French Nuclear Shield: Between Sovereignty and Strategic Dialogue

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ROYAL HIGHER INSTITUTE for DEFENCE

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SECURITY & DEFENCE

Visit of the President of the French Republic, Emmanuel Macron,
to Air Base 116 'Lieutenant-Colonel Papin' in Luxeuil-Saint-Sauveur on Tuesday 18 March 2025.

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Introduction

"Responding to the historic call of the future German chancellor, I have decided to open a strategic debate on the protection of our European allies through our nuclear deterrence." With these solemn words, French President Emmanuel Macron, in his televised address on 5 March, reaffirmed the European dimension of France's nuclear deterrence. Against the backdrop of Russia's ongoing war in Ukraine and growing uncertainties surrounding the United States' long-term commitment to NATO's nuclear umbrella, Macron's statement reignited the debate on Europe's strategic autonomy and the role of France's nuclear arsenal in ensuring continental security.

The renewed discussion comes at a time of increasing geopolitical turbulence, as Washington's shifting foreign policy priorities and internal divisions cast doubt on the reliability of extended deterrence for European allies. In this context, Paris seeks to position its nuclear deterrent as a pillar of European sovereignty, advocating for greater European responsibility in shaping the continent's defence architecture. Macron's address follows previous efforts to engage European partners in a dialogue on nuclear deterrence, notably his 2020 speech at the École de Guerre, in which he invited European nations to partake in strategic discussions about France's nuclear doctrine. Yet, the idea of a Europeanised deterrence remains contentious. While some EU Member States view it as a necessary step towards strategic autonomy, others – particularly in Central and Eastern Europe – continue to rely on the American security guarantee, fearing that any move towards a European nuclear framework could weaken NATO cohesion rather than strengthen European security.

Beyond these divisions, several critical questions emerge: can France's deterrent credibly extend to the whole of Europe? Would European allies be willing to engage in a shared nuclear strategy under French leadership? And how would such an evolution be perceived by Washington and Moscow?

This Focus Paper will explore these issues, shedding light on the strategic, political and diplomatic implications of a potential 'Europeanisation' of France's nuclear deterrence, while putting the current debate into a broader historical and geopolitical perspective.

An ever-changing and tumultuous context

As Émile Lambert-Deslandes and Stéfanie von Hlatky have recently examined, an inherent tension between nuclear deterrence and disarmament within NATO has recently appeared in the transatlantic strategic debate. This has led to a context marked by growing uncertainty, particularly in light of the recent postures and declarations emanating from the second Trump administration. Officially, NATO simultaneously seeks to strengthen its deterrence posture while advocating for a nuclear-free world. This contradiction has been exacerbated by Russia's full-scale invasion of Ukraine in 2022, which highlighted the importance of NATO's security guarantees. At the same time, US foreign policy under Trump introduces an additional layer of uncertainty: while Trump has supported increased military capabilities (before considering a possible future reduction of the DoD's budget of about 8%), he has also questioned the US commitment to NATO, including whether Article 5 should apply only to those allies that meet the Alliance's defence spending targets[1].

The credibility of US extended deterrence for its allies is now increasingly fragile. NATO has sought to reaffirm its commitment through the 2022 Strategic Concept, which identifies Russia as the most significant direct threat and China as a systemic challenge. However, with Trump's return to office, several scenarios could unfold: a potential reassessment of nuclear sharing arrangements, which involve the stationing of US nuclear weapons in Europe; a reduction in the US role within NATO, which could undermine extended deterrence; and increased pressure on European allies to assume greater responsibility for nuclear deterrence. These uncertainties have prompted some European states to explore alternative security arrangements, including the establishment of an independent European nuclear deterrent, a topic already debated in Germany, Poland and more globally within the European Union on an unformal basis[2].

Historically, NATO's disarmament policy has been closely aligned with that of the United States, leading to significant reductions in nuclear arsenals. Since the end of the Cold War, NATO has reduced its nuclear weapons by 90 %. However, since Russia's annexation of Crimea in 2014, disarmament efforts have stalled. Key

[1] The 2% of GDP defence spending target is not enshrined in the founding texts of the Atlantic Alliance.

[2] Émile Lambert-Deslandes, Stéfanie von Hlatky, "NATO, nuclear deterrence and disarmament in an age of US ambivalence," *Defence Studies* (March 6, 2025), DOI: 10.1080/14702436.2025.2474061.

arms control treaties have been suspended or abandoned, such as the Intermediate-Range Nuclear Forces (INF) Treaty in 2019 and Russia's suspension of New START (Treaty on Measures for the Further Reduction and Limitation of Strategic Offensive Arms) in 2023. China and Russia continue to expand and modernise their nuclear capabilities, reducing prospects for global disarmament. The 2017 Treaty on the Prohibition of Nuclear Weapons (TPNW) has not been ratified by NATO's nuclear powers, who remain committed to a credible deterrent posture. The goal of Global Zero, the complete elimination of nuclear weapons, remains a rhetorical commitment rather than a tangible policy objective.

France's reduction initiatives

After the end of the Cold War, France also undertook significant measures to reduce its nuclear arsenal while maintaining its doctrine of independent deterrence. Unlike other nuclear powers, France implemented these reductions unilaterally, without being bound by international treaties such as the Strategic Arms Reduction Treaty (START). One of the most decisive steps was the complete elimination of land-based nuclear missiles. To this end, in 1996, France dismantled its Pluton and Hadès tactical nuclear missile systems, marking the end of its land-based nuclear deterrent. As a result, this decision reflected a shift in strategic priorities: France confirmed its focusing on submarine and airborne deterrence rather than battlefield nuclear capabilities. In the same year, France officially ended nuclear testing and permanently closed its test sites in the Pacific. However, this decision was preceded by a highly controversial move by President Jacques Chirac, who, shortly after taking office in 1995, temporarily resumed nuclear tests to complete the validation of new warhead designs. This decision sparked intense international criticism and protests before France ultimately signed and ratified the Comprehensive Nuclear-Test-Ban Treaty (CTBT) in 1998, reaffirming its long-term commitment to non-proliferation[3]. Additionally, France reduced the number of its air-launched nuclear weapons. The Mirage IV, previously a key component of the air-based deterrent, was retired and the number of nuclear-capable Mirage 2000N and later Rafale aircraft was adjusted accordingly. The overall airborne component of the French nuclear force was thus streamlined, with a reduced stockpile

[3] Jean Guisnel and Bruno Tertrais, *Le Président et la bombe – Jupiter à l'Elysée* (Paris: Odile Jacob, 2016), 130-9.

of ASMP (*air-sol moyenne portée*, medium-range air-to-surface) missiles, later replaced by the more advanced ASMP-A. At the same time, France modernised and optimised its sea-based nuclear deterrent, maintaining a fleet of four nuclear-powered ballistic missile submarines (SSBNs). While the total number of M45 and later M51 ballistic missiles carried by these submarines was reduced, technological improvements ensured that the credibility and effectiveness of deterrence were not compromised.

