

From the Euronuke to a Nuclear Weapon Free Zone

Europe's Options in an Era of Eroding American Extended Deterrence

Davis Ellison, Samuel Zilincik and Tim Sweijs March 2025





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Table of Contents

1.	Introd	duction	1		
2.		Debating extended deterrence credibility in today's world			
	2.1.	Revisiting the basic tenets of deterrence theory	3		
	2.2.	Challenges to the credibility of US extended deterrence in the European theatre	5		
	2.3.	How multipolarity exacerbates extended deterrence challenges	11		
	2.4.	Summary of extended deterrence challenges	15		
3.	Polic	Policy Options for Europe			
	3.1.	Option One: Nuclear Proliferation	17		
	3.2.	Option Two: Nuclear latency	19		
	3.3.	Option Three: The Euronuke	20		
	3.4.	Option Four: Expanded Nuclear Sharing within NATO	21		
	3.5.	Option Five: Independent Strategic Conventional Weapons	22		
	3.6.	Option Six: A European Nuclear Weapons Free Zone	23		
	3.7.	Evaluating the options for Europe	24		
4.	Conclusions				
	4.1.	Recommendations and Considerations	29		

1. Introduction

The international nuclear order is in a precarious state. Revisionism is rife and coercive threats alongside actual uses of force seem to have become part and parcel of everyday international interaction. Deterrence has re-emerged as a cornerstone of the defence posture of many small and middle powers also and perhaps especially in Europe. Yet, for those states that rely on extended deterrence guarantees from the United States, Washington's stretched resources and shrinking appetite for a global security role in combination with an explicitly transactionalist approach to alliances, undermines this fundamental pillar of their security. Relatedly, that same extended deterrence guarantee could also become a source of risk with Trump's propensity to escalate crises in order to gain bargaining leverage over allies and adversaries.

For many decades, European states have predicated their security on stability in the US-Russia relationship rooted in the extensive Cold War security arms control architecture. The Intermediate-Range Nuclear Forces (INF), Anti-Ballistic Missile (ABM), Strategic Arms Reduction (START), and New START, were all bilateral treaties between Washington and Moscow that contributed to European security. With the lapse of these treaties, Europe has been left adrift as both Russia and the US became free to develop and deploy a new range of nuclear capabilities such as Russia's *Burevestnik* cruise missile and the US *Sentinel* intercontinental ballistic missile (ICBM) and *Columbia*-class ballistic missile submarine (SSBN) modernisation programmes. Indeed, as both critics and supporters have noted, the US modernisation programme in particular is not aimed at maintaining a balanced deterrent but is instead bent on achieving "superiority" against both Russia and China simultaneously.¹ Importantly, this superiority is predicated on deterring attacks against the US first and foremost, and not about reinforcing extended deterrence globally.

European NATO states are going to find themselves challenged by Trump's hostile approach towards alliances and uncertainty about the security guarantee from their largest ally that result from it. Many efforts are made to woo Washington's decision makers through making large, made-in-the-US defence purchases and pledging again-and-again for more burdensharing and higher defence budgets. This is, at best, a short-term solution for a shift that is structural in nature. At worst, it opens the door for intra-alliance coercion in which payments are extracted in return for continued protection.

In this context, European states can and should take greater ownership over their own affairs in shoring up deterrence alongside promoting nuclear stability. There are a range of options, each of which comes with their own risks and wagers based on that risk. On one end of the spectrum is the development of new, independent nuclear weapons by European states. This is arguably the most extreme option, one that risks escalation from Russia, may threaten the stability of the European Union, and would mark a further abrogation of the Treaty on the

European states can and should take greater ownership over their own affairs in shoring up deterrence.

Geoff Wilson, Christopher Preble, and Lucas Ruiz, 'Gambling on Armageddon: How US Nuclear Policies Are Undercutting Deterrence and Lowering the Threshold for Nuclear War' (Washington, D.C.: Stimson Center, 19 February 2025), 9, https://www.stimson.org/2025/gambling-on-armageddon-nuclear-deterrence-threshold-for-nuclear-war/; Van Jackson and Michael Brenes, *The Rivalry Peril: How Great-Power Competition Threats Peace and Weakens Democracy* (New Haven: Yale University Press, 2025), 163–65; Matthew Kroenig, *The Logic of American Nuclear Strategy: Why Strategic Superiority Matters*, Bridging the Gap (Oxford: Oxford University Press, 2018).

Non-Proliferation of Nuclear Weapons (NPT). At the other end of the spectrum is a wider European ratification of the Treaty on the Prohibition of Nuclear Weapons (TPNW) and the establishment of a unilateral European nuclear weapons free zone (NWFZ). This would constitute an equally dramatic step, inviting the risk that Russia would use such a step as an opening for nuclear blackmail and challenging NATO by banishing American nuclear weapons from Europe.

In between are a range of intermediary options including nuclear latency and investments in conventional precision strike capabilities. There will need to be a balance between reinforcing Europe's defence and maintaining strategic stability with Moscow, a challenging prospect both politically and militarily. Indeed, major political steps have been taken at the time of writing, with French President Emmanuel Macron offering to "open up the strategic debate on the protection of our allies on the European continent through our nuclear deterrent," and (likely) German Chancellor Friedrich Merz being receptive to the possibility of Euronuke.² Opening up such a discussion between the two largest EU member states is a sudden shift, with the topic of nuclear weapons being uniquely sensitive to French and German policy-makers in their own contexts.

The present report treats these options on their own merits and does not dismiss any out of hand. Each is considered in the context of their political feasibility, military value, risks to escalation, and impact on the global arms control regime. Much of the debate surrounding these issues is approached normatively from all sides, which detracts from a cool headed yet hard-nosed evaluation of their pros and cons that is necessary amidst the serious political and international changes happening in the nuclear order.

This report is structured as follows: it begins with a review of scholarly debates on extended deterrence credibility and continues with a survey of debates surrounding multipolar deterrence dynamics and its impact on American security guarantees to Europe in particular. Following this, the various independent pathways Europeans can take to try to ensure their own security are considered, specifically: 1) Further European nuclear proliferation, 2) Nuclear latency, 3) the 'Euronuke' option, 4) Expanded NATO nuclear sharing, 5) Strategic conventional weapons, and 6) a European NWFZ. It concludes with a set of considerations both for scholarly debates and reflects on the implications for European policymakers.

² 'Macron Proposes French Nuclear Extension, Ukraine Troop Deployment in Case of Ceasefire', *Le Monde*, 5 March 2025, https://www.lemonde.fr/en/international/article/2025/03/05/macron-says-he-will-open-debate-on-using-french-nuclear-deterrence-to-protect-europe_6738859_4.html.

2. Debating extended deterrence credibility in today's world

2.1. Revisiting the basic tenets of deterrence theory

Theorisation of extended deterrence is a subset of broader deterrence theory, itself the most discussed theory of modern strategic studies.³ Deterrence theory's intellectual development is closely tied to the invention of nuclear weapons, which prompted Cold War era strategists to assume that the main purpose of military forces is to avoid war rather than wage it.⁴ Accordingly, deterrence is generally understood to encapsulate efforts taken by the defender to discourage actions contemplated by the challenger.⁵ Such efforts can take place in peace, where their purpose is to prevent aggression in the first place, as is the case of NATO's Enhanced Forward Presence (EFP) in the Baltics, or in war, where they aim to prevent specific forms of escalation, such as when Russia threatens nuclear retaliation to discourage Ukraine from deep strikes into tits territory.⁶

The two basic deterrence logics include deterrence by denial, where the defender threatens to frustrate the adversary's strategic performance, and deterrence by punishment, where the

- ⁴ Bernard Brodie, "Implications for Military Policy," in Bernard Brodie (ed.), *The Absolute Weapon: Atomic Power and World Order* (New York: Harcourt, Brace & Co 1946), 62; Albert Wohlstetter, "The Delicate Balance of Terror," *Foreign Affairs* 37/2 (1959): 211–34.
- ⁵ For the key works, see Bernard Brodie, "The Anatomy of Deterrence," World Politics 11/1 (January 1959), pp. 173-192; Lawrence Freedman, *Deterrence* (Cambridge: Polity Press, 2004); Thomas C. Schelling, *Arms and influence* (Yale: Yale University Press, 1966); Alexander L. George, and Richard Smoke, *Deterrence in American foreign policy: Theory and practice* (New York: Columbia University Press, 1974). Note that both individual states and alliances can act as defenders, see Patrick Morgan, *Deterrence now* (Cambridge: Cambridge University Press, 2003), 172-202.
- ⁶ Alex Wilner, "Fencing in warfare: threats, punishment, and intra-war deterrence in counterterrorism," Security Studies 22/4 (2013):740–722.

³ For an overview of deterrence theorisation, see Jeffrey W. Knopf, The Fourth Wave in Deterrence Research, *Contemporary Security* Policy 31/1 (April 1, 2010): 1–33; Erik Gartzke and Jon R. Lindsay, *Elements of Deterrence Strategy, Technology, and Complexity in Global Politics* (Oxford: Oxford University Press, 2024); Frans Osinga and Tim Sweijs (eds.), *NL ARMS Netherlands Annual Review of Military Studies 2020: Deterrence in the 21st Century—Insights from Theory and Practice* (The Hague: Springer, 2021). For applications of deterrence also prior to the Cold War, see Naroll, Raoul, Vern L. Bullough & Frada Naroll, Military deterrence in history;: A pilot cross-historical survey - State University of New York Press, 1974.

defender threatens to grievously harm the challenger if the latter goes through with aggression.⁷ In practice, the two logics are often closely related because they are both founded on the aim of making the cost of an attack unacceptably high. For example, EFP actually combines the two logics, as the allied forces there are supposed to make a potential Russian invasion less successful and more costly at the same time.⁸

Deterrence theorists further distinguishes between immediate deterrence, where the defender aims to discourage imminent aggression actively planned by the challenger, and general deterrence, where the defender aims to shape the potential challenger's calculations even before the latter would consider acting aggressively.⁹ An example of immediate deterrence would be Volodymyr Zelensky's last minute efforts to discourage the Russians from invading Ukraine in the winter of 2022. In contrast, general deterrence refers to Taiwanese efforts to shape Chinese calculations of potential aggression in the long term.

Deterrence can involve a spectrum of conventional military capabilities, and even nonviolent instruments. In terms of specific means, while originally and mainly centred on nuclear weapons, deterrence can involve a spectrum of conventional military capabilities, and even non-violent instruments, such as economic sanctions.¹⁰ In fact, contemporary international actors often threaten a wide range of actions in order to dissuade a similarly broad spectrum of attacks. NATO, for instance, seeks to deter not only military aggression, though that remains its core task, but also electoral interference and propaganda campaigns. Accordingly, it not only builds up its military power but also enhances the societal resilience of its member states.

Finally, based on the number of actors involved, deterrence can be direct, when the defender aims to discourage aggression against its homeland, or extended, meaning the defender aims to discourage challenger's aggression against a third party, usually labelled *protegé* and often a formal treaty ally.¹¹ Most contemporary examples of extended deterrence revolve around the US, which seeks to deter aggression against its allies around the world, especially in Europe, Middle East and the Pacific.

The existing literature recognises that in order to be successful, all deterrence efforts have to be credible. Lawrence Freedman describes credibility as the "magic ingredient" in deterrence contexts.¹² Credibility can be understood as "the extent to which an actor's statements or implicit commitments are believed."¹³ While that belief was traditionally understood as resulting from rational cost/benefit calculations, more recent research suggests credibility is

- ¹⁰ Erik Gartzke and Jon R. Lindsay, Cross-Domain Deterrence. Strategy in an Era of Complexity, Oxford University Press, 2019, King Malory, New Challenges in Cross-Domain Deterrence (Santa Monica: RAND, 2018).
- ¹¹ Kenneth Watman et al., U.S. Regional Deterrence Strategies (Santa Monica, CA: RAND Corp., 1995), 15; Huth, P. (1988). Extended deterrence and the prevention of war. Yale University Press.
- ¹² Lawrence Freedman, *The Evolution of Nuclear Strategy*, 3rd edn (Basingstoke: Palgrave Macmillan, 2003), p. 92.
- ¹³ Allan Dafoe, Jonathan Renshon, and Paul Huth, "Reputation and Status as Motives for War," Annual Review of Political Science 17 (2014): 371–93.

⁷ Snyder, Glenn H., Deterrence and defense. Toward a theory of national security (Princeton: Princeton University Press, 1961).

⁸ Jörg Noll, Osman Bojang and Sebastiaan Rietjens, "Deterrence by Punishment or Denial? The eFP Case," in Frans Osinga and Tim Sweijs (eds.), NL ARMS Netherlands Annual Review of Military Studies 2020: Deterrence in the 21st Century—Insights from Theory and Practice (The Hague: Springer, 2021), 110-128.

