaje potencijalna strateška točka u nastajanju), te će ukoliko dođe do preusmjeravanja značajnog udjela svjetske trgovine na te dvije rute Beringov prolaz dobiti značaj strategijske točke koju je tijekom povijesti pa sve do danas imao Sueski kanal ili Gibraltar na Mediteranu.

Za male europske države ključno je istodobno razumjeti kineske i ruske narative i zadržati analitičku osjetljivost na pitanja vojnopomorske moći, sigurnosti i dugoročnih strateških posljedica otvaranja novih plovni puteva na Arktiku. Sjevernu morsku rutu i „Polarni put svile“ stoga ne treba promatrati isključivo kao projekt suradnje, već kao prostor strateškog nadmetanja, pregovaranja, potencijalnih napetosti i redefiniranja sigurnosnih odnosa u širem području Arktika i na rubovima „Heartlanda“.

Slijedom navedenog, može se zaključiti da klimatske promjene ne djeluju isključivo na fizičku transformaciju prostora, nego i na transformaciju geopolitičkih narativa. Time Arktik postaje geopolitički prostor u kojem se preklapaju materijalni i diskurzivni aspekti moći. U takvom okruženju, promjena geostrateških obilježja Heartlanda ne može se u potpunosti razumjeti bez analize načina na koji se taj prostor interpretira, predstavlja i politički instrumentalizira.

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Literatura

- Agnew, J. (2003). *Geopolitics: Re-visioning World Politics*. London: Routledge.
- Apollo (2024). China stretches lead over Greece as world's largest shipowning nation, https://apollo-global-experts.com/china-stretches-lead-over-greece-as-worlds-largest-shipowning-nation/?utm_source=chatgpt.com
- Åtland, K., Nilsen, T. & Pedersen, T. (2024). Bolstering the bastion: The changing pattern of Russia's military exercises in the High North. *Scandinavian Journal of Military Studies*, 7(1), 145–160.
- CIMSEC (2025). Made In China 2025's Impact on Chinese Shipbuilding, https://cimsec.org/made-in-china-2025s-impact-on-chinese-shipbuilding/?utm_source=chatgpt.com
- Connolly, R. (2023). Russia as a maritime power: Economic interests and capabilities. In A. Monaghan & R. Connolly (Eds.), *The sea in Russian strategy* (pp. 124–167). Manchester University Press.
- CROMETEO (2020). Arktik i Antarktik: Rekordno niska zaleđenost morskih površina, [https://www.crometeo.hr/arktik-i-antarktik-rekordno-niska-zaledenost-morskih-povrsina/#!prettyPhoto\[inline\]/o/](https://www.crometeo.hr/arktik-i-antarktik-rekordno-niska-zaledenost-morskih-povrsina/#!prettyPhoto[inline]/o/)
- Dalby, S. (2009) *Security and Environmental Change*. Cambridge: Polity Press.
- Dodds, K. (2018) *Geopolitics and the Arctic: Narratives of Cooperation and Conflict*. Cheltenham: Edward Elgar.
- Holmila, A. (2019). Re-thinking Nicholas J. Spykman: From historical sociology to balance of power. *The International History Review*. <https://doi.org/10.1080/07075332.2019.1655469>
- Jacobsen, K. L., Bruwer, C., & Rasmussen, A. M. (2026). Rethinking contemporary (counter)piracy: Lessons from the Western Indian Ocean and the Gulf of Guinea. *Scandinavian Journal of Military Studies*, 9(1), 47–61.
- Kofman, M. (2023). Evolution of Russian naval strategy. In A. Monaghan & R. Connolly (Eds.), *The sea in Russian strategy* (pp. 94–123). Manchester University Press.
- Kulović, A. (2017). Konstrukcija geopolitičkog prostora geopolitike mora u kontekstu uspostave suvremenog međunarodnog pravnog okvira. *Politička misao*, 54(3), 7–29.
- Lambert, A. (2023). Russia and some principles of maritime strategy. In A. Monaghan & R. Connolly (Eds.), *The sea in Russian strategy* (pp. 33–53). Manchester University Press.
- Liddell Hart, B. H. (1985). *Mač i pero*. Vojnoizdavački zavod.
- Lozančić, M. & Fuerst-Bjeliš, B. (2017). Strategijska geografija: Odnos geografskoga prostora i nacionalne snage (moći). *Društvena istraživanja*, 26(2). <https://doi.org/10.5559/di.26.2.07>

- Mackinder, H. J. (1904). The geographical pivot of history. *The Geographical Journal*, 24(4), 421–437. <https://doi.org/10.2307/1775498>
- Mahan, A. T. (1922). *The influence of sea power upon history, 1660–1783*. Little, Brown and Company.
- Mahan, A. T. (1960). *Pomorska strategija*. Vojnoizdavački zavod.
- Monaghan, A. (2023). Introduction: The fall and rise of Russia's power at sea. In A. Monaghan & R. Connolly (Eds.), *The sea in Russian strategy* (pp. 1–29). Manchester University Press.
- Nord University (2020). Sabetta 2019 | Northern Sea Route Information Office (arctic-lio.com) <https://arctic-lio.com/>
- Northern Sea Route (2026) https://en.wikipedia.org/wiki/Northern_Sea_Route
- Nenasheva, M. V. & Olsen, J. (2018). Water transport in the European North of Russia: Social significance, challenges and perspectives of development. *Arktika i Sever*, 32, 40–50. <https://doi.org/10.17238/issn2221-2698.2018.32.49>
- Ó Tuathail, G. (1996) *Critical Geopolitics*. Minneapolis: University of Minnesota Press.
- Petersen, M. B. (2023). Toward an understanding of maritime conflict with Russia. In A. Monaghan & R. Connolly (Eds.), *The sea in Russian strategy* (pp. 205–241). Manchester University Press.
- Post, E., Alley, R. B., Christensen, T. R., Macias-Fauria, M., Forbes, B. C., Gooseff, M. N., Iler, A., Kerby, J. T., Laidre, K. L., Mann, M. E., Olofsson, J., Stroeve, J. C., Ulmer, F., Virginia, R. A. & Wang, M. (2019). The polar regions in a 2°C warmer world. *Science Advances*, 5(12). <https://doi.org/10.1126/sciadv.aaw9883>
- Sakaguchi, D. (2011). Distance and military operations: Theoretical background toward strengthening the defense of offshore islands. *NIDS Journal of Defense and Security*, 12, 83–105.
- Serova, N. A. & Serova, V. A. (2019). Critical tendencies of the transport infrastructure development in the Russian Arctic. *Arktika i Sever*, 36, 42–56. <https://doi.org/10.17238/issn2221-2698.2019.36.42>
- The Arctic Institute (2020). Mapping Russia's Arctic Hydrocarbon Development Scheme, <https://www.thearcticinstitute.org/mapping-russia-arctic-hydrocarbon-development-scheme/?cn-reloaded=1>
- The Diplomat (2026). From Rhetoric to Reality: China-Russia Cooperation in the Arctic Accelerates, <https://thediplomat.com/2025/05/from-rhetoric-to-reality-china-russia-cooperation-in-the-arctic-accelerates/>
- The State Council Information Office of the People's Republic of China (2018). China's Arctic Policy, https://english.www.gov.cn/archive/white_paper/2018/01/26/content_281476026660336.htm
- Till, G. (2023). Russia: A sea power of a sort? In A. Monaghan & R. Connolly (Eds.), *The sea in Russian strategy* (pp. 54–80). Manchester University Press.

- Tunjić, F. (2007). Međueuropa – paradigma političke geografije geopolitike: Na zapadu ništa novo, na istoku sve po starom. *Društvena istraživanja*, 16(4–5), 90–91.
- U.S. Naval Institute (2025). Report to Congress on Chinese Naval Modernization, https://news.usni.org/2025/05/01/report-to-congress-on-chinese-naval-modernization-21?utm_source=chatgpt.com
- U.S. Department of Defense. (2019). *Department of Defense's Arctic strategy*. <https://media.defense.gov/2019/Jun/06/2002141657/-1/-1/1/2019-DOD-ARCTIC-STRATEGY.PDF>
- Wilson Rowe, E. (2018) *Arctic Governance: Power in Cross-Border Cooperation*. Manchester: Manchester University Press.
- Wilson Rowe, E. (2020) 'Analyzing frenemies: An Arctic repertoire of cooperation and rivalry', *Political Geography*, 66, str. 187–196.
- Yangjun, W., Ren, Z., Shanshan, G., & Longxia, Q. (2018). Investigating the effect of Arctic sea routes on the global maritime container transport system via a generalized Nash equilibrium model. *Polar Research*, 37(1), 1547042. <https://doi.org/10.1080/17518369.2018.1547042>

Modification of the geostrategic features of the Heartland due to climate change and the impact on the change of global maritime (naval) and economic power

ABSTRACT

Research to date shows that the Arctic is warming twice as fast as the rest of the Earth, and that ice (ice cap) is pulling north, freeing the northern coast of the Russian Federation for navigation. This leads to a modification of the geostrategic features of "Heartland" in relation to the original assumptions made in his theory by Halford Mackinder, and also by Nicholas Spykman in his theory of the marginal land ("Rimland") that controls the space of "Heartland". The reason why the Northern Sea Route (along the Russian north coast) has the potential to take a significant part of the traffic of the route that passes from

Southeast Asia through the Suez Canal and separates in different directions to ports in Europe, is a large reduction in sailing time. In addition, the Northern Sea Route, unlike the route through the Suez Canal, does not pass through areas where pirates operate (for example, Somali pirates at the entrance to the Gulf of Aden and pirates in the Strait of Malaya), so it is safer in this context. This paper raises the question of the modification of Heartland's geostrategic features due to climate change and the possible impact on Russian and Chinese naval and economic power, as it provides an operational basis for monitoring strategic areas of naval power on new important maritime routes.

KEYWORDS: *Climate change, Heartland, state naval power, Russia, China, maritime routes*

NATO Disputes: U.S.-Denmark Tensions Over Greenland and the 1974 Cyprus Parallel

Toma Gruica ¹

ABSTRACT

This paper examines the escalating geopolitical crisis between the United States and the Kingdom of Denmark over the status of Greenland during the 2025-2026 period. Driven by the “Golden Dome” missile defense initiative and a global race for critical minerals, the current U.S. administration has transitioned from traditional alliance-building to a posture of strategic assertiveness, including the implied necessity of annexing Greenland. The analysis highlights how this “intra-alliance predation” challenges the foundational premise of Article 5 and the rules-based international order. To assess the potential for resolution, the paper draws a historical parallel to the 1974 Cyprus crisis between Greece and Turkey, which demonstrated NATO’s institutional paralysis and inability to arbitrate territorial disputes between its own members. The paper contrasts the Danish “Everything stops” doctrine and Greenland’s independent Arctic strategy with the “hedging” response of NATO Secretary General Mark Rutte. Ultimately, the Greenland crisis is presented as a definitive test of NATO’s identity, whether the alliance remains a values-based community or has

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devolved into a pragmatic security arrangement where smaller states' sovereignty is secondary to the strategic interests of the lead power.

KEYWORDS: *Greenland, NATO, Cyprus, Article 5, EU-U.S. Relations*

Introduction

The analysis provided in this paper pertains to ongoing and highly volatile geopolitical developments within the North Atlantic Treaty Organization (NATO), specifically regarding the diplomatic tensions between the United States and the Kingdom of Denmark during the 2025-2026 period. The situation remains fluid, characterized by rapid shifts in executive policy in Washington, responding maneuvers in Copenhagen and Nuuk, and a broader restructuring of Arctic security architectures. While the paper utilizes historical parallels and contemporary intelligence to forecast potential trajectories, the inherent unpredictability of the current US administration's foreign policy and the evolving nature of Arctic climate change may alter these outcomes. The findings should be interpreted as an assessment of the present crisis and its existential implications for the transatlantic alliance as of January 2026. Regardless of these constant changes, the present case nonetheless serves as a valuable prism for developing understanding and analytical insight into how internal disputes between NATO member states may be addressed and potentially resolved within the alliance framework.

The traditional cohesion of NATO is currently facing its biggest internal challenge since the organization's inception in 1949. While NATO was designed to present a unified front against external aggression, primarily from the Soviet Union and subsequently Russia, as one of its successor states, the current (2025-2026) crisis over Greenland illustrates unseen intra-alliance predation. The United States, historically the guarantor of Danish sovereignty and the primary architect of the rules-based international order, has transitioned into a posture of strategic assertiveness that treats the territory of its own allies as a matter of American national security necessity (Bryant, 2026). This friction is not an isolated diplomatic incident but the culmination of a decade of shifting priorities. The Arctic has transitioned from a zone of "low tension" into a theatre of Great Power competition, driven by the dual catalysts of climate change and the global race for critical minerals (Spence and Hanlon, 2025). The US

administration's renewed interest in acquiring Greenland, articulated with increasing intensity throughout 2025 and early 2026, has forced a re-evaluation of the mutual defense guarantees contained within NATO. If an ally perceives the United States not as a protector but as a potential annexing power, the foundational premise of Article 5, that an attack on one is an attack on all, undergoes a potentially fatal reinterpretation (Thorsson, 2026).

The Geopolitical Significance of the Greenlandic Landmass

To comprehend the current US-Denmark dispute, we must analyze the strategic attributes of Greenland. Spanning over two million square kilometers, the island represents the “high ground” of the North Atlantic. Its utility to the United States is defined by its role in missile defense, its proximity to melting Arctic shipping lanes, and its vast, largely untapped mineral wealth. The 2025 US National Security Strategy emphasizes the completion of a comprehensive missile defense shield, often referred to in policy circles as the “Golden Dome.” Greenland's Pituffik Space Base (formerly Thule Air Base) is the northernmost installation of the US military and serves as a critical node for the Ballistic Missile Early Warning System (BMEWS). As military technology evolves, particularly with the advent of hypersonic glide vehicles and advanced ICBM trajectories from both Russia and China, the US seeks to expand its radar and interceptor footprint on the island (Knight, 2026). The administration argues that the existing sporadic investment in Pituffik is insufficient for modern threats and that direct US jurisdiction would allow for a more rapid and robust expansion of these capabilities (Stone and Mason, 2025).

Beyond defense, Greenland is viewed as a solution to the West's dependence on Chinese-controlled supply chains for rare earth elements (REEs), furthering a race for critical minerals (Thorsson, 2026). The island contains significant deposits of neodymium, praseodymium, uranium and zinc. The 2025 US administration has explicitly linked the acquisition of Greenland to the goal of mineral independence, viewing the territory's current regulatory environment under Danish and Greenlandic law as “red tape” that hinders the extraction of resources essential for the defense and technology sectors. The US argument, as articulated by officials such as Vice President JD Vance and special envoy Jeff Landry, is that Denmark, a nation of six million people with a limited mil-

itary budget, cannot provide the security architecture required to protect such a strategically vital asset from the encroaching influence of Russia and China (Little et al., 2025).

The 2025-2026 Crisis

Following the inauguration in January 2025, the new administration immediately signaled that the Arctic would be a priority, but with a transactional tone that shocked allies in Copenhagen. In March 2025, Vice President JD Vance conducted a highly publicized visit to Pituffik Space Base. During this trip, Vance took the unprecedented step of publicly criticizing the host nation while on its own soil (Brezar, 2026). He accused Denmark of “under-investing” in the security of Greenland and suggested that the Danish “one more dog sled” approach to Arctic defense was a liability to the entire alliance. This rhetoric served to delegitimize Danish sovereignty by framing it as a security deficit that the United States had a moral and strategic obligation to correct (Moulson, 2025).

A pivotal moment in the escalation occurred in late 2025 and early 2026, following a US military operation in Venezuela that resulted in the capture of President Nicolás Maduro. The bombardment of Venezuela and the swift decapitation of its leadership were viewed by the Trump administration as a demonstration of the effectiveness of unilateral force in securing the Western Hemisphere. Almost immediately following the Venezuela operation, the rhetoric regarding Greenland shifted from diplomatic inquiry to implied military necessity. Proponents of the administration, including figures like Stephen and Katie Miller, began using the Venezuela intervention as a precedent, suggesting that the US was now in a period of “real action” where the territorial integrity of other nations was secondary to American safety. The posting of a map of Greenland draped in the American flag with the caption “SOON” by Katie Miller, served as a clear signal that the administration viewed the Arctic island as the next target for consolidation (Cole, 2026).

Finally, In December 2025, President Trump appointed Louisiana Governor Jeff Landry as a special envoy to Greenland. Landry, a staunch ally of the president, openly stated that his mission was to “make Greenland a part of the US”. This appointment was accompanied by a series of high-level statements that questioned the very basis of Danish control. White House Deputy Chief of Staff Stephen Miller, in January 2026, went so far as to question the legitimacy

of Denmark's "colonial" claim to Greenland, asserting that the US required the island to "defend NATO interests", effectively arguing that the US must annex an ally's territory to save the alliance (Guldogan, 2026).