France's 1995 nuclear tests: strategic justification in a post-cold war world

In 1995, shortly after his election, French President Jacques Chirac decided to resume nuclear testing in the South Pacific. This decision was not driven by the need to demonstrate force towards a specific adversary, but rather by a combination of strategic, technological and political considerations. In the post-Cold War context, with the Soviet Union dissolved but global uncertainties persisting – particularly regarding Russia, China and emerging nuclear states like India, Pakistan and North Korea –, France aimed to reaffirm the credibility and autonomy of its nuclear deterrent.

The primary objective was to ensure the long-term reliability, safety and effectiveness of the French nuclear arsenal. These tests were intended to validate the last generation of nuclear warheads and gather the necessary empirical data to transition to a simulation-based model of testing. This move was part of a broader shift towards advanced modelling and computation, anticipating the global ban on live nuclear testing with the upcoming Comprehensive Nuclear-Test-Ban Treaty (CTBT). France sought to enter the simulation era with sufficient confidence in its arsenal, which required real-world data from a final round of tests.

Strategically, the tests also served to maintain France's status as a leading nuclear power and to signal that, despite global arms control trends, it would preserve its independent deterrent capability. Although the decision sparked international protests – especially in the Pacific and among France's allies –, it was followed by a clear commitment: in early 1996, Chirac announced the permanent cessation of nuclear testing, the closure of Pacific test sites and France's support for the CTBT.

Rethinking deterrence within NATO

Given the uncertainties surrounding US policy and external security threats, NATO has four potential strategic options: strengthening nuclear sharing to ensure continued US commitment, as the presence of US nuclear assets in

Europe could serve as a tripwire, making it more difficult for the US to abandon its allies; enhancing conventional deterrence by increasing defence investments among NATO allies, which could also address US concerns over burden-sharing; developing an independent European nuclear deterrent, potentially led by the United Kingdom and France, should the Trump administration withdraw from NATO; and abandoning the rhetoric of Global Zero in favour of a more pragmatic approach to arms control, recognising the strategic realities of the current security environment.

The future of nuclear deterrence and disarmament within NATO will largely depend on political decisions in the United States and Europe. The second Trump presidency could weaken US security guarantees, forcing European allies to reconsider their nuclear and defence posture. Conversely, if the US remains committed to NATO, the Alliance will likely continue balancing a credible deterrence strategy with rhetorical support for disarmament, though without significant progress in the latter. This debate provides the strategic context in which French President Emmanuel Macron has revived discussions on a European dimension of France's nuclear deterrence. Faced with uncertainty over US commitments and an evolving security environment, Macron is advocating for a stronger European role in nuclear deterrence. France, as the only nuclear power within the European Union following Brexit, sees an opportunity to position itself as a key guarantor of European security. Macron's initiative seeks to foster dialogue among EU Member States on nuclear deterrence and strategic autonomy, emphasising that European security should not be entirely dependent on American guarantees. This renewed focus on a European nuclear dimension aligns with broader efforts to enhance Europe's strategic sovereignty and ensure that European defence is resilient amid shifting transatlantic dynamics. By reopening this discussion, Macron aims to prepare the continent for a future where it may need to take greater responsibility for its own security, reinforcing the argument for an independent European nuclear strategy that is more aligned with European interests.

Even if the US administration were to walk back on its statements regarding its commitment to extended deterrence within the Alliance, the damage is done. The seed of doubt has been sown – firmly – in the minds of European leaders, including those traditionally most loyal to the American foreign policy line. That seed will grow, quietly but steadily, reshaping strategic thinking in Europe for years to come.

A convergence towards a French solution?

In recent weeks, faced with a deteriorating security environment and the intensifying threat posed by Russia – including its nuclear posture –, some commentators and policymakers across Europe have suggested that one of the most immediate responses could be for certain European states to acquire their own independent nuclear arsenals. Such proposals, driven by concerns over the long-term reliability of US security guarantees and the need for strategic autonomy, have entered mainstream political discourse in countries like Germany, Poland and Finland. However, while politically compelling in the current climate of uncertainty, the prospect of unilateral nuclear armament by European non-nuclear states remains highly problematic. From both technical and strategic perspectives, such an approach is not only infeasible in the short term, but also fraught with legal, operational and geopolitical complications.

None of the non-nuclear weapon states in Europe – Germany, Italy, Sweden, Norway, Finland, Poland, among others – currently possesses the civilian nuclear facilities required to swiftly produce weapons-grade fissile material. European nuclear power reactors are designed for energy production, not for generating weapons-grade plutonium. More critically, with the exception of France, there exists no operational plutonium reprocessing infrastructure capable of separating the necessary isotopes for weapons use. Even France's La Hague facility, while technically capable, is oriented towards civilian fuel recycling and would face enormous political and legal hurdles if redirected towards military purposes[4].

Uranium enrichment poses another critical limitation. While several states (e.g., Germany and the Netherlands through Urenco) operate enrichment facilities, these are dedicated to the production of low-enriched uranium (LEU) suitable for civilian nuclear reactors. Transitioning to the production of highly enriched uranium (HEU) for weaponisation would require substantial technical modifications, regulatory changes and… time. Furthermore, and unsurprisingly, such efforts would be subject to intrusive oversight under the International Atomic Energy Agency's (IAEA) safeguard mechanisms. Any deviation towards military nuclear activity would be swiftly detected, leading to severe political backlash, including economic sanctions and, potentially, pre-emptive

[4] Fabian Hoffmann, "Europe's Nuclear Latency Problem," *Missile Matters* (Substack), March 16, 2025, https://missilematters.substack.com/p/europes-long-term-nuclear-conundrum.

countermeasures by adversarial powers such as… Russia. In other words, even assuming that European states seeking to acquire a military nuclear capability were to consider withdrawing from the Non-Proliferation Treaty (a move so destabilising that it would further undermine the global balance of power), such a scenario would likely prompt Russia to act pre-emptively in order to prevent the emergence of new nuclear-armed states along its borders.