⁹ Michael J. Mazarr, 'Understanding Deterrence', in *Deterrence in the 21st Century—Insights from Theory and Practice*, ed. Frans Osinga and Tim Sweijs (The Hague: TMC Asser Press, 2021), 14–27.

first and foremost a psychological, emotional, and a socially constructed belief.¹⁴ Practically, the credibility of the defender's deterrence efforts relies on their willingness and ability to fight, and the communication of these qualities to the challenger.¹⁵ Accordingly, a substantial portion of the traditional deterrence literature is dedicated to identifying ways in which the defender's deterrence efforts can be made more credible.¹⁶

2.2. Challenges to the credibility of US extended deterrence in the European theatre

The issue of credibility is particularly salient in extended deterrence situations.¹⁷ Specifically, the literature suggests that credibility in these situations is challenged by the inherent lack of a defender's motivation to spill blood over someone else's territory, the situational lack of a defender's resources to deny a quick offensive, the widespread adoption of nuclear taboo norms rendering a nuclear response unlikely, the limitations of conventional capabilities, the complexity of multi/cross domain dynamics and the absence of cross domain deterrence grammar, and the tensions between assurance and deterrence. (see Table 1)

Growing doubts about American motivation

The literature suggests that the foremost challenge to any defender's credibility resides in making both the challenger and the protége believe that the defender is willing to risk waging a war, potentially a nuclear war, on the protegé's behalf.¹⁸ Such a belief is hard to instil because compared to direct deterrence, the defender is inherently less invested in the issue, and thus emotional motivation for enacting revenge in case of the challenger's attack may be absent.¹⁹ As Thomas Schelling observes, "the difference between the national homeland and everything "abroad" is the difference between threats that are inherently credible, even if unspoken, and

¹⁴ For a traditional formulation, see Paul K. Huth, "Extended Deterrence and the Outbreak of War," *The American Political Science Review*, 82/2 (1988), pp. 423-443. For a more recent psychological perspective, see Jonathan Mercer, "Emotional Beliefs," *International Organization* 64/1 (Winter 2010), pp. 1-31; For an examination of emotions in the context of deterrence by denial, see Zilincik, S., & Sweijs, T. (2023). Beyond deterrence: Reconceptualizing denial strategies and rethinking their emotional effects. Contemporary Security Policy, 44(2), 248–275. https://doi.org/10.1080/13523260.2023.2185970. For a landmark study on the relationship between emotions and coercive diplomacy more generally, see Robin Markwica, Emotional Choices How the Logic of Affect Shapes Coercive Diplomacy, Oxford University Press, 2018. For a constructivist angle, see Maria Mälksoo, "A ritual approach to deterrence: I am, therefore I deter," *European Journal of International Relations* 2021 27(1) 53–78. For a comparative evaluation of all these models, see Dr. Jeffrey W. Knopf, *Rationality, Culture and Deterrence* (Naval Postgraduate School (NPS),Center on Contemporary Conflict, 2013).

¹⁵ John Stone, "Conventional Deterrence and the Challenge of Credibility," *Contemporary Security Policy*, 33/1 (2012): 110.

¹⁶ For example, see Robert Powell, Nuclear Deterrence Theory: The Search for Credibility (Cambridge, Cambridge University Press, 1990); Evan Braden Montgomery, "Signals of strength: Capability demonstrations and perceptions of military power, Journal of Strategic Studies 43/2 (2019), 309-330.

¹⁷ Bruno Tertrais, Perspectives on Extended Deterrence (FONDATION pour la RECHERCHE STRATÉGIQUE, 2010); Paul van Hooft, "The US and Extended Deterrence," In NL ARMS Netherlands Annual Review of Military Studies 2020: Deterrence in the 21st Century—Insights from Theory and Practice, Frans Osinga and Tim Sweijs (eds.) (The Hague: Springer, 2021): 87-108.

¹⁸ Stéfanie von Hlatky, "Introduction: American Alliances and Extended Deterrence," In the Future of Extended Deterrence, Stéfanie von Hlatky and Andreas Wenger (Eds.) (Washington DC.: Georgetown University Press, 2015), 4; Lawrence Freedman, "Framing Strategic Deterrence," The RUSI Journal 154/4 (2009), 48.

¹⁹ Rose McDermott, Anthony C. Lopez, and Peter K. Hatemi, ""Blunt Not the Heart, Enrage It": The Psychology of Revenge and Deterrence," *Texas National Security Review* 1/1 (2017), 74-75.

threats that have to be made credible."²⁰ Janice Gross Stein has pointed out that extended deterrence can fail because the challenger may be far more motivated to act than the defender.²¹ As an illustration, during the Cold War, the US had to convince the Soviets and its European allies that it would start a war, and risk nuclear war, on behalf of the latter.²² The credibility of this assurance was always in question. This led most famously to an exchange between US president John F. Kennedy and French president Charles de Gaulle, where de Gaulle asked his American counterpart, "whether [he] would be ready to trade New York for Paris?"²³

As of writing, it is evident that the second Trump administration does not consider European allies as vital to the country's security. This undermines any promised American extended security guarantee which would involve waging (nuclear, in the case of NATO) war on their behalf.²⁴ Speaking to US motivations at the present moment, US Vice President J.D. Vance has showcased not only a strategic scepticism about European militaries, describing European armed forces as "random countr[ies] that haven't fought a war in 30 years,"²⁵ but in his February 2025 Munich Security Conference speech highlighted a significant political gulf between Europeans and Americans, calling European progressive policies a threat from within that exceeds the external threat of Russia.²⁶ This position is, in part, informed by an assessment that risking war with Russia, or rather defending Europe, is simply not worth the risk to the United States, and that the primary responsibility for deterrence on the continent lies with Europe, rather than with the US.²⁷

Dwindling American resources

The second challenge to extended deterrence's credibility, highlighted most notably by Evan Montgomery, comes from the fact that the defender's resources are always finite. Montgomery notes that while defenders often attempt to deter aggression against multiple protégés, they cannot simultaneously honour all their commitments because they do not have enough resources for fighting everywhere at once.²⁸ This "prioritization" challenge

- ²⁷ Miranda Priebe et al., 'Competing Visions of Restraint', *International Security* 49, no. 2 (1 October 2024): 135–69, https://doi.org/10.1162/isec_a_00498; Davis Ellison and Paul van Hooft, 'Twilight of Atlanticism? America's Shifting Approaches to Europe' (The Hague: The Hague Centre for Strategic Studies, 11 November 2024), https://hcss.nl/report/twilight-of-atlanticism-americas-shifting-approaches-to-europe/.
- ²⁸ Evan Braden Montgomery, "Primacy and Punishment: US Grand Strategy, Maritime Power, and Military Options to Manage Decline," *Security Studies* 29/4 (August–September 2020): 769–96.

²⁰ Thomas C. Schelling, Arms and influence (Yale: Yale University Press, 1966), 36.

²¹ Janice Gross Stein, "The Wrong Strategy in the Right Place: The United States in the Gulf," International Security 13/3 1988-1989), pp. 145.

²² Lawrence Freedman, *The Evolution of Nuclear Strategy*, 3rd edn (Basingstoke: Palgrave Macmillan, 2003), 404-406.

²³ 'Memorandum of Conversation - President's Visit' (US Department of State Office of the Historian, 31 May 1961), US/MC/1, Foreign Relations of the United States, https://history.state.gov/historicaldocuments/ frus1961-63v14/d30.

Pete Hegseth, 'Opening Remarks by Secretary of Defense Pete Hegseth at Ukraine Defense Contact Group (As Delivered)', U.S. Department of Defense, 12 February 2025, https://www.defense.gov/News/Speeches/ Speech/Article/4064113/opening-remarks-by-secretary-of-defense-pete-hegseth-at-ukraine-defense-contact/https%3A%2F%2Fwww.defense.gov%2FNews%2FSpeeches%2FSpeech%2FArticle%2F4064113%-2Fopening-remarks-by-secretary-of-defense-pete-hegseth-at-ukraine-defense-contact%2F; Christina Lu, 'The Speech That Stunned Europe', Foreign Policy, 18 February 2025, https://foreignpolicy.com/2025/02/18/ vance-speech-munich-full-text-read-transcript-europe/; David Smith, 'Trump Blames Ukraine over War with Russia, Saying It Could Have Made a Deal', *The Guardian*, 19 February 2025, sec. World news, https://www. theguardian.com/world/2025/feb/19/trump-ukraine-war-russia-could-have-made-a-deal.

²⁵ Noah Keate, Esther Webber, and Laura Kayali, 'JD Vance Sparks British Fury as He Mocks Ukraine Peacekeeping Plan', Politico, 4 March 2025, https://www.politico.eu/article/jd-vance-trashes-keir-starmer-emmanuelmacron-ukraine-peacekeeping-plan/.

²⁶ Lu, 'The Speech That Stunned Europe'.

7

then renders deterrence efforts less credible.²⁹ The defender's force planning can then influence credibility, especially if their protégé perceives the defender's forces as insufficient to prevail in more than one war at a time.³⁰ In fact, in recent years, the US ability to fight more than one major war at the same time is widely doubt, which negatively impacts the credibility of its deterrence commitments around the globe.³¹ This is largely the culmination of a decadelong turn away from the 'two-war construct' in US defence planning, begun under the Obama administration.³² This problem has only been exacerbated by the Russian invasion of Ukraine, which has shown the amount of men and materiel the conduct of contemporary wars require.³³ According to this perspective, as articulated by current Under Secretary of Defense for Policy Elbridge Colby, it is simply no longer feasible to promise full protection for allies and partners across four regions simultaneously (Europe, East Asia, the Middle East, and Latin America).³⁴ In February 2025, US Secretary of Defense Pete Hegseth took this a step further, arguing at the Ukraine Defence Contact Group that "the United States will no longer tolerate an imbalanced relationship which encourages dependency."³⁵ The challenge to extended deterrence is also political inasmuch as the US prioritises one area (the Asia-Pacific) over others (Europe).

Conventional limitations

Fourth, conventional deterrence's credibility suffers because of the uncertainty surrounding the conventional forces' ability to frustrate the adversary's efforts.³⁶ Conventional forces are usually deployed to provide deterrence through denial rather than punishment, and hence to frustrate the challenger's victory aims.³⁷ Therefore, if the defender does not have sufficient conventional forces deployed in the right place, then the challenger may feel emboldened to pursue aggression.³⁸ However, conventional wars are always realms of chance and uncertainty, meaning it is hard to accurately predict if such frustration can be accomplished.³⁹ In practice, this means challengers may try their luck with aggression against a protégé especially if the defender does not deploy substantial conventional forces to provide extended deterrence. The balance may be further tilted in the aggressor's favour especially if it is motivated by a "perceived necessity," thus becoming more accepting of the risks associated with

- ³⁸ Michael S. Gerson, "Conventional Deterrence in the Second Nuclear Age," *Parameters* 39/3 (2009), 38.
- ³⁹ Carl von Clausewitz, On War, ed. Michael Howard and Peter Paret (Princeton, NJ: Princeton University Press, 1989).

²⁹ Tongfi Kim and Luis Simón, "A Reputation versus Prioritization Trade-Off: Unpacking Allied Perceptions of US Extended Deterrence in Distant Regions," Security Studies 30/5 (2021): 725–760.

³⁰ Hal Brands and Evan Braden Montgomery, "One War Is Not Enough: Strategy and Force Planning for Great-Power Competition," *Texas National Security Review* 3/2(2020): 80–92.

³¹ Hal Brands and Evan Braden Montgomery, "One War Is Not Enough: Strategy and Force Planning for Great-Power Competition," *Texas National Security Review* 3/2(2020): 80–92.

³² Lisa Aronsson, 'New US Defence Strategy: Why Obama Is Abandoning America's Commitment to Fight Two Major Wars' (London: Royal United Services Institute, 9 January 2012), https://rusi.orghttps://rusi.org.

³³ Franz-Stefan Gady and Michael Kofman, 'Ukraine's Strategy of Attrition', Survival (Vol. 65, No. 2, 2023); Alex Vershinin, "The Attritional Art of War: Lessons from the Russian War on Ukraine," RUSI (18 March 2024), available at: https://rusi.org/explore-our-research/publications/commentary/attritional-art-war-lessons-russian-war-ukraine; https://www.iiss.org/online-analysis/military-balance/2025/02/combat-losses-and-manpower-challenges-underscore-the-importance-of-mass-in-ukraine/.