Danish and Greenlandic Counterstrategies

The response from the Kingdom of Denmark has been one of principled defiance. Prime Minister Mette Frederiksen has repeatedly stated that Greenland is not for sale and that the idea of the US annexing the territory is "absurd". However, the 2026 crisis has forced Denmark to go beyond rhetoric, adopting an "Everything stops" doctrine. Frederiksen's most significant contribution to the current dialogue is her warning that a US move against Greenland would represent the end of the post-World War II security order. By stating that "everything stops" if the US attacks another NATO country, she has highlighted the paradox of the current situation, the very power that provides the backbone of NATO's defense is now the primary threat to the territorial integrity of a member state. This has rallied other European leaders, including the leaders of the UK, France, and Germany, who have expressed solidarity with Denmark and emphasized that borders in the 21st century cannot be changed by force (Gronholt-Pedersen, 2026). Simultaneously, Greenland itself has asserted its own agency through its comprehensive foreign and security policy strategy titled *Greenland in the World - Nothing About Us Without Us*. Published in February 2024, this document outlines a ten-year plan for Greenland to act as an independent international actor, even while remaining part of the Danish Kingdom (Naalakkersuisut, 2024).

The 1974 Cyprus Crisis and NATO's Internal Paralysis

To understand why the 2025-2026 Greenland crisis is so dangerous for NATO, we must examine the supporting historical parallel of the 1974 Turkish invasion of Cyprus. This event remains the starkest example of a conflict between NATO members that the alliance's internal mechanisms were unable to prevent or resolve (Christou, 2014). At his annual press briefing on 5 January, the then Hungarian Prime Minister Viktor Orbán framed Greenland as an internal "in-house" NATO matter, arguing that since both Denmark and

the United States are members of the alliance, any potential change should be discussed exclusively within NATO structures (Konya, 2026). This characterization invites a critical comparison with the “in-house” deliberations once conducted within the Warsaw Pact over Hungary itself, underscoring why an understanding of NATO’s internal decision-making mechanisms is essential for assessing how such issues are managed within contemporary alliance politics (Békés, 2008).

Failure of NATO Mediation (1974-1975)

The primary objective for NATO during the crisis was twofold - preventing communist influence on the island, and avoiding a catastrophic war between two of its members, Greece and Turkey. The Cyprus conflict began not with an invasion, but with the failure of a power-sharing agreement. The 1960 constitution of the Republic of Cyprus was designed to balance the Greek Cypriot majority and the Turkish Cypriot minority, but instead it created institutional gridlock (Lindley, 2007). The disproportionate representation and veto powers given to the Turkish Cypriots led to a complete breakdown of governance by 1963, triggering a decade of intercommunal violence and the formation of separate, armed enclaves (Dodd, 2010). This period illustrates the “security dilemma” in an internal NATO context, as Greek Cypriots armed for *Enosis* (union with Greece), Turkish Cypriots responded by arming for *Taksim* (partition) (O’Malley and Craig, 2001). Every defensive move by one side was perceived as an existential threat by the other, eventually leading to the 1974 coup sponsored by the Greek military junta. When Turkey launched its invasion in July 1974, citing its role as a guarantor power, NATO was paralyzed (Hart, 1990). Because the conflict involved two allies (Greece and Turkey), the alliance could not invoke Article 5. Instead, the North Atlantic Council became a forum for recrimination rather than resolution (Dodd, 2010).

Documents from the Gerald R. Ford Presidential Library reveal the frustration of then-Secretary General Joseph Luns (Ford et al., 1975). Luns admitted that while the alliance maintained formal unity, the Greek-Turkish-U.S. dispute was having a “precarious effect” on alliance solidarity (Hitchens, 2012). Greece felt betrayed by NATO’s inability to stop the Turkish advance, leading to its withdrawal from NATO’s military command structure in 1974 (Dodd, 2010). Turkey, meanwhile, was “dismayed” by the US Congress’ decision to impose an arms embargo, which it viewed as an interference in its sovereign right to

protect its ethnic kin (Ford et al., 1975). The crisis set a precedent where NATO was willing to tolerate the occupation of an ally's (or associate state's) territory if it meant keeping both belligerents within the alliance. Henry Kissinger's pragmatic acceptance of the partition of Cyprus, "there's no American reason why Turkey should not have one third of Cyprus", is similar to the 2026 rhetoric that Denmark "is not going to be able to handle" the security of Greenland and thus should cede it to the US (Zierler, 1974a). By 1974, the strategic management of Cyprus fell largely to Kissinger due to the Watergate scandal in the United States. Declassified documents and telegrams suggest that the U.S. was aware of the impending coup against Archbishop Makarios by the Greek junta, led by Dimitrios Ioannides. Kissinger viewed a pro-NATO partition as a viable way to end the instability. When the coup occurred on July 15, NATO did little to restore the status quo. According to the Cyprus Files, there was an expectation that a controlled Turkish intervention would lead to a "double *Enosis*" outcome. While NATO did not orchestrate every tactical move, its strategic fingerprints were on every major shift that led to the permanent division of Cyprus (Dodd, 2010).

The parallel between Kissinger's Cyprus calculus and contemporary Greenland rhetoric is not coincidental but symptomatic of a structural "logic" in US hegemonic alliance management, what we might term "instrumental sovereignty" (Abegunde, 2021). This represents a type of framework wherein allied territorial integrity becomes contingent upon serving broader alliance (i.e. American) strategic objectives rather than representing an inviolable principle (Jolly, 2025).

Both instances employ identical discursive mechanisms that operate through distinct stages. First, the construction of a "security deficit" narrative that frames sovereign allied territory (or, in Cyprus's case, territory contested by allies) as a security problem requiring solution rather than as a matter of allied self-determination (Cyprus as ungovernable; Greenland as inadequately defended). Second, the repositioning of what is fundamentally a sovereignty violation as a security solution, thereby transmuting coercion into prudence, positioning a larger ally's territorial claim as the pragmatic resolution to this constructed problem ("Turkey should have" / "Denmark should cede") (Ackrén and Jakobsen, 2014). Finally, the implicit assertion of a hegemonic prerogative to adjudicate which allied territories are "properly" secured and which require "reorganization", subordinating alliance cohesion and international law to realpolitik assessments of capability ("no American reason why not" / "Denmark

not going to be able to handle”) (Adamides, 2020). Fourth, the naturalization of territorial partition or transfer as inevitable geopolitical common sense by obscuring its coercive dimension, presenting it as security governance rather than as a violation of NATO Article 4’s commitment to territorial integrity consultation.

In short, Kissinger’s statement can be used as an example of the U.S. position that allied sovereignty is a derivative of U.S. strategic calculation, not foundational to it. What emerges across both cases, of Cyprus and Greenland, is an alliance architecture where the hegemon preserves systemic stability by selectively suspending the very sovereignty norms that constitute NATO’s *raison d’être*. Additionally, in both cases, NATO’s Article 4 commitments to territorial consultation were overridden by U.S. strategic calculations, weakening the alliance’s foundational commitment to collective defense based on sovereign equality.

Collapse of the Southern Flank During the 1974 Cyprus Crisis

The summer of 1974 was the first time in the history of the alliance, where two member states, Greece and Turkey, engaged in a direct and sustained military conflict over the sovereign territory of Cyprus, a non-aligned but geopolitically critical island nation (Erickson and Uyar, 2020). This conflict, colloquially known as the Turkish invasion of Cyprus and referred to by the Turkish military as Operation Star Drop-4 (often erroneously labeled Operation Attila in Western historiography), fundamentally shattered the operational cohesion of NATO’s Southern Flank and exposed the alliance’s lack of robust internal conflict resolution mechanisms (Danopoulos, 1988). Operation Star Drop-4 represented the fourth revision of Turkish invasion plans originally drawn up in 1970 or earlier, reflecting Turkey’s longstanding contingency planning following the 1964 intercommunal clashes and the 1967 Kofinou incident, both occasions when Turkey threatened invasion but was restrained by U.S. pressure (Hart, 1990; Richter, 2010). The strategic significance of the Mediterranean region to the North Atlantic Alliance cannot be overstated. Since the formal establishment of the Southern Flank in 1951-52, comprising Italy, Greece, and Turkey, the alliance sought to integrate these powers into a unified defensive system aimed at deterring Soviet expansion into the Eastern Mediterranean, the Middle East, and North Africa (Kotoulas, 2020). Greece and Turkey were seen as

the indispensable anchors of this flank, securing the Dardanelles and providing the necessary land and sea approaches to protect vital oil supply routes. However, the inclusion of these two states was initially met with reluctance by some founding members who feared their historical rivalry would undermine alliance unity, a fear that was realized in 1974 (Kotoulas, 2020).

As early as 1964, the United States viewed Cyprus through the lens of Cold War stability. After intercommunal violence broke out, President Lyndon Johnson intervened to stop a Turkish invasion and tasked Dean Acheson with creating a solution. Dean Acheson proposed two versions of what became known as the “double *Enosis*” plan. These plans aimed to divide the island between Greece and Turkey, either through land swaps or military bases, to satisfy both NATO allies (Dodd, 2010). However, Archbishop Makarios rejected these proposals, viewing them as a violation of Cypriot sovereignty. Makarios was viewed with deep suspicion by NATO leadership, who dubbed him the “Castro of the Mediterranean” due to his non-aligned stance. Cyprus had been a founding member of the Non-Aligned Movement in 1961, the only European state besides Yugoslavia, and Makarios was perceived as open to Soviet influence. This prompted Western powers and the Greek government under George Papandreou to consider his removal (Dodd, 2010).

By 1967, a military junta took power in Greece. Though the United States would have preferred a return to democracy, Cold War imperatives and the need to maintain NATO’s southern flank compelled Washington to cooperate with the junta. The junta, led by Georgios Papadopoulos, was seen as a more reliable NATO partner that would be willing to force a solution on Cyprus. After the Kofinou incident, a November 1967 clash between Turkish Cypriots and Greek Cypriot forces that resulted in casualties and nearly triggered a Turkish invasion, led to renewed Turkish invasion threats, the United States pressured the Greek junta to withdraw the Greek Division that had been secretly deployed to Cyprus in 1964 (Richter, 2010). The U.S. priority was keeping Turkey within the NATO fold at all costs, even if it meant weakening the Greek military presence in Cyprus. This withdrawal of Greek forces, combined with Athens’ covert support, created conditions that enabled the emergence of EOKA B in 1971, a Cypriot paramilitary organization dedicated to overthrowing Archbishop Makarios and achieving *Enosis* with Greece (Dodd, 2010).

Cyprus, while not a member of NATO, occupied a position of paramount strategic value. The island’s 1960 independence from British colonial rule was predicated on a complex web of constitutional protections for the Turkish

Cypriot minority and the granting of guarantor status to Britain, Greece, and Turkey (Erickson and Uyar, 2020). From NATO's perspective, however, the primary concern was the "Mediterranean Cuba" phenomenon, the fear that the non-aligned government would provide Moscow a permanent foothold in the region (Balci, 2012).

During that period, intercommunal violence had pushed Turkey to the brink of intervention, only to be deterred by a stark and controversial letter from U.S. President Lyndon B. Johnson. Johnson's warning that NATO might not assist Turkey if a Cyprus intervention provoked a Soviet response, and his prohibition on using U.S.-supplied arms for non-NATO purposes, successfully halted the 1964 incursion but sowed deep-seated resentment in Ankara (Balci, 2012). This historical precedent created a cognitive bias within NATO and U.S. intelligence circles leading up to 1974. Planners underestimated Turkish resolve, assuming that alliance disapproval or U.S. pressure would deter intervention. Simultaneously, there was a chronic overestimation of Greek Cypriot military strength and the defensive capabilities of the National Guard. This intelligence failure left the alliance fundamentally unprepared when the Greek military junta, led by Brigadier General Dimitrios Ioannidis, orchestrated the July 15, 1974 coup against President Makarios (Erickson and Uyar, 2020).

The Coup, Turkish Intervention, and Operation Attila Phase II

The July 15 coup installed the pro-*Enosis* militant Nikos Sampson as president (Morelli, 2011). This act directly threatened the Turkish Cypriot minority and provided Ankara with the legal pretext to intervene under the Treaty of Guarantee to restore constitutional order. On July 20, 1974, Turkey launched a complex amphibious and airborne operation that caught the alliance off guard (Erickson and Uyar, 2020). The initial Turkish landings captured approximately 3% of the island before a ceasefire was declared on July 22 (Morelli, 2011). During this period, NATO's internal dialogue was characterized by a desperate attempt to avoid a wider war between Greece and Turkey. While the United Nations Security Council (UNSC) passed Resolution 353 calling for an immediate end to foreign military intervention, the United States and Britain blocked efforts to name Turkey as the aggressor, fearing that such a move would permanently alienate Ankara from the alliance (Bowers, 1995). The subsequent collapse of the Greek military junta on July 24 and the return of Constantine Karamanlis

to Athens briefly shifted the focus toward a negotiated settlement. However, the Tripartite talks in Geneva between Britain, Greece, and Turkey in late July and early August proved fruitlessly contentious (Morelli, 2011). Turkey, having established a beachhead, demanded a bizonality or cantonal system to ensure Turkish Cypriot safety, while Greece and the newly restored civilian government in Nicosia insisted on a return to the 1960 status quo (Zierler, 1974a).

The failure of the Geneva talks led directly to the second phase of the Turkish operation on August 14, 1974. In a swift military campaign that lasted only two days, Turkish forces expanded their control to approximately 36% of the island, establishing the “Attila Line” (now known as the Green Line). This second push was perceived by Greece and many NATO allies as a clear violation of the ceasefire and a transition from a “peace operation” to an “illegal occupation” (Boyatt and Erdman, 1974). The repercussions for NATO were immediate, frustrated by what he perceived as NATO’s inability to protect a member’s interests against an ally, Prime Minister Karamanlis announced Greece’s withdrawal from the integrated military command structure of the alliance on August 14, 1974. Karamanlis’ decision was a calculated move to satisfy a domestic public that felt betrayed by the West, while also attempting to shock NATO into pressuring Turkey for a withdrawal (Danopoulos, 1988).

Institutional Paralysis and Aegean Disputes

The Secretary General of NATO during this period, Joseph Luns, a staunch advocate for Atlantic unity, was deeply concerned that the Cyprus crisis would erode the NATO partnership and invite Soviet opportunism (Erickson and Uyar, 2020). On July 4, 1974, days before the coup, Luns had already expressed fear of a conflict and proposed a “step-by-step” approach to defuse Aegean tensions, suggesting that Greece and Turkey focus on joint exploitation of oil and mineral wealth rather than territorial disputes (Zierler, 1974b). Following the invasion, Luns’ mediation efforts were hampered by the lack of a formal conflict resolution framework within the North Atlantic Council (NAC). While he attempted to use his “Good Offices”, a mediation mechanism established by NATO’s 1956 “Three Wise Men” report that empowered the Secretary General to intervene in disputes between member states, the real diplomatic power resided in Washington and London (Zierler, 1980).

The Greek withdrawal from the military wing created a massive operational hole in NATO’s Southern Region. For years, Greece had held operational re-

sponsibility for the Aegean Sea within the NATO framework, including control over air defense and naval surveillance boundaries. Upon Greece's exit, these responsibilities were largely assumed by Turkish forces, a shift that Turkey sought to make permanent (Damiras, 2011). However, Greece may have overestimated the strategic impact of its withdrawal on NATO operations (Congressional Research Service, 1975). The resulting command-and-control (C2) dispute became a surrogate for the broader territorial and maritime conflicts in the Aegean (Mann, 2001). Turkey challenged the pre-1974 boundaries, arguing they were established at a time when the Turkish Navy was small and the Soviet threat less complex, similar to the situation in the Arctic today. These technical disagreements regarding Flight Information Regions (FIR) and naval search-and-rescue (SAR) zones led to decades of dangerous "dogfights" between Greek and Turkish jets in disputed airspace (Mann, 2001). The crisis reached a new level of complexity in 1975 when the United States Congress, under intense pressure from the Greek-American lobby and reacting to the illegal use of U.S. weapons in Cyprus, imposed a total arms embargo on Turkey. This move created a significant rift between the Executive branch, led by Kissinger (who viewed the embargo as a strategic disaster), and the Legislative branch, which insisted on the rule of law regarding foreign aid (Rossides, 1991). The impact on Turkey was significant, facing a critical shortage of spare parts and modern weaponry, the Turkish military readiness plummeted (Association of the United States Army, 1978). In retaliation, the Turkish government of Süleyman Demirel declared the 1969 Defence Cooperation Agreement (DCA) invalid and suspended operations at several critical U.S. and NATO facilities on Turkish soil. Ultimately, the embargo served as a catalyst for Turkey to develop its own indigenous defense industry (Durmaz, 2014). Realizing that total reliance on a single ally was a strategic vulnerability, Ankara launched a massive industrialization program that, while decades in the making, eventually transformed Turkey into a significant regional arms producer and reduced its future dependence on Western supplies (Durmaz, 2014).