But there's more. Even if the material challenges could be overcome, a further set of obstacles lies in the development or adaptation of delivery systems. Let's suppose, hypothetically, that a state like Finland were to obtain sufficient fissile material: how would it deploy a weapon? Integrating a nuclear warhead into a cruise missile like the JASSM-ER would be impossible without the involvement of Lockheed Martin and the US government. Relying on gravity bombs would similarly demand modifications to aircraft platforms such as the F-35, which are subject to end-use controls and require US cooperation. The lack of autonomy in critical defence technologies renders the independent development of a credible deterrent nearly impossible in practice.

Moreover, analysts frequently overlook the critical distinction between merely acquiring a nuclear capability and establishing a survivable and credible deterrent. Possessing sufficient quantities of fissile material and integrating warheads into existing delivery systems may, in theory, allow a state to assemble a rudimentary arsenal. However, such a force is likely to remain limited in size, reliant on relatively slow or vulnerable platforms and constrained in both range and penetration capacity. More fundamentally, without hardened infrastructure, mobile launch systems or sea-based delivery options, the survivability of such an arsenal would be severely compromised. As a result, any retaliatory capability would remain uncertain and highly exposed to a first strike – thus failing to meet the essential criteria for effective nuclear deterrence. Furthermore, any attempt to develop hardened facilities, complementary mobile launch systems or covert basing arrangements would be difficult to conceal from foreign intelligence services. In particular, such activities would likely be interpreted by Russia as preparations for weaponisation, potentially prompting pre-emptive action aimed at neutralising the emerging capability before it becomes operational.

These technical, operational and political constraints have led to renewed interest in a more collective solution to Europe's nuclear shortfall. Specifically, they have reactivated discussions around the potential extension of France's

nuclear deterrent to a broader European framework. Unlike other EU Member States, France possesses a fully independent nuclear dyad, including air- and sea-based systems, modern warheads and secure command and control infrastructure. While historically reserved for the protection of French vital interests, its adaptation to serve a European deterrent function has increasingly been viewed as a pragmatic response to growing uncertainties surrounding transatlantic security guarantees.

Thus, the multitude of barriers – technical, political and strategic – that inhibit rapid or unilateral nuclear proliferation in Europe have contributed to a strategic rationale for extending the French nuclear umbrella to the continent. While such an initiative would require significant political consensus, operational adjustments and possibly treaty innovations, it remains one of the only viable pathways to ensuring a credible, autonomous and survivable deterrent for Europe in the face of evolving threats.

Macron's message: signal or status quo?

Despite the apparent novelty of President Emmanuel Macron's recent statement regarding France's nuclear deterrence, this declaration does not signify a doctrinal shift. Experts in the field, such as Olivier Zajec[5], have noted that the conceptual foundation of French nuclear deterrence remains anchored in continuity, with the February 2020 speech at the École de Guerre serving as a key reference.

In his 2020 address, Macron reaffirmed the core principles of France's nuclear strategy, emphasising its defensive nature and the protection of national sovereignty. He underscored that the French nuclear deterrent is designed to safeguard the nation's vital interests, which inherently include a European dimension. This perspective aligns with France's longstanding view that its security is intrinsically linked to that of Europe.

The recent phrase "protection of our European allies on the continent" has sparked discussions and raised questions among international observers. Some interpret this as a potential shift towards a more collective nuclear defence posture within Europe, while others see it as a reaffirmation of existing commitments. However, this terminology does not alter the fundamentals of

[5] Olivier Zajec, "Penser la stratégie. Stratégie et partage nucléaire," *Areion24.news*, May 3, 2024, https://www.areion24.news/2024/05/03/penser-la-strategie-strategie-et-partage-nucleaire/.

France's nuclear doctrine. The French nuclear deterrent remains under the sole authority of the President of the Republic, ensuring independent decision-making in matters of national defence.

Furthermore, Macron's invitation to European partners to engage in a "strategic dialogue" about the role of France's nuclear deterrence reflects a willingness to enhance transparency and cooperation. This initiative aims to foster a deeper understanding among European allies regarding the function and significance of France's nuclear capabilities within the broader context of continental security. Such dialogue does not imply a transfer of control or a move towards shared nuclear forces but rather seeks to strengthen collective security through enhanced collaboration. Before addressing the content as well as the remaining questions of the French proposal, however, it is essential to recall the fundamentals of France's nuclear deterrence doctrine, which remains grounded in strict national sovereignty and the safeguarding of vital interests.

The foundations of French nuclear deterrence posture

France's nuclear doctrine has undergone notable developments under successive presidents, each contributing to its evolution while maintaining the fundamental principle of independent deterrence. The overarching framework remains one of strictly defensive deterrence, with nuclear weapons conceived as a means to protect France's vital interests. However, the interpretation of these interests, the strategic posture and the degree of European integration have varied across different administrations.