³⁴ Jamie Dettmer, "Trump ally has tough love for Europe," Politico (May 17, 2024), available at: https://www. politico.eu/article/former-president-donald-trump-ally-europe-joe-biden-us-elections-pentagon/

³⁵ Hegseth, 'Opening Remarks by Secretary of Defense Pete Hegseth at Ukraine Defense Contact Group (As Delivered)'.

³⁶ Michael S. Gerson, "Conventional Deterrence in the Second Nuclear Age," *Parameters* 39/3 (2009), 42-43; Richard J. Harknett, "The Logic of Conventional Deterrence and the End of the Cold War," *Security Studies* 4 (March 1994), 86-114; Karl Mueller, "The Continuing Relevance of Conventional Deterrence," In *NL ARMS Netherlands Annual Review of Military Studies* 2020: *Deterrence in the* 21st Century—Insights from Theory and *Practice*, Frans Osinga and Tim Sweijs (eds.) (The Hague: Springer, 2021): 48-63.

³⁷ Michael S. Gerson, "Conventional Deterrence in the Second Nuclear Age," *Parameters* 39/3 (2009), 36-37.

conventional aggression.⁴⁰ For instance, challengers may attempt a *fait accompli*, meaning limited territorial grabs that cannot be easily prevented and leave the challenger in a strong defensive position vis-a-vis potential counterattack from the defender/protégé.⁴¹

Moreover, given conventional warfare's propensity to generate significant casualties, challengers may feel encouraged to attack when they believe the defender to be casualty averse, as is the case of the US and certainly of other NATO members.⁴² Indeed, it is consistently show, even in the post-Russian invasion of Ukraine environment, that European publics are less willing to fight in the event of war compared to Russia's willingness to incur heavy casualties.⁴³ John Stone has further suggested that at least some instances of conventional deterrence may not seem credible to allies and adversaries whose cultural beliefs and assumptions differ significantly from those of the defender.⁴⁴ Accordingly, in the current context, US deployments of conventional forces in Europe may not seem strong enough to assuredly defeat a Russian attack, with the latter having substantial experience with large scale combat operations and with the Russian regime's disregard for casualties.

Russia's war against Ukraine has revealed that Russia is willing and able to sustain a major protracted war. If anything, Russia's war against Ukraine has revealed that Russia is willing and able to sustain a major protracted war, meaning that NATO threats of protracted war that have traditionally constituted an important mechanism behind NATO's conventional deterrence, are likely to be less effective.⁴⁵ At the same time, by confirming the Clausewitzean adage that defence is the "stronger form of fighting," the invasion may dissuade would-be aggressors from attempting even limited territorial grabs, unless they see themselves capable of acting quickly enough to reap the benefits of defence themselves.⁴⁶ For example, the immense costs of the war in Ukraine could dissuade Russia from further aggression against Western countries. Therefore, while the many limitations associated with conventional military operations impair the cred-ibility of defender's commitments, the enormous costs associated with contemporary war may prompt would be aggressors to be more cautious.

The nuclear taboo

Thirdly, the credibility of nuclear extended deterrence is challenged by the fact that defenders themselves may be hesitant to use nuclear weapons because of the nuclear taboo. Nina Tannenwald, for example, has argued that states are unlikely to use nuclear weapons because of a gradually internalised "nuclear taboo," meaning the norm of not employing those weapons given their uniquely destructive power and after effects.⁴⁷ Keith Payne suggests that the US

- ⁴² Michael S. Gerson, "Conventional Deterrence in the Second Nuclear Age," *Parameters* 39/3 (2009), 43.
- ⁴³ Michal Onderco, Wolfgang Wagner, and Alexander Sorg, 'Who are willing to fight for their country, and why?', Clingendael Spectator, 28 March 2024, https://spectator.clingendael.org/nl/publicatie/who-are-willing-fighttheir-country-and-why.
- ⁴⁴ John Stone, "Conventional Deterrence and the Challenge of Credibility," *Contemporary Security Policy*, 33/1 (2012), 108–123.
- ⁴⁵ John J. Mearsheimer, *Conventional Deterrence* (Ithaca, N.Y.: Cornell Univ. Press, 1983); John J. Mearsheimer, "Why the Soviets Can't Win Quickly in Central Europe," *International Security* 7 (1982), 3-39.
- ⁴⁶ Carl von Clausewitz, On War, ed. Michael Howard and Peter Paret (Princeton, NJ: Princeton University Press, 1989), 84.
- ⁴⁷ Nina Tannenwald, *The Nuclear Taboo: The United States and the Non-Use of Nuclear Weapons Since 1945* (Cambridge: Cambridge University Press, 2007).

⁴⁰ Michael S. Gerson, "Conventional Deterrence in the Second Nuclear Age," *Parameters* 39/3 (2009), 41-43.

⁴¹ Michael S. Gerson, "Conventional Deterrence in the Second Nuclear Age," *Parameters* 39/3 (2009), 39-40; Elbridge Colby, "Against the Great Powers: Reflections on Balancing Nuclear and Conventional Powers," *Texas National Security Review* 2/1 (2018): 145-152; Dan Altman, "By Fait Accompli, Not Coercion: How States Wrest Territory from Their Adversaries," *International Studies Quarterly*, Volume 61, Issue 4, December 2017, Pages 881–891.

foreign policy practice to propagate the taboo undermines credibility, including in "regional deterrence" situations.⁴⁸ T.V. Paul has suggested that states may be reluctant to use nuclear weapons because of the potential reputational harm they would incur.⁴⁹ Thomas Schelling points out that fear of further uncontrollable escalation makes the actual employment of nuclear weapons unlikely.⁵⁰ John Mueller has even suggested that "nuclear weapons don't matter," because they are difficult to use meaningfully.⁵¹ Further, Ward Wilson has noted that wars of extermination, which are arguably the only wars in which the use of nuclear weapons would make sense, are extremely rare, and thus threats of them are inherently not credible.⁵² Accordingly, Terrence Roehrig suggests that the US extended deterrence regarding South Korea lacks credibility, though it may convey some credibility in terms of assurance.⁵³ Events of the last three years provide ample reason both for pessimism and optimism vis-a-vis the maintenance of the nuclear taboo, and therefore, its impact on contemporary extended deterrence dynamics. On the one hand, the taboo seems to be eroding, as manifested, for example, by the seeming rise in the willingness of the Russian regime to threaten with the employment of nuclear weapons.⁵⁴ While destabilizing in many ways, such an erosion could, on the other hand, paradoxically also benefit the credibility of extended deterrence situations because it would make it more believable for actors to employ nuclear weapons in general. At the same time, some actions taken by the US, including as the 2022 Moscow visit by David Petraeus in which he delivered the message that Russia's use of nuclear weapons over Ukraine would prompt conventional retaliation by the US and lead to the destruction of all Russian assets in Ukraine, could have reinforced the nuclear taboo.⁵⁵ Therefore, it remains unclear whether contemporary conflict dynamics challenge or enhance extended deterrence credibility according to the nuclear taboo logic.

Multi/cross domain complexity

Fifth, scholarly literature suggests that extended deterrence in and across newer domains or below the threshold of large-scale aggression is inherently less credible than in purely conventional or nuclear contexts.⁵⁶ Dean Cheng, for example, has argued that it may be especially difficult for the defender to extend its deterrence if the protégé's cyber defences are fragile but also overall because of the dynamic and peculiar nature of cyber conflicts.⁵⁷ Aaron Brantly is also sceptical about achieving extended deterrence in cyberspace because

⁴⁸ Keith B. Payne, *Deterrence in the Second Nuclear Age* (Lexington: The University Press of Kentucky, 1996), 137-140.

⁴⁹ T.V. Paul, The Tradition of Non-Use of Nuclear Weapons (Stanford, CA: Stanford University Press, 2009).

⁵⁰ Thomas C. Schelling, "The Role of Nuclear Weapons," in L. Benjamin Ederington and Michael J. Mazarr, eds., *Turning Point: The Gulf War and U.S. Military Strategy* (Boulder, CO: Westview Press, 1994), 105115, at 106.

⁵¹ John Mueller, "Nuclear Weapons Don't Matter," Foreign Affairs 97/6 (NOVEMBER/DECEMBER 2018), pp. 10-15.

⁵² Ward Wilson, "THE MYTH OF NUCLEAR DETERRENCE," *Nonproliferation Review* 15/3 (2008): 429-432.

⁵³ Terence Roehrig, "The U.S. Nuclear Umbrella over South Korea: Nuclear Weapons and Extended Deterrence," *Political Science Quarterly* 132/4 (Winter 2017-18), pp. 651-684.

⁵⁴ Antulio Echevarria, 'Revisiting Putin's 2022 Invasion of Ukraine: Implications for Strategic and Security Studies', in *Beyond Ukraine: Debating the Future of War*, ed. Tim Sweijs and Jeff Michaels (London: Hurst Publishers, 2024).

⁵⁵ https://www.theguardian.com/world/2022/oct/02/us-russia-putin-ukraine-war-david-petraeus.

⁵⁶ Tim Sweijs and Samuel Zilincik, "The Essence of Cross-Domain Deterrence," In NL ARMS Netherlands Annual Review of Military Studies 2020: Deterrence in the 21st Century—Insights from Theory and Practice, Frans Osinga and Tim Sweijs (eds.) (The Hague: Springer, 2021): 129-158. See also Tim Sweijs and Samo Zilincik, Cross Domain Deterrence and Hybrid Conflict, The Hague Centre for Strategic Studies, 2019, https://hcss.nl/ wp-content/uploads/2021/01/Cross-Domain-Deterrence-Final_0.pdf

⁵⁷ Dean Cheng, "Prospects for Extended Deterrence in Space and Cyber: The Case of PRC," available at: https:// www.heritage.org/defense/report/prospects-extended-deterrence-space-and-cyber-the-case-the-prc#_ftn11.

the domain makes the signalling of potential costs particularly difficult.⁵⁸ Kiseok Michael Kang has further argued that achieving credible extended deterrence in space is difficult because of the inherent problems with proportionality of the potential responses and because of attribution challenges, which can decrease the defender's willingness and capacity to meaningfully retaliate.⁵⁹ Mira Rapp Hooper has similarly argued that generating credibility of extended deterrence is particularly difficult in the maritime context because of the vague formulation of security treaties or asymmetry in territorial interests between the defender and the protégé.⁶⁰ Currently, challengers such as Russia and China engage in numerous "sub-conventional" hostilities that cannot be easily countered or punished.⁶¹ The elusive character of these activities makes it difficult for the US to effectively extend full spectrum deterrence to targeted allies. This inability, in turn, may create fissures in the protégé's confidence vis-a-vis their defender, even if European allies can implement measures to strengthen resilience and enhance their denial capabilities.⁶² At the same time, there is a real risk of escalation if Russian or Chinese or another actor's hostilities below the threshold of a large-scale conventional attack cross a certain threshold that allies find unacceptable, regardless of whether that results from deliberate planning or a mistake. This may then invite a conventional response by the targets of such an attack triggering a tit-for-tat spiral that leads to escalation in the conventional and possibly even nuclear domain.

Deterrence/assurance tensions

Finally, scholars suggest that tensions exist between the credibility of deterring aggression on one hand and assuring allies on the other.⁶³ Rupal Mehta, commenting on ongoing technological developments, suggests that "while technologies may enhance the ability to provide extended deterrence, allies may be less assured by these new capabilities."⁶⁴ Meanwhile, David Yost has drawn attention to the close and nuanced interactions between the credibility of assurance efforts and specific policies, such as arms control processes.⁶⁵ Another problem constitutes what has been termed *moral hazard*, namely the possibility that excessive credibility motivates the protegé to behave irresponsibly, and subsequently to make war more

⁶⁵ David S. Yost, "Assurance and US extended deterrence in NATO," International Affairs 85/4 (2009), 755–780.

⁵⁸ Aaron F. Brantly, "The cyber deterrence problem," In 10th International Conference on Cyber Conflict (CyCon) (Tallinn, Estonia: NATO CCDCOE, 2018), 37. See also Richard Harknett Michael P. Fischerkeller "Deterrence is Not a Credible Strategy for Cyberspace," Orbis 61 (2017):381–393. For a comprehensive overview of the literature on deterrence in cyber context, see Stefan Soesanto and Max Smeets, "Cyber Deterrence: The Past, Present, and Future," In NL ARMS Netherlands Annual Review of Military Studies 2020: Deterrence in the 21st Century–Insights from Theory and Practice, Frans Osinga and Tim Sweijs (eds.) (The Hague: Springer, 2021): 386-400.

⁵⁹ Kiseok Michael Kang, "Extended Space Deterrence: Providing Security Assurance in Space," *Journal of Strategic Security* 16/2 (2023): 13-14.