Reintegration Effort

When the Carter administration took office in 1977, it inherited a Southern Flank that was "weaker than ever". President Carter initially sought to link the lifting of the Turkish arms embargo to progress on the Cyprus issue, but this strategy proved ineffective. By 1978, the administration concluded that the deterioration of Turkey's defense posture was too great a risk to the alliance as a

whole, and Congress was finally persuaded to lift the embargo (Zierler, 1980). The next challenge was the reintegration of Greece into the military structure. Prime Minister Karamanlis, facing domestic elections and military pressure, sought to return to the alliance to alleviate the fear of Turkish expansionism. However, Turkey used NATO's consensus procedure to block several reintegration plans, including the 1978 "Haig/Davos Arrangements", which would have restored the pre-1974 Aegean boundaries. Ankara argued that any return to the old boundaries would allow Greece to use NATO's consensus rules to permanently block changes to Aegean C2 (Zierler, 1980). The eventual return of Greece to the integrated military command in October 1980 was made possible by the "Rogers Plan", developed by General Bernard Rogers, the Supreme Allied Commander Europe (SACEUR). Following the September 1980 military coup in Turkey, the new military government in Ankara was more amenable to a strategic compromise. The Rogers Plan was frequently described as a "monument of obscurity" because it allowed for Greek reintegration while leaving the final resolution of command boundaries for future technical discussions that were never fully resolved (Smith-Windsor, 2013).

Long-term Consequences

We can conclude that the 1974 Cyprus crisis exposed some structural flaws in the NATO framework that continue to reverberate: (1) Failure of Internal Norms - while NATO was successful at promoting liberal democratic norms externally after the Cold War, it has historically failed to enforce these norms within its own ranks. The alliance's "hands-off" approach to the 1974 invasion suggested that strategic value would always outweigh moral or legal concerns in the eyes of the major powers; (2) NATO became a "pacifist pleaser" - it attempted to manage both Greece and Turkey without addressing the core issues of territory and ethnic identity. This has led to a situation where the Alliance can contain conflict but cannot resolve it, resulting in a permanent state of high-readiness tension in the Eastern Mediterranean; (3) The PfP and EU Deadlock - the most significant modern failure is the "Participation Problem" stemming from the 1974 division. Since the Republic of Cyprus (which Turkey does not recognize) joined the EU in 2004, full NATO-EU cooperation has been effectively frozen. Turkey blocks Cyprus' accession to the Partnership for Peace (PfP), while Cyprus uses its EU membership to veto NATO-EU intelligence sharing and joint operations.

In the decades following the 1974 crisis, both Greece and Turkey have undergone significant domestic and military transitions. Greece transitioned from a military dictatorship to a stable parliamentary democracy, legalizing the communist party and eventually seeking security through deeper integration into the European Community (EC/EU) rather than purely through NATO. Turkey, meanwhile, moved toward a more independent foreign policy, bolstered by its growing defense industry and its pivotal role in regional conflicts in the Middle East (Güney, 2004). The creation of a “military de-confliction mechanism” by NATO in October 2020 is a recent attempt to modernize the alliance’s response to Greek-Turkish tensions. However, this mechanism focuses on preventing accidental military clashes rather than resolving the fundamental dispute over Cyprus and the Aegean. The persistent ethnic conflict in Cyprus remains “immune to all attempts of peacemaking”, having survived over fifty years of UN and NATO mediation (Güney, 2004). The 1974 Turkish invasion of Cyprus remains the “longest-running United Nations peace-keeping operation” and NATO’s most enduring internal scar. The alliance’s response, characterized by a prioritization of Cold War deterrence over internal justice, successfully prevented a Soviet breakthrough but at the cost of the Southern Flank’s permanent fragmentation (Balci, 2012).

NATO’s internal dialogue during the crisis revealed an organization that was strategically brilliant but institutionally fragile. The failure to prevent the 1974 coup and the subsequent invasion demonstrated that the “shield of the Treaty” did not extend to protecting members from one another. The resulting *de facto* partition of Cyprus, the erosion of Greek trust in Western guarantees, and the Turkish pivot toward defense autonomy have created a Mediterranean security environment where the two littoral powers are often “adversaries rather than NATO allies”.

Article 5 in an Internal War

The 2025-2026 crisis has exposed the legal ambiguity of NATO when the aggressor is a member state. Article 5 was drafted during the Cold War with the specific intent of deterring a Soviet attack (NATO, 2025). It assumes an external enemy. There is no protocol for a situation where a member state uses its military or economic power to coerce another member into surrendering territory (Grady, 2002). While NATO’s Article 5 is theoretically grounded in Article 51 of

the UN Charter (the inherent right to individual or collective self-defense), its application in an intra-alliance dispute is procedurally impossible (Smiljanić, 2025). If Denmark were to invoke Article 5 against the United States, the North Atlantic Council would be unable to act, as the U.S. holds a veto over all major decisions (Lilly, 2026). This leaves Denmark and Greenland reliant on a “coalition of the willing” within Europe rather than the institutional weight of NATO itself (Gronholt-Pedersen, 2026). Similarly, the U.S. administration’s use of “economic coercion” to pressure Denmark, including threats to pull out of defense agreements or disrupt trade, further complicates the legal landscape. Danish intelligence has explicitly labeled the U.S. a “security risk” due to these tactics. This marks the emergence of “intra-alliance hybrid warfare”, where an ally uses non-military means to undermine the sovereignty of another member to achieve territorial goals (Bryant, 2026).

The strategic miscalculation of withdrawal demonstrates a parallel between the 1974 Greek response and potential Danish actions in 2026. Greece’s August 1974 withdrawal from NATO’s integrated military command structure was intended to shock the alliance into pressuring Turkey for a territorial withdrawal from Cyprus. Prime Minister Karamanlis believed that removing Greek forces from NATO’s Southern Flank would expose the alliance’s vulnerability to Soviet opportunism, thereby compelling the United States and other allies to intervene decisively on Greece’s behalf (Congressional Research Service, 1975). However, this calculation fundamentally overestimated the strategic impact of Greece’s absence. While the withdrawal created operational complications in the Aegean command structure, NATO adapted by reassigning responsibilities to Turkish and Italian forces, effectively demonstrating that no single member, excepting the United States, possessed sufficient leverage to compel alliance-wide action through withdrawal (Danopoulos, 1988). By 1980, facing continued Turkish control of northern Cyprus and increasing domestic security concerns, Greece was forced to return to the military structure under the deliberately ambiguous Rogers Plan, having achieved none of its stated objectives through its six-year absence (Smith-Windsor, 2013).

The contemporary rhetoric from Danish Prime Minister Mette Frederiksen that a U.S. move against Greenland would represent the end of NATO and that “everything stops” suggests a similar overestimation of Denmark’s strategic weight within the alliance (Banka, 2026). Should Denmark withdraw from NATO’s military structure or suspend its membership in response to U.S. pressure, the precedent of 1974 suggests that such a move would produce limited

coercive effect. The alliance's dependency on American nuclear deterrence, intelligence infrastructure and military logistics renders any European member's withdrawal strategically manageable from Washington's perspective. Furthermore, Denmark's withdrawal would not precipitate a broader European exodus from NATO, as no other member state currently faces a comparable territorial threat from the United States. The more probable outcome, following the Greek precedent, is that Denmark would find itself isolated, forced to negotiate a return to the Alliance under less favorable conditions once the initial crisis subsided, having demonstrated its vulnerability rather than its indispensability. This parallel underscores a structural asymmetry within NATO where withdrawal functions as a credible threat only when wielded by the hegemon, not by smaller members seeking to constrain hegemonic behavior (Iwanami, 2024).

Chinese and Russian Presence in Greenlandic Waters

The tensions over Greenland are occurring against the backdrop of a complete breakdown in Arctic governance. The Arctic Council, once the primary forum for regional cooperation, has been sidelined by the exclusion of Russia and the increasing assertiveness of China. The U.S. administration has justified its aggressive stance by citing the presence of "Chinese and Russian ships everywhere" along the Greenlandic coast. While Danish officials contest the scale of this presence, the reality is that the melting ice has made Greenland's vast coastline more accessible and harder to patrol. The U.S. argues that only the American Navy and Coast Guard have the "ice-breaking" and surveillance capabilities necessary to maintain the Arctic as a Western-dominated zone.

In parallel, the Eastern Mediterranean remains entrenched in the zero-sum "*Mavi Vatan*" (Blue Homeland) doctrine, where Turkey's rejection of the United Nations Convention on the Law of the Sea (UNCLOS) in favor of continental shelf primacy directly challenges Greek and Cypriot maritime entitlements. While the Greenland dispute is primarily transactional and resource-focused, targeting molybdenum and rare earth elements for defense industries, the Mediterranean conflict is an existential struggle over energy security and historical sovereignty that effectively neutralizes Article 5 cohesion (Grady, 2002).

Greece's perception of Turkey as its primary security threat has fragmented NATO's southern command, leading to bilateral defense pacts outside the al-

liance's formal structure. These internal fractures provide a strategic opening for the Sino-Russian "Polar Silk Road" and Mediterranean Squadron to exploit alliance vulnerabilities. In the Arctic, Russian militarization and Chinese investment in dual-use infrastructure challenge NATO's situational awareness, while in the Mediterranean, the diplomatic paralysis between Greece and Turkey allows Moscow to project power into the Levant and North Africa (Lampas and Filis, 2023). Both theatres are increasingly vulnerable to hybrid warfare targeting critical undersea infrastructure, as evidenced by incidents like the Balticconnector, where adversaries leverage "shadow fleet" activity to bypass collective defense triggers. Ultimately, the value of these seas to NATO, as gateways for global trade and energy, is being degraded by the inability of unified command structures to arbitrate sovereignty disputes between member states (Ibid.).

NATO Secretary General Mark Rutte, who took the helm during a period of intense U.S. skepticism toward the alliance, has consistently sought to avoid a direct confrontation with Washington (Brezar, 2026). During his March 2025 visit to the White House, Rutte was seen "hedging" on the Greenland issue. When Trump stated that the annexation "will happen" and that Rutte could be "very instrumental" in the process, Rutte responded by focusing on the "high north" and Arctic security generally, while pointedly stating he did not want to "drag NATO" into the specific discussion of Greenland joining the U.S. This refusal to take a firm stand in defense of Danish territorial integrity has been criticized in Copenhagen as a sign of institutional weakness, mirroring the perceived "superpower's contempt" that some believe characterizes NATO's treatment of its smaller members.

Conclusion

The 2025-2026 Greenland crisis represents a terminal point in the evolution of NATO's identity. Since its founding, the alliance has been defined by two competing concepts, NATO as a Values-Based Community, and NATO as a Strategic Security Arrangement. In the traditionalist view, held by Denmark and most European allies, NATO is a community of democratic nations bound by a shared commitment to the rule of law and the sanctity of sovereign borders. In this model, the protection of Greenland's status is not just a matter of Danish interest, but a test of the alliance's moral and legal foundations. If the

most powerful member can use force or coercion against a smaller ally, the “community” ceases to exist, replaced by a hierarchy of power.

In the revisionist view, championed by the 2025-2026 U.S. administration, NATO is a pragmatic tool for the projection of Western (and specifically American) power. In this model, the strategic utility of a territory like Greenland outweighs the “legalistic” claims of a small ally. This view argues that for NATO to “survive” and “defend its interests”, the most capable power must have the right to organize and secure the alliance’s most vital assets, even if it means violating the sovereignty of another member. The 2026 crisis has brought these two identities into a collision that the Alliance may not survive. If NATO remains silent while the U.S. applies pressure on Denmark, it confirms that it has transitioned into a “strategic arrangement” where small states are mere buffer zones or asset pools for the great powers. This would likely lead to a permanent fracturing of the alliance, with European states seeking a separate strategic autonomy outside of the U.S.-dominated structure. Conversely, if the alliance’s European members successfully resist U.S. pressure and reinforce the “Nothing About Us Without Us” paradigm, NATO may emerge as a more decentralized but more resilient organization. This would require a new “constitutional” understanding within the alliance that explicitly prohibits the use of coercion, military or economic, between its members, moving beyond the failed mediation model of the 1974 Cyprus crisis.

While this analysis has drawn extensive parallels between the 1974 Cyprus crisis and the 2025-2026 Greenland dispute, a rigorous comparative framework requires explicit acknowledgment of both structural similarities and critical differences. The similarities lie in the alliance’s institutional mechanisms and normative failures. In both cases, NATO Article 4 consultation procedures proved (or are proving) inadequate to prevent unilateral action or credible threats thereof by a larger ally against the sovereign interests of smaller member states. The alliance’s consensus-based decision-making, designed to protect against external threats, became (or risks becoming) an instrument of paralysis when the threat originates internally (Grady, 2002). Both crises revealed (or are revealing) NATO’s inability to enforce its foundational commitment to territorial integrity when doing so would alienate a strategically valuable member. The discursive mechanisms of instrumental sovereignty, constructing security deficit narratives and repositioning coercion as prudent security governance, operate identically across both cases, though in the Greenland dispute these

mechanisms remain primarily at the rhetorical level rather than having materialized into concrete action (Abegunde, 2021; Adamides, 2020).

However, the differences are equally significant and fundamentally alter the stakes of the contemporary crisis. The 1974 dispute involved two regional powers, Greece and Turkey, whose combined military and economic weight remained subordinate to the alliance's core guarantee structure provided by the United States. NATO could tolerate their conflict because neither possessed the capability to fundamentally reshape the alliance architecture unilaterally. The Greenland crisis, by contrast, involves the hegemon itself. The United States provides approximately 70% of NATO's total defense spending, maintains the sole credible nuclear umbrella for European members, and controls the intelligence infrastructure that underpins collective situational awareness (Spence and Hanlon, 2025). This creates an asymmetry of dependence that did not exist in the Greek-Turkish context. While Greece could withdraw from the military command structure without collapsing NATO's deterrence posture against the Soviet Union, a comparable withdrawal or reduction of U.S. commitment would render the alliance strategically inoperable against peer competitors like Russia and China.

This hegemonic differential transforms the nature of coercion. Turkey's 1974 occupation of northern Cyprus was a violation of Cypriot sovereignty and Greek strategic interests, but it did not challenge the existential premise of NATO as a defensive alliance. The United States could mediate, however inadequately, because it was not a direct party to the territorial dispute. In 2026, the United States is both the coercing power and the ultimate guarantor of the alliance. There is no external mediator. European members face a paradox where resisting U.S. pressure on Greenland risks undermining the very security guarantee that makes their own territorial integrity credible. This explains the divergent responses. In 1974, NATO members could express moral condemnation of Turkey while maintaining alliance cohesion because the stakes were regional. In 2026, European leaders' solidarity with Denmark must be carefully calibrated to avoid provoking a broader U.S. reassessment of its transatlantic commitments, as evidenced by Secretary General Mark Rutte's deliberate hedging during his March 2025 White House visit (Brezar, 2026).

The material stakes also differ significantly. Cyprus in 1974 was strategically valuable as a surveillance outpost and a denial space for Soviet influence, but it was not economically transformative. Greenland in 2026 represents a type of convergence between military necessity, specifically the expansion of mis-

sile defense architecture against hypersonic threats, and economic imperative, access to rare earth elements critical for defense and technology supply chains (Knight, 2026). The U.S. justification for Greenland is therefore not merely strategic convenience but framed as existential to maintaining Western technological and military superiority against China. This elevates the crisis beyond a territorial dispute into a question of alliance purpose. If NATO's *raison d'être* is collective defense against peer competitors, and if Greenland is genuinely indispensable to that defense, does the Alliance have the right to reorganize sovereign control over its most critical assets? This is a question that simply did not arise in the Cyprus context, where no comparable existential framing was credible.

Finally, the international legal context has evolved. In 1974, decolonization was recent, and the norms around territorial integrity were still being contested, particularly in cases involving ethnic minorities and guarantor powers. The 1960 Cyprus constitution explicitly granted Greece and Turkey guarantor status, providing a legal pretext, however contested, for Turkish intervention (Erickson and Uyar, 2020). Greenland in 2026 operates under a fundamentally different legal regime. The island is an autonomous territory within the Kingdom of Denmark, with its own foreign and security policy strategy explicitly affirming its right to self-determination (Naalakkersuisut, 2024). There is no treaty granting the United States guarantor status, and any annexation would constitute a clear violation of the UN Charter and the foundational norms of the post-1945 order. The international community's reaction reflects this difference. In 1974, the UN Security Council condemned the violence in Cyprus but did not impose meaningful consequences on Turkey. In 2026, European leaders have framed a potential U.S. move on Greenland as a civilizational crisis for the rules-based order, with German Chancellor Olaf Scholz stating that borders cannot be changed by force in the 21st century (Gronholt-Pedersen, 2026).