France's nuclear deterrence strategy is thus anchored in a doctrine described as strictly defensive, intended to protect the country's undefined yet fundamental 'vital interests'. Unlike some other nuclear-armed states, France does not commit to a no-first-use policy. Instead, it retains the option to initiate a limited nuclear strike – referred to as a 'final warning' – to signal to an adversary that they have crossed a critical threshold, with the aim of restoring deterrence and avoiding full-scale escalation[6]. This doctrine emphasises the autonomy of French

[6] Élysée, "Speech of the President of the Republic on the Defence and Deterrence Strategy," February 7, 2020, https://www.elysee.fr/en/emmanuel-macron/2020/02/07/speech-of-the-president-of-the-republic-on-the-defense-and-deterrence-strategy; Bruno Tertrais, "French Nuclear Deterrence Policy, Forces and Future: A Handbook," *Recherches & Documents* (Fondation pour la recherche stratégique), n° 4 (March 2020), https://www.frstrategie.org/sites/default/files/documents/publications/recherches-et-documents/2020/202004.pdf.

decision-making and ensures that its strategic posture remains independent from NATO's integrated nuclear command structure. The Defence Ministry's 2013 White Paper reaffirmed that nuclear deterrence guarantees France's "independence of decision-making", particularly in crises where strategic blackmail might be used against the country. France also retains a second-strike capability, ensured through the redundancy and invulnerability of its sea-based nuclear forces. In this context, General Thierry Burkhard, chief of the French Armed Forces, emphasised in a 2023 parliamentary hearing that France's doctrine does not rely on specific escalation thresholds, as this would allow adversaries to strategically circumvent deterrence[7]. He further highlighted that nuclear deterrence remains primarily aimed at preventing war rather than winning one, aligning with France's historical doctrine.

The deterrent itself is composed of two main components: a sea-based leg involving four Triomphant-class ballistic missile submarines that provide a continuous at-sea deterrent, and an air-based leg consisting of Rafale fighter aircraft armed with ASMP-A cruise missiles. Both components are undergoing modernisation, ensuring second-strike capabilities and maintaining strategic credibility. The doctrine deliberately avoids specifying the exact conditions for nuclear use, a choice designed to preserve ambiguity and complicate an adversary's calculations. Ultimately, France views nuclear weapons not as tools to win wars, but as guarantors of national sovereignty, freedom of action and strategic stability in an increasingly uncertain world.

French leaders, including Presidents Sarkozy, Hollande and Macron, have all reaffirmed this independent posture while also introducing a European dimension to French deterrence, acknowledging the interdependence of European security. Under President Nicolas Sarkozy (2007–2012), France reaffirmed its nuclear doctrine while introducing certain adjustments. It was Sarkozy who introduced the concept of the 'final warning' (ultime avertissement), according to which a limited nuclear strike could be carried out to signal to an adversary that it had crossed an unacceptable threshold – thereby reinforcing deterrence without necessarily triggering full-scale nuclear retaliation. Sarkozy also sought to enhance transparency in French nuclear policy, publicly stating that the country had reduced the number of its airborne

[7] Thierry Burkhard, "General, Chief of the Defense Staff. Statement Before the National Defense and Armed Forces Commission," January 11, 2023.

nuclear warheads and would maintain only a "strict sufficiency" level of nuclear forces. However, he maintained France's refusal to adopt a no-first-use policy, ensuring that deterrence remained credible under all strategic circumstances.

President François Hollande (2012–2017) largely continued his predecessor's policies while slightly expanding the diplomatic dimension of nuclear deterrence. In 2015, he explicitly reiterated that France's nuclear posture remains independent yet cooperative with European allies. He sought to reinforce the idea that France's deterrence was not only a national security guarantee but also a stabilising factor for Europe, a theme that would be further developed by his successor. Hollande also reaffirmed that nuclear weapons remained a last-resort option, to be used only in extreme circumstances of legitimate self-defence[8].

It is thus under President Emmanuel Macron (2017–present) that France's nuclear posture has taken on a far more pronounced European dimension. In its 2020 speech, Macron declared that France's 'vital interests' now have a European component, suggesting that French nuclear deterrence could indirectly contribute to European security. However, he stopped short of offering an explicit nuclear umbrella to the European Union, maintaining that France's nuclear arsenal remains a national prerogative. In October 2022, he clarified that a nuclear attack on Ukraine would not constitute a direct threat to France's vital interests, signalling a deliberate restraint in nuclear use and seeking to avoid escalation in the context of the Russia-Ukraine war. This position, however, appeared somewhat at odds with France's broader stance on nuclear deterrence, which traditionally avoids explicitly defining the conditions for nuclear use, in order to maintain 'strategic ambiguity'.

From an operational perspective, France continues to conduct regular nuclear deterrence exercises. The 'Poker' exercises, held four times a year, simulate strategic air raids involving Rafale aircraft armed with ASMP-A air-launched nuclear cruise missiles. These drills ensure the credibility and readiness of France's airborne nuclear forces, which complement its sea-based deterrent.

[8] Vincent Groizeleau, "Dissuasion : F. Hollande détaille sa vision et l'arsenal français," *Mer et Marine*, February 20, 2015, https://www.meretmarine.com/fr/content/dissuasion-f-hollande-detaille-sa-vision-et-larsenal-francais; François Hollande, "Discours sur la dissuasion nucléaire: Déplacement auprès des forces aériennes stratégiques," Speech on Nuclear Deterrence: Visit to the Strategic Air Forces, Istres, February 19, 2015, http://www.defense.gouv.fr/content/download/352889/5043677/file/discours-sur-la-dissuasion-nucleaire-deplacement-aupres-des-forces-aeriennes-strategiques-istres-3.pdf.

The most recent exercise in March 2025 involved both the Forces aériennes stratégiques (FAS) and the Force aéronavale nucléaire (FANu), demonstrating operational coordination between France's air and naval nuclear forces[9].

Exercise Poker 2025-01

On 25 March 2025, the French Strategic Air Forces (FAS) conducted their first 'Poker' nuclear deterrence exercise of the year. Exceptionally, the operation was carried out during daytime, a rare occurrence for an exercise typically conducted at night. The exercise closely simulates a real nuclear air raid mission – excluding, of course, the actual launch of a nuclear weapon.

Operation Poker is conducted four times a year and involves Rafale B fighter jets from the FAS, simulating a long-range nuclear raid. These exercises are considered 'operations' by the FAS because everything – aside from the simulated launch of an ASMP-A nuclear cruise missile – mirrors an actual strike mission, including the operational tempo, coordination and tactical manoeuvres.

The exercise unfolded in four phases. First, multiple Rafale and Mirage fighters, aerial tankers and potentially an E-3F Sentry AWACS aircraft took off from various bases and regrouped over Brittany. The second phase involved a high-altitude simulated long-distance raid, flying over the Bay of Biscay, the Pyrenees and the Gulf of Lion. The third phase simulated penetration into enemy airspace, with adversary aircraft – played by other French fighters – engaging in mock dogfights. Ground-based threats were also included, such as a simulated SAMP/T surface-to-air missile system. To evade these threats, Rafale B aircraft flew at very low altitudes and high subsonic speeds. While they are capable of supersonic flight, fuel constraints due to their heavy configuration generally prevent prolonged use of afterburners. The final phase saw the aircraft return to their bases, though not necessarily their departure bases, in a simulation of wartime dispersal strategies.