⁶⁰ Mira Rapp Hooper, "Uncharted Waters: Extended Deterrence and Maritime Disputes," *The Washington Quarterly* 38/1 (2015): 13-132.

⁶¹ Laura Kayali, Dirk Banse, Wolfgang BÜscher, Ulrich Kraetzer, Uwe MÜller, and Christian Schweppe, "Europe is under attack from Russia. Why isn't it fighting back?," *Politico* (25 November 2024), available at: https://www. politico.eu/article/europe-russia-hybrid-war-vladimir-putin-germany-cyberattacks-election-interference/

⁶² Sweijs, T., and S. Zilincik. 2019. "Cross Domain Deterrence and Hybrid Conflict." The Hague Center for Strategic Studies, available at: https://hcss.nl/report/cross-domain-deterrence-and-hybrid-conflict; Wigell, M., 2019. Democratic Deterrence. How to Dissuade Hybrid Interference. FIIA Working Paper 110, September 2019. Helsinki: Finnish Institute of International Affairs, Available at: www.fiia.fi/wp-content/uploads/2019/09/ wp110_democratic-deterrence.pdf.

⁶³ Stéfanie von Hlatky, "Introduction: American Alliances and Extended Deterrence," In *the Future of Extended Deterrence*, Stéfanie von Hlatky and Andreas Wenger (Eds.) (Washington DC.: Georgetown University Press, 2015), 4.

⁶⁴ Rupal N. Mehta, "Extended deterrence and assurance in an emerging technology environment," *Journal of Strategic Studies* 44/7 (2021), 958-982.

likely.⁶⁶ This issue is especially delicate when both the challenger and the defender possess nuclear weapons, meaning the potential confrontation could turn into a nuclear exchange.⁶⁷ American assurance for Europe is in doubt as it seeks to persuade European allies to build up their own capabilities to deter further Russian expansion. Further, it is an open question as to how much assurance is sufficient. Critics of the concept of continuous assurance such as Christopher Clary and Van Jackson have described US allies as "a sinkhole for love, affection, and reassurance" and that no matter how much the US does, there will always be requests for more, or criticism that current measures are insufficient.⁶⁸ Still, US efforts to shift more of the defence burden to Europe and Trump's overtures to Russia may very well create the impression in the Kremlin that the US security guarantee to Europe is no longer ironclad. It may subsequently decide to test the American commitment through a limited probe against the Baltic states or Romania.

To summarise, based on key tenets of deterrence theory, contemporary efforts to maintain extended deterrence face a number of challenges. These include a clearly diminished US motivation to wage war on behalf of its European allies, the limited ability of NATO's conventional forces to frustrate Russian advances, the widespread prevalence of a nuclear taboo and its effect on the credibility of extended deterrence that relies on nuclear weapons, the increased frequency and potency of Russian and Chinese sub-conventional threats, and tensions between US efforts to compel European allies to step up their defence efforts and assurance that it will come to their aid.

2.3. How multipolarity exacerbates extended deterrence challenges

The challenges associated with credible extended deterrence are further exacerbated by the dynamics of today's multipolar world. The international relations literature suggests that deterrence dynamics are in effect shaped by the polarity of the system, defined as the number of great power poles in the international system.⁶⁹ The literature distinguishes between unipolar, bipolar, and multipolar systems, each including one, two, and three or more great powers, respectively. Each of these systems, so the argument goes, affects state behaviour and state interaction differently, based on different configurations in the balance of power, risk propensity of leadership, and alignment and alliance dynamics.

There is an ongoing debate about how to best characterize the current situation, with arguments being made for the respective persistence of all three systems, depending largely on how one defines and measures power. Some observers have argued the world is still unipolar because US military and economic power remains unmatched by its potential competitors.⁷⁰ Others assume that we are in fact witnessing bipolarity because both the US and China can

⁶⁶ Glenn Snyder H., "The Security Dilemma in Alliance Politics." World Politics 36/4 (1984): 461-95; Brett V. Benson, Constructing International Security: Alliances, Deterrence, and Moral Hazard (Cambridge: Cambridge University Press, 2012.

⁶⁷ Neil Narang and Rupal N. Mehta, "The Unforeseen Consequences of Extended Deterrence: Moral Hazard in a Nuclear Client State," *Journal of Conflict Resolution* 63/1 (2019).

⁶⁸ Christopher Clary, 'Christopher Clary@clary_co's Post', Twitter, 20 May 2021, https://x.com/clary_co/ status/1395448568983523328.

⁶⁹ Barry R. Posen, "Emerging Multipolarity: Why Should We Care?," Current History, Vol. 108, No. 721, A Multipolar World? (NOVEMBER 2009), pp. 347-352.

⁷⁰ Stephen G. Brooks and William C. Wohlforth, "The Myth of Multipolarity: American Power's Staying Power" 102 Foreign Aff. 76 (2023); Pål Røren, "Unipolarity is not over yet," Global Studies Quarterly, Volume 4, Issue 2, April 2024, ksae018; https://geopoliticalfutures.com/still-a-unipolar-world/.

be considered great powers.⁷¹ Still others have observed that the current situation can best be described as multipolar because multiple actors possess the capacity to meaningfully influence world politics.⁷² While this is not the place to take on this debate, we consider the current system to be multipolar because the contemporary world contains multiple actors who reject the so-called "rules based order," build political and economic institutions to cultivate and exercise their power internationally, and are willing to project military power beyond their borders. The following pages then provide an overview of the key dynamics that multipolar systems impose on extended deterrence situations. These include exacerbated risks of challengers' misperceptions, increased difficulties of defender's deterrence calculations, greater tensions between the defender and their protégé, and the prevalence of multiple sources of instability. (see Table 2)

Exacerbating challengers' misperception opportunities

First, multipolarity can breed instability by opening up more opportunities for challengers to misperceive defenders' deterrence efforts.⁷³ The presence of multiple challengers makes it more likely that at least one of them will perceive defenders' threats as not credible, which in turn makes those challengers less likely to be deterred from aggression. As Baker Spring explains, this challenge may be especially relevant in the context of deterrence by punishment because threats of retaliation can be misperceived more easily than threats of denial.⁷⁴ Moreover, as Stephen Cimbala points out, multipolarity often implies the presence of actors with varied cultural backgrounds and values that may contribute to misperceptions.⁷⁵ Cimbala also notes that multipolarity results in more geographical proximity between potential adversaries, thus reducing the time available to fix potential misunderstandings, especially if the participants possess missiles that can close the distance rapidly.⁷⁶ This then could lead to a situation wherein, for example, a US nuclear strike against North Korea is misperceived by Russia or China as a first strike against them.

A contemporary example of this challenge in a crisis sense has been seen in the cases of Russian missiles passing over Polish airspace in attacks against Ukraine.⁷⁷ While in these cases Polish and NATO authorities determined they were not deliberate, radar signatures of Russian missiles over NATO territory certainly triggered crisis responses during which leaders had to decide whether or not these landings were accidental and part of Russia's war against Ukraine or the opening salvoes of an attack against NATO. Were Poland nuclear armed, or a similar incident occurred over a nuclear armed state, the stakes of miscalculation and inadvertent escalation could be disastrous.

⁷¹ Cliff Kupchan, "Bipolarity is Back: Why It Matters," The Washington Quarterly Volume 44, 2021 - Issue 4; https://foreignpolicy.com/author/jo-inge-bekkevold/

⁷² https://foreignpolicy.com/2023/10/05/usa-china-multipolar-bipolar-unipolar/; Rebecca Davis Gibbons &Stephen Herzog, "Durable institution under fire? The NPT confronts emerging multipolarity,"Contemporary Security Policy Volume 43, 2022 - Issue 1: The vitality of the NPT after 50.

⁷³ John Mearsheimer, "Back to the Future: Instability in Europe After the Cold War," *International Security* 15/1 (1990), pp. 5-56; Kenneth N. Waltz, *Theory of International Politics* (Reading, Mass.: AddisonWesley, 1979); Kenneth N. Waltz, "The Stability of a Bipolar World,", *Daedalus* 93/3.

⁷⁴ Baker Spring, "Europe, Missile Defense, and the Future of Extended Deterrence,"https://www.heritage.org/ europe/report/europe-missile-defense-and-the-future-extended-deterrence.

⁷⁵ Stephen J. Cimbala, "Deterrence in a Multipolar World Prompt Attacks, Regional Challenges, and US-Russian Deterrence," *Air & Space Power Journal* 29/4 (2015), 57.

⁷⁶ Stephen J. Cimbala, "Deterrence in a Multipolar World Prompt Attacks, Regional Challenges, and US-Russian Deterrence," *Air & Space Power Journal* 29/4 (2015), 58.

Andrew Desiderio and Alexander Ward, 'Western Leaders on High Alert after Explosion in Poland Kills 2', Politico, 15 November 2022, https://www.politico.com/news/2022/11/15/russia-poland-missiles-00067016; Adam Eaton, 'Poland Says Russian Missile Entered Airspace Then Went into Ukraine', BBC News, 29 December 2023, https://www.bbc.com/news/world-europe-67839340.

Increasing the difficulties of defenders' deterrence calculations

Second, multipolarity further nurtures instability by making deterrence calculations difficult for the defender.⁷⁸ The multiplicity of relevant actors makes it difficult for the defender to calculate how much use or threat of force is enough to deter all the potential challengers simultaneously. What may be enough to deter one challenger may be insufficient to deter another one, and it may even provoke some others. Additionally, as Caitlin Talmadge has argued, a multipolar nuclear world also increases the likelihood of interstate war, because it increases uncertainty, possibilities for miscalculation, incentives for arms races, and. escalatory potential.⁷⁹ Similarly, Christopher Twomey has argued that nuclear multipolarity is destabilising because it renders arms control efforts more difficult and incentivises arms races that can spin out of control.⁸⁰ That the US-Russian INF Treaty did not cover China was a crucial part of the agreement's demise. Moreover, as Christopher Layne has pointed out, the presence of multiple potential challengers makes it difficult for the defender to deploy enough conventional forces to all their protégés, thus undermining the credibility of extended deterrence efforts.⁸¹ For the US, Aaron Friedberg further argues multipolarity offers more opportunities for defender's miscalculation by making it harder to promptly respond to the challenger's aggression, given the need to balance a response with wider possible responses from other states.82

These dynamics may be currently most relevant to the US, which remains committed in multiple theatres around the globe (Europe, Asia Pacific, Middle East), all while perceiving challenges not only by increasingly confident great powers, such as China, aggression from Russia, but also by middle powers such as DPRK and Iran, who regularly threaten US allies. This could lead to a scenario in which the US correctly assesses its capabilities in Japan as sufficient for the latter's defence against North Korea while these capabilities turn out inadequate for Japan's defence against China.

Exacerbated assurance problems

Third, multipolarity contributes to instability by exacerbating tensions between defenders and protégés. Glenn Snyder has argued that multipolar systems make alliances unstable mainly because of the presence of numerous available options for realignment.⁸³ Additionally, as Snyder and Paul Diesing explain, multipolarity creates a tension between assurance and deterrence because for the defender in its relationships with protégés, it makes sense to be vague so as to restrain their behaviour, while vis-a-vis the challengers, it is crucial to be as

⁷⁸ John Mearsheimer, "Back to the Future: Instability in Europe After the Cold War," *International Security* 15/1 (1990), pp. 5-56; Kenneth N. Waltz, *Theory of International Politics* (Reading, Mass.: Addison Wesley, 1979); Kenneth N. Waltz, "The Stability of a Bipolar World,", *Daedalus* 93/3; Aaron L. Friedberg, "Ripe for Rivalry: Prospects for Peace in a Multipolar Asia," *International Security* 18/3 (Winter, 1993-1994), 9; Nina Tannenwald, 'Its Time for a U.S. No-First-Use Nuclear Policy', Texas National Security Review 2/3 (May 2019), 131.

⁷⁹ Caitlin Talmadge, "Multipolar Deterrence in the Emerging Nuclear Era," In The Fragile Balance of Terror, Edited by Vipin Narang and Scott D. Sagan (Cornell University Press, 2022), 15.

⁸⁰ Christopher Twomey, "Asia's Complex Strategic Environment: Nuclear Multipolarity and Other Dangers," Asia Policy, no. 11 (January 2011), 74-75.

⁸¹ Christopher Layne, "From Preponderance to Offshore Balancing: America's Future Grand Strategy," International Security 22/1 (Summer, 1997), 108.

⁸² Aaron L. Friedberg, "Ripe for Rivalry: Prospects for Peace in a Multipolar Asia," *International Security* 18/3 (Winter, 1993-1994), 9.

