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Mind the Deterrence Gap: Assessing Europe's Nuclear Options

Report of the European Nuclear Study Group

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Summary

Europe must urgently confront a new nuclear reality. In recent years, Russia's nuclear-backed revisionism has reintroduced nuclear coercion and the threat of nuclear escalation to the continent, underscoring the importance of credible nuclear deterrence. At the same time, Europe's traditional reliance on US extended nuclear deterrence appears politically more fragile than at any point since the Cold War. Together, these developments require Europeans to think about their nuclear options.

Drawing on in-depth discussions at a series of workshops since February 2024, this report evaluates five policy options discussed in European defense and security circles: continued reliance on US extended nuclear deterrence (Option A), strengthening the role of British and French nuclear forces in European deterrence (Option B), developing a common European deterrent (Option C), pursuing new, independent national nuclear deterrents (Option D), and investing in conventional deterrence without a nuclear component (Option E). Each option reflects a distinct way of distributing the costs and risks of nuclear deterrence between the United States, existing European nuclear powers, and nonnuclear European Allies, and each entails specific trade-offs between credibility, feasibility, legal aspects, and political risk.

None of these options is a good one: There is no deterrence ex machina, no low-cost or risk-free way out of Europe's nuclear predicament. In the short term, continued reliance on US extended nuclear deterrence remains the most credible and feasible option available. It rests on unmatched military capabilities, deeply institutionalized cooperation within NATO, and decades of shared operational practice. Yet Europeans can no longer treat this option as a guaranteed baseline. Despite their efforts, Europeans may find themselves in a situation where the United States is no longer willing to provide nuclear deterrence. They must thus move beyond declaratory ambitions and engage seriously with the trade-offs, constraints, and risks of all options on the table.

Above all, Europeans can no longer outsource their thinking about nuclear deterrence to the United States. The era in which Europe could afford strategic complacency has ended. However uncomfortable the debate may be, the new security environment requires European policymakers to confront the role of nuclear weapons in the defense of the continent directly and without delay – and to invest the resources needed to do so competently. Thinking seriously about these questions today is the price of avoiding strategic failure tomorrow.

A New Nuclear Era in Europe

Europe has entered a new nuclear era, yet policymakers have been slow to grasp its implications. Two external shocks are challenging long-standing assumptions about nuclear deterrence on the continent. Together, they cast doubt on the foundations of Europe's reliance on the US guarantee of European security.

First, Russia's full-scale invasion of Ukraine in 2022 undermined the belief that European security could be sustained with relatively low levels of defense spending and a minimal reliance on nuclear deterrence. Moscow's coercive nuclear signaling during the conflict further demonstrates the extent to which nuclear capabilities remain central to its strategy.

Second, the reelection of Donald Trump has heightened uncertainty about the long-term reliability of US security guarantees. His administration's confrontational relationship with European allies and its stated preferences for conditioning alliance obligations have raised doubts about whether Washington will continue to anchor Europe's nuclear and conventional deterrence posture. This uncertainty has been amplified by developments in the Indo-Pacific, where China's rapid nuclear expansion is forcing the United States to reassess elements of its deterrence posture and provoking deep concern among regional allies. Facing the possibility of simultaneous crises involving Russia, China, and North Korea – as well as increasing coordination among these nuclear-armed revisionist powers – Washington fears its forces may become overstretched and is recalibrating its strategic focus.

Together, these two shocks are giving rise to two paramount risks. First, the United States could abandon its security commitments to Europe, forcing Europeans to provide conventional and nuclear deterrence on their own. Second, in the long term, even if the United States remains committed to Europe's security, it may be unwilling to shoulder the responsibility of extended nuclear deterrence. Washington already shares this role with other countries – explicitly with the United Kingdom and, to a lesser extent, implicitly with France. However, the division of labor among these countries remains unclear.

As the strategic environment becomes more demanding, other European states – perhaps all of them – may need to assume a different, and

potentially much larger, role in deterring adversaries, reassuring allies, and preserving transatlantic cohesion. A central danger in Europe's impending strategic environment is the emergence of a deterrence gap: a situation in which adversaries perceive a growing mismatch between Europe's interests and its capacity or willingness to defend them. A deterrence gap could arise due to a formal withdrawal of US guarantees or an explicit collapse of NATO. Yet it can also emerge gradually, through ambiguity, delays, and mixed signals – especially in moments of crisis, when credibility matters most.

Deterrence does not rest on capabilities alone but on shared perceptions. If Russia comes to believe that the United States might be reluctant to escalate with nuclear weapons in defense of Europe while Europe itself lacks the political cohesion, institutional arrangements, or military means to overcome that reluctance, nuclear coercion becomes more attractive. Even limited doubts about who would respond, how, and at what cost may invite probing behavior, particularly in gray-zone scenarios, or prompt the limited use of force with a view to fracturing Alliance unity. In this sense, a deterrence gap would pose as much a political as an institutional and military problem.

If Europe wishes to avoid a deterrence gap, it must ensure that no adversary can conclude that Europe would be left strategically exposed in a crisis – either because Washington is distracted, divided, overstretched, or unwilling to act, or because European states themselves are incapable of action.

This report assesses five distinct options for avoiding a deterrence gap. Each option reflects a different way of distributing the costs and risks of nuclear deterrence between the United States, existing European nuclear powers, and nonnuclear European Allies, and each entails specific trade-offs between credibility, feasibility, and political risk. Together, they define the current strategic space within which European policymakers must operate. Failure to act within this space risks creating precisely the window of opportunity that revisionist nuclear powers seek to exploit.

The principal risk is that European leaders will only act once the costs of inaction have become prohibitively high or even catastrophic – when effective responses may no longer be available. The benefits of timely investment in Europe's nuclear deterrence posture are therefore substantial.

Consider a plausible near-future scenario: A rearmed Russia seeks to exploit a crisis in Asia that absorbs Washington's attention, weakening an already

increasingly frail transatlantic relationship. Sensing an opportunity, Moscow makes coercive demands of a NATO Ally and detonates a nuclear device at sea to demonstrate resolve and test the cohesion of the Alliance. A Europe that has invested politically and militarily in strengthening its nuclear deterrence posture is better positioned to withstand such pressure. With credible capabilities and clearly defined roles, European leaders can avoid precipitous escalation, reassure European publics, and maintain the sovereignty and territorial integrity of the threatened Ally. In such a case, preparation today would make the difference between credible deterrence and an untenable choice between capitulation and nuclear war. In other words: Europeans must act now to prevent strategic failure in the future.

The Russia Challenge: Deterring a Revisionist Nuclear Power

Russia is no longer a status quo power but is seeking to revise the post-Cold War order in Europe. It is not only determined to prevail in its war of aggression against Ukraine but also to establish a broader sphere of influence in Europe.

Nuclear weapons play a key role in Russia's revisionist strategy: They are symbols of great-power status, instruments for deterring large-scale attack, tools for coercing adversaries, and potential means of influencing escalation dynamics both before and during a conflict. In Ukraine, for instance, Moscow is attempting to preserve gains it has made through conventional means by threatening nuclear escalation to prevent a successful counter-offensive. Russia's approach to "strategic deterrence" is broader than the Western concept, merging deterrence with compellence and integrating military and nonmilitary measures such as information operations.[1] Within this framework, nuclear weapons remain central.[2] Moscow continues to invest in a broad range of strategic and substrategic weapons systems, many of them dual use.[3] It has also reportedly deployed nuclear weapons to Belarus and regularly conducts exercises on the use of nuclear systems in realistic conflict scenarios.[4] Seeking to communicate resolve and complicate Western decision-making, it has intensified nuclear signaling. As NATO leaders noted in their 2024 Washington summit communiqué: "Russia has increased its reliance on nuclear weapon systems and continued to diversify its nuclear forces, including by developing novel nuclear systems and deploying short and intermediate range dual-capable strike capabilities, all of which poses a growing threat to the Alliance."[5]

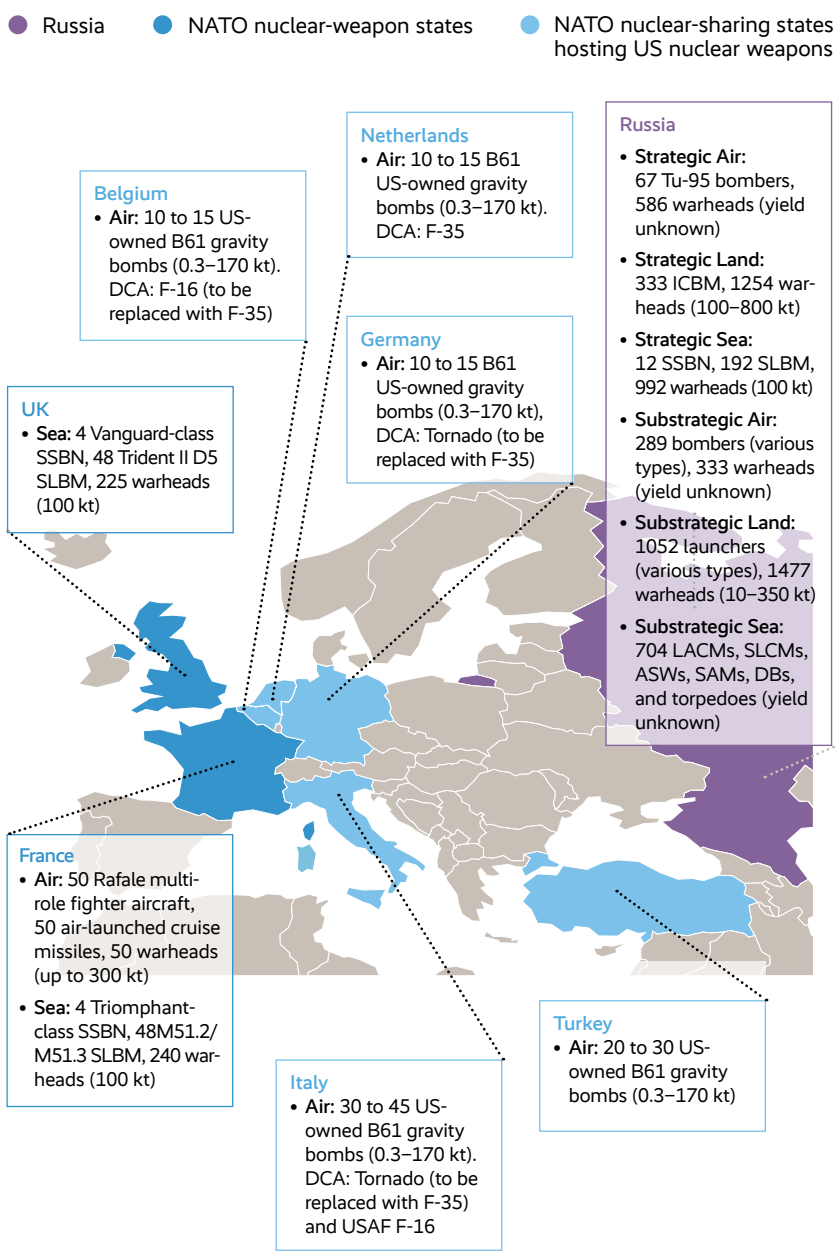
Since the beginning of its war against Ukraine, Moscow has repeatedly issued nuclear threats.[7] Yet its strategy – aimed at coercing Kyiv into capitulation, constraining Ukraine's military options, limiting Western military assistance, and discouraging direct US or NATO intervention – has produced mixed results. On the one hand, it has deterred Western countries from intervening with combat forces and has been a factor in their very calibrated provision of military assistance, including their restrictions on the use of the weapons they have supplied. On the other hand, Western governments have cautiously but incrementally tested and pushed Russian red lines, delivering additional weapons systems once deemed escalatory

"In the event of a threat to the territorial integrity of our country and to defend Russia and our people, we will certainly make use of all weapon systems available to us. This is not a bluff."[6]

Vladimir Putin, Russian President, September 21, 2022

Figure 1

Nuclear capabilities in Europe, 2025, estimated number of warheads, delivery vehicles, and relevant platforms



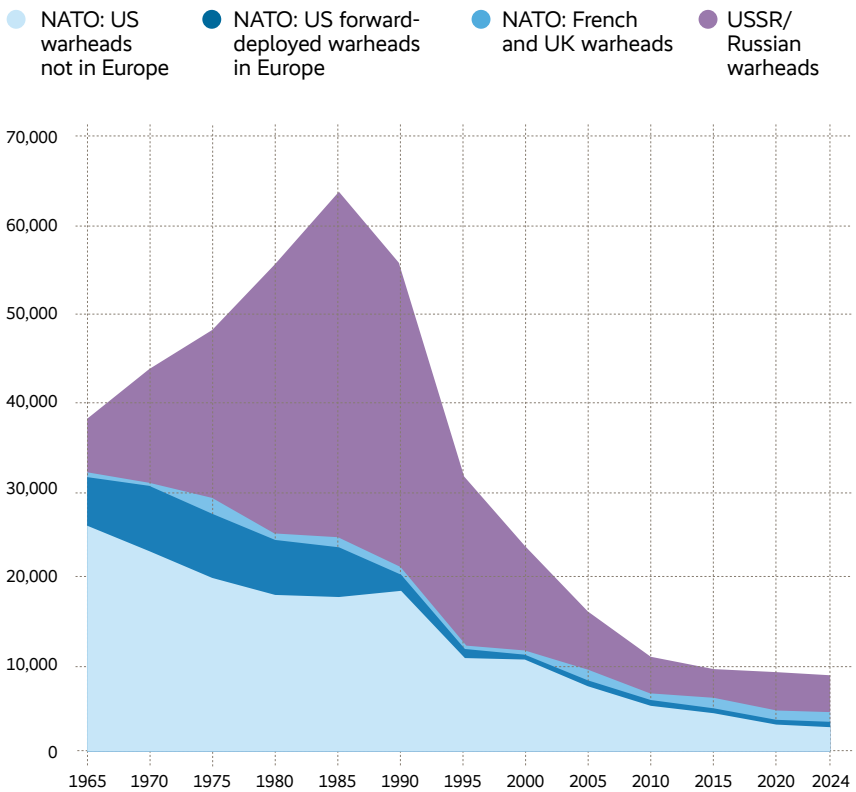
Data: Federation of American Scientists. Illustration: Munich Security Conference

and gradually loosening restrictions on their use.[8] Most importantly, Russia's nuclear saber rattling has failed to break the Ukrainian will to resist Russian aggression and recapture conquered territory.[9] Successful Ukrainian counteroffensives into Russian territory, such as the 2024 Kursk offensive, have not triggered nuclear escalation, provoking some observers to question whether Ukraine's allies should call Russia's bluff.