The Cyprus precedent therefore serves as both warning and inadequate guide. It demonstrates NATO's institutional incapacity to resolve intra-alliance territorial disputes and its willingness to subordinate sovereignty norms to strategic pragmatism. However, the Greenland crisis operates at a higher order of magnitude. It is not a conflict between two regional allies that can be contained through strategic ambiguity and eventual reintegration. It is a confrontation between the alliance hegemon and the normative foundations of the post-war international system. If NATO accommodates U.S. pressure on Greenland, it confirms the transition from a values-based community to a hier-

archical security arrangement where sovereignty is a privilege granted by capability rather than an inviolable right. This would represent a more fundamental rupture than the Cyprus partition, which, while damaging, left the alliance's core identity intact. The question is not whether NATO can survive another Cyprus-style failure, but whether it can survive the redefinition of its purpose from collective defense among sovereign equals to the management of spheres of influence under hegemonic primacy.

References

- Abegunde, B. (2021). Regional cooperation and state sovereignty. *Athens Journal of Law*, 7(2), 169–188. <https://doi.org/10.30958/ajl.7-2-3>
- Ackrén, M., and Jakobsen, U. (2015). Greenland as a self-governing sub-national territory in international relations: Past, current and future perspectives. *Polar Record*, 51(4), 404–412. <https://doi.org/10.1017/S003224741400028X>
- Adamides, C. (2020). The Cyprus conflict through the lens of securitization processes. In *Securitization and desecuritization processes in protracted conflicts*. Palgrave Pivot. https://doi.org/10.1007/978-3-030-33200-6_5
- Association of the United States Army. (1978). *Congress lifts the Turkish arms embargo - NATO and U.S. security are the real winners* (Defence Report AUSA DR-139). Association of the United States Army.
- Balci, T. (2012). The Cyprus crisis and the southern flank of NATO (1960–1975). *International Review of Turkish Studies*, 2(3), 30–55.
- Banka, A. (2026). The promise of aligning with the hegemon. In *America, the Baltic States and the making of an unlikely security alliance*. Palgrave Macmillan. https://doi.org/10.1007/978-3-032-12815-7_1
- Békés, C. (2008). Why was there no “Second Cold War” in Europe? Hungary and the East-West crisis following the Soviet invasion of Afghanistan. In M. A. Heiss & S. V. Papacosma (Eds.), *NATO and the Warsaw Pact: Intrabloc conflicts* (pp. 219–232). Kent State University Press.
- Bowers, P. (1995). *Cyprus and the United Nations* (Research Paper 95/31). House of Commons Library, International Affairs and Defence Section.
- Boyatt, T., and Erdman, R. (1974). *NSC contingency plans: Cyprus*. S/S–I Files, Lot 83 D 411, Box 3418, National Archives, Washington, DC.
- Brezar, A. (2026). *Greenland prime minister says “enough” after latest Trump threat*. Yahoo News. https://consent.yahoo.com/v2/collectConsent?sessionId=3_cc-session_b790cb80-247e-4940-b1df-4d34a59051f1

- Bryant, M. (2026). *Trump must give up fantasies about annexation, says Greenland's PM*. The Guardian. <https://www.theguardian.com/world/2026/jan/05/trump-must-give-up-fantasies-about-annexation-says-greenland-pm>
- Christou, J. (2014). *Joint Declaration: final version as agreed between the two leaders*. Cyprus Mail. <https://archive.cyprus-mail.com/2014/02/11/joint-declaration-final-version-as-agreed-between-the-two-leaders/>
- Cole, D. (2026). *US 'has no right' to take over Greenland, Danish PM says after renewed Trump threats*. The Guardian. <https://www.theguardian.com/world/2026/jan/04/greenland-denmark-us-venezuela-nicolas-maduro-donald-trump>
- Congressional Research Service. Library of Congress. (1975). *Greece and Turkey, some military implications related to NATO and the Middle East: prepared for the Special Subcommittee on Investigations of the Committee on Foreign Affairs*. Washington: U.S. Govt. Print. Off..
- Damiras, V. (2011). *Greece defence policy 1974-1981: An era of great dilemmas*. Research Institute for European and American Studies (RIEAS). <https://rieas.gr/researchareas/editorial/1459-greece-defense-policy-1974-1981-an-era-of-great-dilemmas>
- Danopoulos, C. P. (1988). *Regional security organizations and national interests: Analyzing the NATO-Greek relationship*. San Jose State University. https://scholarworks.sjsu.edu/pols_pub/11/
- Dodd, C. (2010). *The history and politics of the Cyprus conflict*. Palgrave Macmillan.
- Durmaz, M. (2014). *The U.S. arms embargo of 1975-1978 and its effects on the development of the Turkish defence industry* (Master's thesis). Naval Postgraduate School, Monterey, California.
- Erickson, E. J., and Uyar, M. (2020). *Phase Line Attila: The amphibious campaign for Cyprus, 1974*. Marine Corps University Press.
- Ford, G. R., Kissinger, H. A., Luns, J. and NATO Ambassadors. (1975). *Memoranda of conversation*. U.S. National Archives.
- Grady, B. C. (2002). Article 5 of the North Atlantic Treaty: Past, present, and uncertain future. *Georgia Journal of International & Comparative Law*, 31(1), 167-198.
- Gronholt-Pedersen, J. (2026). *European leaders rally behind Greenland in face of renewed US threat*. Reuters. <https://www.reuters.com/world/europe/only-greenland-denmark-can-decide-their-future-european-leaders-say-joint-2026-01-06/>
- Guldogan, D. (2026). *Senior Trump aide says no country would fight US over Greenland's future*. Anadolu Agency. <https://www.aa.com.tr/en/americas/senior-trump-aide-says-no-country-would-fight-us-over-greenland-s-future/3790832>
- Güney, A. N. (2004). The USA's role in mediating the Cyprus conflict: A story of success or failure? *Security Dialogue*, 35(1), 27-42. <https://doi.org/10.1177/0967010604042534>
- Hart, P. T. (1990). *Two NATO allies at the threshold of war: Cyprus, a firsthand account of crisis management, 1965-1968*. Duke University Press.

- Hitchens, C. (2012). *The trial of Henry Kissinger*. Twelve.
- Iwanami, Y. (2024). Asymmetric burden-sharing and the restraining and deterrence effects of alliances. *Journal of Peace Research*, 61(5), 711–725. <https://doi.org/10.1177/00223433231158146>
- Jacobsen, M., Wæver, O. & Gad, U. P. (Eds.). (2024). *Greenland in Arctic security: (De) securitization dynamics under climatic thaw and geopolitical freeze*. University of Michigan Press. <https://doi.org/10.3998/mpub.12958623>
- Jolly, S. (2025). *Alliances, aggression, and regional cooperation: An Arctic case study on small state alliance formation* (Master's thesis), Harvard University Division of Continuing Education.
- Knight, C. (2026). *Why does Donald Trump want Greenland? Here's what to know*. National Post. <https://nationalpost.com/news/world/why-does-donald-trump-want-greenland-heres-what-to-know>
- Konya, R. (2026). *Hungary will not leave the EU, it will fall apart on its own, Orbán says*. Euronews. <https://www.euronews.com/2026/01/06/hungary-will-not-leave-the-eu-it-will-fall-apart-on-its-own-orban-said>
- Kotoulas, I. E. (2020). Greece as a NATO member in the historical *longue durée*. *Bezpieczeństwo i Oboroność – The Bellona Quarterly*, 2020(4), 83–98. <https://doi.org/10.5604/01.3001.0014.6173>
- Lampas, N. & Filis, C. (2023). NATO's strategic concept: Implications for Greece and Türkiye. *Security and Defence Quarterly*, 44(4), 38–54. <https://doi.org/10.35467/sdq/174813>
- Lilly, L. (2026). *Strengthening NATO Article Five: Mutual security assurances* (ODUMUNC 2026 Issue Brief). Old Dominion University Model United Nations Society.
- Lindley, D. (2007). Historical, tactical, and strategic lessons from the partition of Cyprus. *International Studies Perspectives*, 8(3), 224–241. <https://doi.org/10.1111/j.1528-3577.2007.00269.x>
- Little, T., Foeger, L. & Bose, N. (2025, March 30). *Vance accuses Denmark of not keeping Greenland safe from Russia, China*. Reuters. <https://www.reuters.com/world/us-vice-president-vance-visit-greenland-island-trump-wants-control-2025-03-28/>
- Mann, S. (2001). *The Greek-Turkish dispute in the Aegean Sea: Its ramifications for NATO and the prospects for resolution* (Master's thesis). Naval Postgraduate School, Monterey, CA.
- Moulson, G. (2025). *Trump's envoy appointment sparks new tension with leaders of Greenland and Denmark*. PBS NewsHour. <https://www.pbs.org/newshour/world/trumps-envoy-appointment-sparks-new-tension-with-leaders-of-greenland-and-denmark>
- Naalakkersuisut / Government of Greenland. (2024). *Greenland in the world: Nothing about us without us - Greenland's foreign, security and defence policy 2024-2033: An Arctic strategy* (P. Cohen, Trans.). Ministry for Statehood and Foreign Affairs.

- NATO. (2025). *Collective defence and Article 5*. North Atlantic Treaty Organization. <https://www.nato.int/en/what-we-do/introduction-to-nato/collective-defence-and-article-5>
- O'Malley, B. & Craig, I. (2001). *The Cyprus conspiracy: America, espionage and the Turkish invasion*. I.B. Tauris.
- Richter, H. A. (2010). *A concise history of modern Cyprus: 1878-2009*. Harrassowitz Verlag.
- Rossides, E. T. (1991). Cyprus and the rule of law. *Syracuse Journal of International Law and Commerce*, 17(1), Article 3. <https://surface.syr.edu/jilc/vol17/iss1/3/>
- Smiljanić, D. (2025). The Evolution of NATO: Strategic Adaptation in a Changing Security Landscape. *Strategos*, 9(1), 55-82.
- Smith-Windsor, B. A. (2013). *NATO's maritime strategy and the Libya crisis as seen from the sea*. *Research Paper*, 90(1), NATO Defence College, 1-12.
- Spence, J. & Hanlon, E. (2025). *The geopolitical significance of Greenland*. Belfer Center for Science and International Affairs, Harvard Kennedy School. <https://www.belfercenter.org/research-analysis/explainer-geopolitical-significance-greenland>
- Stone, M. & Mason, J. (2025). *Trump selects \$175 billion Golden Dome defence shield design, appoints leader*. Reuters. <https://www.reuters.com/world/us/trump-make-golden-dome-announcement-tuesday-us-official-says-2025-05-20/>
- Thorsson, E. (2026). *Danish PM says U.S. attack on Greenland would be end of NATO*. ArcticToday. <https://www.arctictoday.com/danish-pm-says-u-s-attack-on-greenland-would-be-end-of-nato/>
- Zierler, D., Office of the Historian, U.S. Department of State. (1974a). *Memorandum of conversation, President Ford; Dr. Henry A. Kissinger; Major General Brent Scowcroft* (Document 129). In *Foreign relations of the United States, 1969-1976, Volume XXX: Greece; Cyprus; Turkey, 1973-1976*. U.S. Government Printing Office.
- Zierler, D., Office of the Historian, U.S. Department of State. (1974b). *Telegram from the Mission to the North Atlantic Treaty Organization to the Department of State* (Document 16). In *Foreign relations of the United States, 1969-1976, Volume XXX: Greece; Cyprus; Turkey, 1973-1976*. U.S. Government Printing Office.
- Zierler, D., Office of the Historian, U.S. Department of State. (1980). *Discussion paper prepared for a Policy Review Committee meeting on Greek reintegration* (Document 199). In *Foreign relations of the United States, 1977-1980, Volume XXI: Cyprus; Turkey; Greece*. U.S. Government Printing Office.

Sporovi unutar NATO-a: Američko-danske tenzije oko Grenlanda i paralela s ciparskim slučajem iz 1974.

SAŽETAK

Ovaj rad istražuje eskalirajuću geopolitičku krizu između Sjedinjenih Američkih Država i Kraljevine Danske oko statusa Grenlanda tijekom razdoblja 2025.-2026. Potaknuta inicijativom proturaketne obrane „Golden Dome“ i globalnom utrkom za kritičnim mineralima, trenutna američka administracija prešla je s tradicionalne izgradnje savezništva na stav strateške asertivnosti, uključujući impliciranu nužnost aneksije Grenlanda. Analiza naglašava kako ovo unutar-savezničko predatorstvo izaziva temeljnu pretpostavku NATO-vog Članka 5 i međunarodnog poretka utemeljenog na pravilima. Kako bi se procijenio potencijal za rješenje, rad povlači povijesnu paralelu s ciparskom krizom iz 1974. između Grčke i Turske, koja je pokazala institucionalnu paralizu NATO-a i nesposobnost posredovanja u teritorijalnim sporovima između vlastitih članica. Izvješće suprotstavlja dansku doktrinu “Everything stops” i grenlandsku neovisnu arktičku strategiju s “hedging” odgovorom glavnog tajnika NATO-a Marka Ruttea. U konačnici, grenlandska kriza predstavljena je kao definitivan test identiteta NATO-a, hoće li savez ostati zajednica temeljena na vrijednostima ili se pretvorio u pragmatični sigurnosni aranžman u kojem je suverenitet manjih država sporedan u odnosu na strateške interese vodeće sile.

KLJUČNE RIJEČI: Grenland, NATO, Cipar, Članak 5, Odnosi EU-SAD

Analiza sigurnosne, vanjske i gospodarske politike Sjedinjenih Američkih Država u drugom mandatu Donalda Trumpa

Ante Batistić, mag. hist. et int. rel., doktorand¹

SAŽETAK

Rad je koncipiran kao sažeta teorijska analiza sigurnosne, vanjske i trgovinske politike Sjedinjenih Američkih Država. Poseban aspekt rada je analiza odnosa SAD-a prema Narodnoj Republici Kini, koji je 2025. došao do kritične točke i postao najintenzivniji trgovinski sukob u novijoj povijesti. Nadalje, u radu se istražuje i pozicija Europske unije u ovom odnosu te posljedice kineske, a posebice američke politike, na gospodarsku i političku situaciju unutar EU. Poseban aspekt u radu zauzima i problematika Grenlanda, kao najočitijeg primjera Trumpovog transakcijskog realizma gdje se vojna moć i sila koristi kao pregovarački alat za ostvarivanje pristupa kritičnim resursima nužnima za industrijsku i tehnološku nadmoć. Također, poseban aspekt posvećen je i problematici Tajvana, kao jednog od kriznih žarišta i otvorenih geopolitičkih i sigurnosnih pitanja u odnosima SAD-a i NR Kine. Rezultati rada ukazuju na to da se rivalstvo između SAD-a i NR Kine odvija kao kontinuirano nadmetanje

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u kojem će presuđujući faktor biti dugoročno planirane i izvedive strategije, pri čemu američki pristup donosi određene dobitke uz povećan rizik nestabilnosti, dok NR Kina naglasak stavlja na postupnom i sustavnom jačanju države bez otvorene konfrontacije.

KLJUČNE RIJEČI: *Sjedinjene Američke Države, Narodna Republika Kina, Donald Trump, sigurnosna politika, vanjska i gospodarska politika*

Uvod

Suvremeni međunarodni poredak u razdoblju 2024.-2026. postao je poprište vojnih, ekonomskih, informacijskih i drugih nadmetanja velikih sila. Pobjeda Donalda (Johna) Trumpa na američkim predsjedničkim izborima u studenom 2024. označila je početak nove ere u američkoj sigurnosnoj, vanjskoj i trgovinskoj politici. Novi paradigmatški obrat u poimanju tradicionalnih savezništava i međunarodnih odnosa obilježen je operacionalizacijom i radikalizacijom načela “*America First*”² u svakom pogledu kao trajne vanjskopolitičke konstante.

U središtu ovog političkog zaokreta nalazi se transakcijski realizam kao ključna paradigma, odnosno model u kojem se međunarodni odnosi, sigurnosne obveze i gospodarski dogovori i ugovori ne promatraju kroz prizmu liberalnih vrijednosti, već isključivo kroz direktne koristi i protuvrijednosti koje oni imaju za američke nacionalne interese, a samim time i za njenu nacionalnu sigurnost.