⁸³ Glenn H. Snyder, "The Security Dilemma in Alliance Politics," World Politics, Vol. 36, No. 4 (Jul., 1984), pp. 461-495

explicit as possible to deter them.⁸⁴ John Mearsheimer and Kenneth Waltz have argued that multipolarity makes it easier for protégés to recklessly start wars.⁸⁵ Similarly, commenting on multipolar dynamics in the 1990s, Christopher Layne has suggested that "because other states will have more latitude to pursue their own foreign and security policy agendas than they did during the Cold War, the risk will be much greater that the United States could be chain-ganged into a conflict because of a protected state's irresponsible behaviour."⁸⁶ Caitlin Talmadge has further argued that "the dynamics of a three-sided competition are likely to make the great powers even more sensitive to their allies' fears that arms control spells the abandonment of extended deterrence commitments."⁸⁷ Coupled together, this puts defenders in a spiral wherein assuring a proteg é can create risks with a challenger, while assuring a challenger can create risks with a protege.

Threading this fine line makes up a significant portion of contemporary alliance diplomacy. The complexity of this dynamic can perhaps best be appreciated in the relationship between US and Israel, with the latter behaving increasingly more assertively, possibly recklessly, against others in the region, at least partly by virtue of having continual US backing.⁸⁸ Both exercises and experience have seen Israel strike Iran, pre-emptively and as the initiator, and given Israel's undeclared nuclear status the risks of such actions is serious.⁸⁹ From the US perspective, fear of an Israeli nuclear attack against Iran or a conventional strike against Iranian nuclear facilities have complicated the American-Israeli relationship, making US assurances part of a dual game of simultaneously backing Israel while not supporting escalation by Tel Aviv against Teheran.

Multiplicity of instability sources

Finally, given the presence of multiple actors with varied offensive and defensive capabilities, multipolarity presents more incentives for preventive and pre-emptive strikes.⁹⁰ Aaron Friedberg has argued that multipolarity increases international instability by making power shifts more frequent and difficult to peacefully accommodate.⁹¹ The same Twomey has argued that nuclear multipolarity injects first strike-instabilities.⁹² He also argues that nuclear multipolarity leads to the erosion of nuclear taboo because at least some of the relevant actors may have diverging views about the utility of nuclear weapons.⁹³ Other authors have

⁸⁴ Glenn H. Snyder and Paul Diesing, *Conflict Among Nations: Bargaining, Decision-Making, and System Structure in International Crises* (Princeton: Princeton University Press, 1977), 430-435.

⁸⁵ John Mearsheimer, "Back to the Future: Instability in Europe After the Cold War," *International Security* 15/1 (1990), pp. 5-56; Kenneth N. Waltz, *Theory of International Politics* (Reading, Mass.: AddisonWesley, 1979); Kenneth N. Waltz, "The Stability of a Bipolar World,", *Daedalus* 93/3.

⁸⁶ Christopher Layne, "From Preponderance to Offshore Balancing: America's Future Grand Strategy," International Security 22/1 (Summer, 1997), 106.

⁸⁷ Caitlin Talmadge, "Multipolar Deterrence in the Emerging Nuclear Era," In The Fragile Balance of Terror, Edited by Vipin Narang and Scott D. Sagan (Cornell University Press, 2022), 38.

⁸⁸ James M. Acton, 'The Moral Hazard of Biden's Support for Israel', *Foreign Policy* (blog), 6 March 2025, https:// foreignpolicy.com/2024/04/17/israel-iran-attacks-biden-united-states-defense/.

⁸⁹ Henry Sokolski, 'Wargame Simulated a Conflict between Israel and Iran: It Quickly Went Nuclear', Bulletin of the Atomic Scientists (blog), 27 February 2024, https://thebulletin.org/2024/02/wargame-simulated-a-conflict-between-israel-and-iran-it-quickly-went-nuclear/.

⁹⁰ Stephen J. Cimbala, "Deterrence in a Multipolar World Prompt Attacks, Regional Challenges, and US-Russian Deterrence," Air & Space Power Journal 29/4 (2015), 59.

⁹¹ Aaron L. Friedberg, "Ripe for Rivalry: Prospects for Peace in a Multipolar Asia," *International Security* 18/3 (Winter, 1993-1994), pp. 8.

⁹² Christopher Twomey, "Asia's Complex Strategic Environment: Nuclear Multipolarity and Other Dangers," Asia Policy, no. 11 (January 2011), 74-75.

⁹³ Christopher Twomey, "Asia's Complex Strategic Environment: Nuclear Multipolarity and Other Dangers," Asia Policy, no. 11 (January 2011), 76.

suggested that multipolarity drives nuclear proliferation, which could further destabilise deterrence relationships.⁹⁴

At a more technical level, Christine Leah has argued that especially in the context of nuclear multipolarity, new nuclear powers might lack robust "command, control, and communications infrastructure" (C3I), which is crucial for credible deterrence.⁹⁵ Moreover, some of these states may be more prone to nationalism, which breeds adversarial policies and brings along further escalation risks.⁹⁶ These problems are exacerbated by "contracted strategic geography" that could "lower the threshold for the use of both tactical and strategic nuclear weapons," and by varied utility ascribed to nuclear weapons by different actors."⁹⁷ Already in 1997, Christopher Layne suggested that the then contemporary multipolarity was characteri sed by "the absence of clearly defined spheres of influence," which made all extended deterrence efforts less credible."⁹⁸ James Johnson has drawn attention to the interaction of multipolarity with recent advances in AI, arguing that AI now gives multiple actors the ability to behave aggressively even against conventionally stronger opponents, thus breeding instability.⁹⁹

In contemporary affairs, the connection between multipolarity and pressure for pre-emptive strikes can be seen in the 2024 Nuclear Employment Guidance signed by the previous Biden administration. Reportedly, this guidance emphasises the need to deter and possibly fight Russia, China, and North Korea simultaneously.¹⁰⁰ This guidance could imply a strategy wherein the US is pressured to strike one state pre-emptively, say North Korea, while responding to nuclear use from another, say China.

2.4. Summary of extended deterrence challenges

Overall, it can be concluded that the plurality of scholarly opinion agrees that American extended deterrence suffers from a credibility problem that is being further exacerbated by multipolarity in the global system. In short, extended deterrence requires the suspension of disbelief that the United States is genuinely willing to risk at the very least massive damage against its homeland to protect its allies. Much of Washington's alliance management efforts have been to assuage the pressures explored in this chapter through what it calls demonstrations of 'resolve' to 'shore up credibility'. Whether or not this has been successful, both in the

- ⁹⁷ Christine M. Leah (2012) US Extended Nuclear Deterrence and Nuclear Order: An Australian Perspective, Asian Security, 8:2, 109.
- ⁹⁸ Christopher Layne, "From Preponderance to Offshore Balancing: America's Future Grand Strategy," International Security 22/1 (Summer, 1997), 106. For a more recent assessment, see https://www.defensepriorities.org/explainers/spheres-of-influence-in-a-multipolar-world/.
- ⁹⁹ James Johnson (2020) Deterrence in the age of artificial intelligence & autonomy: a paradigm shift in nuclear deterrence theory and practice?, Defense & Security Analysis, 36:4, 433-434.
- ¹⁰⁰ David E. Sanger, 'Biden Approved Secret Nuclear Strategy Refocusing on Chinese Threat', *The New York Times*, 20 August 2024, sec. U.S., https://www.nytimes.com/2024/08/20/us/politics/biden-nuclear-china-russia.html; Edward Helmore and Amy Hawkins, 'Biden Approves Nuclear Strategy Refocusing on China Threat Report', The Guardian, 21 August 2024, https://www.theguardian.com/us-news/article/2024/aug/20/biden-nuclear-strategy-china-threat.

Extended deterrence requires the suspension of disbelief that the United States is genuinely willing to risk at the very least massive damage against its homeland to protect its allies.

⁹⁴ Rebecca Davis Gibbons & Stephen Herzog (2022) Durable institution under fire? The NPT confronts emerging multipolarity, *Contemporary Security Policy*, 43:1, 50-79.

⁹⁵ Christine M. Leah (2012) US Extended Nuclear Deterrence and Nuclear Order: An Australian Perspective, Asian Security, 8:2, 109.

⁹⁶ Christine M. Leah (2012) US Extended Nuclear Deterrence and Nuclear Order: An Australian Perspective, Asian Security, 8:2, 109.

general and incidental sense, is itself a topic of debate that has been highlighted throughout this Chapter. Table 1 summarises the challenges highlighted above and will be used in Chapter Three to consider the political, strategic, and arms control ramifications of different policy options that Europeans can pursue to address these challenges.

With American extended deterrence increasingly incredible. European states find themselves in a particularly difficult position, given the push and pull of different political and strategic dynamics. These include, inter alia, commitment to the non-proliferation regime, more recent commitments to strengthen Europe's defences within both the NATO and EU contexts, geographical proximity to Russia, and a now very strained relationship with Washington under the second Trump administration. In this context, Europe will need to strengthen its own deterrence capabilities.

Table 1. Summary of Extended Deterrence Dilemmas

Challenges to the credibility of extended deterrence	Example	Multipolar dynamics	Possible pathway to deterrence breakdown
Inherent lack of defender's motivation	US unwilling to risk war with Russia over European allies because it does not see the latter as vital to its security	Exacerbated risk of challeng- er's misperceptions	China perceives US overstretch across regions as weak and takes advantage to attack Taiwan.
			Moscow perceives a retaliatory attack against North Korea as directed against Russia as well.
Situational lack of resources	US forces deployed in the Pacific and Middle East cannot be used in Europe	Increased difficulty of defend- er's calculations	The US perceive deterrence needs against for North Korea differently from those against of China or Iran.
Nuclear taboo	US unwilling to use nuclear weapons to attack Russia	Greater tensions between defenders and protégés	US prioritisation of the Asia-Pacific creates fears of insecurity in Europe.
			Duelling priorities invites opportunistic behaviour of US allies in Europe, the Middle East or the Indo-Pacific.
Conventional limitations	US conventional forces uncertain to frustrate Russian aggression along the eastern flank of NATO	Multiple sources of instability	If Israel were to perceive the US as less likely to defend it, it may engage use its own conventional or nuclear weapons in a massive first-strike to destroy against Iran's nascent nuclear weapon programme.
Multi/cross domain complexity	US has difficulties protecting its allies from Russian interference and hybrid attacks	Escalation resulting from lower-level hybrid threats / grey zone activity below the threshold that crosses a threshold and invites conven- tional response that triggers an escalatory spiral	Russia's security services blow up an airplane over allied territory forcing the hand of US or Europeans to retaliate.
Deterrence/assurance tensions	US has difficulties assuring its European allies but also moti- vating them to build up their forces to deter further Russian expansion	As the US under Trump is looking for a rapprochement with Russia in its competition with China, it leads to fissures in the Transatlantic alliance	Russia perceives the US commitment to European security as weakened and decides to put the alliance's cohesion – and thereby the security guarantee – to test through a quick probe in the Baltics or Romania.

3. Policy Options for Europe

In this Chapter we examine six possible options for Europe to strengthen deterrence while not upsetting strategic stability in light of the preceding discussion on American extended deterrence. They are nuclear proliferation, nuclear latency, the 'Euronuke', expanded nuclear sharing within NATO, independent strategic conventional capabilities, and a European nuclear weapon free zone (NWFZ). It is certainly feasible that several could be pursued separately, or that different groups within Europe itself could choose different pathways. (see Table 2 below) Each option is considered within the dynamics of American extended deterrence incredibility and multipolar deterrence dynamics. The chapter concludes with an examination of each in terms of political feasibility, deterrence potential, escalation risk, as well as feasibility, evaluating both the pros and cons associated with each.

European options to strengthen deterrence	Description		
Nuclear Proliferation	One or more European states develops an independent nuclear weapons programme		
Nuclear Latency	One or more European states pursues the ability to rapidly develop nuclear weapons without actually acquiring them		
Euronuke	European states work with France to jointly fund, support, and maintain the French nuclear programme		
Increased NATO Nuclear Sharing	Nuclear sharing within NATO expands to include Poland		
Strategic Conventional Weapons	European states invest in independent deep precision strike missiles and supporting enablers (ISR, refueling, etc.)		
European NWFZ	EU states (excluding France) establish a binding nuclear weapons free zone and bans the stationing or transit of American weapons in or over the continent		

Table 2. European options to strengthen deterrence

3.1. Option One: Nuclear Proliferation

Certainly, the most radical option for states concerned about the credibility of American extended deterrence is the development of an independent nuclear programme. This path has been taken before, with some states successfully developing such a programme and others ultimately backing away from it. France is the most obvious historical example, with de Gaulle's government deciding in the 1950s that reliance on American security guarantees was insufficient, per the Kennedy-de Gaulle exchange referred to earlier. Other US allies have considered nuclear weapons over the years, with a brief flirtation in West Germany under Konrad Adenauer in the 1950s, in South Korea under the Park Chung Hee dictatorship in the

1970s, and a full-fledged programme in Taiwan that begun under the Chiang Kai-Shek regime and was in development until 1987 until it was aborted.¹⁰¹

In each case, promises from Washington were perceived as non-credible in light of other international events. France returned to its programme after the 1956 Suez Crisis, during which the US pressured its allies to withdraw their forces, an event which shook Adenauer as well, and informed the short-lived interest in an independent West German weapon. South Korea raised the spectre of such a programme in response to the fall of South Vietnam in 1975 and the planned withdrawal of US forces from South Korea under the Carter administration, with Chiang in Taiwan pushing for a programme following the first PRC nuclear test in 1964.