Amid concerns that its nuclear signaling was losing credibility, and against the backdrop of a relatively static front and the delivery of longer-range western missiles under more permissive rules of employment, Moscow published a new nuclear doctrine in November 2024, formalizing the updates

Figure 2

Nuclear weapons of NATO Allies and the USSR/Russia, 1965–2024, estimated number of warheads



Data: Bulletin of the Atomic Scientists; Greenpeace International; Natural Resources Defense Council; SIPRI.
Illustration: Munich Security Conference

Vladimir Putin announced in September 2024.[10] The revised doctrine expands the conditions for the use of nuclear weapons to include their use in response to an attack on Russia or Belarus by a nonnuclear state that is backed by a nuclear power (Figure 3). In such scenarios, both the state launching the attack and its backers could face a potential Russian nuclear response.

This doctrinal shift was accompanied by operational measures aimed at reinforcing Russia's strategic messaging. In November 2024, Moscow launched an intermediate-range ballistic missile, the Oreshnik, at Ukraine for the first time. In December 2025, Russia claimed to have deployed Oreshnik missiles to Belarus.[11] A second launch occurred in January 2026, with a missile hitting Lviv.[12] Although the initial strike caused limited physical damage, the employment of a dual-use system with a reported range of up to 5,500 km was widely interpreted as a signal to Ukraine's Western allies and as part of a broader campaign of psychological warfare –

Figure 3

Selected changes to Russia's nuclear doctrine, 2020–2024

New articles added in the 2024 Russian nuclear doctrine

9. Nuclear deterrence is also exercised toward states that provide territory, air and (or) sea space under their control, as well as resources for preparing and committing aggression against the Russian Federation.

10. Aggression by any state from a military coalition (bloc, alliance) against the Russian Federation and (or) its allies is considered as the aggression by this coalition (bloc, alliance) as a whole.

11. Aggression against the Russian Federation and (or) its allies by any non-nuclear state with the participation or support of a nuclear state is considered as their joint attack.

16. The principles of nuclear deterrence are as follows:
g) centralization of the command over the employment of nuclear weapons, including those located outside the territory of the Russian Federation.

Article from the 2020 Russian nuclear doctrine deleted in the 2024 doctrine

15. The principles of nuclear deterrence are as follows:
a) compliance with international arms control commitments

Data: Ministry of Foreign Affairs of the Russian Federation. Illustration: Munich Security Conference

particularly given that the missile could theoretically reach targets as far away as Iceland.[13] In October 2025, Russia allegedly conducted a successful test of the nuclear-powered, nuclear-armed Burevestnik cruise missile.[14] After this test, Putin highlighted the weapon's purported ability to evade enemy missile defenses, further underscoring Russia's emphasis on nuclear signaling.[15]

Although such signaling is primarily intended to limit and erode Western support for Ukraine, the specter of actual nuclear-weapons use must be taken seriously. One scenario for Russian first use would be a sudden Russian military collapse in Ukraine, prompting Moscow to conclude that only nuclear escalation can avoid defeat. The situation in October 2022, when the Biden Administration feared Moscow was contemplating the use of tactical nuclear weapons in Ukraine, was arguably consistent with this scenario.[16] Another scenario would involve Russia using nuclear weapons to counterbalance NATO's conventional superiority in a larger European war. Finally, Moscow might conclude that the use of nonstrategic nuclear weapons could terminate a regional conflict on terms acceptable to Russia, for instance by forcing its opponents to accept a Russian fait accompli. In either scenario, the Russian leadership might believe that a limited use of nuclear weapons would deliver decisive results by breaking the Alliance's will or ability to fight. The danger of nuclear escalation would probably be most acute if Russia came to believe that war with NATO was inevitable, that political or military developments threatened regime survival, or if a conventional strike by NATO forces threatened to degrade Russia's ability to conduct nuclear operations.

The Trump Shock: Doubts About the US Security Commitment to Europe

Donald Trump's reelection delivered a significant shock to the transatlantic alliance, with potentially far-reaching consequences for US extended nuclear deterrence. While Trump may remain committed to European security if Allies "pay their dues," serious concerns have arisen due to the increasing US domestic political instability, adversarial economic policies, potential strategic retrenchment and geographical reorientation, repeated threats to invade Greenland, and presidential indiscretion and unpredictability, with the result that transatlantic trust is in short supply.

"Well, I think it's common sense, right? [...] If they don't pay, I'm not going to defend them. No, I'm not going to defend them."[17]

Donald Trump, US President, White House, March 6, 2025

First, Trump's attacks on American democratic institutions could leave the US government unable – or perceived to be unable – to fulfill its security obligations. In an extreme case, domestic unrest could escalate into political upheaval or civil conflict.[18] More plausibly, internal instability could foster the perception among allies and adversaries that Washington is too distracted or polarized to respond effectively to a crisis. Adversaries might calculate that the US would struggle to demonstrate resolve quickly enough to deter escalation. In short, domestic decay could weaken nuclear deterrence and, in the worst case, increase the risk of nuclear use.

Second, assaults on freedom of expression, the press, and academic research in the US risk alienating European partners and undermining confidence in US security guarantees. European leaders increasingly fear that Trump or figures within his inner circle might tolerate – or even welcome – Russian pressure if it strengthens far-right movements in Europe. Contacts between US officials and extreme right parties, such as Germany's Alternative für Deutschland (AfD), or expressions of support for Marine Le Pen in France, have reinforced these concerns. The openly confrontational tone adopted toward Europe in the Trump administration's November 2025 National Security Strategy sent shockwaves across European capitals.[19] If transatlantic trust is eroding, any internal European fragmentation would be interpreted by Moscow as a strategic opening.

"We're also here today to directly and unambiguously express that stark strategic realities prevent the United States of America from being primarily focused on the security of Europe."[20]

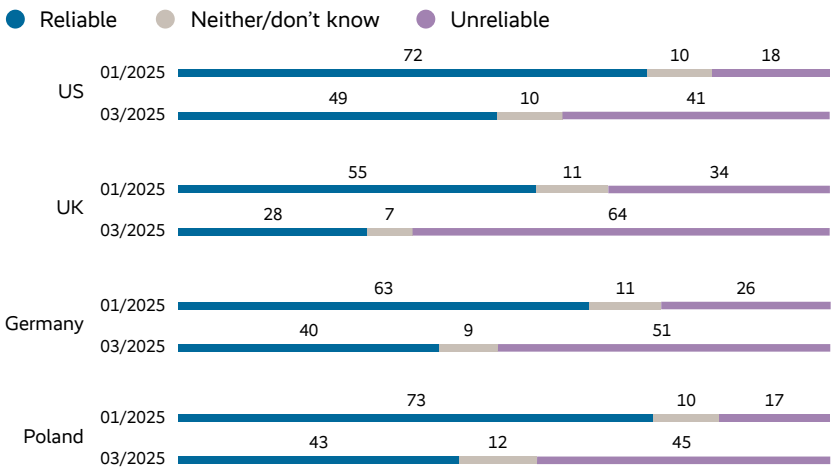
Pete Hegseth, US Secretary of Defense, Ukraine Defense Contact Group, February 12, 2025

Third, an increasingly confrontational economic relationship risks undermining the structural foundations of transatlantic security.

Figure 4

Respondents' trust in the US as a NATO Ally, January 2025 and March 2025, percent

How reliable or unreliable is the United States' commitment to NATO in general?



Data: Peace Research Center Prague. Illustration: Munich Security Conference

Reliance on US deterrence might, in an exceptional scenario, become prohibitively costly compared to negotiating with Russia or developing European solutions. More plausibly, sustained economic friction could slowly erode confidence in NATO's cohesion and Washington's commitment to European defense. Adversaries may interpret this as a weakening of the Alliance, tempting them to probe European defenses while calculating that US responses will be constrained by domestic or economic considerations.

"If the United States decides to militarily attack another NATO country, then everything would stop – that includes NATO and therefore post-second world war security."[20]

Mette Frederiksen, Danish Prime Minister, TV 2, January 5, 2026

Fourth, if Washington prioritizes defense of the Western Hemisphere and balancing China in the Indo-Pacific, as the December 2025 US National Security Strategy implies, US security guarantees for Europe could be hollowed out. A substantial reduction of American forces and capabilities in Europe could be perceived as a signal that the tripwire linking the defense of Europe to US nuclear forces has been weakened or removed. Hesitation to join initiatives like the Coalition of the Willing in Ukraine or the Eastern Sentry Mission has already raised doubts about US engagement. Such signals might encourage Russia or other adversaries to test European defenses in perceived gaps.

Fifth, Alliance cohesion was visibly diminished by the Trump administration's repeatedly stated intention to take over Greenland –

a territory that is part of the Danish Kingdom and thus of a European NATO Ally – and its initial refusal to rule out using military force to do so. Although President Trump forswore military action to acquire Greenland in his 2026 Davos speech, any US attempt to seize the territory would still violate fundamental principles of territorial integrity and sovereignty. This would risk critically undermining both NATO and its extended nuclear deterrence posture.

Finally, Trump's impulsive and erratic decision-making, combined with the systematic weakening of domestic institutional constraints on presidential decision-making,[22] raises questions about the reliability of extended deterrence. Even if political appointees assert that US deterrence guarantees remain nonnegotiable, rivals may judge that US responses hinge too heavily on a single individual's inconsistent preferences. White House vacillation on Ukraine, driven by shifting interlocutors, underscores the risk: Adversaries might conclude that US guarantees are contingent and attempt to "call the bluff" in crises.

Each of these factors, alone or in combination, threatens to undermine the credibility of extended deterrence. While extreme scenarios, such as US abstention during a full-scale nuclear conflict, are unlikely, more limited contingencies, such as nuclear coercion or tactical use against a NATO ally, highlight the urgency of European action. An objective evaluation of the costs, risks, and potential benefits of available strategic options is a precondition for effective action.

"I want to believe that the United States will stay by our side, but we have to be prepared for that not to be the case."[23]

Emmanuel Macron, French President, March 5, 2025

Europe's Nuclear Options

Concerns about the enduring credibility of US extended nuclear deterrence raise the question of how Europe can avoid a deterrence gap, where it is left without an effective nuclear umbrella. Moscow's nuclear threats in the context of the invasion of Ukraine add urgency to the situation. What are Europe's best options for confronting fears of nuclear abandonment by the United States and nuclear blackmail by Russia?

This report evaluates five policy options discussed in European defense and security circles: continued reliance on US extended nuclear deterrence (Option A), strengthening the role of British and French nuclear forces in European deterrence (Option B), developing a common European deterrent (Option C), pursuing new, independent national nuclear deterrents (Option D), and investing in conventional deterrence without a nuclear component (Option E). Together, these options capture Europe's current choices. While all have been mentioned in public debates and closed-door meetings, their respective requirements and implications have not been systematically assessed and compared. We therefore evaluate each option in terms of its credibility and feasibility, two core features of a viable European deterrence strategy.

Credibility is measured by the extent to which a nuclear-armed adversary believes its target has both the will and the requisite capabilities to deny any strategic gain from a nuclear first strike or impose costs so devastating that a first strike becomes irrational. Credible will requires first and foremost political institutions and processes that signal a "readiness to push the button" across the range of plausible scenarios for which deterrence is designed. Second, in terms of capabilities, credibility requires a command-and-control structure that is functioning and survivable as well as sufficient military capabilities for both denial and punishment. Although analysts will not necessarily agree on the specific mix and number of warheads and delivery systems sufficient for credible deterrence, the capabilities currently committed through US extended deterrence serve as a useful benchmark.

Feasibility concerns the financial, legal, political and public costs of acquiring and maintaining both the political and military command and control structures as well as the specific weapons systems envisaged by a policy option. The four dimensions of feasibility are measured as follows: First, how

likely is the option to secure consistent funding for the institutional, force posture, and modernization requirements it implies? The more expensive, the less feasible an option generally is. Second, to what extent do European governments have the legal authority (nationally, at the EU level and under general international law) to implement the option and what are the potential diplomatic and/or political costs of pursuing the option? Third, given the option's financial and legal costs and the expected diplomatic pushback, to what extent can democratically accountable governments "afford" to pursue this option? This may partly depend on the fourth dimension: To what extent can decision-makers generate sustained public support for the option?

There are often trade-offs when pursuing credibility and feasibility. The more credible an option is in material terms, the less feasible it may be financially and politically. The more credible an option is in terms of conveying the "will to push the button" across a wide range of nuclear scenarios, the more legal challenges it may present and the higher the risk of serious diplomatic pushback. This implies that the most financially, legally, and politically feasible options may leave Europe with a less than credible nuclear deterrent in terms of capabilities. Recognizing and explicitly evaluating these trade-offs is essential for making responsible policy choices in the current crisis.

"Putin's brutality has not only brought back the war of aggression to Europe but also destroyed all disarmament initiatives with Russia. That's why nuclear sharing within NATO is an indispensable part of our security."[28]

Annalena Baerbock, then-German Foreign Minister, Redaktions-Netzwerk Deutschland, February 3, 2024

We do not advocate for one of the five options. Rather, we aim to provide a structured framework to help European policymakers and publics assess the feasibility of different options, to identify the level of credibility below which they are not willing to fall, and ultimately, to make informed decisions. Striking the right balance between credibility and feasibility may require pursuing options in parallel and systematically investing in institutional structures, nuclear capabilities, diplomacy, and public education to bridge the gap between aspiration and reality.

Option A: Doubling Down on US Extended Nuclear Deterrence

At the time of writing, reinforcing the nuclear status quo within NATO remains the default transatlantic security arrangement – and Plan A for most European policymakers. It might be the default merely because all other options seem more dangerous, more expensive, and less feasible – but it is the one most European leaders currently prefer. Throughout 2024, ambiguity over a potential Trump return, amplified by mixed signals from his inner circle, triggered broad debates in European capitals about the

Figure 5

US nuclear capabilities, 2025, estimated number of warheads, delivery vehicles, and relevant platforms

Domain	Type/designation	Number of launchers	Estimated number of warheads	Warhead yield
Land	ICBM	400	800	300 to 335
Sea	SLBM	280 (on 14 SSBN)	1,920	8 to 455
Air	Bombers	65	780	0.3 to 400
Substrategic forces	Gravity bombs	n/a	200	0.3 to 170
	Total warheads		**3,700**	

Data: Federation of American Scientists. Illustration: Munich Security Conference

durability of US security commitments.[24] By early spring 2025, concern peaked as Washington's commitment to Europe appeared particularly tenuous, prompting several active and former European leaders and intellectuals to openly explore alternative security arrangements – including in the nuclear realm.[25] Over the summer, the debate subsided.[26] US officials indicated that extended nuclear deterrence was not in doubt, even as they continued to press European Allies to enhance their own defense efforts and consider scaling back American conventional force deployments on the continent.[27]

This debate flared up again in the fall, however. The first trigger for this was the release in November 2025 of a new US National Security Strategy, which harshly criticized European Allies, echoed far-right conspiracy theories alleging "civilizational erasure" in Europe, and stated the policy goal of "cultivating resistance to Europe's current trajectory within European nations."[29] Although not related directly to extended nuclear deterrence, these statements did raise a relevant question: Is this White House willing to incur the significant risks that come with extended nuclear deterrence to help European Allies with ideologically divergent governments? A second trigger came in January 2026, when President Trump restated his intention to take over Greenland shortly after a military operation in Venezuela.[30]

Many Europeans still cautiously hope that US nuclear guarantees will remain the cornerstone of European deterrence. By mandating a minimum

"France and the United Kingdom have nuclear weapons. If they allow themselves to be overwhelmed with very destructive moral ideas, then you allow nuclear weapons to fall in the hands of people who can actually cause very, very serious harm to the United States."[31]

J.D. Vance, US Vice President, UnHerd, December 22, 2025

US troop presence of 76,000 in Europe, the 2026 National Defense Authorization Act reinforces these expectations.[32] Such deployments enhance conventional military capabilities while binding US nuclear deterrence more directly to battlefield developments in a potential conflict with Russia. Thus, throughout Europe, strategists still frame the issue not as whether but how much to rely on US nuclear reassurance. They ask whether Europe should accept near-exclusive dependence on US capabilities or push for complementary (nuclear or supporting/conventional) roles.[33]

For proponents of this option, its credibility derives from indicators suggesting that US extended nuclear deterrence will endure the second Trump administration. First, analysts close to the Trump Administration highlighted that credible extended deterrence is a prerequisite for Washington to retain leverage over its allies.[34] Second, there are signs that Europe is adapting in ways that reinforce the transatlantic framework. Economically, the European Union has accepted a less favorable trade arrangement in an effort to stabilize broader security ties.[35] On the defense side, European NATO Allies have not only recommitted to higher spending targets but have, in several cases – such as Germany, the Nordic states, and the Baltic region – begun translating these commitments into meaningful capability expansion. Third, even as Trump officials remain divided over whether to prioritize hemispheric retrenchment or competition with China, some agree that a stable European alliance enables Washington to focus resources on other regions and domestic priorities.[36] This convergence suggests that maintaining extended deterrence in Europe is viewed less as a burden than as a strategic necessity.