The Rafale B aircraft used in these missions carry mock versions of the ASMP-A missile, identical in size and weight but inert. These configurations allow pilots to train under realistic flight conditions. Additionally, a separate exercise known as Operation Banco is sometimes held shortly before Poker, allowing ground crews to practice arming aircraft with real ASMP-A missiles without allowing them to take off.

Although actual ASMP-A launches are not part of standard Poker operations, live test firings are occasionally conducted to verify system reliability. The most recent such event

[9] Gaétan Powis, "Poker 2025-01 : rarissime exercice aérien nucléaire majeur sur la France aux premières lueurs du jour," *Air & Cosmos*, March 25, 2025, https://air-cosmos.com/article/poker-2025-01-rarissime-exercice-aerien-nucleaire-majeur-sur-la-france-aux-premieres-lueurs-du-jour-70065.

took place on 22 May 2024, during Operation Durandal, when a Rafale B launched a new ASMPA-R missile over the Atlantic. This enhanced version of the ASMP-A is set to be replaced by the fourth-generation ASN4G missile around 2035.

France's nuclear deterrence is built upon two constant alert components: the air-based FAS and the ocean-based Strategic Oceanic Force (FOST), which includes nuclear ballistic missile submarines. A third component, the Naval Air Nuclear Force (FANu), can be activated when needed by equipping the Rafale MF3 aircraft of the French Naval Aviation (*Aéronavale*) on the aircraft carrier Charles de Gaulle with nuclear-capable missiles. However, this force is not maintained on permanent alert.

Strategically, Poker and related exercises serve both training and signalling purposes. They demonstrate to potential adversaries that France retains a credible, flexible and operational nuclear deterrent. The air-based component, in particular, offers an adaptable signalling tool – enabling the launch of an actual raid that could be recalled before missile release, to exert diplomatic pressure.

The dual-role nature of the FAS fighter squadrons – 1/4 Gascogne and 2/4 Lafayette – further enhances their deterrent credibility. These units are trained for nuclear strike, conventional bombing and air superiority missions. Equipped with MICA and Meteor long-range air-to-air missiles, they can perform strategic strikes while defending themselves and escorting other aircraft. They also contribute to air policing, including recent deployments to NATO's northeastern flank.

Additionally, France currently operates three nuclear-capable air bases – Saint-Dizier, Istres and Avord –, underlining its enduring commitment to a robust airborne deterrent. The planned comeback of nuclear capabilities at Luxeuil-Saint-Sauveur Air Base, announced by President Macron on 18 March 2025 and scheduled to become operational by 2035, reflects a long-term strategic investment. Set to host Rafale F5 fighters and ASN4G missiles, this initiative reinforces the enduring relevance of exercises such as Poker in safeguarding national security and ensuring strategic autonomy.

Macron's presidency has also been marked by a substantial modernisation effort for France's nuclear forces. The 2018 Military Planning Law (*Loi de programmation militaire*, LPM 2019-2025) allocated €37 billion for maintaining and modernising nuclear forces, a sharp increase from the previous budget cycle's €19.7 billion. This investment reflects France's commitment to ensuring the credibility of its nuclear deterrent amid an evolving strategic environment.

The 2023 defence budget further increased nuclear-related expenditures to €5.6 billion, continuing a steady trend of investment in advanced nuclear capabilities[10].

In conclusion, while France's nuclear doctrine remains anchored in strategic sufficiency and independent deterrence, successive presidents have introduced nuanced shifts reflecting geopolitical changes and evolving security concerns. Sarkozy emphasised the final warning and force transparency, Hollande reinforced the stabilising role of deterrence for Europe and Macron has sought to incorporate a broader European security dimension while maintaining strategic autonomy. Despite these refinements, France's core nuclear posture – reserving the right to use nuclear weapons in extreme circumstances without adopting a no-first-use policy – remains unchanged, ensuring that its nuclear arsenal continues to serve as a cornerstone of national and European security.

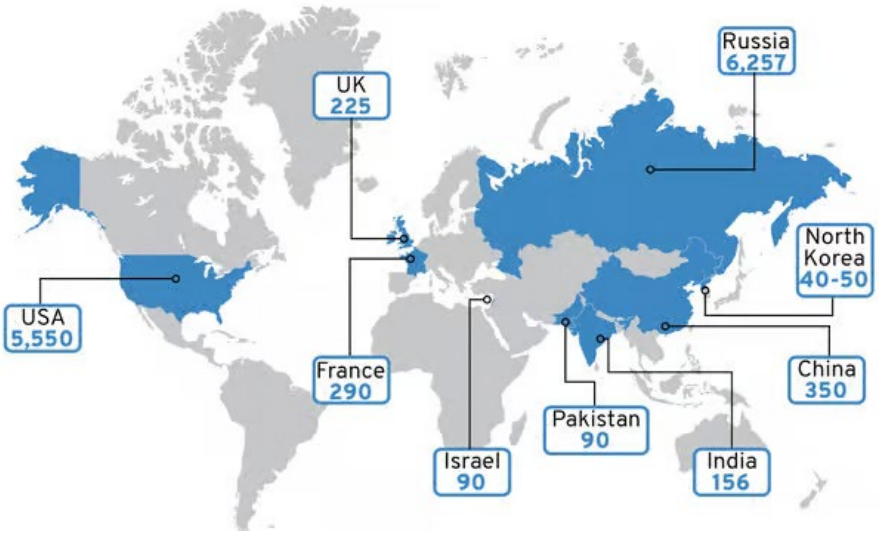

Figure 1: Estimated global nuclear warhead inventories (Credits: National Word - https://in.benzinga.com/markets/eurozone/25/03/44456752/french-nuclear-umbrella-plan-may-be-wishful-thinking)

[10] Assemblée nationale, *Information Report Compiling the Hearings of the Committee on Nuclear Deterrence*, April 24, 2023, https://www.assemblee-nationale.fr/dyn/16/rapports/cion_def/l16b1112_rapport-information; Hans M. Kristensen, Matt Korda and Eliana Johns, "French nuclear weapons," *Bulletin of the Atomic Scientists*, *79*(4), 2023, 272–81, https://doi.org/10.1080/00963402.2023.2223088.