Both France and South Korea are cases exploring in additional detail, given that both programmes were specific responses to what was perceived in Paris and Seoul as weakening American extended deterrence credibility. While there is an additional argument to be made that the French programme was also driven by a desire for international prestige after the collapse of its empire, the primary driver was de Gaulle's concern that in the event of an attack on France, the American guarantee through NATO would not be delivered.¹⁰²

South Korea's programme was explicitly aimed at coercing a continued American presence on the peninsula, a course that was chosen by Washington after the Carter administration left office, though a return to a robust American presence on the peninsula was likely more a result of Reagan-era defence strategy than coercion from Seoul. Nonetheless, that the threat was used by the Park government to essentially trap the US into a continuous presence is noteworthy and speaks to a more adversarial style within alliance management than is often explored.

Contemporary debates about independent nuclearisation within Europe have been largely confined to either Germany or Poland, with experts and leaders in both cases generally reaching the conclusion that such a possibility is unlikely due to a host of political, technical, and financial barriers.¹⁰³ In the case of Germany the form is primarily one of public scepticism of an independent programme, a scepticism that, while evolving slightly, maintains a strong influence on policymakers. In Poland, it is less a public hesitancy as it is a cost measure and an assumed resistance from the US due to its non-proliferation policies. Much of the subsequent debate becomes subsumed into discussions surrounding support to NATO nuclear sharing arrangements, discussed below in option four.

¹⁰¹ David Albright and Andrea Stricker, Taiwan's Former Nuclear Weapons Program: Nuclear Weapons On-Demand (Washington, D.C.: Institute for Science and International Security Press, 2018); William Burr, National Security Archive Briefing Book - The Nuclear Nonproliferation Treaty and the German Nuclear Question Part II, 1965-1969 (Washington, D.C.: George Washington University National Security Archive, 2018); Daniel A. Pinkston, 'South Korea's Nuclear Experiments', Center for Nonproliferation Studies Research Stories (blog), 9 November 2004, http://cns.miis.edu/pubs/week/041109.htm.

¹⁰² Wilfred L. Kohl, French Nuclear Diplomacy (Princeton, N.J: Princeton University Press, 1972).

¹⁰³ Daniel Tilles, 'Poland Has Discussed Hosting Nuclear Weapons with US, Says President', Notes from Poland, 5 October 2022, https://notesfrompoland.com/2022/10/05/poland-has-discussed-hosting-nuclear-weaponswith-us-says-president/; Liviu Horovitz and Michal Onderco, 'How Germans Learned to Stop Worrying and Love the Bomb, Then Probably Start Worrying Again', War on the Rocks, 9 October 2023, https://warontherocks.com/2023/10/how-germans-learned-to-stop-worrying-and-love-the-bomb-then-probably-start-worrying-again/.

3.2. Option Two: Nuclear latency

Short of a full nuclear breakout is nuclear latency, wherein a state pursues "the capability to rapidly develop nuclear weapons without actually acquiring them...by obtaining the ability to produce nuclear fissile materials."¹⁰⁴ Japan has been in just such a situation for some time, with Tokyo now possessing 45 tonnes of separated plutonium which could help build many weapons within only a few months.¹⁰⁵ Latency is, in effect, nuclear proliferation 'light', which keeps all of the necessary technologies ready yet does not actually fit all the pieces together.

Beyond Japan, there have been debates in South Korea to actively and openly pursue a policy of nuclear latency. The conservative president Yoon Suk-Yeol, who was recently arrested following an attempted coup against parliament, discussed such a possibility openly in January 2023.¹⁰⁶ Both Japan and South Korea, each of which have quite different defence cultures and certainly different relationships with the nuclear weapons, have considered this path as a response to fears of US abandonment.

Latency poses questions for the Non-Proliferation Treaty (NPT). While possessing fissile material is not expressly forbidden by the NPT, it is of course a warning sign of a potential breakout. Iran has been placed under immense international pressure for pursuing this option. Openly signalling intent to develop all the necessary materials to build a weapon, while not clearly stating if it would actually be done, arguably violates at least the spirit of the treaty.¹⁰⁷ Furthermore, openly pursuing latency creates risks firstly to relations with the defender, who can perceive that their protégé is acting recklessly, and secondly with challengers, who can intervene against the programme in its early stages. Such has been the case with Iran, where its nuclear latency has not instilled caution, but rather invited repeated attacks against its nuclear infrastructure and personnel by the US and Israel.¹⁰⁸

Within Europe, few states have the capacity to develop enough fissile material independently. Germany eliminated the entirety of its civilian nuclear programme between 2011 and 2023.¹⁰⁹ The Netherlands, meanwhile, only has one civilian reactor at Borssele.¹¹⁰ As both Germany and the Netherlands are part of the US nuclear sharing arrangement within NATO, and are both politically committed NPT adherents, reestablishing or retooling any civilian uses of nuclear power is unlikely to be on the agenda for either.

¹⁰⁷ John Carlson, "Peaceful" Nuclear Programs and the Problem of Nuclear Latency' (Washington, D.C.: Nuclear Threat Initiative, 18 November 2015), https://www.nti.org/analysis/articles/peaceful-nuclear-programs-and-problem-nuclear-latency/.

¹⁰⁴ Lami Kim, 'South Korea's Nuclear Latency Dilemma', War on the Rocks, 19 September 2024, https://warontherocks.com/2024/09/south-koreas-nuclear-latency-dilemma/.

¹⁰⁵ Kim, 'South Korea's Nuclear Latency Dilemma'.

¹⁰⁶ Kim Jeongmin, 'Yoon Suk-Yeol's Remarks on South Korea Acquiring Nuclear Arms', NK News, 13 January 2023, https://www.nknews.org/pro/full-text-yoon-suk-yeols-remarks-on-south-korea-acquiring-nucleararms/.

¹⁰⁸ Matthew Kroenig, 'The Case for Destroying Iran's Nuclear Program Now', *Foreign Policy* (blog), 6 March 2025, https://foreignpolicy.com/2024/10/03/israel-iran-nuclear-weapons-biden-netanyahu-destroy-now/.

¹⁰⁹ Mareike Moraal and Lalitha Shan, 'Understanding the German Nuclear Exit' (Berlin: Heinrich Böll Stiftung, 21 April 2023), https://us.boell.org/en/2023/04/21/understanding-german-nuclear-exit.

¹¹⁰ Matthew Fuhrmann and Benjamin Tkach, 'Almost Nuclear: Introducing the Nuclear Latency Dataset', Conflict Management and Peace Science 32, no. 4 (2015): 443–61.

3.3. Option Three: The Euronuke

Contrasted to an independent programme, another option within Europe specifically has been the so-called 'Eurodeterrent' option or 'Euronuke'. Exactly what this option could look like in practice varies. In one variant, it is a European Union-led effort that ends with a genuinely 'European' weapon under some form of joint control.¹¹¹ In another option, it is a cost-sharing and mission support scheme to expand the role for French nuclear weapons beyond French territory, most often envisaged as a Franco-German nuclear burden-sharing arrangement.¹¹²

This option faces real political and bureaucratic hurdles. Politically, the most sensitive issue is certainly control. The independent French deterrent force has been under the sole control of the French president since its inception, and this arrangement is unlikely in the extreme to change, just as in the US control arrangements in NATO's nuclear sharing. Wider involvement of capitals beyond Paris could involve sensitive discussions around strategy, doctrine, and targeting that challenges the independence of the French nuclear force.¹¹³ Further, any arrangements reached in cooperation with Paris would be subject to the political control systems in their partner states. With Germany being the designated partner, the arrangements in Berlin regarding control of the armed forces, defence strategy, and transparency would be tested against the extreme secrecy of the French nuclear programme.¹¹⁴ Politically, it would further challenge the non-proliferation regime and likely isolate parties and coalition partners across European states involved that have tied their platforms to the non-proliferation agenda.¹¹⁵

From a technical perspective, arrangements would not be particularly difficult to reach. The significant amount of defence cooperation already ongoing with France and its allied countries within NATO and the EU could allow for closer cooperation across areas, to also include nuclear. What would require additional investment from a European nuclear club would be in the areas of mission support, such as air-to-air refuelling, as well as potentially developing an independent nuclear early-warning system. A Eurodeterrent would certainly be costly, and would require new investments into nuclear command and control (if outside of the NATO structure), developing and training personnel, and engaging in long debates on posture and targeting. If there were to be new, jointly built weapons, the costs would rise further, with Germany for example having to revamp its domestic nuclear power programme, itself politically difficult.¹¹⁶

On nuclear planning at least, there is a strong existing treaty basis between Europe's three most powerful states: the UK, France, and Germany. The Lancaster House treaties (UK-France), the Treaty of Aachen (France-Germany), and the more recent Trinity House defence agreement (UK-Germany) creates a triangle of the key states to coordinate nuclear

¹¹¹ 'SPD-Politiker Gabriel Fordert Ausbau Nuklearer F\u00e4higkeiten in Der EU', *Der Spiegel*, 14 February 2024, https:// www.spiegel.de/politik/deutschland/atomwaffen-in-europa-sigmar-gabriel-fordert-ausbau-nuklearer-faehigkeiten-in-der-eu-a-c7172480-4e1c-4d1a-92e9-391cc2322854.

¹¹² Bruno Tertrais, 'Will Europe Get Its Own Bomb?', *The Washington Quarterly* 42, no. 2 (3 April 2019): 47–66, https://doi.org/10.1080/0163660X.2019.1621651.

¹¹³ Tertrais, 'Will Europe Get Its Own Bomb?'

¹¹⁴ Kjølv Egeland and Benoit Pelopidas, 'European Nuclear Weapons? Zombie Debates and Nuclear Realities', European Security 30, no. 2 (3 April 2021): 237–58, https://doi.org/10.1080/09662839.2020.1855147.

¹¹⁵ Linde Desmaele, 'The Ceaseless Return of the Eurodeterrent Debate: Focusing on the Right Question', CS/S Next Generation Nuclear Network (blog), 1 May 2024, https://nuclearnetwork.csis.org/the-ceaseless-returnof-the-eurodeterrent-debate-focusing-on-the-right-question/.

¹¹⁶ Gustav Meibauer and Christopher David Laroche, 'German Atomwaffen and the Superweapon Trap', War on the Rocks, 8 May 2024, https://warontherocks.com/2024/05/german-atomwaffen-and-the-superweapon-trap/.

affairs. Importantly, each of the three treaties specifically cites coordination on nuclear matters as an area of cooperation, and officials from each meet regularly in their respective formats to discuss nuclear affairs. Were the groups that meet under these treaties merged, there could be a three-way multilateral pact within NATO that pledges increased nuclear cooperation, without having to muddle the German political waters with discussions of new nuclear weapons in Europe.

3.4. Option Four: Expanded Nuclear Sharing within NATO

The expansion of NATO's nuclear sharing mission to other willing allies, namely Poland, has also been raised as an option to strengthen the European pillar of NATO's nuclear deterrent. This, like the Euronuke, could take a number of forms. At the extreme end, this would involve the placement of American B-61 bombs at Polish airbases, under the control and protection of US Air Force personnel. Poland could also, or alternatively, certify its F-35A aircraft for dual-capable (nuclear) missions, and designate its airbases as potential Dispersed Operating Bases (DOBs) for other allies' dual-capable aircraft (DCAs).¹¹⁷ Such possibilities have now been raised by two successive Polish governments.¹¹⁸

As in the previous examples, the primary blockages to expanded sharing are political. Washington has not been responsive to Polish discussions on expanded sharing and given that the proposed B-61s would be under American command and control, this makes the idea a non-starter in practice. Further, on other areas such as designating DOBs inside Poland or taking on the DCA task within NATO would almost certainly necessitate a debate within NATO's Nuclear Planning Group (NPG), something on which both Warsaw and Washington would be unlikely to want to spend political capital.¹¹⁹ Within NATO, this would become part of the wider ongoing debate about future alliance policy towards Russia, with some allies wanting to maintain the NATO-Russia Founding Act,¹²⁰ which expressly states that "NATO has decided that it has no intention, no plan, and no reason to establish nuclear weapon storage sites on the territory."¹²¹ Should NATO allies maintain the Act, expanded nuclear sharing to Poland would also become a diplomatic non-starter.