"We want NATO to be stronger, we want NATO to be more visible and the only way NATO can get stronger, more visible is if our partners, the nation states that comprise this important alliance, have more capability."[37]

Marco Rubio, US Secretary of State, NATO ministerial, April 3, 2025

Yet political expediency may not be the only reason why European policymakers accept recent signs of continuity; there are the hard military realities of Europe's current dependence on the United States to consider. Extended nuclear deterrence is inherently fraught: It requires one to convince adversaries and reassure allies of one's willingness to accept grave risks on behalf of others.[38] Only the United States is truly equipped to do so in a confrontation with another nuclear superpower.[39] Over several decades, Washington has developed a flexible nuclear arsenal and robust conventional forces designed to manage escalation and, if an all-out nuclear war could not be avoided, severely limit the military capabilities adversaries can hope to retain thereafter. Hence, unlike smaller nuclear powers, the US can plausibly threaten limited nuclear retaliation without accepting its own

Figure 6

Relevant paragraphs from NATO's current strategic concept, adopted in June 2022

28. The fundamental purpose of NATO's nuclear capability is to preserve peace, prevent coercion and deter aggression. Nuclear weapons are unique. The circumstances in which NATO might have to use nuclear weapons are extremely remote. Any employment of nuclear weapons against NATO would fundamentally alter the nature of a conflict. The Alliance has the capabilities and resolve to impose costs on an adversary that would be unacceptable and far outweigh the benefits that any adversary could hope to achieve.

29. The strategic nuclear forces of the Alliance, particularly those of the United States, are the supreme guarantee of the security of the Alliance. The independent strategic nuclear forces of the United Kingdom and France have a deterrent role of their own and contribute significantly to the overall security of the Alliance. These Allies' separate centres of decision-making contribute to deterrence by complicating the calculations of potential adversaries. NATO's nuclear deterrence posture also relies on the United States' nuclear weapons forward-deployed in Europe and the contributions of Allies concerned. National contributions of dual-capable aircraft to NATO's nuclear deterrence mission remain central to this effort.

30. NATO will take all necessary steps to ensure the credibility, effectiveness, safety and security of the nuclear deterrent mission. The Alliance is committed to ensuring greater integration and coherence of capabilities and activities across all domains and the spectrum of conflict, while reaffirming the unique and distinct role of nuclear deterrence. NATO will continue to maintain credible deterrence, strengthen its strategic communications, enhance the effectiveness of its exercises and reduce strategic risks.

Data: NATO. Illustration: Munich Security Conference

destruction as inevitable.[40] Serious challenges remain – from delays in US nuclear modernization to the rise of China as a nuclear near-peer – but Washington's recognition of these issues, and its visible intent to invest in solutions, constitutes costly signaling of a continuing commitment to credible extended nuclear deterrence.

Many European policymakers also continue to believe in the durability of US extended nuclear deterrence because it is embedded in a dense network of transatlantic institutions and routines. NATO's command structures, the Nuclear Planning Group, long-standing nuclear sharing arrangements

through Dual-Capable Aircraft (DCA), and deep bilateral political and industrial ties all reinforce the perception of stability.[41] These mechanisms do more than facilitate military coordination: They embed deterrence in bureaucratic habits, planning cycles, and strategic cultures. Disrupting this architecture would impose very high political, bureaucratic, military, and financial costs, creating strong path dependency and a sense that US extended deterrence is not merely a policy choice, but a strategic default.

The immediate concern is the Trump-specific risk: In a crisis, Russia could test the credibility of US commitments while a US Administration could simultaneously pressure Europe for policy concessions on issues related to defense spending, regulatory alignment, or support for specific political agendas. The possibility that US security guarantees could be leveraged in this way is a central source of European apprehension regarding the reliability of this option.

Broader structural shifts compound the challenge. Washington's prioritization of Indo-Pacific security has increased uncertainty about Europe's strategic positioning vis-à-vis China, while any drift toward American isolationism or a prioritization of the Western Hemisphere would leave Europe increasingly exposed.

A collapse of transatlantic security arrangements, while unlikely, would leave Europe with few credible nuclear options. Russia could exploit its regional advantages, seize limited NATO territory, and shield its gains with threats of limited nuclear use. Given that the French and British nuclear forces are sized to complement US capabilities, Paris and London would struggle to assume the lead in extended deterrence or reassure allies without Washington. European conventional forces are likewise structured around US integration and would be unable to replicate the combined nuclear-conventional deterrent. NATO's institutional machinery, designed around US leadership, is unlikely to prove sufficient to hold the Alliance together.

"At the military level, our bilateral cooperation with the United States is thriving. However, we cannot ignore the fact that the United States is turning its gaze partly elsewhere, and this change is here to stay."[42]

Alexander Stubb, Finnish President, opening of the 254th National Defense Course at the House of Nobility in Helsinki, November 3, 2025

These considerable risks notwithstanding, Option A remains highly advantageous for Europe by any financial measure. The United States spends roughly $850 billion annually on defense, with about 10 percent devoted to nuclear forces.[43] France and the United Kingdom each invest only single-digit billions in their nuclear programs, enough for national deterrents but not for a broad extended deterrence mission.[44] Nonnuclear Allies contribute modestly through the DCA mission – which is costly at

moments of modernization (e.g., Germany's F-35 acquisition and airbase upgrades) but far cheaper than building national arsenals.[45]

Yet extended deterrence is bundled with broader US security guarantees. As long as the political terms of the bargain remain uncertain – and potentially subject to increasingly extractive US domestic politics – the financial advantages may no longer serve to balance the increased strategic risks. In addition, the Trump Administration's apparent attempt to separate conventional and nuclear burdens is problematic: In a crisis or conflict, US nuclear deterrence and reassurance are unlikely to remain credible if Washington becomes conventionally detached from Europe.

Option A raises no new legal concerns. The compliance of NATO nuclear sharing with the Non-Proliferation Treaty (NPT) regime has been contested but is unlikely to raise new legal challenges. Based on an interpretation rooted in the negotiating history of key international treaties, Allies maintain that sharing does not violate their international obligations, as US warheads remain under American custody in peacetime, with any transfer only contemplated if an armed conflict is already underway.[46] The claim that NATO's nuclear sharing violates nonproliferation obligations remains a minority position that occasionally resurfaces in diplomatic settings. Nevertheless, the practice persists, although criticism would likely intensify if additional states joined the arrangements.[47]

The status quo is also sustained by the lack of active public support for withdrawing these weapons at the moment, even if it ebbs and flows over time. NATO remains popular among Allied publics: Majorities in Europe view the Alliance favorably, and in the United States roughly three-quarters back maintaining NATO membership, despite partisan gaps.[49] Surveys also find continued willingness among Americans to defend NATO Allies if attacked, which suggests commitment to extended deterrence.[50] On nuclear specifics, recent research has shown various shifts in Europe. After Russia's full-fledged invasion of Ukraine, support for deterrence has risen, and publics in key nonnuclear hosts are less opposed to NATO's nuclear-sharing role than before 2022 – albeit support for nuclear sharing seems modest throughout the Alliance.[51] Whether these attitudes will remain stable over time remains to be seen. On the one hand, given the current threat environment, which is dominated by Russia's imperialist ambitions, a sharp turn against the existing nuclear arrangements appears unlikely in the near-to-medium term.[52] On the

"[I]f anyone thinks here, again, that the European Union, or Europe as a whole, can defend itself without the US, keep on dreaming. You can't. [...] You have to build up your own nuclear capability. That costs billions and billions of euros. You will lose then in that scenario, you would lose the ultimate guarantor of our freedom, which is the US nuclear umbrella. So hey, good luck."[48]

Mark Rutte, NATO Secretary General, remarks at the meeting of the European Parliament´s Committee on Foreign Affairs (AFET) and Committee on Security and Defence (SEDE), Brussels, January 26, 2026

other hand, Europeans are increasingly skeptical that Americans would come to their rescue in their hour of need (Figure 4).[53]

For many, Europe's best option remains reliance on US extended deterrence, anchored in strong military, economic, and legal foundations – even as its political underpinnings are increasingly contested. Ongoing efforts to modernize the US nuclear arsenal and invest in European defense further reinforce the appeal of this option. Yet the strategy carries growing risks. During the post–Cold War era, US leadership largely aligned with European preferences and imposed few costs, making dependence appear both safe and advantageous. That assumption no longer holds. Continued reliance leaves Europe vulnerable to political pressure from Washington, including the prospect that a future administration might demand greater concessions – even territorial ones – in exchange for protection. A deeper concern is the potential erosion or collapse of the arrangement itself, which would force Europe to seek alternatives from a weak and fragmented baseline. More likely than a sudden break, however, is a gradual decline in credibility, inviting miscalculation and increasing the risk of Russian aggression against NATO territory.

Option B: Increasing the French and British Role in Europe's Nuclear Deterrence

Enhancing the British and French nuclear roles in Europe's deterrence means these countries would either play a larger, but still complementary, role to US nuclear forces or, more ambitiously, gradually assume nuclear deterrence responsibilities for Europe should Washington scale back or abandon its commitment. These options are potentially complementary: An increased Franco-British role could pave the way for a genuinely European deterrence provided by France and the UK. Yet, there is a stark difference between what the two nuclear powers are currently willing to do and what they would need to do to provide extended deterrence without US backup. The debate has focused on the former; the latter would require a fundamental rethink and monumental investments.

"We should talk with [France and the UK], always also from the perspective of supplementing the American nuclear umbrella, which we of course want to see maintained, but we in Europe also need to jointly get stronger in nuclear deterrence."[54]

Friedrich Merz, German Chancellor, Deutschland-funk, March 9, 2025

Current doctrines in both countries allow for a greater European role as a complement to the US.[55] France's nuclear doctrine defines its vital interests as having a "European dimension" – a deliberately ambiguous position held since the 1970s. Now more openly discussed, it is generally understood to imply that France would not leave an attack on its European allies unanswered if its own core national interests were under threat as a result.[56]

France has kept its nuclear arsenal outside NATO's command structures and does not participate in the Nuclear Planning Group (NPG). Its current nuclear arsenal (around 290 warheads deployed on sea and air components) is fully independent, whether for maintenance, design of the warheads, or the delivery systems.[57] President Macron has signaled readiness to make a stronger French commitment for Europe while ruling out Allied financing, shared decision-making, and, for the moment, permanent forward deployment of French nuclear weapons.[58]

"There has always been a European dimension to France's vital interests within its nuclear doctrine."[59]

Emmanuel Macron, French President, TV RTP, March 1, 2025

In contrast, the UK's nuclear doctrine explicitly assigns its independent sea-based deterrent to NATO, and London participates in the NPG.[61] While operationally sovereign, the UK depends upon the US for its delivery vehicles, the Trident II D5 submarine-launched ballistic missiles. Neither France nor the UK currently possesses or appears to be developing capabilities or plans to employ nuclear weapons in a tactical role for escalation management.

To maintain the credibility of the European nuclear posture and avoid a deterrence gap, both London and Paris believe it necessary to explore options to extend their arsenals beyond the existing and planned replacement systems. But neither aspires to replace US extended nuclear deterrence in Europe.[62] Currently, their initiatives are meant to signal a commitment to burden-sharing, reassure European partners, and deter Russia.

Both France and the UK can strengthen their complementary roles without altering fundamental principles or strategic doctrine. Franco-British cooperation is already well-established. Grounded in the 1995 Chequers Declaration and the 2010 Lancaster House Treaties, it was further reinforced through the 2025 Northwood Declaration. The Declaration asserts that "there is no extreme threat to Europe that would not prompt a response by our two nations," implicitly including the possibility of a nuclear response.[63] It also established new bilateral coordination mechanisms, including a Nuclear Steering Group, to provide political direction and coordinate work across nuclear policy, capabilities, and operations. This includes possible RAF participation in French nuclear exercises and mutual support for operations involving ballistic missile submarines (SSBN).

"President Emmanuel Macron's concept of a nuclear umbrella over a united Europe, over the European part of NATO, is certainly a very important voice in this discussion, which we in Poland welcome wholeheartedly."[60]

Andrzej Duda, then-Polish President, LCI, February 26, 2024

Some prominent European leaders, including German Chancellor Merz, have been discussing a greater French and British role in extended nuclear deterrence. In particular since President Macron's 2020 speech on

"From today, our adversaries will know that any extreme threat to this continent [...] would prompt a response from our two nations."[64]

Keir Starmer, UK Prime Minister, UK-France summit press conference on the Northwood Declaration, July 10, 2025

deterrence, in which he invited Europeans to a "strategic dialogue [...] on the role played by France's nuclear deterrence in our collective security",[65] Paris has engaged in substantial bilateral dialogues with countries such as Germany, Sweden, and Poland. Despite their willingess to engage in these dialogues, many European states nonetheless remain hesitant. Some question whether French and British capabilities would be sufficient, while others doubt the political stability of these two countries. Others fear that deeper European cooperation could inadvertently signal doubts about US commitment – the very outcome they seek to avoid.

Institutionally, France could strengthen European nuclear cohesion and improve coordination between nuclear and nonnuclear Allies by joining the NPG. However, long-standing concerns about preserving strategic independence – and the high level of politicization surrounding the NPG in French domestic politics – make full membership unlikely.[67] A more workable option would be observer status or the creation of an adapted consultation format aligned with French preferences.