The French Nuclear Arsenal					
Nuclear-Powered Ballistic Missile Submarines (SSBNs)					
Class / Project	**Submarine Names**	**Number**			**Status / Remarks**
Triomphant-class	*Le Triomphant,* *Le Téméraire,* *Le Vigilant,* *Le Terrible*	4			In service, under command of FOST (Strategic Oceanic Force) Carries 80% of the nuclear arsenal, based at Île Longue near Brest 1 on patrol, 1 preparing, 1 returning, 1 undergoing maintenance
SNLE-3G	(Name TBD)	1 (under construction)			Under construction in Cherbourg, expected to enter service after 2035
Submarine-Launched Ballistic Missiles (SLBMs)					
Model	**Number**	**Nuclear Warheads**	**Range**		**Remarks**
M51.1	16	80 x TN75 (up to 6 per missile)	6,000+ km		100 kt MIRVs; fewer warheads than max capacity for improved flexibility
M51.2	32	160 x TNO (up to 6 per missile)	9,000+ km		Stealthier 150 kt warheads; operational since 2017
M51.3	Under development	-	-		Jointly developed by Airbus and Safran; expected completion in 2025
Strategic Airborne Vectors					
Platform	**Number**	**Warhead**	**Missile**	**Missile Range**	**Remarks**
Rafale B (Air Force)	40	300 kt	ASMP-A (ALCM)	~600 km	Nuclear capability provided by the Air Force
Rafale MF3 (Navy)	(not specified)	300 kt	ASMP-A (ALCM)	~600 km	Can be deployed on *Charles de Gaulle*[12].

Table 1: Overview of France's Strategic Nuclear Forces (Credits: Arms Control Association - https://www.armscontrol.org/factsheets/arms-control-and-proliferation-profile-france)

To grasp the stakes of this debate and explore its implications, it is crucial to recall that French nuclear deterrence is rooted in a purely defensive logic – the protection of France's vital interests, with its nuclear arsenal serving as the ultimate guarantee. These vital interests remain deliberately vague, though they naturally encompass critical elements such as the protection of national territory, sovereignty and the survival of the nation. Beyond this, deterrence enters the realm of strategic ambiguity: while its scope extends beyond national defence, the precise boundaries remain intentionally undefined. This uncertainty complicates any adversary's strategic calculation, preventing them from accurately assessing the risks of aggression.

Moreover, should retaliation become necessary, it would target enemy power centres rather than civilian populations – a principle first articulated by President Sarkozy in his Cherbourg speech in 2008. No longer is the objective to inflict indiscriminate, unacceptable damage through counter-city strikes; instead, the focus is on neutralising decision-making centres. This approach aligns with the repeated statements emphasising that the war in Ukraine is a war initiated and led by President Putin, not by the Russian people. However, this distinction between populations and leadership structures is only possible due to France's sovereign mastery of advanced military technologies.

Nuclear deterrence: no room for sharing but…

President Macron made it clear: "No matter what happens, the decision will always remain in the hands of the President of the Republic, as Commander-in-Chief." In other words, nuclear deterrence is only conceivable within a framework of absolute decision-making unity, where the authority responsible for its deployment operates according to rigorously defined doctrines and pre-established protocols.

Thus, French nuclear deterrence is inherently sovereign and autonomous. It is fundamentally incompatible with any form of decision-sharing. On this point, Macron aligns perfectly with his predecessors, reaffirming a principle that has been at the heart of France's nuclear posture since its inception.

The potential 'Europeanisation' of the French nuclear arsenal represents one of the most complex strategic, political and legal challenges facing European defence integration. With the United Kingdom's withdrawal from the European Union, France has become the bloc's sole nuclear-armed state, raising the

question of whether its nuclear forces could play a broader role in European security. President Macron, as we know, has suggested the need for a European dialogue on nuclear deterrence, hinting at the possibility of France's arsenal serving a wider European purpose. However, the feasibility of such a project remains uncertain, given the intricate web of legal constraints, strategic disagreements among EU Member States, as well as financial and operational obstacles that would need to be overcome. Moreover, the normative debate over whether the European Union should move towards nuclearisation remains highly contentious, as it must balance the benefits of strategic autonomy with the risks of proliferation and geopolitical instability.

As has been previously mentioned, France's nuclear doctrine has traditionally emphasised the principle of 'independent deterrence', meaning that the country alone maintains control over its nuclear forces. While French officials have occasionally acknowledged that their nuclear deterrent could have a European dimension, they have consistently rejected the idea of transferring control over their arsenal to a supranational entity. At the same time, other EU Member States hold widely divergent positions on the issue. Germany, for instance, has long shown limited interest in discussing a potential European role for French nuclear forces as it remains politically constrained by strong domestic anti-nuclear sentiment and legal restrictions on nuclear armament. Thus, when the German population was surveyed on whether the country should move towards acquiring nuclear weapons, 90% of respondents expressed their opposition. Italy and Spain, both participants in NATO's nuclear-sharing arrangements, have similarly refrained from endorsing an independent EU nuclear force. Meanwhile, Eastern European states such as Poland and the Baltic countries remain deeply committed to NATO and sceptical of any initiative that might weaken US security guarantees. On the other hand, non-NATO EU members such as Austria and Ireland are staunchly opposed to nuclear weapons and have actively supported disarmament initiatives like the Treaty on the Prohibition of Nuclear Weapons (TPNW)[11]. These divisions suffice to illustrate how huge is the political challenge of forging a European consensus on nuclear deterrence.

[11] Carine Guerout and Jason Moyer, "France Wants to Extend Its Nuclear Umbrella to Europe. But Is Macron Ready to Trade Paris for Helsinki?," *Bulletin of the Atomic Scientists*, May 10, 2024.