Technically, expansion of nuclear sharing to Poland would not be difficult across the range of options. The designation of DOBs inside Poland and adapting F-35As to carry B-61s are both relatively minor policy and industrial efforts, and ones that are the most likely to stay secret, given that the location of DOBs is classified. Polish participation in the DCA mission would be more difficult to hide, however, given that at some point it would be noticed that actual Polish

¹¹⁷ 'Poland's Bid to Participate in NATO Nuclear Sharing', IISS, September 2023, https://www.iiss.org/publications/strategic-comments/2023/polands-bid-to-participate-in-nato-nuclear-sharing/.

¹¹⁸ Jaroslaw Adamowski, 'Polish Leaders Plan to Talk Things out on Nuclear Weapons', Defense News, 24 April 2024, https://www.defensenews.com/global/europe/2024/04/24/polish-leaders-plan-to-talk-things-out-onnuclear-weapons/.

¹¹⁹ Monika Sus and Łukasz Kulesa, 'Breaking the Silence: Explaining the Dynamics behind Poland's Desire to Join NATO Nuclear Sharing in Light of Russian Aggression against Ukraine', *The Nonproliferation Review* 30, no. 4–6 (3 July 2023): 241–63, https://doi.org/10.1080/10736700.2024.2432807.

¹²⁰ Stuart Lau, 'US and Europe to Clarify NATO's Future Relationship with Russia', Politico, 11 October 2024, https://www.politico.eu/article/us-europe-clarify-nato-future-relationship-russia/.

¹²¹ 'Founding Act on Mutual Relations, Cooperation and Security between NATO and the Russian Federation Signed in Paris, France' (NATO), accessed 5 March 2025, https://www.nato.int/cps/en/natohq/official_ texts_25468.htm.

assets are participating in the NATO nuclear exercise *Steadfast Noon.*¹²² The highest end would be the most technologically difficult and costly, that being actual sharing. Building vaults at airbases, certifying personnel, and building all the necessary facilities for US personnel on the bases would cost both political and financial capital. There would then be the actual transport of bombs to the bases and their maintenance, itself a cost born by the US. With sufficient support and funding, however, even this option is not technically unfeasible.

3.5. Option Five: Independent Strategic Conventional Weapons

The fifth pathway towards enhancing Europe's own deterrence is the option of independent, non-nuclear strategic weapons for European states. This has been argued by the authors of the present report elsewhere,¹²³ and there is quite a bit of evidence that NATO allies have taken steps in this direction already. Specifically, under the moniker "deep precision strike", European states have started making investments into long-range, high-yield conventional warhead missile systems. Some allies, for example Finland, have noted that these missiles could be deployed in a counterforce role against Russian nuclear assets.¹²⁴ Coupled with other investments such as F-35As, the aim of many allies is to fill conventional "deterrence gaps" between land-heavy European militaries and nuclear use, though it does strain credulity that conventional land-attack missiles could threaten Russia's nuclear second strike with sufficient effect.¹²⁵

There are both strategic and technical hurdles in this option, with the technical issues posing the greater challenge. Strategically, there has been insufficient thinking as to what role these weapons would play and what types of escalatory dynamics they could engender. As they are intended as a counterforce weapon to target Russia's nuclear facilities, which can be inferred partly due to their range and power, the almost inevitable Russian response, which could be nuclear, has received only very limited attention in the European debate. This option comes with serious issues including the question whether the NATO "deep precision strike" mission is effectively a conventional damage limitation strategy, which need to be settled first.¹²⁶

This option also comes with technical challenges: European states do not, and are unlikely to obtain, sufficient mass in such long-range missile systems to pose a credible deterrent to Russia. These weapons and their delivery/launch platforms are expensive, and the missiles themselves are costly. Having enough to *independently* battle Russia, meaning without any US support and resupply, would require a defence spending uplift few European states could

¹²² 'Poland's Bid to Participate in NATO Nuclear Sharing'.

Paul van Hooft and Davis Ellison, 'Good Fear, Bad Fear: How European Defence Investments Could Be Leveraged to Restart Arms Control Negotiations with Russia' (The Hague: The Hague Centre for Strategic Studies, 25 April 2023), https://hcss.nl/report/good-fear-bad-fear-how-european-defence-investmentscould-be-leveraged-to-restart-arms-control-negotiations-with-russia/; Paul van Hooft and Davis Ellison, 'Pathways to Disaster: Russia's War against Ukraine and the Risks of Inadvertent Nuclear Escalation' (The Hague: The Hague Centre for Strategic Studies, 9 May 2023), https://hcss.nl/report/pathways-to-disasterrussias-war-against-ukraine-and-the-risks-of-inadvertent-nuclear-escalation/.

¹²⁴ Davis Ellison, 'The Role of Conventional Counterforce in NATO Strategy: Historical Precedents and Present Opportunities', *Georgetown Security Studies Review* 12, no. 1 (July 2024): 1–11.

¹²⁵ Ellison, 'The Role of Conventional Counterforce in NATO Strategy: Historical Precedents and Present Opportunities'.

¹²⁶ van Hooft and Ellison, 'Pathways to Disaster: Russia's War against Ukraine and the Risks of Inadvertent Nuclear Escalation'.

financially or politically tolerate, at least in the current environment.¹²⁷ Relatedly, European states do not possess sufficient enabling capabilities in intelligence, surveillance, and reconnaissance or air-to-air refuelling to actually execute strategic missions even if there were sufficient missile systems. Such a conventional European *Zeitenwende*, and the growing pains that would come in achieving it, may undermine the very credibility it would aim to reinforce.

3.6. Option Six: A European Nuclear Weapons Free Zone

The sixth and final pathway is nearly as radical as the first option of proliferation: the accession of most EU states to the Treaty on the Prohibition of Nuclear Weapons (TPNW) and the unilateral agreement to a nuclear weapons free zone (NWFZ) for much of Europe. This would mean that European states, with the certain exception of France and the UK, would agree both that they will repudiate nuclear weapons in their foreign policy and prevent the development and deployment of them in their countries. This would also mean that NATO's nuclear sharing would end and American B-61s would be removed.

There have been a number of historical attempts to establish just such a zone in Europe, the first being the 1957 Rapacki Plan, named for its architect Polish foreign minister Adam Rapacki. Rapacki's aim was to create a limited NWFZ in central Europe, including East and West Germany, Czechoslovakia, and Poland. In it, all four powers would ban the production and storage of nuclear weapons on their territory, including by the US and Soviet Union. While the plan met with support in Warsaw, Prague, Berlin, Moscow and even Ottawa, it was a nonstarter in Washington and Bonn and perceived only as a communist ploy.¹²⁸ After Rapacki, there would be 13 more such proposals between the 1950s and 1996, but by the 1998 NPT Preparatory Committee, the idea was effectively dead as the new members of NATO stated that an NWFZ would be "incompatible with our sovereign resolve to contribute to, and benefit from the new European security architecture."¹²⁹

Strategically, an NWFZ would be a serious bet. The bet would not be that Russia reciprocates – which is not on the table - but rather that by not having or hosting nuclear weapons European states would take themselves off the target lists for Russian weapons, at least to some degree. It would also be a major signal to Moscow that Europe is not aligned with the US on nuclear matters, a leap away from many decades of precedence. The risk in this wager of course is that a predatory Russia engages in nuclear blackmail against European states, particularly if the NWFZ comes with an end to US security guarantees and an abrogation of extended deterrence.¹³⁰

¹²⁷ Alexandr Burilkov and Guntram B. Wolff, 'Defending Europe without the US: First Estimates of What Is Needed' (Brussels: Bruegel, 3 March 2025), https://www.bruegel.org/analysis/defending-europe-without-us-first-estimates-what-needed. Argues for at least an initial €250 billion short term collective increase, and the new German-led initiative to change EU rules to allow significant deficit spending. New defence spending at these levels must be debt funded, the only alternative being cuts to social spending, a political non-starter in much of Europe.

¹²⁸ Ulrich Albrecht and Michel Vale, 'The Political Background of the Rapacki Plan of 1957 and Its Current Significance', International Journal of Politics 13, no. 1/2 (1983): 117–33; Adam Rapacki, 'The Polish Plan for a Nuclear-Free Zone Today', International Affairs (Royal Institute of International Affairs 1944-) 39, no. 1 (1963): 1–12, https://doi.org/10.2307/2610500.

¹²⁹ Amina Afzal et al., 'Reassessing Europe's Nuclear Order: Perspectives for a Nuclear Weapons Free Zone' (Cambridge, MA: Arms Control Negotiation Academy, 20 April 2022), https://www.armscontrolnegotiationacademy.org/_files/ugd/44cc0f_ca725d3411b24e7986af6aa315e6076c.pdf.

¹³⁰ Van Jackson, Grand Strategies of the Left: The Foreign Policy of Progressive Worldmaking (Cambridge: Cambridge University Press, 2023), 149.

For much of Central and Eastern Europe, this would be a political non-starter and any attempt to achieve this through the EU or NATO would be overturned by Poland and the Baltic states at least. Several NATO members however already have political and even constitutional barriers to the deployment of weapons on their territory. Denmark, Norway, Spain, Iceland do not allow the stationing of nuclear weapons on peacetime, with Norway even prohibiting the transit of vessels with nuclear cargo. Lithuania has the Law of Environmental Protection, which prohibits the import, stationing, or production of nuclear weapons, while the treaty on German reunification prevents contemporary Germany from accepting the deployment of nuclear weapons on former East German territory.¹³¹

There is precedent for US treaty allies joining both NWFZs and even signing TPNW. The 1985 Treaty of Rarotonga establishing the South Pacific Nuclear Free Zone and the 1995 Bangkok Treaty establishing the Southeast Asia Nuclear Weapon-Free Zone include the US treaty allies Australia, New Zealand, and the Philippines. Further, both the Philippines and New Zealand are TPNW parties. US allies that have been players in the non-proliferation space and limited US freedom manoeuvre in their regions have faced retaliation and coercion from Washington, however. In 1985, when New Zealand blocked a port visit from the USS *Buchanan* because it would not declare if it has nuclear weapons or not (a standing US policy), the Reagan administration curbed military cooperation and intelligence sharing with Wellington and even declared that the 1951 ANZUS mutual defence treaty would not apply to New Zealand, a stance that is maintained as of writing, though defence cooperation has continued in some areas since 2012.¹³² Pursuing nuclear free status, especially when it restricts US transit over territory, can cause serious backlash in Washington.

3.7. Evaluating the options for Europe

Are any of these pathways, or a combination of several, viable for European states given the pressures on US extended deterrence discussed in the previous Chapter? This section will return to each of the six above in turn, and consider whether such an option is feasible politically, strategically (including its contribution to deterrence), and technically. In the immediate term, few are. The existing dependency on the United States both politically and militarily is too great for too many European states, and this is very difficult to change in the near-term. The viability of the different options is summarised in Table 3 below.

On both nuclear proliferation and latency, there are serious questions both about their possible strategic effectiveness and the impact on strategic stability. In the case of independent nuclearisation by an additional European power, say Germany, there is little that such a system would add that current British and Frenchs systems do not. Given that Germany is tied to both through overlapping security guarantees in NATO, the EU, and the treaties of Aachen Trinity House, such a system is strategically unnecessary. As related to strategic stability, a new independent programme, whether it would be German or from another European state such as Poland would risk further entrenching the existing European security spiral with Russia, and likely foreclose any near- to medium-term options for negotiations between European leaders and Moscow on stability issues. Finally, as nuclear scholar Scott

¹³¹ Afzal et al., 'Reassessing Europe's Nuclear Order: Perspectives for a Nuclear Weapons Free Zone', 23–24.

¹³² Ernest Z. Bower and Maria English, 'Defense Secretary Leon Panetta's Visit to New Zealand', CSIS, 19 September 2012, https://www.csis.org/analysis/defense-secretary-leon-panettas-visit-new-zealand.

Sagan has long argued, further proliferation only increases the likelihood of miscalculations in a crisis, risking inadvertent escalation.¹³³ Further, the more independent programmes in existence, the greater the possibility of accidents and organisational failures in the handling of weapons, with possibly catastrophic consequences.