Ovaj rad koncipiran je kao sažeta teorijska analiza sigurnosne, vanjske i trgovinske politike Sjedinjenih Američkih Država (SAD) pri čemu se kao reference koriste relevantni izvori, tj. znanstveno-stručni članci, službene publikacije, stručne analize, izvješća nadležnih tijela i organizacija koja se bave problematikom nacionalne i globalne sigurnosti i medijski članci. Iako se ne obrađuje

² Načelo “*America First*” “temelji se na ideji da su SAD u najboljoj poziciji da predvode svijet i očuvaju mir i stabilnost kada na prvo mjesto stave sigurnost, prosperitet i opću dobrobit američkog naroda” (vidi: Establish an America First Foreign Policy, America First Policy Institute).

zasebno, poseban naglasak stavljen je na fenomen “naoružane međuovisnosti”³ (*Weaponized Interdependence*), gdje SAD koristi svoje mehanizme i poluge moći poput izvoznih kontrola, carinskih tarifa i tehnoloških ograničenja kao primarnih alata širenja utjecaja i ostvarivanja pobjede u strateškom natjecanju na svjetskoj pozornici.

Poseban aspekt rada je analiza odnosa SAD-a prema Narodnoj Republici Kini (NR Kina), koji je 2025. došao do kritične točke i postao najintenzivniji trgovinski sukob u novijoj povijesti. Trumpova odluka o uvođenju visoke stope carina na uvoz iz NR Kine te kineski protuodgovori doveli su do visoke razine makroekonomske neizvjesnosti te usporavanja globalnog razvojnog rasta što nam potvrđuje recentno izvješće Odjela za ekonomske i socijalne poslove Ujedinjenih Naroda (United Nations Department of Economic and Social Affairs – UN DESA) o kojem će bit više riječi u nastavku teksta.

Shvaćajući ozbiljnost situacije i nemogućnost nesmetanog odvijanja trgovinskih odnosa zbog nesnosno visokih carina, SAD i NR Kina sklopile su sporazumno rješenje u Ženevi koje je dovelo do deeskalacije. Međutim, strukturni jaz i problem u odnosima SAD-a i NR Kine ostao je neriješen, pri čemu je posebice za SAD problematična kineska državna i industrijska strategija *Made in China 2025* koja je pokrenuta još 2015. s ciljem ostvarivanja globalne dominacije u tehnologiji, industriji i energetskej tranziciji.

Nadalje, u radu se istražuje i pozicija Europske unije (EU) u ovom odnosu te posljedice kineske, a posebice američke politike, na gospodarsku i političku situaciju unutar EU. Naime, EU se profilirala kao treći i ujedno najranjiviji akter, primoran na redefiniranje svoje strateške politike i autonomije uslijed američkih carinskih pritisa i posljedično kineskog ekonomskog i informacijskog pritiska.

Poseban aspekt u radu zauzima i problematika Grenlanda, kao najočitijeg primjera Trumpovog transakcijskog realizma gdje se vojna moć i sila koristi kao pregovarački alat za ostvarivanje pristupa kritičnim resursima nužnim za industrijsku i tehnološku nadmoć. Također, poseban aspekt posvećen je i pro-

³ Teorija, odnosno fenomen “naoružane međuovisnosti” (*Weaponized Interdependence*) opisuje kako države koje se nalaze na poziciji ključne sile i koje zauzimaju središnja mjesta u globalnim gospodarskim, financijskim, informacijskim i drugim mrežama, mogu te iste mreže pretvoriti u vlastiti instrument nametanja i prisile. Ukratko, međupovezanost koja je proizvod globalizacije, postaje alat i izvor moći koja može biti iskorištena u političke svrhe (Karacali, 2025). Vidi više u: Karacali (2025) i Farrell i Newman (2019).

blematici Tajvana, kao jednog od kriznih žarišta i otvorenih geopolitičkih i sigurnosnih pitanja u odnosima SAD-a i NR Kine.

U konačnici, cilj ovoga rada je ukazati na rizike koji proizlaze iz politike transakcijskog realizma te definirati na koji način krizna žarišta poput Tajvana i Grenlanda zauzimaju mjesto u razumijevanju trenutnih i budućih odnosa dviju svjetskih sila.

Metodologija istraživanja i teorijsko određenje

Rad se temelji na kvalitativnom istraživačkom pristupu i teorijsko-analitičkoj obradi sigurnosne, vanjske i trgovinske politike SAD-a u drugom mandatu predsjednika Donalda Trumpa, s posebnim naglaskom na odnos SAD-a prema NR Kini. S obzirom na aktualnost teme, istraživanje je usmjereno na analizu recentnih procesa u razdoblju 2024.-2026. pri čemu se posebna pozornost posvećuje razumijevanju načina na koji se američka politika oblikuje prema NR Kini i EU kroz instrumente nacionalne moći, odnosno kroz ekonomski pritisak, tehnološka ograničenja, tarifni protekcionizam i transakcijski pristup.

Temeljna ideja i cilj istraživanja jest utvrditi u kojoj se mjeri sigurnosna, vanjska i trgovinska politika SAD-a može interpretirati kroz prizmu transakcijskog realizma te na koji se način takav pristup odražava na odnose prema NR Kini te na položaj EU. Poseban aspekt rada je i analiza problematike Tajvana i Grenlanda, dva slučaja koji predstavljaju operativne primjere primjene transakcijskog realizma.

Istraživanje polazi od temeljne pretpostavke kako se rivalstvo navedenih sila ne odvija samo kao klasično nadmetanje, već kao višedimenzionalno strateško suparništvo na više različitih domena, od vojne pa sve do tehnološke, industrijske, informacijske i ekonomske.

Što se tiče znanstvene metode, u radu se primjenjuje nekoliko njih. Na prvom mjestu je metoda analize sadržaja kojom se obrađuju službeni dokumenti, strateške publikacije, izvješća raznih tijela i međunarodnih organizacija, stručne analize te relevantni znanstveno-stručni radovi i medijski izvori. Primjena ove metode omogućuje razlučivanje ključnih elemenata američke politike prema NR Kini te pomaže u prepoznavanju načina na koji se u službenim dokumentima, onima dominantno vojne prirode, tumače ključni pojmovi, problemi i odnosi. Na drugom mjestu, nalazi se metoda komparativne analize koja pruža

odgovore na pitanja međusobnih razlika. Njome se uspoređuju dva pristupa, američki i kineski. Američki pristup temelji se na ekonomskoj politici, odnosno carinskim tarifama, izvoznim kontrolama, ekonomskom pritisku na saveznike i, općenito, korištenju ekonomske moći kao instrumenta prisile. S druge pak strane, kineski pristup temelji se na dugoročnom planiranju, industrijskoj politici, nacionalnim strategijama razvoja, razvoju tehnoloških i energetske kapaciteta te postupnom smanjivanju ovisnosti o zapadnim tehnologijama, financijama, znanju i sl. Treća metoda jest studija slučaja, pri čemu se Tajvan i Grenland analiziraju kao dva geopolitički i sigurnosno važna primjera koji oslikavaju operativnu primjenu politika gore navedenih sila.

Izvori korišteni u radu dijele se u nekoliko skupina. Na prvom mjestu su znanstveno-stručni radovi, potom slijede stručne *policy* analize relevantnih međunarodnih i nacionalnih organizacija i instituta, uključujući Peterson institut za međunarodnu ekonomiju (*Peterson Institute for International Economics*), Finski institut za međunarodne odnose (*Finnish Institute of International Affairs*), Austrijski institut za međunarodne odnose (*Austrian Institute for International Affairs*), *think-tank* Bruegel, Centar za strateške i međunarodne studije (*Center for Strategic and International Studies*) i Međunarodnu kriznu grupu (*International Crisis Group*). Treću skupinu izvora čine službeni dokumenti, strateške publikacije i izvješća međunarodnih i državnih institucija, uključujući Strategiju nacionalne sigurnosti SAD-a iz 2025., izvješća Ministarstva obrane SAD-a o vojnom i sigurnosnom razvoju NR Kine, izvješća Kongresne službe SAD-a o strategiji *Made in China 2025* te izvješća Odjela za ekonomske i socijalne poslove Ujedinjenih Naroda (*United Nations Department of Economic and Social Affairs* – UN DESA). Četvrtu, i ujedno posljednju skupinu izvora čine odabrani relevantni medijski izvori koji su korišteni u svrhu razumijevanja javnog mnijenja te praćenja aktualnih događaja, službenih izjava i političkih reakcija.

Kriterij odabira izvora temelji se na relevantnosti i primjenjivosti za predmet istraživanja, institucionalnoj vjerodostojnosti, aktualnosti i analitičkoj vrijednosti. Pri tome, posebnu prednost imali su službeni dokumenti, stručne *policy* analize te znanstveno-stručni radovi odabranih priznatih stručnjaka u području međunarodne sigurnosti i geopolitike.

Kada govorimo o teorijskom određenju, potrebno je napomenuti kako se u radu pojam transakcijskog realizma odnosi na specifičnu varijantu realističkog pristupa koji podrazumijeva da se savezništva, sigurnosne obveze, trgovinski odnosi, diplomatski dogovori i pregovori i sl., vrednuju isključivo prema mjerljivoj koristi za nacionalni interes. Za razliku od klasičnog realizma koji se oslanja

na očuvanje ravnoteže moći, transakcijski realizam prednost daje pregovaračkoj funkciji, uvjetovanju, dobiti, budućim projekcijama i revizijama postojećih odnosa. U tom kontekstu, svaki oblik savezništva promatra se kao odnos koji mora polučiti vidljive i mjerljive koristi za državu.

Nadalje, strateško rivalstvo se u radu ne promatra isključivo kroz kinetičku, odnosno vojnu dimenziju, nego kao višedimenzionalan proces u kojem se SAD i NR Kina natječu u nekoliko međusobno povezanih domena, od vojne, trgovinske, tehnološko-industrijske, energetske, diplomatske i informacijske. Pojam strateško rivalstvo jasno govori kako se radi o dugoročnim sposobnostima oblikovanja svih elemenata međunarodnog poretka.

Ključna obilježja politike Donalda Trumpa

Trump je položio prisegu za svoj drugi predsjednički mandat 20. siječnja 2025. godine. U inauguracijskom je govoru istaknuo načelo „*America First*“, poručivši da će „svaki dan moje administracije, vrlo jednostavno, Amerika biti na prvom mjestu“ (*The Inaugural Address, The White House, 2025*). Taj kontinuitet između prvog (2017.-2021.) i aktualnog mandata ključan je za razumijevanje njegove strategije prema glavnim globalnim akterima.

Kada govorimo o ključnim točkama vanjskopolitičkog i unutarnjeg političkog kontinuiteta, potrebno je istaknuti ekonomski nacionalizam i tarifni protekcionizam, transakciji model pristupa savezništvima, tvrdolinijaški pristup u imigracijskoj i graničnoj politici te širenje izvoznih kontrola i tehnoloških ograničenja (eng. *Weaponized Interdependence*) prema strateškim suparnicima⁴ SAD-a.

Ulazeći dublje u samu srž, tj. fundamentalne temelje Trumpove politike, jasno je kako se radi o realističkoj paradigmi koja počiva isključivo na želji za ostvarenjem vlastitih interesa i nacionalne sigurnosti. Također, evidentno je kako Trump međunarodni poredak ne smatra vrijednosno pozitivnim, već konkurentskim prostorom vodećih sila pri čemu pobjeđuje moć i interes (Popović, 2018). U svemu tome bitna je sloboda djelovanja, proširena moć države i snažno gospodarstvo.

Nadalje, Trumpov drugi mandat nije radikalan prekid, niti početak nove politike, već operacionalizacija i radikalizacija političkog smjera koji je uspostav-

⁴ Na prvom mjestu Kina, a potom Rusija i Indija. U idućoj skupini nalaze se Iran i Sjeverna Koreja kao tradicionalni protivnici SAD-a.

ljen za vrijeme prvog mandata u periodu 2017.-2021. godine. Navedenu tezu potvrđuju i autori Pasternak i Sinkkonen (2025) sa cijenjenog Finskog instituta za međunarodne odnose (FIIA). Naime, prema mišljenju autora, Trumpova se vanjska politika može svrstati u četiri ključna elementa: 1. nacionalni suverenitet, 2. ekonomski nacionalizam, 3. devolucija vlasti i 4. odvajanje od ustaljenih normi moći (eng. *Unmooring power*) (Pasternak i Sinkkonen, 2025).

Prvi element odnosi se na povećanje neovisnosti SAD-a prema drugim međunarodnim akterima kroz napuštanje ili manju angažiranost u međunarodnim organizacijama poput Svjetske trgovinske organizacije (WTO), Organizacije Ujedinjenih naroda za obrazovanje, znanost i kulturu (UNESCO) itd. Drugi element odnosi se na ekonomski prosperitet SAD-a kroz zaštitu domaćih poslova i industrija, porezne olakšice, smanjenu regulaciju te smanjenje trgovinskog deficita kroz uvođenje visokih carina, ograničavanje stranih investicija i trgovinskih aktivnosti te podršku domaćim tehnološkim kompanijama i energetskom sektoru. Treći element odnosi se na smanjenje međunarodnih obveza SAD-a kroz povećanje pritiska na saveznike (posebice NATO savez) u području nacionalnih izdvajanja za obranu te potraživanje veće odgovornosti za sigurnost na globalnoj razini. Pritom, pregovori sa saveznicima postaju transakcijski, odnosno promatraju se kroz ekonomsku optiku (poticaji, prijetnje sankcijama) ili politički pritisak. Što se tiče unutarnjeg političkog stanja, povećava se moć saveznih država i privatnog sektora na račun vlade. Četvrti element odnosi se na jačanje osobne moći predsjednika Trumpa i užeg kruga njegove administracije i lojalnih ljudi. Posljedice takvog poimanja političke vlasti i autoriteta direktno dovode do podrivanja demokratskih institucija kroz proširenje osobne vlasti zanemarivanjem tradicionalnih ustavnih vrednota. Osim toga, populistička strategija popraćena dezinformacijama nužno proizlazi iz takvog oblika djelovanja i teži legitimaciji vlastite politike (Ibid.).

Ključne odlike Trumpove politike poput protekcionizma, unilateralizma i transakcijskog realizma⁵ institucionalizirane su kroz nove carinske tarife, kadrovsku politiku (postavljanje politički podobnih i lojalnih ljudi s iskustvom rada u privatnom sektoru – biznisu i menadžmentu) i pritiske na saveznike (poglavito na NATO savez kroz ultimatum za povećanje nacionalnih izdvajanja za obranu u iznosu od 5% od ukupnog državnog proračuna). Navedeno potvrđuje kako je Trumpovo načelo „*America First*“ postala trajna vanjskopolitička konstanta, a ne kratka epizoda u američkoj vanjskoj politici.

⁵ Vidi više u: P. Barrotta (2020). Pragmatism and transactional realism. *Philinq* 8(2), 111-128.

Nadalje, kada govorimo o trgovinskoj politici SAD-a, autori McKibbin, Noland i Shuetrim (2025) s Peterson Instituta za međunarodnu ekonomiju (PIIE) opravdano ističu kako američka „recipročna“ carinska politika ima izuzetno negativne posljedice na američko i svjetsko gospodarstvo, bez obzira na to radi li se o blažim ili strožim carinama. Osim usporavanja ekonomskog rasta, rasta inflacije i cijena, pada ukupnog BDP-a i smanjivanja produktivnosti i gospodarskih potencijala ponajviše u sektoru industrije i poljoprivrede, otvara se prostor za trgovinski rat i moguću odmazdu zemalja s kojima SAD ima najvišu razinu gospodarske suradnje i razmjene dobara.

Iako je Trumpova carinska politika usmjerena na sve zemlje, uključujući i saveznika – EU, koja je drugi najveći partner SAD-a u robnoj razmjeni (Europski parlament, 2025), u samom središtu trgovinske ofenzive nalazi se NR Kina kojoj su nametnute carinske tarife od 50% na sav uvoz. Naime, carinski sukob između SAD-a i NR Kine rezultirao je protumjerama s kineske strane pri čemu su se na glavnoj meti kineskih carina (prosječno 32% na sav uvoz iz SAD-a) nalazila upravo poljoprivredna dobra, čelik, aluminij i automobili (McKibbin et al., 2025).

S obzirom na to da se pokazalo kako navedena trgovinska politika nije održiva jer vodi u apsolutan prekid razmjene dobara zbog nesnosno visokih carina (u jednom trenutku su američke carine iznosile 65% na sav uvoz), sredinom svibnja 2025. godine u Ženevi je sklopljen ugovor o određenom obostranom smanjenju carina. Iako su pregovori rezultirali ublažavanjem najgorih kratkoročnih posljedica za obje strane, brojne carine ostale su trajno više nego prije početka trgovinskog rata čime je politički odnos ostao bitno opterećen. Bitno je za naglasiti kako je kineski BDP pretrpio manji pad nego što su to američke simulacije predviđale. Suprotno očekivanom, upravo su SAD pretrpjele veći pritisak zbog vlastitog rizika i odljeva kapitala (Ibid.).