Beyond political hurdles, the Europeanisation of the French nuclear arsenal – regardless of the meaning given to this expression – would face significant legal obstacles. The Non-Proliferation Treaty (NPT) explicitly prohibits nuclear-armed states from transferring control of their nuclear weapons to non-nuclear states. This would likely preclude any direct integration of French nuclear forces into an EU framework unless significant reinterpretations of international law were undertaken. Furthermore, the Lisbon Treaty (Article 42.7), which provides for mutual defence among EU members, does not explicitly address nuclear deterrence, and the Common Security and Defence Policy (CSDP) lacks a nuclear dimension. Additionally, many EU Member States remain bound by their commitments to NATO, which already provides a nuclear umbrella through US forces stationed in Europe – although the reliability of this American solidarity may warrant reconsideration in light of recent statements made by the Trump administration. As a result, any attempt to create an EU nuclear force would need to navigate an intricate legal landscape, requiring modifications to existing treaties and the establishment of new institutional frameworks.

Operationally, integrating France's nuclear arsenal into a European deterrent would present formidable challenges. The most immediate issue would be command and control, as any shared nuclear force would require clear decision-making mechanisms. Would France retain unilateral control over nuclear use, or would an EU institution oversee nuclear policies? The question of strategic basing would also arise, as deploying French nuclear assets to other EU Member States could trigger additional political and logistical complications.

Moreover, France's current nuclear capabilities, which rely on submarine-launched ballistic missiles (SLBMs) and air-launched cruise missiles (ALCMs)[12], would likely need to be expanded and modernised to support a wider European role, requiring significant investments in new infrastructure and defence systems. Financially, the costs associated with maintaining and modernising a European nuclear force would be substantial. France's 2019–2025 Military Planning Law (LPM) allocated €37 billion for nuclear forces, and this figure is expected to rise in the coming years. If an EU nuclear deterrent were to be established, cost-sharing arrangements would need to be devised among EU Member States. However, given the divergent national priorities within the EU, reaching a consensus on financial contributions could prove difficult. Many European nations have long been reluctant to increase their defence

[12] The missile Air-Sol Moyenne Portée - Amélioré (ASMP-A).

spending – a trend that is now beginning to shift in light of recent decisions. However, it remains uncertain whether this change in posture would extend to the particularly sensitive and politically charged issue of funding nuclear forces, which may still encounter significant resistance from both political leaders and the public.

Examining historical precedents provides useful insights into the feasibility of a European nuclear force. NATO's existing nuclear-sharing model, where US nuclear weapons are stationed in European countries under a dual-key control mechanism, offers a potential framework for an EU deterrent. However, replicating this model with a French-led initiative would face additional treaty constraints. Past proposals such as the Multilateral Force (MLF) in the 1960s, which sought to create a multinational nuclear fleet under joint control, ultimately failed due to sovereignty concerns and US opposition. Some French commentators have used the term 'extended deterrence' to describe Macron's proposals, thereby implicitly comparing them to US extended nuclear deterrence to Europe. This comparison is misleading. French deterrence is based on the concept of 'strict sufficiency', whereby France's nuclear arsenal is calibrated to inflict 'unacceptable damage' on an adversary, with 'unacceptable' defined as incommensurate with any gain from attacking a middle power, as France sees itself. A French arsenal capable of inflicting that level of damage on a superpower able to threaten the whole of Europe – such as Russia – would require France to significantly increase its number of warheads. The principle of strict sufficiency also significantly limits France's ability to establish a nuclear sharing scheme for its European allies. Washington has an estimated 100 B61 gravity bombs deployed in Belgium, Germany, Italy, the Netherlands and Türkiye under NATO's nuclear-sharing arrangement. France could not easily do the same because the air-launched component of its nuclear dyad consists currently of only one type of nuclear-equipped missile that France could not deploy abroad without degrading its own deterrent. Unless it develops another mission-specific weapon, a French nuclear-sharing arrangement would be infeasible. France is unlikely to develop such a weapon in the short to medium terms, as expanding the numbers, types or missions of French nuclear forces would be very costly.

France's defence budget is already at record levels, with spending on the nuclear programme already estimated to constitute 13–20% of the total. Thus, France's fiscal leeway is limited[13].

From a normative perspective, the question of whether the EU should pursue nuclearisation is highly complex. On the one hand, a European nuclear deterrent could enhance strategic autonomy, reducing dependence on US security guarantees and allowing the EU to take greater responsibility for its own defence. Given the uncertainties surrounding the U.S. commitment to European security – particularly in light of shifting domestic politics in Washington – some argue that a more self-reliant EU nuclear posture could provide long-term stability. However, nuclearisation also carries significant risks. The EU has historically positioned itself as a champion of non-proliferation and arms control, and the pursuit of an independent nuclear deterrent could undermine its credibility in advocating for global disarmament. Additionally, a European nuclear force could provoke geopolitical tensions, particularly with Russia, potentially escalating the risk of confrontation. There is also the broader ethical question of whether nuclear weapons, given their catastrophic potential, should play a role in the EU's security architecture at all.

Ultimately, the Europeanisation of the French nuclear arsenal remains a highly speculative and contentious issue. While Macron's proposals have generated debate on the role of nuclear deterrence in European security, significant strategic, legal, operational and financial hurdles remain. The lack of consensus among EU Member States, coupled with the constraints imposed by international treaties, makes full European nuclearisation unlikely in the near term. The most viable short-term option may be the development of enhanced nuclear consultation mechanisms within NATO, allowing for greater European input on nuclear policy without directly integrating French nuclear forces into an EU framework. However, if geopolitical dynamics continue to evolve – particularly in the event of a reduced US security presence in Europe –, the debate over a European nuclear force is likely to gain renewed urgency in the years ahead.

[13] Héloïse Fayet, Andrew Futter and Ulrich Kühn, "Forum: Towards a European Nuclear Deterrent," *Survival On-Line*, September 27, 2024, https://www.iiss.org/ja-JP/online-analysis/survival-online/2024/09/forum-towards-a-european-nuclear-deterrent/.

Final thoughts: breaking old barriers?

Macron's speech does not signal a revolution in France's nuclear doctrine, but rather the opening of new strategic conversations. If this dialogue were to materialise, it would mark a significant shift in Europe's approach to nuclear deterrence.