Beyond institutional arrangements, France could pursue practical measures to deepen Allied involvement in its nuclear posture. This could include expanding participation by Allied forces in French Poker exercises, as was recently done with Italy, or enhancing joint signaling by aligning Poker drills with NATO's Steadfast Noon. More ambitious options would involve rotating Rafale fighter jets (without nuclear payloads) of the Forces Aériennes Stratégiques (FAS) to Allied bases, including on NATO's eastern flank. France could also base elements of its airborne nuclear component – such as ASMPA missiles – in an Allied country (such as Poland) and/or negotiate arrangements under which allied fighter aircraft would be certified to deliver them, thereby mirroring aspects of NATO's existing nuclear-sharing model. A bolder proposal would be to "Europeanize" a squadron of the FAS, with allied pilots trained to participate in French missions.

But while such measures could strengthen deterrence through political signaling and visible cohesion, they would not fundamentally enhance France's underlying nuclear capabilities. In fact, most of the current thinking and planning about enhancing the French role in the European deterrence posture is focused on a greater conventional commitment, especially through deploying troops on the Eastern Flank and investing in conventional long range strike systems.

The UK can strengthen its complementary role through greater involvement in NATO nuclear exercises and continued modernization of its sea-based deterrent, including the Dreadnought program and the new sovereign Astrea warhead. London could also opt for additional submarines beyond the four currently planned. This would make the continuous at sea deterrence mission easier to sustain. The announced UK purchase of F-35A aircraft capable of carrying B61-12 bombs will further support NATO deterrence, as will investments in long-range strike and integrated air and missile defense.[68]

The challenge would change fundamentally if the United States were no longer involved in NATO nuclear governance or were to work actively against it. Political and operational elements would need to be adapted as they would determine the credibility of a European-only nuclear force. France and the UK would need to reassess their nuclear doctrines, which are currently framed around national deterrence and contributions to NATO. Even with an expanded doctrinal horizon, the political obstacles would remain substantial: French attachment to autonomy, British reluctance to engage in European initiatives, and differing strategic cultures across Europe.

The credibility of any Franco-British-led European deterrent would also hinge on the political authority and institutional arrangements behind them. Paris and London would likely insist that they reflect French and British insistence on sovereign control of their nuclear arsenals. This rules out a European governance body for nuclear weapons (see Option C). New consultation mechanisms, shared planning arrangements, and coordinated deployment strategies would need to be established to ensure coherent planning and decision-making between France, the UK, and nonnuclear Allies. They could mirror, adapt, or replace existing NATO arrangements. One option would be to restructure the NPG and its subgroups. Without such mechanisms, Franco-British guarantees would lack political legitimacy across Europe.

Currently, both states lack the military capabilities and political will to replace the United States as a provider of extended nuclear deterrence. Many experts (and Allies, for that matter) doubt that the current French and British postures are sufficient to deter Russia and reassure Allies in the full range of conceivable nuclear scenarios. Both the UK and France have maintained limited countervalue nuclear arsenals designed to provide credible deterrence against threats to their core national interests, but these forces are not intended to fulfill a comprehensive extended deterrence role.

"The French proposal is interesting, but I would like to say that the French nuclear arsenal and their ability to secure the European umbrella is still very weak. [...] Therefore, we can discuss and talk about everything, but my call would be not to undermine confidence in NATO."[66]

Gintautas Paluckas, then-Lithuanian Prime Minister, March 10, 2025

"The Force de Frappe, that's ballistic missiles, that is something different than a nuclear umbrella, much more would be needed for that. But that question will be on the table, but it will not suffice to simply fall back on the French, that is nonsense."[69]

Bart de Wever, Belgian Prime Minister, VRT Nieuws, March 14, 2025

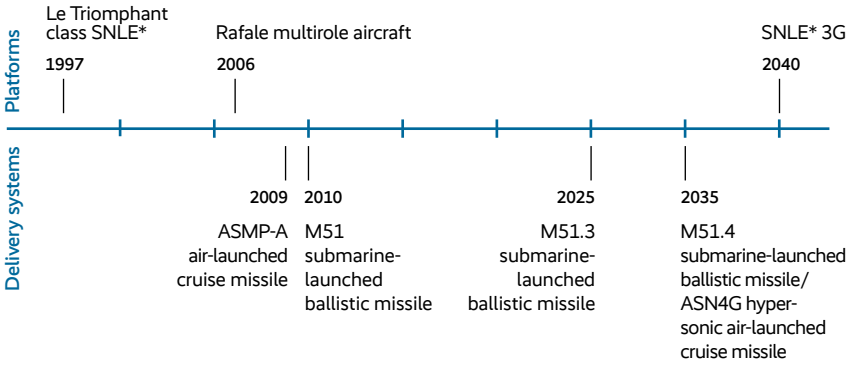
Absent a counterforce posture and damage-limitation capacity, neither France nor the UK could seamlessly replace the United States as a provider of extended nuclear deterrence. In addition, French and British political resolve to assume the substantial nuclear risks on behalf of all European Allies – risks generally associated with a countervalue posture – is widely seen as insufficient. Without the contribution of the United States, the limited British and French arsenals would mean that deterrence would have to be rethought.

Assuming nuclear cooperation with the US continues, if Europe wants to minimize the risk of a potential deterrence gap – particularly concerning limited Russian nuclear use – additional options for expanding UK and French capabilities, potentially with broader European participation, would need to be considered. France and the UK may decide to build one additional SSBN each to have at least two permanently deployed at sea and ensure more flexibility for strategic signaling. A third squadron could also be added to the FAS (approximately 20 Rafales). France could decide to enlarge its arsenal of nuclear-armed cruise missiles, potentially also deploying lower-yield warheads. The UK might acquire nonstrategic nuclear weapons. Beyond nuclear assets, European Allies will have to assume responsibility for enabling capabilities – tankers, suppression of enemy air defense (SEAD), early warning, as well as intelligence, surveillance, and reconaissance (ISR) – which, for the most part, the US traditionally provided. While France and the UK are keen on maintaining independent nuclear capabilities, conventional European countries could provide these enablers, thereby reinforcing cohesion and interoperability, strengthening deterrence, and ensuring burden and risk-sharing.

The UK could raise its stockpile ceiling to the declared 260-warhead limit and, depending on industrial constraints, explore additional systems, though financial constraints might slow down progress. A far harder challenge would be to develop its own air-launched warhead. Based on the current plans, there is no sustainable future for a UK nuclear deterrent without US collaboration, from missiles to the overall submarine build. Hence while the UK is likely to work with other European countries as much as it can, London currently cannot do this without continuing US collaboration. One option would be to cooperate with France on missiles. The UK would also have to seriously consider building an air leg, assuming the plans to rejoin nuclear sharing could potentially collapse. France could expand its warhead numbers modestly using its reserve fissile material and established design capacity.

Figure 7

Timeline of the French nuclear arsenal's modernization, 1997–2040



*Sous-Marin Nucléaire Lanceur d'Engins; French term equivalent to SSBN, referring to nuclear-powered submarines carrying ballistic missiles.

Data: French ministry of defense. Illustration: Munich Security Conference

Both France and the UK appear able to sustain their current commitments to nuclear deterrence. Precise expenditure data for France's arsenal remain classified, but available figures indicate that nuclear forces account for roughly 13 percent of the annual defense budget. Most of this funding supports the ongoing modernization of both components of the French deterrent. By 2040, France plans to field a new generation of SSBNs equipped with the next increment of the M51 missile and updated warheads, while the FAS is expected to receive the ASN4G hypersonic air-launched nuclear cruise missile around 2035. Uncertainty persists regarding the next-generation aircraft for the airborne component, as problems with the Franco-German-Spanish Future Combat Air System (FCAS/SCAF) program risk delays that could affect France's broader modernization cycle, including its future carrier.

In the UK, annual operating costs for the nuclear deterrent are estimated at about 6 percent of the defense budget.[70] The Dreadnought program is projected to cost £41 billion (£31 billion plus a £10 billion contingency), and the Strategic Defence Review has allocated £15 billion to the development of the Astrea warhead. The procurement of 12 nuclear-capable F-35A aircraft is expected to cost approximately £1 billion.[71]

In a scenario in which France and the UK strengthen their roles while remaining complementary to US extended deterrence, no major additional

"A word of advice to Parisian strategists: In your militarist fervor, do not forget that Russia, too, possesses nuclear deterrent capabilities. We urge you to study our updated nuclear doctrine carefully – and temper your ardor accordingly."[72]

Maria Zakharova, Russian Foreign Ministry Spokeswoman, press conference at the Russian Foreign Ministry, July 24, 2025

nuclear investment would likely be necessary. But a significant reinforcement of high-end conventional capabilities – particularly long-range strike, integrated air and missile defense, ISR, and enabling assets – would be needed to ensure credible escalation management and strategic signaling.

A scenario in which French and British nuclear forces had to replace US extended deterrence would fundamentally change the setting. It would only work if both countries either massively expanded their military capabilities or persuaded their European allies that they are willing to accept the risk of sacrificing their homeland for Europe. Many analysts believe that enhancing such credibility would require France and the UK to enlarge their strategic arsenals, acquire additional tactical nuclear weapons, and make it clear that they would use those weapons – for instance, by deploying them closer to the frontline alongside conventional forces and potentially putting into place predelegation authorizations.

The scale of enabling requirements – from intelligence to dual-capable platforms – would exceed what either state currently sustains alone. The decision to add new capabilities, for example, developing new types of nuclear warheads and dedicated delivery vehicles, would generate significant costs.

Other European Allies would therefore have to assume far greater responsibility for the nonnuclear elements that make deterrence credible in practice. This would amount to the emergence of a new burden-sharing debate, one centered not on nuclear ownership but on the collective financial, industrial, and operational commitments required to support a European deterrent that no longer relies on the United States. All these decisions would be extremely expensive – financially, politically, and with regard to the short-term security costs.

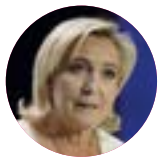
Legally, Option B is compliant with the NPT. France currently has no plans to deploy French nuclear weapons abroad, but any such deployments would remain under exclusive French control. As NATO's nuclear sharing arrangements have long been judged compatible with the NPT,[73] similar French or expanded UK activities would rest on the same legal logic – although they would draw criticism from some disarmament advocates. Increasing warhead numbers might raise questions relating to Article VI disarmament commitments under the NPT, but France maintains that strict sufficiency is compatible with these obligations. Similarly, the UK's

commitment to minimum deterrence has already allowed upward adjustments to its stockpile ceiling (from 225 to 260 warheads).[74] The NPT obligations would, however, restrict the scope of cooperation between France, the UK, and their nonnuclear European Allies. For example, direct participation by nonnuclear states in French and British nuclear weapon development programs may be limited. Likewise, France and the UK might lack the necessary scope to share nuclear weapons technologies, designs, or materials with nonnuclear Allies.

Crucially, a European deterrent built around the UK and France would maintain the existing nuclear order. This continuity distinguishes Option B from other proposals that would fundamentally change the European nuclear architecture – by either coalescing around a common European deterrent (Option C), or by expanding the number of European nuclear-weapon states (Option D).

Domestic politics would be decisive in both countries – regardless of whether they opt to complement or replace US capabilities. In France, mistrust of NATO remains widespread throughout the political class, especially among those invoking the Gaullist tradition. President Macron's statements on the European dimension of French deterrence have been sharply criticized by both the far right and far left. The uncertainty surrounding the 2027 presidential election raises the risk that a future nationalist or far-right government might halt or reverse nuclear cooperation initiatives.

In the UK, both the Labour Party and the Conservatives have supported deeper involvement in European security, a NATO-first approach, and higher defense spending. Public opinion remains broadly supportive of maintaining the UK nuclear deterrent, NATO membership, and assisting Allies in the event of Russian aggression.[76] This provides a relatively stable foundation for long-term commitments. Future political shifts after the 2029 elections could still matter. While the Conservatives and Reform UK have expressed strong support for defense spending and the UK's leadership in NATO, Reform UK's Euroskepticism would likely constrain support for any nuclear arrangements perceived as "Europeanized" or extending beyond NATO or cooperation with France. Ensuring durable British participation would therefore require anchoring nuclear cooperation within NATO structures or well-established Franco-British frameworks, not European centered ones.



"To share the [nuclear] deterrent is to abolish it. Nuclear fire, the supreme degree of sovereignty, is an absolute. An absolute cannot be relativized, for it would cease to exist."[75]

Marine Le Pen, Parliamentary leader of the Rassemblement National, Assemblée Nationale, March 3, 2025

France and the UK recognize that their nuclear capabilities contribute to deterring threats to European Allies. Their arsenals remain credible with regard to large-scale strategic attacks, but at present they are insufficient for managing limited nuclear use or regional escalation. Even if the US remains engaged, it may be necessary for Europeans to develop limited nuclear options and expand conventional deterrence capabilities with other European partners. If it does not, a far more fundamental reassessment will be required. Both countries currently oppose the integration of their nuclear forces into any "Eurodeterrent" construct, which would compromise national sovereignty and is generally considered neither realistic nor credible.

Option C: Developing a Eurodeterrent

The idea of a Eurodeterrent has a long history, going back as far as the Cold War debates about a NATO Multilateral Force (MLF).[77] Proposals for a Eurodeterrent have always sought to address a central dilemma: Under conditions of mutual second strike capability, the credibility of extended deterrence rests on a defender's willingness to risk its own survival in order to deter an attack on an ally, a commitment that can never be certain. A Eurodeterrent would therefore transform Europe from a consumer of extended deterrence into a direct provider of its own nuclear security. Amid Russia's nuclear threats and questions about the durability of US deterrent commitments, the idea of a Eurodeterrent has resurfaced prominently in academic and political discussions.

Proponents of a Eurodeterrent rarely define exactly what they mean. Arguably, its defining feature, and the main difference from reliance on the existing French and British forces (Option B), lies in the shifting of launch authority: Under a Eurodeterrent, this authority would partly or completely move to a European entity rather than remaining exclusively in national hands. A Eurodeterrent could solve the credibility problem inherent in extended deterrence: Would the United States, France, or the UK really risk their homeland for the defense of Warsaw or Tallin? Proponents of a Eurodeterrent argue that placing nuclear weapons under a European-level authority would eliminate these problems altogether, since such an entity would have an inherent – and presumably serious stake – in defending every part of the European alliance it represents. This, it is argued, would restore credible deterrence for Europe.[79]

"We need a European nuclear weapon."[78]

Manfred Weber, EPP Party Leader in the European Parliament, Bayerischer Rundfunk, May 8, 2024

Public commentary suggests that the general idea of a Eurodeterrent enjoys considerable political and popular appeal. Senior figures in the European

Parliament, leaders of major national parties, European-federalist organizations, and academics alike have argued that Europe should develop its own nuclear deterrent.[80] In terms of public opinion, one comparative survey found fairly strong backing in Italy, Germany, France, Poland, and Spain for an "EU joint nuclear deterrent, independent of the United States."[81] That said, research remains sparse and data is inconsistent. Many surveys do not clearly define what a "shared European deterrent" would imply, meaning respondents may interpret the term differently. This ambiguity reduces the usefulness of the findings.