Iako su američke prognoze govorile o povećanju prihoda SAD-a uvođenjem carina, McKibbin i Shuetrim (2025) ističu kako protumjere drugih država, popraćene općenitim negativnim makroekonomskim učincima povećanja carina, direktno dovode do smanjenja BDP-a, investicija, zaposlenosti i realnih plaća u SAD-u. Osim toga, McKibbin i Shuetrim (2025) ističu i povećanje inflacije u prve dvije godine nakon uvođenja carina. Nadalje, ukoliko bi sve pogođene zemlje uzvratile protumjerama, utoliko bi se štetni učinci na gospodarstvo SAD-a drastično povećali, posebice zbog pada izvoza (ponajviše poljoprivrednih dobara i ruda) i slabljenja dolara kao nacionalne valute.

Slijedom navedenoga, McKibbin, Noland i Shuetrim (2025) opravdano zaključuju kako je Trumpova politika prema Kini nepredvidljiva, konfrontacijska i visokorizična. Ekonomski pritisci putem carina doveli su do najintenzivnijeg trgovinskog sukoba u novijoj povijesti s posljedicama koje se osjećaju u obje zemlje i šire na globalnoj razini.

Nadalje, što se tiče odnosa SAD-a i EU-a, povećanje carina na uvoz proizvoda iz zemalja članica EU, nema samo ekonomske implikacije za sve zemlje članice (tradicionalne saveznike SAD-a), već i za transatlantsko savezništvo. Prema stručnim procjenama Bruegela, jednog od vodećih europskih think-tankova u području ekonomije, američke carine nemaju drastičan učinak na BDP zemalja EU-a (negativan učinak u prosjeku od 0.6 do 1%) ukoliko se usporedi sa štetom koju bi pritom pretrpjelo američko gospodarstvo. Međutim, kada govorimo o konkretnim državama koje mogu pretrpjeti najveću štetu od američkih carina, onda je to ponajviše Njemačka, a potom Irska i Italija (da Rocha et al., 2025).

Uzimajući u obzir percipiranu (!) nepredvidljivost Trumpove politike, EU je primorana redefinirati strateške prioritete i diversificirati ekonomska partnerstva. Štoviše, negativna trgovinska politika SAD-a prema EU indirektno jača kinesku gospodarsku, a potom i političku poziciju prema EU, pri čemu je poseban aspekt i strategija artikulacije prednosti suradnje s Kinom koristeći posrednike, odnosno političke agende rastućih populističkih, nacionalističkih i antieuropskih stranaka. Dakako, ne smijemo zanemariti ni Indiju kao brzorastuću svjetsku ekonomiju koja može iskoristiti negativne aspekte Trumpove politike i pozicionirati se kao trgovinski partner zemalja članica EU.

Da je tome tako, dokazuje činjenica da su EU i Indija koncem siječnja 2026. sklopili važan i ujedno najveći sporazum o slobodnoj trgovini kojim će se ojačati gospodarske i političke veze između zemalja EU i Indije. Temeljem navedenog sporazuma, očekuje se da će se udvostručiti izvoz robe iz EU u Indiju, i to ukidanjem ili smanjenjem carina u vrijednosti od 96,6%, pri čemu će se značajno povećati trgovina robe i usluga koja je već sada na vrijednosnoj razini većoj od 180 milijardi eura godišnje. Također, navedeno će dovesti i do uštede od oko 4 milijarde eura godišnje na carinama za europske proizvode. Ključna područja u kojima se ostvaruju međusobne pogodnosti odnose se na: 1. Smanjenje carina na poljoprivredno-prehrambene proizvode, 2. povlašteni pristup tržištima usluga i zaštićeno intelektualno vlasništvo te 3. jačanje obveza u pogledu održivosti (zaštita okoliša i klimatske promjene) (Predstavništvo Europske komisije u Hrvatskoj, EU i Indija sklopili povijesni sporazum o slobodnoj trgovini, 27.1.2026.)

Odnosi Sjedinjenih Američkih Država i Narodne Republike Kine

Kao što smo već naveli, Trumpova politika u svom središtu ima transakcijski realizam (transakcijski model bilateralnih i multilateralnih odnosa koji reducira savezništvo na ugovorne odnose koji su podložni stalnim provjerama, promjenama i novim dogovorima) te paradigmatički okvir u kojem se međunarodni odnosi, savezništva i sigurnosne obveze ne promatraju kroz prizmu liberalnih vrijednosti, već kroz izravnu cijenu i materijalnu korist za američke nacionalne interese.

Kada govorimo o operacionalizaciji tog načela u odnosima prema NR Kini, ovakav pristup rezultira politikom koja ne teži harmonizaciji odnosa, nego aktivnom rivalstvu u kojem se kao ključni alati, odnosno instrumenti pritiska, koriste načela ekonomskog nacionalizma, tarifnog protekcionizma i demonstriranja vojne sile i moći.

Učinke Trumpove trgovinske i vanjske politike potrebno je ukratko analizirati i u kontekstu globalnih ekonomskih kretanja i projekcija za 2026. Naime, Odjel za ekonomske i socijalne poslove Ujedinjenih Naroda (UN DESA) je u suradnji s drugim relevantnim tijelima i organizacijama, početkom 2026. objavio detaljnu analizu/izvješće o stanju ekonomije na globalnoj razini i budućim ekonomskim projekcijama za 2026. (*World Economic Situation and Prospects 2026*).

U navedenom dokumentu jasno se ističe kako su globalni ekonomski izgledi za 2025. i 2026. ostali bitno obilježeni visokom razinom makroekonomske neizvjesnosti, pri čemu se predviđa blagi pad stope rasta sa 2,8% u 2025. na 2,7% u 2026. Istaknuto je kako se globalna ekonomija suočava s ozbiljnim pritiscima poradi geopolitičke fragmentacije i narušavanja multilateralizma. Ekonomski podaci ukazuju na to da SAD, zbog trenutanih fiskalnih politika i nameta, bilježi umjeren rast od oko 2%, dočim se ekonomski rast u NR Kini oslanja na ciljanu mjeru podrške domaćoj potražnji u uvjetima vanjskih trgovinskih restrikcija. Bitno je za istaknuti kako postojeće trgovinske tenzije i visoka razina javnog duga u bitnoj mjeri ograničavaju manevarski prostor za fiskalnu podršku što globalnu ekonomiju čini krhkom i izloženijom, odnosno ranjivijom na nepredvidljive financijske situacije koje su u mnogočemu uvjetovane političkim i geopolitičkim procesima. Situaciju na globalnoj razini dodatno otežavaju i strukturne prepreke poput poremećaja u globalnim opskrbnim lancima te klimatske promjene koje dovode do potreba za dodatnim ulaganjima i razvoju tehnologija

za sprječavanje ili umanjivanje štetnih učinaka sve izraženijih prirodnih nepogoda koje ponajviše utječu na proizvodne, transportne i infrastrukturne sustave (Ibid.).

Ekonomsko područje je u razdoblju 2024.-2025. postalo glavno polje strateškog natjecanja između SAD-a i NR Kine pri čemu su recipročne tarife uvedene kao sredstvo za rebalansiranje trgovinske razmjene, unatoč tome što takve mjere nose rizike sporijeg gospodarskog rasta i povišene inflacije. NR Kina je na visoke američke carine odgovorila protumjerama koje su snažno pogodile brojne američke gospodarske sektore od poljoprivrede, čelika, aluminijske pa sve do automobilske industrije, što je u svibnju 2025. dovelo do djelomične deeskalacije dogovorom u Ženevi, no trgovinski odnosi ostali su opterećeni trajno višim razinama carinskih nameta. Vrijedi istaknuti kako je recentna analiza Austrijskog instituta za međunarodne odnose (OIIP) ukazala na to da puko smanjenje volumena trgovine ne rješava strukturni problem američkog deficita, posebno ako Washington istovremeno otvara trgovinske sporove s većinom ostalih globalnih partnera (Eder, 2025).

Strategija nacionalne sigurnosti SAD-a iz 2025. definira ekonomske odnose s Kinom kao fundamentalno neuravnotežene, upozoravajući da Peking nastavlja koristiti posredničke zemlje kako bi zaobišao američke izvozne kontrole (2025 *National Security Strategy*, 2025). Washington stoga inzistira na pravednosti i reciprocitetu, težeći tome da se trgovina s NR Kinom ograniči isključivo na neosjetljive segmente dok se u strateškim industrijama provodi tehnološko razdvajanje. Ovakav pristup stvara uvjete u kojima snažno vojno odvracanje u Indo- Pacifiku omogućuje stroži ekonomski odnos prema kineskim netržišnim praksama, industrijskoj špijunaži i krađi intelektualnog vlasništva (Ibid.). SAD je u posljednjih četvrt stoljeća naučio da integracija NR Kine u globalni sustav nije dovela do očekivane liberalizacije, što opravdava trenutačni zaokret prema industrijskoj konkurenciji (Brainard, 2025).

Istodobno, kineska strateška industrijska i državna politika *Made in China 2025* i dalje predstavlja centralni izazov jer teži postizanju tehnološkog vodstva kroz masovne subvencije i usmjeravanje kompanija u kritičnim sektorima poput industrije poluvodiča (CRS, *Made in China 2025 and Industrial Policies: Issues for Congress*, 2024). Temelj politike *Made in China 2025* koja je pokrenuta još 2015., leži u modernizaciji proizvodnog sektora i razvoju deset visokotehnoloških industrija (slika 1.), smanjenjem ovisnosti o stranoj tehnologiji te postizanju globalnog vodstva u robotici, umjetnoj inteligenciji i novim automobilskim vozilima koja se pokreću novim i obnovljivim izvorima energije (Kuo, 2025).

Figure 1. China's Industrial Priorities (2015-2025)

The "Made in China 2025" plan highlights 10 sectors:	
	New generation information technology
	New energy and energy-saving vehicles
	High-end computerized machines and robots
	Energy equipment
	Aerospace
	Agricultural machines
	Maritime equipment and high-tech ships
	New materials
	Advanced railway transportation equipment
	Biopharma and high-tech medical devices

Source: Notice of the State Council on Issuing "Made in China 2025," May 8, 2015, Guofa [2015] No. 28.

Slika 1. Industrijski prioriteti NR Kine 2015.-2025. Izvor: CRS, Made in China 2025 and Industrial Policies: Issues for Congress, 2024.

U travnju 2023., Jake Sullivan, savjetnik za nacionalnu sigurnost u uredu američkog predsjednika Joea Bidena, održao je govor o problematici i rizicima odnosa SAD-a i Kine, pri čemu je istaknuo kako "SAD proizvodi samo 4% litija, 13% kobalta, 0% nikla i 0% grafita potrebnog za zadovoljavanje trenutne potražnje za električnim vozilima". Dodao je i kako "u međuvremenu, više od 80% kritično važnih minerala prerađuje samo jedna zemlja - Kina." (Applebaum, 2026).

Također, vrijedi istaknuti kako NR Kina sve više i brže proizvodi nove kapacitete električne energije, pri čemu ulazni troškovi energije padaju kroz masovnu proizvodnju tehnologija energetske tranzicije (solari, baterije i sl.). Važan podatak koji vrijedi istaknuti jest da je NR Kina 2024. uložila više od 625 mlrd. američkih dolara u „čistu energiju“, pri čemu je ciljane kapacitete dostigla još 2024., što je šest godina ranije od inicijalnog plana (2030.). Navedena kineska

ulaganja dovode i do pritiska na globalne cijene tehnologija (primjerice, solarnih panela) gdje je evidentan pad cijena što dugoročno snižava cijenu elektrifikacije industrije i transporta (*World Energy Investment*, 2025). S druge strane, američka politika koja je usmjerena na energetske resurse i deregulaciju ne vodi rješavanju problema, već maloprodajne cijene električne energije i dalje rastu umjereno (*U.S. Energy Information Administration*), dočim su strukturne razlike u brzini gradnje i cijeni novih kapaciteta sve važniji i izraženiji čimbenik.

Iako NR Kina radi na svim ovim područjima u punom intenzitetu, valja istaknuti kako je, prema službenim podacima Ministarstva financija SAD-a, NR Kina krajem studenog 2025. držala oko 682,6 mlrd. američkih dolara u vidu državnih vrijednosnica, što je najniža vrijednost još od 2008. (*U.S. Department of Treasury*, 2025). Navedeno jasno dokazuje kako NR Kina postupno smanjuje financijsku ovisnost o SAD-u i preusmjerava navedena sredstva u druga područja djelovanja, međutim, dostupni podaci ukazuju na to SAD ostaje i dalje bitan financijski čimbenik za vanjskotrgovinsko poslovanje NR Kine.

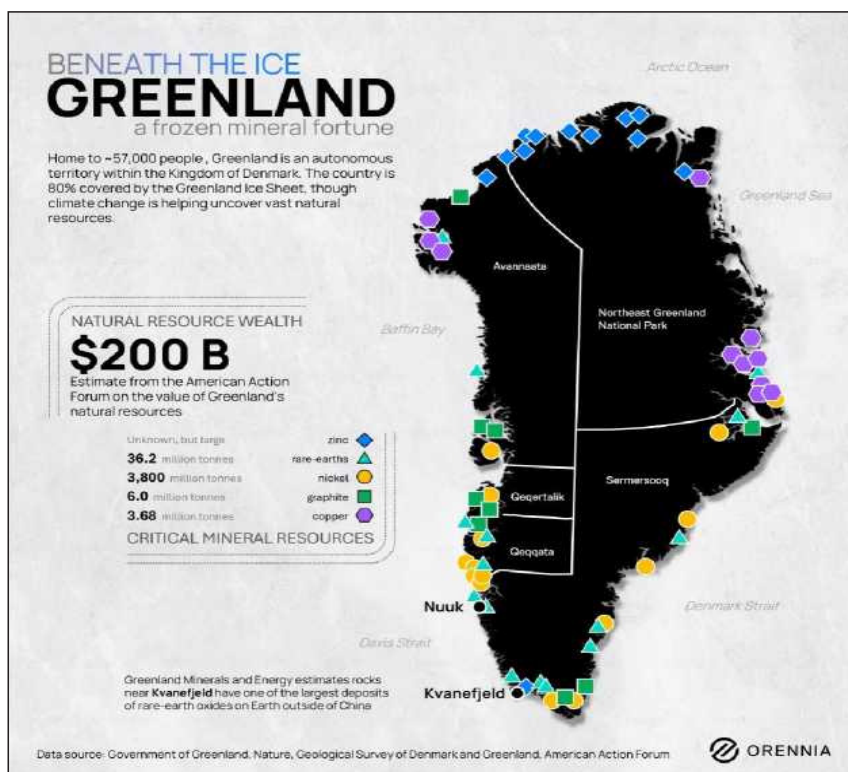
Bitno je pritom za naglasiti kako američka vojna, politička ili obavještajna strategija ne teži uništenju ili dominaciji nad NR Kinom, već sprječavanju bilo koje države da dominira područjem Indo-Pacifika, koristeći vojnu i ekonomsku snagu kao glavno sredstvo odvratanja kako se navodi u nedavno publiciranom Godišnjem izvješću američkog Ministarstva rata o vojnom i sigurnosnom razvoju NR Kine iz 2025. (*Annual Report to Congress: Military and Security Developments Involving the PRC*, 2025).

Međutim, posebno je upozoravajuće to što kineska vojska ubrzano razvija sposobnosti za postizanje strateške pobjede nad Tajvanom do 2027., što uključuje i razvoj kibernetičkih alata za ometanje američke kritične infrastrukture. Tijekom 2024., kineske vojne vježbe pod skupnim nazivom *Joint Sword* (ukupno tri vojne vježbe: 2024A, 2024B i 2024C) simulirale su potpunu blokadu Tajvana i precizne vojne udare, što predstavlja najozbiljniji test i opasnost za američku vojnu sposobnost i dominaciju u regiji (*Ibid.*).

Idući važan problem je to što SAD u bitnoj mjeri zaostaju u brzini razvoja i izgradnje vojnih kapaciteta modernih generacija, u svim rodovima i granama. Prema podacima američkog Centra za strateške i međunarodne studije (CSIS), NR Kina nabavlja i proizvodi određene visoko tehnološke sustave više puta brže od SAD-a, što upućuje na strukturnu prednost u brzini mobilizacije obrambene industrije i serijske proizvodnje koja je ključna za stratešku, operativnu i taktičku prednost ako govorimo o mogućem sukobu visokog intenziteta (Jones i Palmer, 2024). Strateški nedostatak NR Kine je nedostatak trenutno globalno

snažnih i stabilnih vojnih partnera i saveznika⁶, što SAD-u daje određenu prednost, uz uvjet da aktualna američka administracija zbog trgovinske politike i percipirane (!) nepredvidljivosti ne naruši dugogodišnje odnose sa tradicionalnim saveznicima.