But that dialogue never materialised. In 2022, following Russia's invasion of Ukraine, France revived the proposal with Germany, reiterating that the offer to discuss nuclear issues was still on the table and arguing that the French nuclear deterrent was a way to safeguard European interests. In April 2024, during a speech on the future of European security at Sorbonne University, Macron once again emphasised the need to debate nuclear weapons in Europe, to improve the continent's missile defences, to acquire more long-range strike capabilities, and vowed that France would do more for Europe's defence.

However, despite presenting a clear vision of a Europe capable of ensuring its own nuclear deterrence, Macron's statements lacked detail regarding the practical implementation – and even the feasibility – of such a proposal, as well as its potential implications for the European security landscape.

Moreover, repeatedly putting forward the idea of a strategic dialogue – without securing meaningful engagement from European partners, who remain largely reluctant to engage on nuclear issues – risks sending the opposite signal from what is intended. From Russia's perspective, this lack of response or expressed interest could be interpreted as confirmation that Europeans are fundamentally unprepared to adopt a collective nuclear deterrence posture aimed at Moscow. In other words, it may reveal the existence of a self-imposed red line among most European countries – one they are unwilling to cross, even in the face of growing strategic threats.

Policy recommendations

In light of the persistent reluctance among European states to engage in meaningful dialogue on nuclear deterrence – and the growing uncertainty surrounding US commitments –, the time has clearly come for targeted and pragmatic steps to preserve and enhance European security.

For the European Union:

1. **Promoting informal strategic dialogue within the EU framework:** Given the diversity of positions among EU Member States – including strong support for the Treaty on the Prohibition of Nuclear Weapons (TPNW) from countries like Ireland and Austria –, the creation of a formal EU-level forum on nuclear deterrence may prove politically unfeasible. However, the European External Action Service (EEAS) could still encourage more informal, expert-level dialogue on strategic threats and deterrence-related issues, helping to build a shared understanding of the evolving security environment while respecting national sensitivities.
2. **Strengthening the EU's conventional deterrence toolkit:** The European Union should continue investing in advanced conventional capabilities that contribute to credible deterrence and strategic autonomy. Joint initiatives in early-warning systems, missile defence and long-range precision-strike technologies are key non-nuclear enablers that enhance Europe's ability to respond to high-end threats. These developments also align with long-standing expectations from transatlantic partners for greater European responsibility in defence.
3. **Clarifying mutual defence commitments under EU law:** The EU should work towards clarifying the operational and legal scope of Article 42.7 of the Lisbon Treaty, particularly in the context of nuclear threats or strategic coercion. Reducing ambiguity around the implementation of this mutual defence clause would foster trust among Member States, reinforce solidarity and support the emergence of a more coherent European strategic culture, even in the absence of a formal nuclear posture.

For NATO:

1. **Deepening European dialogue within NATO's existing nuclear framework:** Rather than creating new mechanisms, NATO should build upon existing structures – notably the Nuclear Planning Group (NPG) – to foster more inclusive and transparent European dialogue on nuclear strategy. While France exercises its sovereign choice to remain outside the NPG, the Alliance remains open to deeper engagement from all nuclear-capable European allies. Ensuring that diverse European perspectives are heard within established forums can help reinforce cohesion without altering national prerogatives.
2. **Prioritising conventional reinforcement to reduce future dependencies:** Strengthening NATO's conventional deterrence – through enhanced mobility, interoperability and resilience – should be a top priority. Doing so will not only address current capability gaps but also reduce the perceived need for contingency planning in the event of a diminished US nuclear presence. The burden of deterrence must be better shared, but this begins with credible European investment in conventional forces, as consistently emphasised by the United States.
3. **Preparing responsibly, without undermining Alliance unity:** While the focus should remain on bolstering conventional strength, NATO should responsibly consider long-term scenarios, including changes in the US nuclear posture. This includes exploring fair and adaptable burden-sharing models within the Alliance. However, such planning must not distract from the more immediate imperative: reinforcing the Alliance's conventional backbone to ensure the credibility of both nuclear and non-nuclear deterrence in an increasingly unstable strategic landscape.

For Belgium:

1. **Rebuilding credibility to regain a voice in deterrence debates:** As a host nation for US nuclear assets and a founding member of both the EU and NATO, Belgium is well-positioned to facilitate transatlantic and intra-European dialogue on deterrence, strategic stability and future defence architecture. However, such a role requires first and foremost a credible national posture. Recent – internationally acknowledged – policy

steps have signalled Belgium's willingness to move away from a passive stance and assume its share of responsibility, notably by investing in conventional capabilities and contributing actively to international stability. These efforts provide a foundation on which to build.

2. **Investing in operational enablers of deterrence:** Belgian defence authorities should intensify investments in key enablers of deterrence missions, such as secure communications, command and control systems, infrastructure resilience and force protection. These efforts should anticipate doctrinal and technological evolutions within NATO's deterrence framework while addressing Belgium's own internal challenges – including capacity development, infrastructure upgrades, personnel readiness, as well as physical and cyber protection –, as outlined in the six critical areas identified in the national reflection.
3. **Supporting national expertise to inform strategic action:** Belgium should enhance support for academic and strategic research in the fields of nuclear deterrence and European defence integration. Developing a national capacity for strategic leadership – including through partnerships with universities and research institutions – is essential for informed decision-making. This will not only help consolidate Belgium's voice in multilateral forums but also reinforce its role as a credible hub for policy innovation at the intersection of European sovereignty and transatlantic security. However, such positioning will only be effective if it is underpinned by sustained national investment and political commitment.

These steps will not resolve all contradictions or overcome all reluctance. But they can set in motion a more realistic, inclusive and forward-looking conversation on Europe's long-term strategic responsibility.

French Nuclear Shield: Between Sovereignty and Strategic Dialogue

In an era marked by the erosion of US security guarantees and rising geopolitical tensions, French President Emmanuel Macron has revived the idea of a strategic dialogue on Europe's nuclear future. His proposal to extend the role of France's nuclear deterrent beyond national borders is presented as a response to the need for greater European strategic autonomy. Yet behind this renewed ambition lies a complex web of obstacles: limited arsenal size, doctrinal constraints, fiscal pressures and the enduring reluctance of many European partners to engage seriously with nuclear questions. This article explores the tension between France's nuclear vision and the political and logistical realities that continue to hinder the emergence of a truly European deterrent.

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