"We should have a debate about an independent European nuclear umbrella. That will only work with German leadership. If you cannot engage in nuclear deterrence, you become a pawn in world politics."[83]

Jens Spahn, CDU/CSU Faction Leader in the German Bundestag, Die Welt, June 29, 2025

Fundamentally, translating the idea of a Eurodeterrent into practice raises a central institutional question: By what mechanism could launch authority over European nuclear arsenals be "Europeanized"? We distinguish two principal variants.[82]

An intergovernmental Eurodeterrent would at least partly Europeanize existing French and/or British nuclear arsenals through shared decision-making by European states. This group of European states would assign collective launch authority to the heads of state and governments of participating European countries. This European collective would make decisions on nuclear weapons use either by unanimity or majority vote.

A supranational Eurodeterrent would see a group of European countries delegate launch authority to a specific European-level official, for example, the president of the EU Council or Commission. In a more radical version, a supranational Eurodeterrent would come about through the emergence of a federal European state that would subsume the nuclear arsenals of France, the UK, or both, with the head of that European superstate obtaining launch authority.

Both variants, and especially the intergovernmental one, face several credibility issues. Any Eurodeterrent would see its credibility curbed by having to rely at least initially on comparatively modest capabilities. The more fundamental challenges would likely lie less in warhead and delivery-system numbers than in the conventional and enabling capabilities that make nuclear deterrence credible and executable. Although France and Germany agreed in October 2025 to jointly develop missile early warning capabilities, Europe currently lacks an adequate independent space-based capability to detect missile launches.[84] Survivable integrated command and control facilities are a precondition for a coordinated response to nuclear

attack and thus a credible deterrent. All of these capabilities would presumably be reliant on current NATO assets.

The combined French and British nuclear arsenals amount to roughly 500 operational warheads, deployed on ballistic missile submarines and, in the French case, missiles launched from Rafale jets.[85] A Eurodeterrent based on existing French and British arsenals would "inherit" these constraints. To the extent that the credibility of a Eurodeterrent depends on a range of flexible responses to any first use, a significant expansion of European nuclear forces would be necessary. Europe's collective financial, industrial, and technological potential is sufficient to develop a much larger and more diversified force. The challenge is finding the political will to do so.

Compared to Option B, in which France and the UK maintain their deterrents separately, a shared model could mobilize greater financial capacity by pooling contributions from a coalition of willing European states, enabling expansion that Paris and London would be unlikely to finance on their own. Compared to Option D, where individual states pursue national nuclear programs, a shared deterrent could be cheaper, as costs could be distributed among more members. Nonetheless, such a project would require decision-makers to face important trade-offs and might risk crowding out investment in conventional forces. Although Europe's industries possess relevant expertise in enrichment, aerospace, and missile technology, they currently lack a centralized testing and design infrastructure.[86] While this could be mitigated by the use of existing British and French testing facilities, the lead time for a build-up of a robust nuclear industrial complex would nonetheless be significant.

The development of a larger independent Eurodeterrent would not be met with indifference in Washington and Moscow. The United States would likely apply significant political pressure in an effort to constrain and shape a Eurodeterrent in ways that correspond to its security interests while Russia would likely threaten to destroy emerging capabilities before they become operational or preempt their use in crises. Moving from a minimum Eurodeterrent based on existing French and UK weapons systems to a larger and more diverse arsenal thus presents significant political and military strategic risks.

Beyond these capability-related challenges, the Eurodeterrent's institutional design – especially in its intergovernmental variant – would likely be far less

effective at generating credible deterrence than proponents assume. Although this model aims to bolster credibility by involving all participating European governments in nuclear decision-making, any launch-authority arrangement is more likely to produce paralysis than resolve. If unanimity is required, decisions could come too late in a crisis, if they come at all; yet even majority-vote rules may still fail to deliver the decisiveness a nuclear crisis demands. Moreover, the very process of negotiating decision-making procedures could expose the Allies' limited political cohesion. There is thus a dilemma: Efforts to enhance credibility by broadening participation may instead undermine it by fostering indecision and disunity. This risk of paralysis is far smaller in a supranational Eurodeterrent, where launch authority rests with a single European-level official, as in existing nuclear powers.

"Whatever happens, the decision [to use nuclear weapons] has always been and will remain in the hands of the President of the Republic, Commander-in-Chief of the Armed Forces."[88]

Emmanuel Macron, French President, March 5, 2025

Crucially, both variants face major feasibility challenges in political and legal terms. Under the most realistic scenario, a Eurodeterrent would hinge on French and British willingness to transfer launch authority to the European level – an extraordinary concession for which there is no current indication of support. Post-Brexit, the UK is even less likely to contemplate such a step, and President Macron has emphasized that while he welcomes a strategic nuclear dialogue with European partners, shifting launch authority away from the French president is not under consideration.[87]

Of the two institutional models, the intergovernmental variant is only marginally more feasible, but its political viability comes at the cost of diminished credibility due to cumbersome decision-making. The supranational variant would offer greater credibility by vesting full launch authority in a European official, yet this is what makes it even less feasible. If European states struggle to agree on joint taxation within the EU or coordinated rearmament within NATO, the prospect of delegating nuclear launch authority to a European institution is implausible.[89] The feasibility of the supranational variant is further limited by the fact that the UK is not a member of the EU and three EU member states – Ireland, Austria, and Malta – remain outside of NATO and have adopted firm antinuclear postures.

Even if these political barriers were overcome, European Allies would still need to jointly develop a new nuclear command, control, and communications (NC3) system, along with a nuclear doctrine and shared early-warning capabilities – tasks that would be institutionally demanding under either an intergovernmental or supranational framework.

Legal feasibility poses an additional set of challenges. In the absence of a federal European state, participating states wishing to establish a Eurodeterrrent would likely need to violate or withdraw from the NPT, which prohibits nuclear-weapon states from transferring control of nuclear weapons to non-nuclear-weapon states. The 1990 Two Plus Four Treaty that led to German reunification further forbids any form of German control over nuclear weapons, though some German commentators have recently questioned whether this provision should remain in force.[90] State parties to the Treaty on the Prohibition of Nuclear Weapons – such as Austria – would similarly need to withdraw to participate in or benefit from a Eurodeterrent.[91]

And even if a federal European state were created, a central legal question would be whether it could inherit the nuclear-weapon-state status of France, the UK, or both. During the 1968 parliamentary debates, the British government clarified that: "[a] federated State would not be barred from succeeding to the former nuclear status of one of its components. A federated State would have to control all of its external security functions, including defense and all foreign policy matters relating to external security."[92]

Despite the Eurodeterrent's theoretical appeal as a remedy for the credibility problems inherent in extended nuclear deterrence, its own profound credibility and feasibility problems make it an unrealistic solution, at least in the near term. Both variants may be technically feasible, but each faces political and legal obstacles that are severe and likely prohibitive. Politically, the intergovernmental model is marginally more plausible than the supranational one. Legally, it is more problematic and operationally far less credible, undermining its value for deterrence and reassurance. Supranational schemes require levels of political integration that governments are unlikely to accept – absent extreme pressure generated by extraordinary circumstances.

Indeed, meaningful momentum toward any Eurodeterrent would almost certainly require a major external shock – such as a NATO-Russia war, a Ukrainian defeat, or a US withdrawal from NATO – before it might emerge as an improvised crisis response. Even then, Europeans would more likely fall back on other options. Without such a shock, a deliberate, planned effort would only be likely to unfold in the very long run. A Eurodeterrent embedded in a future European federal state would presuppose a prior political transformation of historic magnitude, reversing centuries of institutional and national fragmentation.

Significant hurdles notwithstanding, the Eurodeterrent idea continues to attract disproportionate attention, especially in Germany, where legal and political barriers make unilateral proliferation prohibitively costly and risky. In that context, debate about collective nuclear arrangements often functions less as a means to generate concrete policy proposals and more as a way to keep various nuclear options conceptually open.

Option D: Acquiring New Independent Nuclear Arsenals

Growing doubts about the United States' long-term commitment to European security and skepticism about European alternatives have also reinvigorated the debate about nuclear proliferation in Europe. During Donald Trump's first term, Germany already witnessed a public debate over whether the country should acquire its own nuclear weapons.[93] While the discussion eventually petered out without any major political actor endorsing the idea, Trump's comments on NATO on the campaign trail and his return to power in 2025 have revived fears of US abandonment in Germany and other European countries.[94] In light of what he characterized as a "profound change in American geopolitics" after the reelection of Donald Trump, Polish Prime Minister Donald Tusk used a speech on defense to tell his parliament that Poland should pursue advanced capabilities, including nuclear weapons.[95]

Those who suggest that countries such as Germany or Poland should not rule out developing their own nuclear programs believe that only a fully independent deterrent can provide the ultimate guarantee of security. From their perspective, doubts about the long-term reliability of US extended deterrence reveal a fundamental risk faced by all nuclear protégés: Without their own nuclear deterrent, they are dependent on their protector's political stability and commitment. In times of political turmoil, the argument goes, why should other European countries place greater trust in France or the UK than in the United States? Indeed, concerns about France's domestic stability are growing, and any potential French nuclear guarantee could also vanish with a single election. The fact that Marine Le Pen, leader of the far-right Rassemblement National, vehemently rejected President Macron's proposal to hold a strategic debate on the role of the French nuclear deterrent for European security has not gone unnoticed in other European countries.[96] Allies worry that in France and the UK, Russia-friendly parties could enter government, undermining the credibility of deterrence against Moscow.

From a military standpoint, nuclear proliferation to other European countries closer to Russia could, in principle, strengthen European deterrence. Countries such as Germany and especially Poland may have

"Poland must pursue the most advanced capabilities, including nuclear and modern unconventional weapons. This is a serious race – a race for security, not for war."[97]

Donald Tusk, Polish Prime Minister, Polish Sejm, March 7, 2025

"We have a nuclear umbrella provided by the Americans. If Trump says tomorrow that the US is withdrawing its nuclear weapons from Europe and Putin stays as threatening as now, then we will have to adapt."[101]

Theo Francken, Belgian Defense Minister, De Tafel van Gert talkshow, April 9, 2025

more at stake than those further west, making their potential nuclear arsenals appear more credible than the existing nuclear forces of France and the UK.[98] Additional decision-making centers could also make Europe's nuclear response less predictable for Moscow.

However, proponents of national nuclear programs often underestimate the immense challenges of developing a credible independent nuclear deterrent. For many, the mere acquisition of nuclear warheads seems synonymous with successful deterrence – an assumption reflected in proposals to simply "buy" or "lease" warheads from the United States. Yet even if the relevant countries possessed the necessary delivery vehicles required to employ them, it would be far more difficult to achieve a secure second-strike capability. A latent nuclear deterrent put in place before a secure second-strike capability is fully operational could be destabilizing in times of crisis as it would be vulnerable to a preventive or preemptive first strike. Acquiring nuclear warheads would thus be only the first step toward building an effective deterrent.

Even if new nuclear powers managed to develop secure second-strike forces comparable to France's submarine-based deterrent, political and military leaders would still have to grapple with thorny questions about what kind of nuclear posture could actually deter aggression.[99] So far, public speculation about a potential German or Polish bomb has not progressed to the point where proponents have specified the military contribution such an independent arsenal would make. As in the case of the proposed Eurodeterrent, in most proposals, a German or Polish bomb remains a "capability without a concept."[100] In the long run, though, new national nuclear programs, underwritten by a developed nuclear posture, could make a significant contribution to Europe's deterrence against nuclear-armed opponents.

Although nuclear proliferation could, in theory, provide the basis for a credible deterrent, most analysts have long questioned its feasibility. The issue has nevertheless attracted renewed attention in light of the aforementioned Trump and Russia shocks. Proposed scenarios range from national nuclear proliferation to nuclear acquisition by smaller groupings of European states. [102]

Across these variants, however, substantial political, institutional, and material obstacles remain. National nuclear proliferation, in particular, revives long-standing concerns about the European balance of power that have never fully receded, while the financial, technological, and political costs of establishing an independent nuclear deterrent would be significant

and potentially prohibitive. A deterrent controlled by a subgroup of European states, while less institutionally demanding than a federal Eurodeterrent (Option C), would not fully resolve the credibility problems inherent in shared launch authority, even if it allowed the costs and risks of developing new nuclear capabilities to be distributed across more than one state.

One possible pathway to national proliferation would open up if existing deterrence arrangements were widely perceived as no longer credible and the United States was committed to a full withdrawal from Europe. In such circumstances, Washington might relax its long-standing nonproliferation stance and tolerate, or even assist, limited European proliferation, potentially involving Germany or Poland.[103] Some proponents argue that the absence of German nuclear forces constrains US retrenchment, and that German acquisition would enable a more self-sufficient Europe. [104] Other European states, with limited capacity to block such developments, might acquiesce, preferring assisted proliferation to Germany and others over a Europe devoid of additional independent deterrents. Even so, this scenario would prompt significant political resistance and remains unlikely though no longer unthinkable.[105]

There is a second pathway that could prove more disruptive. National nuclear proliferation without broader support, particularly by Germany, would constitute a major departure from established European and German foreign policy practices. It would alter the balance of power within both the EU and NATO, institutions that have historically embedded and constrained German power. At a minimum, such a development could strain the political foundations of European integration and reopen long-standing discussions about Germany's role in Europe.[106] The recurring appearance of this issue in international debates, despite its marginal status in domestic German politics, highlights the sensitivity and potentially destabilizing effects of this option.

In addition to these political and strategic challenges, for most European states, establishing an independent nuclear deterrent would be very financially challenging – if not impossible. Even medium-sized countries such as Poland would struggle to secure the necessary resources to acquire and then sustain an autonomous nuclear capability, given their already strained budgets. Should the security situation in Europe deteriorate and European institutions dissolve, however, the nuclear option might become more attractive – even if those states had to spend a considerable part of their GDP on a nuclear deterrent. Larger and wealthier European states with

increased defense budgets might be able to muster the financial means to pursue such programs.

Germany, whose economy ranks third in the world in nominal GDP, is often cited as a potential threshold state for precisely this reason. Following the decision to exempt defense spending from the country's debt brake, Berlin is now able to allocate previously unthinkable sums to its armed forces. Still, the extraordinary costs of a national nuclear program would likely prove politically unattractive, particularly given the necessary trade-offs. The German government has committed itself to strengthening its conventional contribution to Europe's collective defense and transforming the Bundeswehr into Europe's most capable conventional force. It is difficult to imagine this effort remaining unaffected by the launch of a national nuclear program.

The trade-off would be even more acute for Poland. Diverting funds toward nuclear deterrence would almost certainly jeopardize the conventional armament programs that most experts consider essential for Europe's independent deterrence by denial.[107] These calculations might change if neither the US nuclear deterrent nor the British and French options were available.