Upravljanje krizom oko Tajvana pod Trumpovom administracijom nosi specifičnu dozu neizvjesnosti zbog transakcijskog pristupa sigurnosti u kojem se od saveznika zahtijeva izravno plaćanje za američku zaštitu. Dok politika strateške neodređenosti nastoji odvratiti Peking od napada i stvaranja preduvjeta za nasilno ujedinjenje, a Tajvan od proglašenja formalne neovisnosti, transakcijska retorika može povećati rizik od pogrešnih procjena na obje strane (*The Next U.S. Administration and China Policy*, 2024).



Slika 2. Karta rudnih bogatstava Grenlanda. Izvor: *Government of Greenland, Nature, Geological Survey of Denmark and Greenland, American Action Forum.*

⁶ Iako u ovu skupinu možemo svrstati Rusiju i Iran, aktualna situacija u tim zemljama pogoršava njihovu vojnu i ekonomsku moć na globalnoj razini.

Aktualno pitanje Grenlanda pruža najjasniji uvid u operativnu primjenu transakcijskog realizma gdje se retorika o vojnoj intervenciji ili kupnji otoka koristi kao pregovarački alat za postizanje ekonomskih ustupaka. SAD nema stvarnu namjeru niti vojnu korist od izravnog napada na Grenland, već koristi prijetnju kako bi trasirao put u drugu, željenu fazu pregovora, u kojoj bi se u zamjenu za mir i odustajanje od vojne intervencije, osigurao povoljan režim rudnog iskorištavanja strateških minerala i energenata, posebice rijetkih rudnih bogatstava u blizini Kvanefjelda koji su, prema trenutačnim geološkim podacima i spoznajama, dostupni još samo na teritoriju NR Kine (slika 2.). Ovakvo djelovanje u potpunosti je usklađeno sa Strategijom nacionalne sigurnosti iz 2025. koja posjedovanje, kontrolu i opskrbu navedenim kritičnim resursima postavlja kao prioritet u ekonomskom natjecanju s Kinom (*2025 National Security Strategy*, 2025).

Resource	Known Resources (Thous. of Metric Tons) *Unless otherwise noted	Price Per Metric Ton (Current \$)	Total Value (Millions)
Antimony	3.8	\$12,382	\$47
Baryte	480	\$150	\$72
Beryllium	0.07	\$1,400,000	\$91
Chromium	560	\$9,261	\$5,186
Coal	183,000	\$69	\$19,627
Copper	108	\$8,992	\$971
Feldspar	80,800	\$102	\$8,242
Fluorite	250	\$360	\$90
Gallium	152	\$255,730	\$38,871
Graphite	6,000	\$1,200	\$7,200
Hafnium	108	\$4,537,200	\$487,749
Lithium	235	\$113,585	\$26,693
Molybdenum	324,000	\$55,600	\$18,014
Natural Gas	148,000 billion cu ft	\$0.00219/cu ft	\$324,120
Niobium	5,900	\$25,000	\$147,500
Oil	17.5 billion barrels	\$80.53/barrel	\$1,409,275
PGM*	0.58	\$30,583,398	\$17,616
Phosphorus	11,500	\$165	\$1,898
REE*	36,100	\$42,922	\$1,549,484
Silicon metal	2,800	\$2,207	\$6,180
Strontium	9,800	\$72	\$702
Tantalum	916	\$190,000	\$174,040
Titanium	12,100	\$2,475	\$29,948
Tungsten	26	\$260	\$7
Vanadium	179	\$14,612	\$2,616
Zirconium	57,100	\$3,014	\$172,099
Total			\$4,441,399
Excluding Oil and Gas			\$2,708,004

Slika 3. Brojčani prikaz naziva, količine i vrijednosti rudnih bogatstava na Grenlandu. Izvor: *Jensen, Ashton (2025). Pricing Greenland: The Essence of the Deal, American Action Forum.*

Pri tome, Trumpov narativ o mogućoj kineskoj (i/ili ruskoj) okupaciji Grenlanda (u kontekstu priče o aktivnostima/kretanju ruskog i kineskog vojnog brodogradilaznog na moru oko Grenlanda) u tom smislu služi više kao političko opravdanje za američki interes i aktivnosti, nego kao trenutačno moguća sigurnosna prijetnja i izazov, s obzirom na to da danski i kineski službeni izvori vrlo jasno demantiraju Trumpove navode (Global Times, 2026; AP News, 2026; Reuters, 2026).

Ukoliko navedeni plan američke administracije uspije u određenom roku, što je sudeći po trenutačnom stanju izgledno, utoliko je za očekivati da će se umjesto vojne okupacije, dogoditi sporazumno rješenje koje će omogućiti razvoj dugoročnih investicijskih partnerstava SAD-a s Danskom i lokalnim vlastima na Grenlandu radi osiguravanja pristupa, eksploatacije i korištenja strateških minerala i energenata. Međutim, postoji mogućnost da će jedna od sporazumnih klauzula, ovisno o dogovorenim i ugovorenim odredbama, biti upravo trajna ili vremenski ograničena sigurnosna garancija, odnosno vojna zaštita i pomoć u slučaju mogućih vojnih pretenzija drugih sila prema Grenlandu. Na taj način, Danska će moći efektivnije preusmjeriti financijska sredstva, odnosno podijeliti teret financijskih izdataka za obranu i sigurnost Grenlanda, a istovremeno će se američkim sredstvima osigurati uvjeti za pristup i korištenje rudnih bogatstava na Grenlandu što je u mnogočemu najviše potrebno i vrijedno za obje zemlje.

Tezu da SAD ne želi vojno intervenirati već sklopiti čisti ekonomski sporazum, dokazuje i činjenica da je 18. siječnja 2026. američka administracija donijela odluku o nametanju novih carina u iznosu od 10% prema Danskoj i još sedam drugih zemalja (zemalja koje možebitno imaju pretenzije na rijetke rudne resurse Grenlanda), uključujući Francusku, Norvešku, Švedsku, Njemačku, Veliku Britaniju, dok će nove carine za Nizozemsku i Finsku stupiti na snagu 1. veljače 2026. Pri tome, jasna je prijetnja kako postoji mogućnost da će postotak carina porasti na 25% ako sporazum oko Grenlanda ne bude postignut u dogovorenom roku (Astier, 2026). Dodatno, tezu da SAD ne želi i neće vojno intervenirati, potvrđuje i govor predsjednika Trumpa na Svjetskom ekonomskom forumu 2026. u kojem je jasno naglasio kako SAD neće koristiti vojnu silu kako bi postigli rješenje za pitanje Grenlanda (*President Trump says he will not invade Greenland*, FOX 5 News, 2026).

U tom kontekstu, EU postaje ključni treći akter koji se suočava s pritiskom kineskog izvoza preusmjerenog s američkog tržišta, što bi moglo potaknuti nove trgovinske sporove u sektorima visoke vrijednosti poput automobilske industrije. Iako američke tarife bitno opterećuju transatlantsko savezništvo, one

istovremeno potiču EU na razvoj strateške autonomije i diverzifikaciju njezinih ekonomskih partnerstava (Eder, 2025).

Još je 2023. u jednom od održanih govora predsjednica Europske komisije, Ursula von der Leyen, izjavila kako su gospodarski odnosi između NR Kine i EU “neuravnoteženi i pod sve većim utjecajem poremećaja koje stvara kineski državni kapitalistički sustav” (Applebaum, 2026). Pozadina ovakve izjave, odnosno njeno jasnije tumačenje kaže kako kineska vlada subvencionira svoje najveće tvrtke kako bi im pomogla u probijanju na međunarodna tržišta. Bez definiranih politika, carinskih tarifa, pravila poslovanja i drugih oblika kontrola u poslovanju i praćenju toka novca, EU će se dovesti u situaciju da njena industrija više neće biti konkurentna, a NR Kina će zauzeti sve veće tvrtke i postati nositelj europske ekonomije. Na taj način, kineski državni novac, kontroliran i usmjeravan od strane Komunističke partije Kine, bit će sredstvo stvaranja političkog utjecaja u EU.

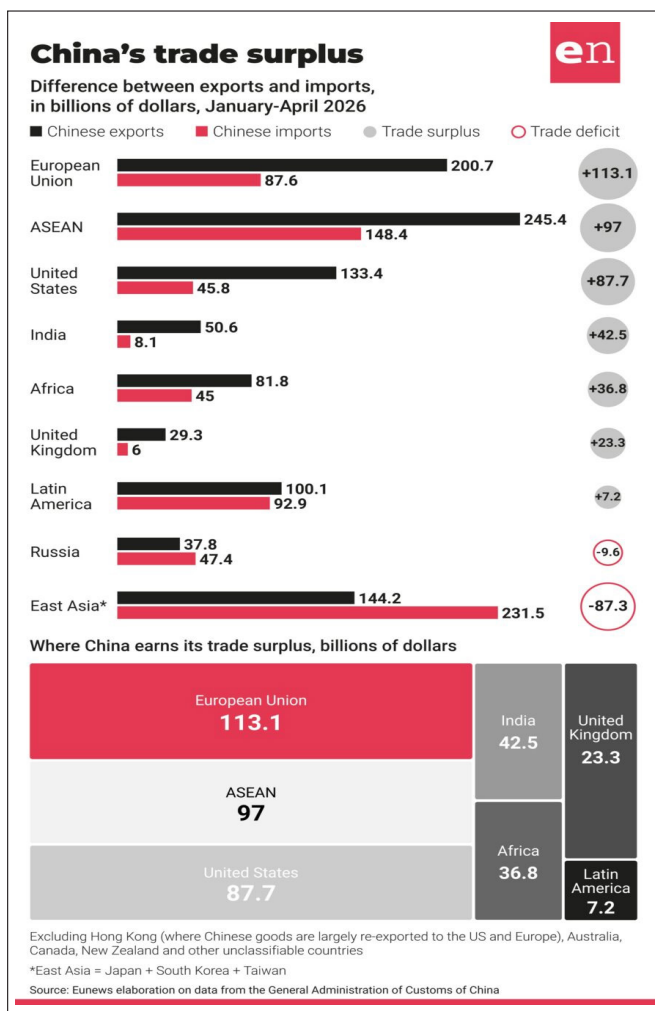
Najbolji primjer kineskog gospodarskog uspjeha jest prodaja automobila na europskom tržištu. Naime, prema trenutnim pokazateljima, prodaja kineskih vozila na tlu EU udvostručila se u vremenu 2024.-2025. Kineski proizvođači automobila, a posebice električnih, bilježe enormna povećanja dobiti (Forbes, 2025).

Dakako, ne radi se samo o problematici automobilske industrije, jer postoji čitav niz proizvoda i komponenti koji se uvoze iz NR Kine i pritom sve više koriste u industriji. Navedeno otvara pitanje budućnosti europske industrije i njene ovisnosti o kineskoj tehnologiji. Posebno je zabrinjavajuća tvrdnja Jensa Eskelunda, predsjednika Europske gospodarske komore u Kini (EUECC) koji je izjavio sljedeće: “Kad ljudi pomisle na uvoz iz Kine, pomisle na gotove proizvode poput električnih vozila, ali tu nije problem. To je golema količina komponenti koje se uvoze iz Kine. Ako išta, Europa postaje sve ovisnija o Kini.” (*Fears of new China shock as EU industry’s reliance on imports grows*, Guardian, 2026).

Prema recentnim pokazateljima, prikazanima na slici 4., vidljivo je povećanje trgovinskog suficita NR Kine, odnosno povećanje izvoza u EU u odnosu na uvoz iz EU u 2026.

Navedeno povećanje uvoza robe, proizvoda i usluga iz NR Kine u EU je nešto što traje već duže vrijeme, pri čemu je posebno važan podatak kako je trgovina robom i uslugama između EU i NR Kine 2024. premašila 845 milijardi eura i to su podaci koje navodi Vijeće EU-a i Europsko vijeće. Primjera radi, u 2024. EU je u NR Kinu izvezla robu u vrijednosti od 213,2 milijarde eura, a uvezla robu u

vrijednosti od 519 milijardi eura. Riječ je o trgovinskom deficitu od više od 300 milijardi eura. Nadalje, gledajući povijesno razdoblje i podatke od 2014.-2024., uvoz iz NR Kine u EU povećao se za više od 102%, dok se izvoz iz EU-a u NR Kinu povećao za 47% (Vijeće EU-a i Europsko vijeće, Trgovina između EU-a i Kine: činjenice i brojke, bez dat.).



Slika 4. Prikaz trgovinskog suficita NR Kine u 2026. Izvor: *Firenzani, C. (2026). China sets its sights on the EU, with a 24 percent increase in trade surplus over the past year.*

Kineske tvrtke uspjele su velikim dijelom probiti se na europsko tržište zato što je EU zanemarila strateške politike te se pretjerano fokusirala na probleme koji nisu bili prioritetni. Sve navedeno je posljedica zaborava već poznatih lekcija koje je još Sun Tzu napisao u svojoj knjizi „Umijeće ratovanja“.

Sličan modus operandi bilježi i ruska strana. Naime, izgradnjom Sjevernog toka 2, Rusija je pokušala stvoriti direktnu vezu s Njemačkom, zaobilazeći pri tom Ukrajinu i ostale zemlje u opskrbnom i infrastrukturnom lancu. Njemačka, vođena pogrešnim politikama i oportunizmom, a ne političkom odgovornošću, smatrala je kako će sekundarno trgovinska suradnja i poslovne veze s Rusijom dovesti do određenih promjena u njenom političkom kompasu pri čemu će suradnja s europskim zemljama postati bitnija od suradnje s NR Kinom. Na koncu, takva politika prevelikog vezivanja uz ruske energente, koji su sami temelj ruske energetske, odnosno vanjskopolitičke i sigurnosno-obavještajne strategije u smislu alata za stvaranje pritiska, dovela je do ekonomskih posljedica koje građani EU osjećaju do danas. Početkom ruske agresije na Ukrajinu 2022., počelo se razmišljati o prekidu energetskih veza s Rusijom i prelasku na druge, alternativne oblike uvoza energenata. Danas je cijena tih, alternativnih energenata bitno skuplja, pri čemu cijenu diktira kontekst (jedina opcija = ovisnost) te kompliciraniji sustav logistike, sigurnosti prometnih pravaca itd. Inflatorni pritisci te rast cijena, bitno generiran lošim odlukama u području energetske politike i šire, doveli su do nezadovoljstva stanovništva koje godinama buja i rezultira dvojako; u jednom dijelu stanovništva općom apatijom, a u drugom dijelu - priklanjanjem radikalnim političkim opcijama koje nude “rješenja”. Rusija je to shvatila i u ranoj fazi pokrenula snažne dezinformacijske kampanje kojima je potaknula razvoj radikalne desnice u Europi, a posebice u Njemačkoj (Applebaum, 2026).

Budući rasplet situacije u Istočnoj Aziji i na Arktiku ovisit će o tome hoće li Washington i Peking uspjeti održati kanale za deeskalaciju mogućeg sukoba usred stalnih ekonomskih i vojnih pritisaka (*Annual Report to Congress: Military and Security Developments Involving the PRC*, 2025). Najveći rizik ostaje pogrešna procjena namjera suparnika u uvjetima nepredvidljive transakcijske retorike koja može oslabiti tradicionalne mehanizme odvrćanja (*The Next U.S. Administration and China Policy*, 2024).

Zaključak

Razdoblje 2024.-2025. jasno potvrđuje da su SAD i NR Kina ušle u dinamičnu fazu strateškog rivalstva u kojoj se dihotomija rata i mira zamijenila kontinuiranim nadmetanjem u ekonomskom, tehnološkom i informacijskom području. Pri tome, ekonomski instrumenti, industrijska politika, kontrola nad kritičnim resursima, informacijski utjecaj i vojno odvracanje, više ne funkcioniraju kao zasebni elementi, već mogu polučiti mjerljive rezultate samo u sklopu jedinstvene, sustavne i strateški planirane nacionalne strategije. Američki predsjednik Trump redefinirao je američku vanjsku politiku kroz prizmu transakcijskog realizma koji se temelji na mjerljivoj neposrednoj materijalnoj koristi. Na taj način, SAD su osigurale kratkoročne dobitke, ali je narušena predvidljivost vanjskopolitičkih koraka i tradicionalni mehanizmi odvracanja od sukoba. Poradi toga, povećan je rizik od krive procjene namjera suparnika, što je najjasnije na primjeru Tajvana. S druge strane, kineska strategija temelji se na dugoročnoj koherentnosti pri čemu se umjesto formalne konfrontacije, svaka situacija procjenjuje i nastoji preusmjeriti u kinesku korist, a da se pritom bitno ne prelazi “crvena linija” mogućeg rata ili sukoba. NR Kina se u tom strateškom procesu najviše usmjerila na djelovanje u području deset kritičnih industrijskih područja i u informacijskom području.