Latency presents many of the same strategic and stability problems, though to a lesser degree. In this, it is simply the case that the states most technically able to do so lack a convincing strategic logic. Existing guarantees across Europe through different agreements ranging from NATO and the EU make any latency programme redundant to existing programmes. On stability, such latency arguably would make the pursuer of such a programme complicit in further undermining the NPT regime, worsening an already heavily deteriorated arms control regime and complicating future negotiations.

For both proliferation and latency, the political costs would simply be overwhelming for states that consider it. Washington and many European capitals' continuing commitment to the NPT regime makes it too costly, and from a strategic perspective it invites the possibility of Moscow taking preventive measures to prevent either. Technically, latency would be simpler, especially for Poland given its existing civilian nuclear programme, though either would be near impossible for a state like Germany that has turned away from nuclear power. Full proliferation for any state that does not currently have latency (i.e., none in Europe) would be incredibly expensive and essentially involve developing a full nuclear programme from scratch, one that would not be supported by Washington or neighbouring states.

The so-called 'Euronuke' is more viable, particularly as concerns about credibility of US extended deterrence grow amongst policymakers and the French government appears amenable to such a possibility. Further, German reticence has shrunk in recent years, and given Berlin's most likely involvement in such a scheme this is an important shift.¹³⁴ Strategically, these arrangements would be similar to the current US nuclear sharing agreement, though likely with tighter controls over actual deployment (meaning only French pilots would fly French nuclear weapons). Technically, it would not be difficult depending on the states involved. Were it to be the Netherlands, Belgium, Germany, or Italy, existing facilities including Dual Capable Aircraft (DCA) bases, Deployed Operating base (DOBs), and storage sites would likely be sufficient. The Euronuke would to some extent be little more than a cost-sharing measure for Paris. At the same time, it would allow for the growth in the French nuclear arsenal to possibly complement the current arsenal with non-strategic weapons, that eventually could serve as a European nuclear umbrella.¹³⁵This expansion in and of itself would be an important topic of conversation amongst the Euronuke countries, given that expanding the range of non-strategic weapons would inherently mean a change to French doctrine.

Expanded NATO nuclear sharing is certainly technically viable, especially for Poland given it already has F-35As. Certifying these aircrafts into DCAs, base updating and identification of DOBs would be a matter of relatively minor details. Politically, however, it would be more difficult given Washington's hesitation, and the challenges faced within the Nuclear Planning Group. Further, it would only be likely after a full review and agreement of NATO policy towards Russia that would overturn the NATO-Russia Founding Act's provision against stationing

Further proliferation only increases the likelihood of miscalculations in a crisis, risking inadvertent escalation.

¹³³ Scott D. Sagan, 'The Perils of Proliferation: Organization Theory, Deterrence Theory, and the Spread of Nuclear Weapons', *International Security* 18, no. 4 (1994): 82–83, https://doi.org/10.2307/2539178.

¹³⁴ Tim Ross, Laura Kayali, and Nette Nöstlinger, 'Europe Targets Homegrown Nuclear Deterrent as Trump Sides with Putin', Politico, 21 February 2025, https://www.politico.eu/article/europe-nuclear-weapons-nato-donaldtrump-vladimir-putin-friedrich-merz/.

¹³⁵ Tertrais, 'Will Europe Get Its Own Bomb?'

nuclear weapons on former Warsaw Pact territory. Strategically, it could make sense to have B-61s within Poland itself, especially given the Polish military's envisioned role in attacking Kaliningrad in the event of war.¹³⁶ It also creates more targets for Russian planners to contend with, just as the stationing of Russian nuclear weapons in Belarus has created a more complicated target picture for European and American forces.

Developing and procuring more strategic conventional weapons systems, particularly longrange precision strike weapons, is already planned amongst many European countries.¹³⁷ Politically, even in the NATO and EU contexts, this development is a foregone conclusion. However, there are important outstanding questions of strategy, mass, and enablers. There are varying messages across states as to the aims of these projects, with some stating missile systems are to be targeted against Russian nuclear assets, and others strongly stating that they are only for suppression of enemy air defence (SEAD) missions.¹³⁸ The second issue concerns sufficient mass. Existing programmes are expensive to develop and maintain, especially if pursued domestically within Europe, and having a sufficient number of deep precision strike under wartime conditions, such as seen in Ukraine, would be very costly to develop. The fact that European states are already facing munitions shortages in light of aide to Ukraine does not bode well for creating large stocks of advanced missiles to be targeted inside Russian territory. Finally, it is well established that European states' dependency on the United States for ISR and air-to-air refuelling precludes a truly independent conventional strategic mission.¹³⁹ In the event of a US withdrawal from European military affairs, this would effectively leave European states dependent on a small number of ISR assets owned by only a few states (especially the UK and France). So, while viable in the longer term, this will require significant investment in strategic enablers independent of the US.

Finally, a European NWFZ is not currently viable given the current deterioration of relations with Russia and the near certainty of a backlash both within the EU from the eastern members and externally from Washington. Both politically and strategically, it would be a serious bet on putting Europe onto a non-aligned course between the US and Russia, which would be a full reversal of decades of precedence for many capitals. However, the impact on alliance arrangements may be overstated, as the establishment of other NWFZs in the Pacific that cover US allies has shown. Further, there are arguments to be made against the credibility and operational meaningfulness of the forward deployed US nuclear deterrent, given that gravity bombs are largely overtaken by missiles as effective delivery vehicles. Finally, the value of these weapons also creates an impression that US strategy in practice assumes a nuclear war can be limited and won, something no European states or even Russia recognises.¹⁴⁰ Without a major political or strategic shift, an NWFZ or even wider European acceptance of TPNW is not particularly viable.

¹³⁶ Mariusz Antoni Kaminski and Zdzisław Śliwa, 'Poland's Threat Assessment: Deepened, Not Changed', NDU Prism 10, no. 2 (March 2023): 131–47.

¹³⁷ Ellison, 'The Role of Conventional Counterforce in NATO Strategy: Historical Precedents and Present Opportunities'.

¹³⁸ Ellison, 'The Role of Conventional Counterforce in NATO Strategy: Historical Precedents and Present Opportunities'.

¹³⁹ Burilkov and Wolff, 'Defending Europe without the US'.

¹⁴⁰ Stephen Young, 'Why the Biden Administration's New Nuclear Gravity Bomb Is Tragic', Bulletin of the Atomic Scientists (blog), 13 February 2024, https://thebulletin.org/2024/02/why-the-biden-administrations-new-nuclear-gravity-bomb-is-tragic/; Kroenig, The Logic of American Nuclear Strategy.

Table 3. Viability of European Pathways

Pathways	Possible States	Challenges	Pros	Cons
1 – Nuclear proliferation	Germany, Poland	Political opposition, US oppo- sition technical hurdles, lack of clear strategic logic	Complicates Russian calcula- tions; reduces dependency on the US	Undermines non-proliferation regime; increases risk of nuclear accidents and escalation
2 – Nuclear latency	Germany, Netherlands, Poland	Domestic political opposition, US opposition, technical hurdles	Complicates Russian calcula- tions; could leverage into a US conventional presence	Undermines non-proliferation regime; invites outside inter- ference into the programme
3 – Euronuke	All EU Members	Control issues, political opposition	Cost sharing; force multiplica- tion by European forces	Pressure on non-proliferation regime; command and control issues
4 – Expanded NATO nuclear sharing	Poland	US opposition, some technical hurdles	DCA and DOB burden sharing; greater dispersal; compli- cating Russia's calculus	Counter to current NATO policy; increased risk of nuclear accidents
5 – Strategic Conventional Weapons	UK, France, Germany, Poland, Italy, Spain, Norway, Finland, Netherlands, Türkiye	Technical hurdles, lack of mass, lack of enabling capabilities	Reduced dependency on US forces in theatre; domestically developed enabling systems can serve multiple purposes	Risks of escalation due to miscalculation; risk that conventional systems do not prevent nuclear coercion from other states
6 – European NWFZ	EU excluding France	Domestic political opposition (in Eastern Europe), US oppo- sition, alliance strategy issues	European compliance with disarmament pillar of the NPT; possibility of a 'cooperation spiral' with Russia	Risk of Russian nuclear black- mail; Risk of US coercive measures in response to forced removal of B-61s

4. Conclusions

Europeans have found themselves sidelined when it comes to their own security. Arms control agreements upon which Europe has relied have been abrogated by both Russia and the United States. The new Trump administration has already demonstrated at the least a dismissiveness of European preferences by aiming to negotiate a peace deal with Russia over the heads of Ukrainians and Europeans, as well as an outright hostility as demonstrated by repeated threats against Denmark over Greenland. The United States, Europe's decadeslong security guarantor, is now a disinterested and even bad faith actor towards the continent.

These present dynamics notwithstanding, American extended nuclear deterrence was already an incredible prospect, as Chapter Two above has explored in detail. Both scholars and practitioners have found that multipolarity makes US prioritisation of Europe untenable and there is insufficient motivation for Washington to seriously consider a nuclear exchange on behalf of its European allies, or any for that matter. In effect, European policies that continue to assume US extended nuclear deterrence should be questioned because of a deep running sentiment amongst the current US administration of unfair burden-sharing, the limits of American conventional assets deep inside Europe, and a (still operating) nuclear taboo.

We have identified and evaluated in this study six options that European states could follow to mitigate the challenges of this extended deterrence and multipolarity dilemma. All of them are predicated on the logic that a continued European reliance on American extended nuclear deterrence is strategically unsound, and that the operating assumption should be that Europe builds and maintains its own ability to achieve stability.

Independent and nuclear proliferation as options is politically untenable, strategically dubious, and technically unviable. Both would mean a break by at least one European state of the non-proliferation regime and further entrench a hostility between Europe and Russia that increases the risks of inadvertent escalation. A 'Euronuke' is more tenable across all factors, being more politically palatable and technologically feasible. Additionally, it could help to reinforce European deterrence vis-a-vis Russia without US backing, if using French systems, though this does open the guestion of how much of a difference it would make alongside British and French weapons as they are currently bar a significant expansion of the French arsenal. NATO's nuclear sharing is the most technologically, financially, and strategically sound, though politically more difficult in both the US-European relationship and within NATO. A unanimous NATO decision to support Polish weapons sharing is guite unlikely. Independent European strategic conventional weapons with enabling systems (in short, long-range missiles and ISR) is arguably the most 'no regret' option, though with the caveat that declaratory policies surrounding targeting could be needed to reduce the risks of inadvertent escalation with Moscow. Finally, a European NWFZ and wider ratification of TPNW is perhaps tenable as a longer-term aspiration though politically and strategically as unlikely as proliferation now.

Underpinning any pursuit of these options is the necessary recognition amongst the European expert and policy communities that the ties to Washington are frayed at best. Questioning American commitments, both broadly and from individual leaders, must no longer be a taboo subject. Strategies based on decades of reflexive Atlanticism are temporary expedients that paper over structural changes in the US-European relationship, changes that defence procurements, increased spending, or public relations cannot and will not change.

Questioning American commitments, both broadly and from individual leaders, must no longer be a taboo subject.

4.1. Recommendations and Considerations

Considering the above conclusions and analysis, we recommend the following for additional study, consideration, and thinking amongst policymakers and security scholars in Europe:

- 1. Seriously investigate the option of a Euronuke and assess the necessary political, procedural, and technical arrangements. Given the current political momentum, using the consultative mechanisms between Berlin and Paris are especially important. Particular attention should be paid to the strategy and doctrine such an arrangement would be based upon, and whether an adaptation to existing French thinking is acceptable both in Paris and likely partners such as Berlin. In addition, an assessment of the possible expansion of the French arsenal may be necessary, pending the outcome of analysis on doctrine. The existing consultation mechanisms between London, Paris, and Berlin through the treaties of Lancaster House, Aachen, and Trinity House could be merged to offer a forum for tripartite discussions around nuclear sharing and strategy.
- 2. As part of confidence building and ensuring transparency of any European efforts, continue engaging in arms control fora including NPT Preparatory Committees and Review Conferences, the OSCE, and the annual NATO Conference on Arms Control, Disarmament and Weapons of Mass Destruction (WMD) Non-Proliferation,
- 3. Continue the **build-up of conventional deep precision strike** capabilities while maintaining flexibility for the possibility of **discussions with Moscow** on confidence building measures and arms control in these systems. European states should share as much information as possible regarding targeting and doctrine related to deep precision strike, to ensure clarity on whether they are pursued in a nuclear counterforce role or not.
- Investigate the political, strategic, and technical feasibility of expanding NATO nuclear sharing within NATO to include Poland, with the aim of supporting future US-Polish and NATO NPG discussions on the matter.



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