Political leaders seeking to pursue independent nuclear deterrents would also face significant legal obstacles. All European nonnuclear weapons states are parties to the NPT and are legally bound to refrain from acquiring nuclear weapons. Although the NPT allows state parties to withdraw if "extraordinary events [...] have jeopardized the supreme interests" of its country, the withdrawal of European states from the NPT in order to acquire independent arsenals would quite possibly spell the end of the global nuclear order. European states have been at the forefront of global measures to fight back against states trying to withdraw from the NPT. Should any European state now decide to withdraw from the NPT, political pushback would likely be severe. European nuclear proliferation would reinforce global narratives of Western double standards, undermine Europe's credibility as a promoter of a rules-based international order in general, and potentially incite other countries to also follow their nuclear ambitions. The pursuit of greater security would paradoxically result in a less secure overall environment.

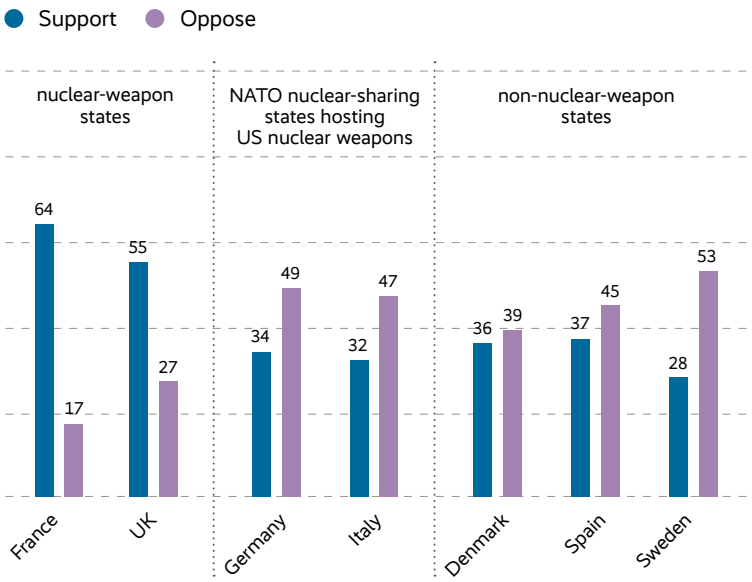
In Germany's case, the legal barriers would be even higher. Berlin would not only have to violate the NPT but also the Two Plus Four Agreement that paved the way for Germany's unification in 1990. In that treaty, the two German governments reaffirmed "their renunciation of the manufacture and

"We have committed ourselves in two major international treaties not to possess our own nuclear weapons: the Nuclear Non-Proliferation Treaty and the 2+4 Treaty. [...] To be honest, from today's perspective, I see no chance at all of changing these treaties."[109]

Friedrich Merz, German Chancellor, Maischberger talk show, July 1, 2025

Figure 8

Respondents' opinion on whether their country should have its own nuclear arsenal, April 2025, percent



Do you support or oppose your country having nuclear weapons? / Would you support or oppose your country developing and maintaining its own nuclear arsenal?

Data: YouGov. Illustration: Munich Security Conference

possession of and control over nuclear, biological, and chemical weapons," declaring that "the united Germany, too, will abide by these commitments."[108] However, as a matter of last resort, governments in Germany and other European nations may conclude that their security interests trump legal considerations if they are faced with nuclear blackmail from a revisionist Russian regime without any nuclear power backing them up.

Policymakers advocating for an independent nuclear deterrent would also confront a skeptical public. Although Russia's aggression against Ukraine has heightened the salience of nuclear weapons and increased public support for nuclear deterrence in general, enthusiasm for independent nuclear programs at this point remains low in most European countries. While majorities in Europe's two nuclear-weapon states, France and the United Kingdom, support their respective countries having nuclear weapons, existing data suggests that publics in many nonnuclear European states remain reluctant to develop their own.[110] According to a YouGov poll from April 2025, roughly one-third of respondents in Spain (38 percent), Denmark (36 percent), Germany (34 percent), Italy (32 percent), and Sweden (28 percent) would support their country

developing and maintaining its own arsenal (Figure 8).[111] In all countries surveyed, more respondents were opposed.

The German public, in particular, has long been deeply skeptical of nuclear weapons. Although both elite and public support for nuclear deterrence have increased since the beginning of Russia's full-scale invasion of Ukraine,[112] widespread public backing for a national nuclear option would likely emerge only after another major shock and with political leadership. When asked about different deterrence arrangements in an October 2025 Munich Security Conference survey, nearly half of respondents who support continued reliance on nuclear deterrence favor an option based on France and the UK. At the same time, the survey found a notable shift: Compared to five years earlier, a larger share of deterrence supporters now favor an independent nuclear deterrent, overtaking those who prefer to maintain the status quo of US-based extended deterrence (Figure 9).

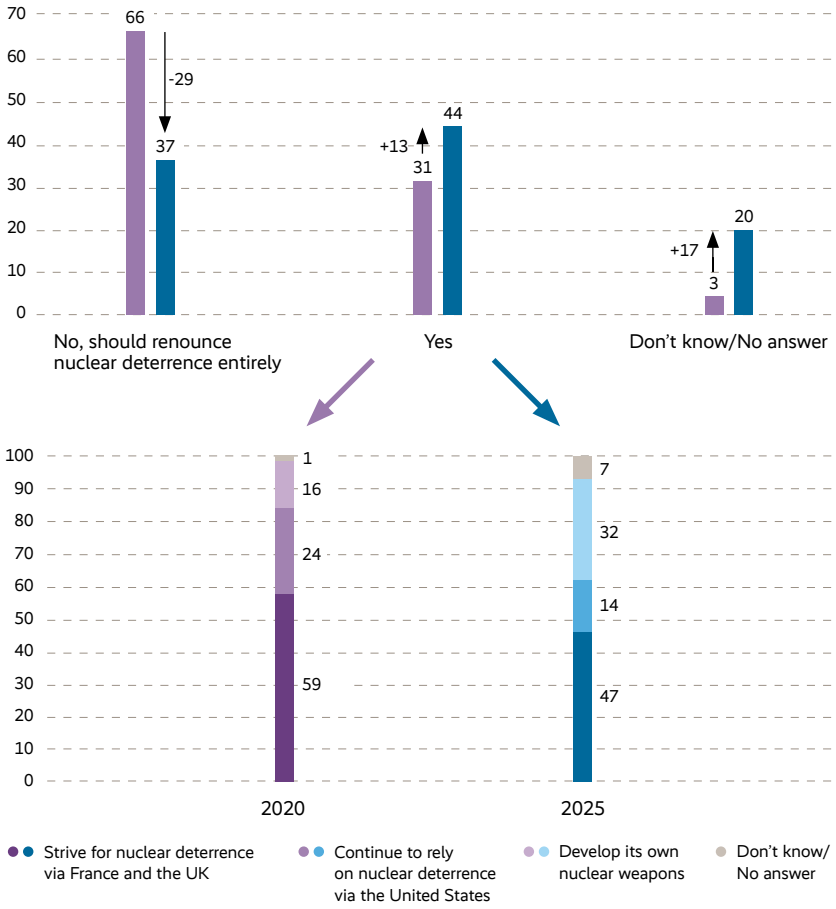
In Poland, by contrast, the level of public support for a national nuclear weapons program is higher. In a December 2024 opinion poll, 49 percent responded affirmatively to the question of whether Poland should work on producing its own nuclear weapons, with 35 percent of respondents opposing it.[113] Similarly, a February 2025 poll found a slim majority of 52.9 percent of respondents agreed that Poland should have nuclear weapons.[114]

In addition to the tremendous economic, legal, and political costs, it is unclear whether the development of an effective national deterrent would be technically feasible within an acceptable time frame. Should existing nuclear powers decide to assist proliferation, however, even countries without the financial, industrial, and technological basis to develop their own nuclear weapons could obtain a small nuclear deterrent. Yet, as proliferation does not seem in the interest of existing nuclear states, this scenario appears unlikely because only those countries capable of independently overcoming the significant technological, industrial, and financial hurdles would be in a realistic position to develop their own deterrent, reducing the list of potential proliferators considerably. Despite its nuclear phase-out, Germany would be among the few European countries possessing the necessary scientific expertise, industrial base, and access to enrichment facilities to develop a limited number of nuclear warheads.[115]

However, establishing a secure second-strike capability would be far more demanding and time-consuming. While Germany's advanced defense-

Figure 9

German respondents' attitudes towards nuclear deterrence, 2020–2025, percent



Germany should also count on nuclear deterrence in future.

Respondents who believe Germany should also count on nuclear deterrence in future: To ensure this nuclear deterrence, Germany should ...

Data: Munich Security Conference (2025); forsa (2020), commissioned by the Munich Security Conference.
Illustration: Munich Security Conference

industrial sector could provide delivery systems to ensure a basic deterrent, any attempt by Berlin to develop nuclear weapons would almost certainly be detected early, triggering intense political, legal, and economic pressure – and potentially even preventive military action against its facilities.

Other European countries would face similar challenges and risks if they attempted to pursue a nuclear deterrent on their own – that is, without any

support from a nuclear power. Poland, for example, lacks some of the necessary components, including nuclear materials and enrichment and reprocessing facilities. Its program would be even more vulnerable to a preventive attack than a hypothetical German one.

Speculation about nuclear proliferation reflects Europe's growing sense of insecurity and urgency. Yet the enormous costs, grave legal implications, and unpredictable political risks mean that the pursuit of independent nuclear deterrents is only a plausible option under the most extreme circumstances – for instance, a combination of continued US disengagement, deep political disintegration within Europe, and an escalating Russian threat following a potential victory in Ukraine. The fact that an increasing number of Europeans are weighing this option demonstrates that such a nightmare scenario for Europe is no longer unthinkable. For the time being, Europe's priority is to strengthen its conventional deterrence by denial, which appears both more achievable and less politically disruptive. Overemphasizing the nuclear dimension could undermine this effort. That said, European governments might still find it prudent to keep the option of proliferation on the table. Maintaining a degree of nuclear latency – that is, preserving the technological and industrial capacity to develop nuclear weapons if necessary – could at least serve as a source of diplomatic leverage and strategic flexibility.[116]

Option E: Focusing on Conventional Deterrence

In this scenario, European states, whether by choice or force of circumstance, would rely primarily on conventional forces to deter a Russian attack, and especially on offensive systems coupled with air defenses. Such a choice to focus on conventional deterrence only could result from a loss of confidence in US extended nuclear deterrence, a rapid US withdrawal of conventional and nuclear forces from Europe, a US exit from NATO, or a shift in the US nuclear doctrine. It would reflect a concurrent decision by France and the United Kingdom to limit their nuclear forces to national deterrent missions, foregoing any explicit European dimension (as in current French doctrine) or NATO role (as is presently the case for the United Kingdom). Europe would thus be left to deter Russian strategic coercion, conventional aggression, or limited uclear use almost entirely through conventional military capabilities.

A conventional deterrent posture would elevate the role of Eastern Flank states that have heavily invested in conventional capabilities – such as

tanks, long-range precision strikes, or land mines – and appeal to advocates of nuclear disarmament in Europe, including Ireland, Malta, and Austria.

However, a conventional-only deterrence posture is unlikely to provide Europe with a credible independent deterrent. To be credible, conventional deterrence must reliably deny an adversary a rapid, low-cost victory and demonstrate both the capability and the political will to sustain high-intensity conflict from the outset, including punishing retaliatory strikes into enemy territory. In Europe's case, this threshold may not be met, even with substantial investments in conventional forces. Absent a nuclear backstop, Moscow may judge that it could employ strategic coercion, create a fait accompli, or threaten limited nuclear use to terminate a conflict on favorable terms. Conventional deterrence would therefore hinge not only on force size and technology but on continuous readiness, rapid decision-making, and credible assurances of collective response – conditions that are difficult to guarantee in a politically fragmented Europe.

The requirements for successful conventional deterrence of large-scale aggression are significant, as the war in Ukraine shows. Deterring a Russian invasion of a Baltic state, Poland, or Romania in the absence of nuclear forces would require larger conventional arsenals as well as significantly larger active duty and reserve forces with a high degree of readiness and rapid mobilization schedules.

A Europe forced to rely primarily on conventional deterrence would depend heavily on whatever remained of NATO's institutional structures. Without the United States, the Alliance would still provide the only framework capable of coordinating collective defense at scale, though it would increasingly function through coalitions of the willing. A major increase in European military personnel would be essential. While a one-for-one replacement of departing US troops might not be required and would not be feasible in the medium term, all NATO members would at least need to meet their NATO Defense Planning Process targets.[118]

Two complementary approaches to conventional deterrence could be pursued: deterrence by punishment, which would entail threatening to impose costs on Russian interests, primarily on Russian territory, and deterrence by denial, which would mean making any Russian attack on European soil prohibitively costly by strengthening border and air defenses.

Investments in conventional means of deterrence by punishment are already underway. Several European countries are procuring short-, medium-, and intermediate-range ballistic or cruise missiles equipped with conventional warheads. Some of these systems are to be sourced from the United States (e.g., Tomahawk) or non-European partners such as Israel (PULS) and South Korea (Hyunmoo). Others could stem from nascent bilateral or multilateral European initiatives, such as the German-UK joint program or the European Long Range Strike Approach (ELSA),[119] launched in 2024 and bringing together seven nations.

However, an effective conventional counterforce strategy would require substantial stockpiles of such missiles.[120] The ultimate aim would be to be able to (a) impose enough damage on Russia to deter nuclear use or to (b) hold at risk of debilitating attack a sufficiently large share of its nuclear forces to deny Moscow confidence that it could strike Europe with nuclear weapons while retaining a secure second-strike capability against other adversaries. Although exact estimates are hard to produce and would depend on specific choices related to targeting and weaponeering, an estimate of 15,000 missiles across Europe is not unreasonable – and assumes significantly increased levels of political and military integration and solidarity in comparison to today.

Procuring such a substantial stockpile of missiles would require substantial expenditures. Bulk procurement could reduce costs, but it would also demand significant investment from defense industries to meet production targets. Destroying Russian infrastructure and command centers with such missiles or drones would also require enhanced ISR for targeting, improved multinational command and control, and a higher tolerance for risk. Without nuclear protection, countries such as Poland, Germany, or Finland would have to weigh the potential costs of becoming likely targets of Russian strikes if they agreed to serve as launch bases.

Costs could also be imposed through air strikes that can penetrate deeper into Russian territory and are harder to intercept than ground-launched missiles. Advances in hypersonic weapons and successors to the SCALP/Storm Shadow/Taurus systems are promising in this regard. However, given Russia's air defenses, such missions would require SEAD capabilities that Europe largely lacks, as well as at least partial air superiority, which is difficult to achieve with Europe's limited air assets.[121]

On the defensive side (deterrence by denial), major progress and investment would be required. While noting the investments made by the NATO flank states in fortifying border areas and preparing for defending forward, and in overall societal resilience, more would be needed to achieve even minimal credibility against potential Russian aggression. As the Russian drone and fighter jet incursions into NATO airspace in September and October 2025 demonstrated, European countries remain severely ill-equipped to counter this threat. Defending against drones or short-range ballistic missiles would be even more challenging without US personnel and capabilities in Europe. Most NATO ballistic missile defense (BMD) assets rely on US systems and crews, while integrated air and missile defense (IAMD) capabilities remain under development. Ideally the US would be persuaded to sell AEGIS and other systems to current host nations.