Tajvan i Grenland kao operativni primjeri predstavljaju dva različita pristupa u strateškom rivalstvu, pri čemu je prvi vojno-sigurnosno žarište na području Indo-Pacifika, a drugi resursno-geopolitičko pitanje Arktika kao sve izraženijeg mjesta susreta i preklapanja nacionalnih interesa svjetskih sila. Pritom, Tajvan je primjer testiranja granica i načina spremnosti na uporabu sile, dok Grenland pokazuje da kontrola kritičnih resursa postaje jednako važna kao kontrola pomorskih pravaca i geopolitički interesnih prostora. Prema tome, budućnost odnosa SAD-a i NR Kine izravno će ovisiti o sposobnosti upravljanja kriznim točkama u kojima se izravno preklapaju ekonomski, vojni i drugi nacionalni interesi.

U svemu tome, EU se profilirala kao treći, i ujedno najranjiviji akter koji je istodobno izložen američkom carinskom pritisku te kineskom (i indijskom) gospodarskom i informacijskom pritisku koji je poguran američkim carinskim nametima koji sustavno narušavaju transatlantske odnose. Budućnost EU ovisit će o strateškoj kulturi i promjeni načina razmišljanja, jasnijoj industrijskoj politici, prioritizaciji ciljeva i međusobnoj koheziji u gospodarskim, vrijednosnim, sigurnosnim i političkim pitanjima.

Budući odnos NR Kine i SAD-a bit će obilježen odnosom u kojem rat nije neizbježan, ali nikada nije u potpunosti isključen. Pri tome, jedan od najvažnijih čimbenika odvratanja bit će pravovremeno i adekvatno prepoznavanje i interpretiranje međusobnih namjera, upravljanje dinamikom rivalstva i postojanje međusobno utvrđenih komunikacijskih kanala kojima će se krizna pitanja nastojati rješavati na što je više moguće brži, efikasniji i najmanje štetan način za sve aktere.

Literatura

- Applebaum, A. (2026). Autokracija d.d. Zagreb: Fokus komunikacije.
- Barata da Rocha, M., Boivin, N. & Poitiers, N. (2025). The economic impact of Trump's tariffs on Europe: An initial assessment. Bruegel. <https://www.bruegel.org/analysis/economic-impact-trumps-tariffs-europe-initial-assessment>
- BBC (2025). Trump tariff threat over Greenland 'unacceptable', European leaders say. <https://www.bbc.com/news/articles/cy4qjwk9n2no>
- Brainard, L. (2025). 2025 Susan Shirk Lecture on U.S.-China Relations. San Diego: UC San Diego School of Global Policy and Strategy.
- Center for Strategic and International Studies (2024). China Outpacing U.S. Defense Industrial Base.
- Congressional Research Service (2024). Made in China 2025 and Industrial Policies: Issues for Congress.
- Dazio, S. Zhang, R., Burrows, E. (2026). <https://apnews.com/article/fact-check-greenland-denmark-trump-arctic-security-russia-china-6346aa8e86be594e467e8cc18f98357b>
- Eder, T. (2025). Brave New World - The Future of China-US Relations. Beč: Austrian Institute for International Affairs.
- Eunews (2026). China sets its sights on the EU, with a 24 per cent increase in trade surplus over the past year. <https://www.eunews.it/en/2026/05/14/china-trade-surplus-eu-24percent-year/>
- Europski parlament. (2025). Trgovina između EU-a i SAD-a: kako carine mogu utjecati na Europu. Glavna uprava za komunikaciju. <https://www.europarl.europa.eu/news/hr/press-room/20250210STO26801/trgovina-izmedu-eu-a-i-sad-a-kako-carine-mogu-utjecati-na-europu>
- Forbes (2025). Autoindustrija u panici: Kina može sve ugasiti za dva mjeseca, ali dva rješenja bi nas mogla spasiti. <https://forbes.dnevnik.hr/aktualno/svijet/>

- autoindustrija-u-panici-kina-nas-moze-sve-ugasiti-za-dva-mjeseca-ali-dva-rjesenja-bi-nas-mogla-spasiti/
- FOX 5 News (2026.). President Trump says he will not invade Greenland. <https://www.youtube.com/watch?v=aXWitj4fr78>
- <https://www.americanactionforum.org/research/pricing-greenland-the-essence-of-the-deal/>
- International Crisis Group (2024). The Next U.S. Administration and China Policy, Report No. 10.
- Jensen, J. & Ashton, F. (2026) Pricing Grenland: The Essence of the Deal. The American Action Forum.
- Karacali, N. (2025). The Self-Undermining Arsenal: A Critical Theory of Weaponized Interdependence.
- McKibbin, W. J., Noland, M. & Shuetrim, G. (2025). The Global Economic Effects of Trump's 2025 Tariffs (Working Paper 25-13). Washington, DC: Peterson Institute for International Economics.
- McKibbin, W. J. & Shuetrim, G. (2025). The US Revenue Implications of President Trump's 2025 Tariffs. Peterson Institute for International Economics Briefing 25-2.
- Popović, P. (2018). Trumpova doktrina i realistička tradicija. *Političke perspektive*, 8(3), 41-67.
- Predstavništvo Europske komisije u Hrvatskoj (2026.). EU i Indija sklopili povijesni sporazum o slobodnoj trgovini. https://croatia.representation.ec.europa.eu/news/eu-i-indija-sklopili-povijesni-sporazum-o-slobodnoj-trgovini-2026-01-27_hr
- Reuters (2026). Nordics reject Trump's claim of Chinese and Russian ships around Greenland, FT reports. <https://www.reuters.com/world/china/nordics-reject-trumps-claim-chinese-russian-ships-around-greenland-ft-reports-2026-01-11/>
- Salonius-Pasternak, C. & Sinkkonen, V. (2025). Four lenses for observing the second Trump administration (Briefing Paper 402). Finnish Institute of International Affairs (FIIA).
- The Guardian (2026). Fears of new China shock as EU industry's reliance on imports grows. <https://www.theguardian.com/business/2026/may/19/china-shock-eu-european-union-industry-imports>
- The President of the U.S. (2025). National Security Strategy of the United States of America.
- The White House (2025). The Inaugural Address. <https://www.whitehouse.gov/remarks/2025/01/the-inaugural-address/>
- U.S. Department of Defense (2025). Annual Report to Congress: Military and Security Developments Involving the PRC, 2025.

U.S. Department of Treasury. Major Foreign Holders of Treasury Securities. https://ticdata.treasury.gov/resource-center/data-chart-center/tic/Documents/slt_table5.html

U.S. Energy Information Administration. <https://www.eia.gov/>

United Nations Department of Economic and Social Affairs (UN DESA). World Economic Situation and Prospects 2026.

Vijeće EU-a i Europsko vijeće (2026). Trgovina između EU-a i Kine: činjenice i brojke. <https://www.consilium.europa.eu/hr/infographics/eu-china-trade/#o>

World Economic Forum (2025). Made in China 2.0: The future of global manufacturing? <https://www.weforum.org/stories/2025/06/how-china-is-reinventing-the-future-of-global-manufacturing/>

World Energy Investment (2025). <https://www.iea.org/reports/world-energy-investment-2025/china>

Analysis of the security, foreign and economic policy of the United States of America during Donald Trump's second term

ABSTRACT

The paper is conceived as a concise theoretical analysis of the security, foreign and trade policy of the United States of America. A special aspect of the paper is the analysis of the relationship between the United States and the People's Republic of China, which in 2025 reached a critical point and became the most intense trade conflict in recent history. Furthermore, the paper explores the position of the European Union in this relationship and the consequences of Chinese, and especially American policy, on the economic and political situation within the EU. A special aspect in the paper is the issue of Greenland, as the most obvious example of Trump's transactional realism where military power and force are used as a negotiating tool to gain access to critical re-

sources necessary for industrial and technological supremacy. Also, a special aspect is dedicated to the issue of Taiwan, as one of the crisis hotspots and open geopolitical and security issues in the relations between the United States and the People's Republic of China. The results of the paper indicate that the rivalry between the United States and the People's Republic of China is taking place as a continuous competition in which the decisive factor will be long-term planned and feasible strategies, where the American approach brings certain gains with an increased risk of instability, while the People's Republic of China puts emphasis on the gradual and systematic strengthening of the state without open confrontation.

KEYWORDS: *United States of America, People's Republic of China, Donald Trump, Security Policy, Foreign and Economic Policy*

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Galijaš, Armina. *Pyckkuš Mup i srpski svet*. Zagreb: Srednja Europa, 2026., 125 stranica

Dok je u veljači ruska agresija na Ukrajinu ušla u petu godinu, a početak godine obilježile su sve radikalnije militantne i prijeteće izjave srbijanskog političkog vrha, u Zagrebu je u nakladi Srednje Europe objavljena više nego aktualna knjiga austrijske suvremene povjesničarke bosansko-hercegovačkog podrijetla Armine Galijaš - *Pyckkuš Mup i srpski svet. Ideje, projekti, ratovi*. Premda se naslovna tema u knjizi razlaže uz *Uvod* u svega četiri kraća poglavlja, u knjizi se interdisciplinarno i poliperspektivno primjenjuju metode nekolicine društvenih i humanističkih znanosti. Izdavač je knjigu vrlo kvalitetno opremio znanstvenim aparatom - bilješke su pisane u obliku fusnota, a u sredini knjige na masnom je papiru otisnuto 18 fotografija kojima se ilustriraju suvremene manifestacije srpskog i ruskog svijeta. Na koncu knjige nalazi se *Bibliografija* (115.-120. str.), *Kazalo osobnih imena* (121.-124. str.) te *O autorici* (125. str.).

U *Uvodu* (5.-11. str.) autorica utvrđuje temeljne pojmove te predstavlja istraživačka pitanja i osnovni cilj istraživanja – identifikaciju i usporedbu ključnih elemenata suvremenog srpskog i ruskog svijeta. U prvom poglavlju – *Što su russskiy mir i srpski svet?* (11.-25. str.) Galijaš polazeći od usporedbe pozicije Rusije i Srbije u kontekstu raspada SSSR-a i SFRJ tijekom 90-tih godina 20. stoljeća, prikazuje osnovna načela narativnog i institucionalnog razvoja promatranih političkih koncepata srpskog i ruskog svijeta te njihove temeljne nositelje tijekom prvih dvaju i prve polovine trećeg desetljeća 21. stoljeća. Uočavajući uz niz podudarnosti i temeljnu razliku – ruskog imperijalizma s jedne i srpskog nacionalizma s druge strane, Galijaš ukazuje na oblikovanje suvremene ideologije srpskoga svijeta po uzoru na ideologiju ruskog svijeta.

Poglavlje *Srpske i ruske predodžbe o povijesti, teritoriju i crkvi* (27.-88. str.) podijeljeno je u tri tematska potpoglavlja – *Povijest* (28.-62. str.), *Teorija, nacija, državnost* (62.-69. str.), *Crkva i religija* (69.-88. str.). U potpoglavlju *Povijest* autorica naglašava ulogu percepcije povijesti kao jednog od najvažnijih elemenata ideologi-

ja srpskog i ruskog svijeta te ističe ključnu ulogu ideološke manipulacije percepcijom povijesti srednjega vijeka i Drugoga svjetskoga rata. U odjeljku *Značaj srednjeg vijeka* (30.-38. str.) uspoređuju se značaj i simbolika Kosova u narativu srpskog i Kijevke Rus' u narativu ruskog svijeta. U obama diskursima teritoriji susjednih država –Kosova i Ukrajine promatraju se kao povijesna kolijevka državnosti i kršćanstva čime se opravdavaju ekspanzionistička nastojanja obaju velikodržavnih ideologija. „Elementi prošlosti i sadašnjosti spajaju se u jedno, a linearno povijesno vrijeme je nestalo, pa se aktualni rat predstavlja kao nastavak Drugog svjetskog rata.“ – konstatira Galijaš u odjeljku *Drugi svjetski rat i njegov nastavak* (38.-50. str.). Autorica ističe velik broj primjera manipulacije poviješću Drugog svjetskog rata prilikom velikosrpske agresije na Hrvatsku, BiH i Kosovo te ruske agresije na Ukrajinu. Zaključuje da su sovjetski i jugoslavenski socijalistički monološki narativi službene propisane povijesti jednostavno prešli u imperijalno ruski, odnosno velikosrpski narativ. U odjeljku *Uloga simbola u borbi sjećanja* (51.-54. str.) istaknuti su primjeri nerijetko konfuznih i kontekstualno zavisnih simbola koje upotrebljuju podržavatelji koncepta srpskog i ruskog svijeta. Odjeljak *Nacionalne ideje 19. stoljeća u aktualnom kontekstu* (54.-62. str.) sažima najvažnije ideje i ideologe velikodržavnih projekata Rusije i Srbije od 19. stoljeća do današnjih dana analizirajući kako su se isti projekti mijenjali u zavisnosti o okolnostima pojedinih povijesnih razdoblja. U potpoglavlju *Teritorij, nacija, državnost* (62.-69. str.) Galijaš uočava supstancijalnu sličnost narativa srpskog i ruskog svijeta po pitanju odnosa prema teritorijima susjednih država poput fraza o „podijeljenoj naciji“ i tendencije proglašavanja susjednih nacija izmišljenima. Potpoglavlje *Crkva i religija* (69.-88. str.) vodeći se pojedinačnim primjerima analizira načine na koje su Ruska pravoslavna crkva i Srpska pravoslavna crkva sudjelovale i sudjeluju u kreiranju i promoviranju koncepta ruskog i srpskog svijeta kao i načine na koje su vjerski legitimirale i legitimiraju agresiju na susjedne države. Poseban naglasak stavljen je na analizu političkog i geopolitičkog konteksta odnosa rečenih crkava prema autokefalnosti makedonske, crnogorske i ukrajinske Crkve.

U poglavlju *Politički pragmatizam u praksi* (89.-106. str.) Galijaš ističe i komentira primjere kontradiktornih i nedosljednih izjava nositelja ideologija srpskog i ruskog svijeta, predsjednika Aleksandra Vučića i Vladimira Putina, koje se mijenjaju u zavisnosti o aktualnom dnevopolitičkom kontekstu. Autorica u potpoglavlju *Slika i uloga Zapada* (95.-103. str.) analizira s jedne strane razvoj ruskog ideološkog i realpolitičkog odvajanja od Zapada počevši od 90-tih godina 20. stoljeća do današnjih dana te ambivalentnost srbijanskog odnosa prema poli-

tičkom Zapadu kojoj umnogome doprinosi izrazito prisutna rusofilija. U potpoglavlju *Zbližavanje srpsko-ruskog političkog narativa od 1990-tih do danas* (103.-106. str.) Galijaš konstatira da suvremeni ruski narativ umnogome nalikuje na srpski narativ 90-tih godina 20. stoljeća, dok je inspiracija i hrabrost za formiranje koncepta srpskog svijeta došla upravo od već postojećeg koncepta ruskog svijeta.

Posljednje poglavlje *Russkiy mir i srpski svet u interakciji* (107.-114. str.) donosi presjek rusko-srpskih odnosa u proteklih 30-tak godina naglašavajući da se radi o nedosljednom savezništvu koje ovisi o kontekstu pri čemu valja uzeti u obzir da politika i ideologija ruskog svijeta ima znatno veći utjecaj na koncept srpskog svijeta nego što koncept srpskog svijeta ima na ruski. Raspravljajući o daljnjem razvojnom putu koncepta srpskog i ruskog svijeta autorica zaključuje da je rat u Ukrajini presudan za budućnost ne samo ruskog, nego i srpskog svijeta.

Zaključno, valja konstatirati da autorica Armina Galijaš u osobito pitkom i prohodnom tekstu vješto kombinira historiografske i politološke metode i terminologiju što je osobito dragocjeno s obzirom da se ostvarenja istih znanosti u suvremenom znanstvenom okruženju nerijetko međusobno gotovo potpuno zanemaruju. Bez previše okolišanja Galijaš u svojoj knjizi ulazi u srž problematike koju razlaže vrlo precizno, jasno i strukturirano. *Русский Мир и српски свет* knjiga je vrijedna pozornosti ne samo za suvremene povjesničare i politologe, već i za širu znanstvenu i neznanstvenu javnost zainteresiranu za suvremeno srpsko i rusko društvo, politiku i ideologiju.

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