Emerging projects such as the European Sky Shield Initiative (ESSI) are not designed to protect strategic assets from large-scale attacks such as those faced by Ukraine.[122] While valuable for reassuring the public, under current funding and design parameters, they cannot protect major European cities – or even most military bases in Eastern Europe, which remain particularly vulnerable to Russian strikes. Two out of four systems envisioned in ESSI are American- and Israeli-made, a dependency Europe might seek to reduce in a scenario where US reliability is in doubt. European-made systems such as the Franco-Italian SAMP/T are promising alternatives, but large-scale production remains constrained by current procurement levels. Moreover, their ability to intercept intermediate-range missiles – such as Russia's new Orechnik – is uncertain. Thus, in the near future, there is no scenario where Europe can protect itself from large-scale conventional missile strikes from Russia through missile defense only, given the unreliability of these systems and the related cost.

Without meeting demanding requirements, a conventional-only posture risks being perceived by Russia as deterrence by delay rather than deterrence by denial or punishment. A substantial increase in European military personnel and capabilities would be unavoidable. Replacing US forces on a one-for-one basis would be neither feasible nor necessary in the medium term, but all members would have to meet, at minimum, their NATO Defence Planning Process targets. Effective conventional deterrence would further require sustained political coordination. Keeping NATO intact for this purpose would not be enough: Europe would need a coherent

"Nuclear deterrence is a high-risk strategy – one made ever more dangerous by the potential for accidents, miscalculations, irrational behaviour, new technologies and disinformation. We know from an increasing body of scientific evidence that the consequences of nuclear weapons would be even graver, global and more complex than previously understood. Prevention is the only strategy. Yet we see more countries arguing that nuclear weapons are necessary for providing security. […] We must break this dangerous arms race dynamic."[117]

Beate Meinl-Reisinger, Austrian Federal Minister for International and European Affairs, 69th Regular Session of the IAEA General Conference, September 15, 2025

political strategy at the EU level and among individual capitals, despite high risks of fragmentation. Divisions exposed in recent elections in the Czech Republic, Hungary, and Slovakia, and the uncertainty surrounding future political developments in larger members such as France, underscore how fragile consensus on Russia policy and defense investment remains.

Political coordination would also have to extend beyond the military domain. An integrated deterrence posture would involve economic measures, despite their mixed record since 2014 and the need for unanimity within the EU. Information warfare would become central, both for offensive operations – which most European governments have been reluctant to pursue – and for strengthening societal resilience against Russian propaganda, to which many European publics remain susceptible.

A conventional-only posture would face fewer legal and diplomatic constraints than alternative deterrence options but would still have to account for several regimes. The Mine Ban Treaty is the most consequential, as large-scale land-mine deployment would almost certainly be required for defense against Russian aggression. Estonia, Latvia, Lithuania, Poland, and Finland have already exited the treaty,[123] but additional withdrawals would likely be necessary, risking the regime's collapse and provoking civil-society backlash.[124] The Missile Technology Control Regime (MTCR) poses a different kind of challenge. While its guidelines do not legally bind members, it would be politically costly to undercut the regime, particularly given the EU's history of enforcing MTCR norms on candidate states.[125] As long as European systems remain below the 500-kg/300-km threshold and retain no nuclear-delivery capability, MTCR constraints would remain manageable though politically sensitive.[126] The NATO–Russia Founding Act presents a final complication. Although Russia's invasion of Ukraine has rendered it effectively void in NATO practice, formally terminating the act would still carry political costs in some member states. Yet, continuing to ignore it would expose Allies to accusations of hypocrisy.[127] Neither path is prohibitively difficult, but both demand political preparation.

Public attitudes represent an additional feasibility constraint. European citizens increasingly view defense as a priority, as indicated by recent Eurobarometer data, and support for higher defense spending has grown in many countries.[128] Yet a purely conventional deterrence posture would likely require defense budgets well beyond the 5 percent of GDP sometimes discussed – levels that may prove difficult to sustain over time. Research

suggests that public tolerance for high military spending is strongly crisis dependent: Clear threats generate permissive environments, as seen since the full-scale invasion of Ukraine, but maintaining that support over decades is challenging. Moreover, a conventional-only strategy would require reconfiguring domestic security models toward total-defense concepts resembling those of Finland or other Nordic states, with far greater emphasis on civil preparedness, societal resilience, and territorial defense. Even in states where public support for defense spending is high, movement toward such models has been uneven and politically delicate.

Taken together, these factors raise profound questions about the credibility and feasibility of a Europe-wide conventional-only deterrence posture. Its credibility would remain limited. Most analysts doubt that conventional counterforce capabilities, theater-level integrated air and missile defense, and investments in denial strategies can ultimately substitute for nuclear deterrence. In any case, the requisite capabilities cannot be developed and deployed at scale quickly.

Feasibility ultimately hinges on Europe's ability to muster political unity, sustain extraordinarily high defense spending, and transform societal approaches to national resilience – demands that will hardly be met given current trajectories. A coordinated "NATO minus the United States" construct would enhance the credibility of any threat to employ conventional forces, but only if it were supported by massive and sustained investment and received stable domestic political backing. In view of these considerable limitations, especially given Russia's escalation dominance, the main role of European conventional capabilities would rather be to support and complement nuclear capabilities.

Choosing Among Bad Options

Europe is confronted with a deeply uncomfortable reality: In the emerging nuclear environment, there are no good options – only choices that may be less bad than the alternatives.[129] The strategic conditions that once allowed Europeans to rely on a stable combination of US extended nuclear deterrence, modest defense spending, and limited engagement with nuclear questions no longer obtain. Russia's war against Ukraine and renewed nuclear coercion, combined with growing uncertainty about the long-term reliability of US guarantees and the multiple, partly revisionist nuclear challengers that are increasingly cooperating with each other, have fundamentally altered Europe's security environment.

In the short term, continued reliance on US extended nuclear deterrence remains the most credible and feasible option available to Europe – in comparison to the other options. It rests on unmatched military capabilities, deeply institutionalized cooperation within NATO, and decades of shared operational practice. Yet Europeans can no longer treat this option as an unquestioned baseline. Particularly the 2026 Greenland dispute has shattered trust in the US. Political uncertainty in the United States, shifting strategic priorities driven by the focus on the Western Hemisphere and the Indo-Pacific, and mounting pressures on Alliance cohesion raise serious doubts about whether US guarantees will remain reliable. In the new nuclear era, ambiguity alone could be sufficient to erode deterrence.

The alternatives entail significant costs, risks, and limitations. Some options may be credible if implemented, but feasibility constraints – whether political, legal, economic, or technical – render them unlikely within any acceptable timeframe. Several suffer from both deficiencies. Others, such as a supranational Eurodeterrent, may be legally, economically, and technically feasible as well as militarily credible but would require political developments that do not – and may never – exist. None provides a straightforward substitute that would resolve Europe's nuclear predicament or eliminate the risk of a deterrence gap (Figure 10).

This reality demands intellectual honesty and political humility. Europeans must move beyond declaratory ambition and engage seriously with the trade-offs, constraints, and risks of each option. There is no "silver bullet," no rapid path to a credible Eurodeterrent, and no scenario in which individual states can acquire nuclear capabilities without risking escalation

Figure 10

Europe's Nuclear Deterrence Options

Very strong · Strong · Neutral · Weak · Very weak

	A US extended nuclear deterrence	B French/UK-based European nuclear deterrence	C Eurodeterrent	D Nuclear proliferation	E No nuclear deterrence
Credibility of commitment	Concerns about US commitment to European security limit credibility.	Highly credible for national defense, but less credible for extended deterrence.	Intergovernmental: Very high risk of decision paralysis. Supranational: High credibility, largely avoids classic credibility problems of extended nuclear deterrence.	Highly credible for the state proliferating.	Potentially credible but would require excellent European defense cooperation.
Credibility of capabilities	Large, diversified nuclear triad.	Minimal deterrent, largely lacking substrategic capabilities.	Minimal deterrent, largely lacking substrategic capabilities.	Vulnerable during nascent stage of arsenal, potentially credible over time.	Low, requires unrealistically large buildup of conventional capabilities.
Financial feasibility	Financially beneficial to Europe, as US bears most costs.	French and UK governments are open to discussions on playing a larger role in European nuclear deterrence, but there is substantial domestic opposition in both states to providing full extended nuclear deterrence to Europe.	Minimal deterrent is possible with current French/UK spending, expanding the arsenals would be costly, but costs would be shared among many.	Very costly, may come at the expense of conventional capabilities.	Extremely costly, massive investments in conventional capabilities required.
Legal feasibility	Widely considered compliant with NPT.	Compliant with the NPT, arsenal expansion somewhat doubtful in light of NPT Article VI.	Illegal under the NPT, unless perhaps within a new federal European state.	Illegal under and potentially fatal for the NPT.	Compatible with NPT and even TPNW.
Political feasibility	Currently feasible as it is the status quo, but political costs may rise.	French and UK governments are open to discussions on playing a larger role in European nuclear deterrence, but there is substantial domestic opposition in both states to providing full extended nuclear deterrence to Europe.	Intergovernmental: Low, France and UK likely unwilling to share launch-authority with European Allies. Supranational: Very low, France and UK unwilling to relinquish launch authority completely, emergence of a European federal state unlikely.	Only feasible for larger European states with risk of incurring international sanctions.	Political feasibility of massive investments in conventional defense doubtful.
Feasibility given public support	Fairly broad public support in both the United States and Europe.	France: Limited evidence suggests public is divided. European non-nuclear-weapon states: Limited evidence indicates support in some European states.	Limited available evidence indicates public support in some European states.	Public opinion in Europe generally opposes proliferation.	High public support for additional defense investments, but unclear for investments of this magnitude.

Data: European Nuclear Study Group. Illustration: Munich Security Conference

and long-term instability. France and the United Kingdom cannot simply replace the United States, nor is it prudent to ignore the nuclear dimension of deterrence altogether – Russia certainly does not treat the conventional and nuclear domains as separate. There will be no deterrence ex machina.

Yet avoiding this debate would be the most dangerous choice of all. A deterrence gap would not emerge overnight; it would develop through hesitation, complacency, and failure to prepare. While every option entails significant costs, the costs of failing to think seriously about Europe's nuclear deterrence posture could prove far higher – particularly in a crisis where credibility matters most and time is shortest.

As there is no rapidly available alternative to the extended nuclear guarantees provided by the United States, for the foreseeable future, doubling down on the existing arrangement while exploring alternatives is a strategic necessity. Strengthening the role of British and French nuclear forces in Europe can reinforce US extended deterrence while laying the groundwork for contingency arrangements should transatlantic ties weaken further. Likewise, European investments in conventional deterrence – especially long-range strike and denial capabilities – bolster NATO's posture today and reduce Europe's vulnerability in worst-case scenarios.

Given the uncertainty of the US commitment, however, there is also no alternative to beginning the process of laying the conceptual and institutional groundwork for an independent European course. This means resisting the temptation to dismiss alternative arrangements out of hand. Even unattractive options can serve important signaling and diplomatic functions – and investing in alternatives to US extended nuclear deterrence my in fact reinvigorate Washington's interest in preserving its unique nuclear status. The key question is how to maintain the United States' role in European deterrence and defense while developing alternatives – without giving Washington the impression that it is no longer needed.

Above all, Europeans can no longer outsource their thinking about nuclear deterrence to the United States. The era in which Europe could afford strategic complacency has ended. However uncomfortable the debate may be, the new security environment requires Europeans to confront the role of nuclear weapons in the defense of the continent directly and without delay – and to invest the resources needed to do so competently. Thinking seriously about these questions today is the price of avoiding strategic failure tomorrow.

"[…] Russia will remain a major security threat for the long term. […] The US will remain Europe's partner and ally. But Europe needs to adapt to the new realities. Europe is no longer Washington's primary center of gravity. This shift has been ongoing for a while. It is structural, not temporary. It means that Europe must step up – no great power in history has ever outsourced its survival and survived."[130]

Kaja Kallas, EU High Representative for Foreign Affairs and Security Policy, European Defence Agency Annual Conference 2026, January 28, 2026

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Endnotes

1. Deterrence seeks to prevent an adversary from taking an undesired action through the threat of future punishment, whereas compellence seeks to force an adversary to take or stop an action through sustained threats or pressure. See Thomas C. Schelling, *Arms and Influence*, New Haven: Yale University Press, 1966.
2. Dmitry Adamsky, *The Russian Way of Deterrence: Strategic Culture, Coercion, and War*, Redwood City: Stanford University Press, 2023.
3. Dual use systems are military capabilities that can be employed in both conventional and nuclear roles, creating ambiguity about their payload, mission, or escalation intent during a conflict.
4. Liviu Horovitz and Lydia Wachs, "Russian Nuclear Weapons in Belarus? Motivations and Consequences," *The Washington Quarterly* 47:3 (2024), 103–129, https://doi.org/10.1080/0163660X.2024.2398952.
5. NATO, "Washington Summit Declaration," Washington, DC, July 10, 2024, https://perma.cc/44LB-ARK2.
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1 **Nuclear capabilities in Europe, 2025, estimated number of warheads, delivery vehicles, and relevant platforms**
Illustration by the Munich Security Conference based on various sources. For the data on France's nuclear capabilities, see Hans M. Kristensen et al., "French Nuclear Weapons, 2025," *Bulletin of the Atomic Scientists* 81:4 (2025), 313–326, https://doi.org/10.1080/00963402.2025.2524251, 314. For the data on the UK's nuclear capabilities, see Hans M. Kristensen et al., "United Kingdom Nuclear Weapons, 2024," *Bulletin of the Atomic Scientists* 80:6 (2024), 394–407, https://doi.org/10.1080/00963402.2024.2420550, 395. At the time of writing, there were rumors about additional US nuclear warheads having been moved to RAF Lakenheath in the UK in 2025. As these rumors remained unconfirmed by the time this report went to print, the possible US nuclear weapons at RAF Lakenheath were not included in this graph. For more on this, see Eliana Johns, "Incomplete Upgrades at RAF Lakenheath Raise Questions About Suspected US Nuclear Deployment," Washington, DC: Federation of American Scientists, Global Risk, October 10, 2025, https://perma.cc/P7CC-D7EM. For the data on Russia's nuclear capabilities, see Hans M. Kristensen et al., "Russian Nuclear Weapons, 2025," *Bulletin of the Atomic Scientists* 81:3 (2025), 208–237, https://doi.org/10.1080/00963402.2025.249438, 209. For the purposes of this graph, all of Russia was considered part of Europe and thus all Russian nuclear weapons were considered to be in Europe. At the time of writing, there were claims that Russia had stationed nonstrategic nuclear weapons in Belarus. As doubts about these claims remained when this report went to print, possible Russian nuclear weapons in Belarus were not considered in this graph. For further information on this, see the aforementioned source on Russian nuclear weapons by Kristensen et al. For the data on the US nuclear capabilities based in Europe within NATO's nuclear-sharing framework and the associated dual-capable aircraft of the host countries, see Hans M. Kristensen et al., "United States Nuclear Weapons, 2025," *Bulletin of the Atomic Scientists* 81:1 (2025), 53–79, https://doi.org/10.1080/00963402.2024.2441624, 69–71; Hans M. Kristensen et al., "Nuclear Weapons Sharing, 2023," *Bulletin of the Atomic Scientists* 79:6 (2023), 393–406, https://doi.org/10.1080/00963402.2023.2266944, 397–99. Although these two sources claim the Netherlands still uses the F-16 as DCA, the F-35 has by now completely taken over the nuclear role in the RNLAF. For information on this, see Ministerie van Defensie, "F-35 Neemt Nederlandse Kernwapentaak Binnen de NAVO Over van F-16," The Hague, May 30, 2024, https://perma.cc/N6SP-VUC8. For the purposes of this graph, all of Turkey was considered part of Europe and thus all Turkey-based US nuclear weapons were considered to be in Europe. The Greek and Turkish contingency DCA-missions, however, were not considered for this graph. Please note that the boundaries shown on this map are not intended to be exhaustive and do not imply official endorsement.

2 **Nuclear weapons of NATO Allies and the USSR/Russia, 1965–2024, estimated number of warheads**
Illustration by the Munich Security Conference based on various sources. For the data on the estimated number of nuclear warheads in the French, UK, US, and Soviet/Russian arsenals, see Hans M. Kristensen, Matt Korda, and Eliana Johns, "Nuclear Notebook: Nuclear Arsenals of the World," Washington, DC: Federation of American Scientists, 2023, https://perma.cc/EK8N-PWSG; Hans M. Kristensen et al., "French Nuclear Weapons, 2025," *Bulletin of the Atomic Scientists* 81:4 (2025), 313–326, https://doi.org/10.1080/00963402.2025.2524251; Hans M. Kristensen et al., "United Kingdom Nuclear Weapons, 2024," *Bulletin of the Atomic Scientists* 80:6 (2024), 394–407, https://doi.org/10.1080/00963402.2024.2420550; Hans M. Kristensen et al., "United States Nuclear Weapons, 2024," *Bulletin of the Atomic Scientists* 80:3 (2024), 182–208, https://doi.org/10.1080/00963402.2024.2339170; Hans M. Kristensen et al., "Russian Nuclear Weapons, 2024," *Bulletin of the Atomic Scientists* 80:2 (2024), 118–145, https://doi.org/10.1080/00963402.2024.2314437. For the data on the estimated number of US nuclear warheads stationed in Europe, see Thomas B. Cochran, William M. Arkin, and Robert S. Norris, "The Bomb Book: The Nuclear Arms Race in Facts and Figures," Washington, DC: Natural Resources Defense Council, NRDC Nuclear Weapons Databook, December 1987, https://nuke.fas.org/cochran/nuc_87120001a_74.pdf, 25; William M. Arkin, Robert S. Norris, and Joshua Handler, "Taking Stock: Worldwide Nuclear Deployments 1998," Washington, DC: Natural Resources Defense Council, NRDC Nuclear Program, March 1998, https://perma.cc/588G-HG8B, 16; Hans M. Kristensen, "The 520 Forgotten Bombs: How U.S. and British Nuclear Weapons in Europe Undermine the Non-Proliferation Treaty," Amsterdam: Greenpeace International, April 18, 1995, https://perma.cc/R8EA-U2UP, 6; Robert S. Norris and Hans M. Kristensen, "U.S. Nuclear Weapons in Europe, 1954-2004," *Bulletin of the Atomic Scientists* 60:6 (2004), 76–77, https://doi.org/10.2968/060006016, 76; Robert S. Norris and Hans M. Kristensen, "U.S. Nuclear Forces, 2005," *Bulletin of the Atomic Scientists* 61:1 (2005), 73–75, https://doi.org/10.1080/00963402.2005.11460857; Shannon N. Kile, Vitaly Fedchenko, and Hans M. Kristensen, "Appendix 13A. World Nuclear Forces, 2006," in, SIPRI Yearbook 2006: Armaments, Disarmament and International Security. Stockholm: SIPRI, 2006, 639–68, https://perma.cc/KS6T-PGP7, 645; Robert S. Norris and Hans M. Kristensen, "U.S. Nuclear Forces, 2007," *Bulletin of the Atomic Scientists* 63:1 (2007), 79–82, https://doi.org/10.1080/00963402.2007.11461051; Robert S. Norris and Hans M. Kristensen, "U.S. Nuclear Forces, 2008," *Bulletin of the Atomic Scientists* 64:1 (2008), 50–58, https://doi.org/10.1080/00963402.2008.11461134; Robert S. Norris and Hans M. Kristensen, "U.S. Nuclear Forces, 2009," *Bulletin of the Atomic Scientists* 65:2 (2009), 59–69, https://doi.org/10.2968/065002008; Robert S. Norris and Hans M. Kristensen, "U.S. Nuclear Forces, 2010," *Bulletin of the Atomic Scientists* 66:3 (2010), 57–71, https://doi.org/10.2968/066003008; Hans M. Kristensen and Robert S. Norris, "US Nuclear Forces, 2011," *Bulletin of the Atomic Scientists* 67:2 (2011), 66–76, https://doi.org/10.1177/0096340211400050; Hans M. Kristensen and Robert S. Norris, "US Nuclear Forces, 2012," *Bulletin of the Atomic Scientists* 68:3 (2012), 84–91, https://doi.org/10.1177/0096340212445027; Hans M. Kristensen and Robert S. Norris, "US Nuclear Forces, 2013," *Bulletin of the Atomic Scientists* 69:2 (2013), 77–86, https://doi.org/10.1177/0096340213477999; Hans M. Kristensen and Robert S. Norris, "US Nuclear Forces, 2014," *Bulletin of the Atomic Scientists* 70:1 (2014), 85–93, https://doi.org/10.1177/0096340213516744; Hans M. Kristensen and Robert S. Norris, "US Nuclear Forces, 2015," *Bulletin of the Atomic Scientists* 71:2 (2015), 107–119, https://doi.org/10.1177/0096340215571913; Hans M. Kristensen and Robert S. Norris, "United States Nuclear Forces, 2016," *Bulletin of the Atomic Scientists* 72:2 (2016), 63–73, https://doi.org/10.1080/00963402.2016.1145901; Hans M. Kristensen and Robert S. Norris, "United States Nuclear Forces, 2017," *Bulletin of the Atomic Scientists* 73:1 (2017), 48–57, https://doi.org/10.1080/00963402.2016.1264213; Hans M. Kristensen and Robert S. Norris, "United States Nuclear Forces, 2018," *Bulletin of the Atomic Scientists* 74:2 (2018), 120–131, https://doi.org/10.1080/00963402.2018.1438219; Hans M. Kristensen and Matt Korda, "United States Nuclear Forces, 2019," *Bulletin of the Atomic Scientists* 75:3

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3 Selected changes to Russia's nuclear doctrine, 2020–2024
Illustration by the Munich Security Conference based on Ministry of Foreign Affairs of the Russian Federation, "Basic Principles of State Policy of the Russian Federation on Nuclear Deterrence," Moscow, June 8, 2020, https://perma.cc/8X4V-5RE2 and Ministry of Foreign Affairs of the Russian Federation, "Fundamentals of State Policy of the Russian Federation on Nuclear Deterrence," Moscow, December 3, 2024, https://www.mid.ru/en/foreign_policy/international_safety/1434131/.

4 Respondents' trust in the US as a NATO Ally, January 2025 and March 2025, percent
Illustration by the Munich Security Conference based on Michal Smetana et al., "The Credibility of Collective Defense Commitments in NATO in the Early Stages of Trump's Second Term," Prague: Peace Research Center Prague, March 19, 2025, https://perma.cc/EUX4-CHB7. The sample sizes for the survey conducted in January 2025 were 1,005 (US), 1,005 (UK), 1,003 (Germany), and 1,003 (Poland). Sample sizes for the March 2025 survey were 538 (US), 573 (UK), 753 (Germany), and 688 (Poland). For further information on the methodology used, see the cited source.

5 US nuclear capabilities, 2025, estimated number of warheads, carrier systems, and relevant platforms
Illustration by the Munich Security Conference based on Hans M. Kristensen et al., "United States Nuclear Weapons, 2025," *Bulletin of the Atomic Scientists* 81:1 (2025), 53–79, https://doi.org/10.1080/00963402.2024.2441624, 54. For the strategic bombers, only those tasked with nuclear missions were counted (see footnote "o" in the original source). For the US nonstrategic warheads, the "number of launchers" has been left open as it was not possible to establish how many aircraft, including the DCA of NATO Allies taking part in nuclear sharing, are certified to carry nuclear weapons.

6 Relevant excerpts from NATO's current strategic concept, adopted in June 2022
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7 Timeline of the French nuclear arsenal's modernization, 1997–2040
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8 Respondents' opinion on whether their country should have its own nuclear arsenal, April 2025, percent
Illustration by the Munich Security Conference based on Matthew Smith, "Western Europeans Reluctant to Develop Nuclear Arsenals," London: YouGov, May 12, 2025, https://perma.cc/5W-MP-MDWZ. Respondents from nuclear-weapon states (France, UK) were asked "Do you support or oppose your country having nuclear weapons?" Respondents from non-nuclear-weapon states (Germany, Italy, Denmark, Spain, Sweden) were asked "Would you support or oppose your country developing and maintaining its own nuclear arsenal?" Sample sizes: 2,001 adults in Great Britain, 1,028 adults in France, 2,318 adults in Germany, 1,003 adults in Denmark, 1,004 adults in Sweden, 1,055 adults in Spain, 1,010 adults in Italy. Fieldwork: April 4 to April 17, 2025. For further information on the methodology used, see the cited source.

9 German respondents' attitudes towards nuclear deterrence, 2020–2025, percent
Illustration by the Munich Security Conference based on a survey conducted by forsa on behalf of the Munich Security Conference (for the 2020 data) and a survey conducted by Bilendi GmbH on behalf of the Munich Security Conference (for the 2025 data). While the 2020 survey was conducted via telephone (CATI), the 2025 survey was conducted online (CAWI). To ensure high comparability, the question phrasing was exactly the same in both surveys. Fieldwork of 2020 survey: August 3 to August 26, 2020. Sample size of 2020 survey: 1,002 adults. Fieldwork of 2025 survey: October 16 to October 23, 2025. Sample size of 2025 survey: 2,109 adults.
For further details see the following two publications:
Tobias Bunde and Valentin Daur, "After the End of Certainties: A Snapshot of Public Opinion on the Zeitenwende," Munich: Munich Security Conference, Munich Security Analysis 5, December 2025, https://doi.org/10.47342/IBZJ8170; Tobias Bunde et al., "Zeitenwende | Wendezeiten: Special Edition of the Munich Security Report," Munich: Munich Security Conference, October 2020, https://doi.org/10.47342/YSUC7634.

10 Europe's Nuclear Deterrence Options
This table is based on discussions among the ENSG members, summarizing the analysis in the preceding sections.

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List of Abbreviations

AfD	Alternative für Deutschland
AFET	European Parliament's Committee on Foreign Affairs, abbreviation derived from the French affaires étrangères
ASMP(-A)	Air-sol moyenne portée(-Amélioré)
ASN4G	Air-Sol Nucléaire de 4ème Génération
ASW	Antisubmarine weapon
BMD	Ballistic missile defense
BND	Bundesnachrichtendienst
DB	Depth bomb
DCA	Dual-capable aircraft
DOI	Digital object identifier
ELSA	European Long Range Strike Approach
ENSG	European Nuclear Study Group
ESSI	European Sky Shield Initiative
EU	European Union
FAS	Forces Aériennes Stratégiques
FCAS	Future Combar Air System, see also SCAF
GDP	Gross domestic product
IAEA	International Atomic Energy Agency
IAMD	integrated air and missile defense
ICBM	Intercontinental ballistic missile
Ifri	Institut français des relations internationales
IPW-HSG	Institute of Political Science at the University of St Gallen
ISR	Intelligence, surveillance, and reconnaissance
Kt	Kilotons
LCI	La Chaîne Info
LACM	Land-attack cruise missile
MLF	Multilateral Force
MSC	Munich Security Conference
MTCR	Missile Technology Control Regime
NATO	North Atlantic Treaty Organization
NC3	nuclear command, control, and communications
NPG	Nuclear Planning Group
NPT	Treaty on the Non-Proliferation of Nuclear Weapons, also Non-Proliferation Treaty
PULS	Precise & Universal Launching System
RAF	Royal Air Force
RNLAF	Royal Netherlands Air Force
RTP	Rádio e Televisão de Portugal
RUSI	Royal United Services Institute
SAM	Surface-to-air missile
SAMP/T	Sol-Air Moyenne-Portée/ Terrestre
SCAF	Système de Combat Aérien du Futur, see also FCAS
SCALP-EG	Système de Croisière Autonome à Longue Portée – Emploi Général
SEAD	Suppression of enemy air defenses
SEDE	European Parliament's Committee on Security and Defence
SLMB	Submarine-launched ballistic missile
SNLE (3G)	Sous-Marin Nucléaire Lanceur d'Engins (de Troisieme Génération), see also SSBN
SSBN	Designation for nuclear-powered ballistic missile submarines
STAND	Strategic Threat Analysis and Nuclear (Dis-)Order
TPNW	Treaty on the Prohibition of Nuclear Weapons
Tu	Tupolev
UK	United Kingdom
US	United States
USAF	United States Air Force
USG	University of St. Gallen
USSR	Union of Soviet Socialist Republics (Soviet Union)
VRT	Vlaamse Radio- en Televisieomroeporganisatie

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The European Nuclear Study Group is a joint initiative of the Institute of Political Science at the University of St. Gallen, the Hertie School's Centre for International Security, and the Munich Security Conference. It brings together a new generation of European and Europe-based scholars and practitioners to identify relevant changes in the nuclear threat environment and their implications for strategic doctrine, nuclear modernization, and arms control as well as to contribute to the emerging European and transatlantic debate on how to tackle the challenges of the new nuclear age.

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About the Report of the European Nuclear Study Group

Europe must urgently confront a new nuclear reality. In recent years, Russia's nuclear-backed revisionism has reintroduced nuclear coercion and the threat of nuclear escalation to the continent, underscoring the importance of credible nuclear deterrence. At the same time, Europe's traditional reliance on US extended nuclear deterrence appears politically more fragile than at any point since the Cold War. This report evaluates five distinct policy options discussed in European defense and security circles. Concluding that none of them provides an easy solution that will solve Europe's nuclear predicament, it calls on European policymakers to move beyond declaratory ambitions and engage seriously with the trade-offs, constraints, and risks of all options.

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