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CAN FRANCE SHARE ITS NUCLEAR ARSENAL WITH EUROPEAN NEIGHBORS ?

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**LES PROPOS TENUS ICI N'ENGAGENT QUE LEURS AUTEURS.
BARA NE VEUT EN AUCUN CAS CORROBORER OU INFIRMER LES PROPOS DE CES DERNIERS.**

Table of contents :

Brief overview of French nuclear arsenal and doctrine evolution (1945-present)	4
Nuclear doctrine of main European powers : can they match France ?	7
Germany : a non-nuclear state ?	7
Great Britain, or the special relationship with the U.S.	9
Poland, or the frontline model ally	10
The deployment of the French nuclear umbrella : what practical implications ?	12
Conclusion	14
References	15
Primary sources	15
Books	15
Research articles	16
News articles	17
Online resources	18

Summary :

For decades, France pushed for a more affirmative stance on European defense. As the global landscape is shifting, this call is getting more traction amongst European leaders. But is France really capable of extending its nuclear arsenal to European neighbors ?

On March 5th, 2025, current French President Emmanuel Macron stated during a live broadcast on his social media channel that “[He] decided to open the strategic debate on the protection by our deterrence of our allies on the European continent”. While these words might surprise a number of European citizens and leaders, the French will to increase Europe’s strategic role has been a constant for decades. But European partners generally turned a blind eye to these claims, stating that France was aiming to threaten the relationship between Europe and the United States. However, the Russian invasion of Ukraine in February 2022 coupled with the hinted disengagement of the Trump administration in Europe has changed the perspective of European leaders on defense matters, so much so that the French suggestion of extending its nuclear umbrella to its European partners does not seem so farfetched now. Russia, being a nuclear power, likes to remind its status by frequently stating it would not back down from using tactical nuclear weapons (CNN, 2024). But is this proposal grounded in a realistic assessment of French nuclear capacity ? Can France really protect its European partners under its nuclear umbrella, as it claims it can ? Are European partners willing to delegate their deterrence to an entity over which they have no control ?

This essay argues that although the French nuclear arsenal is big enough to assure the integrity of French territory, it is not yet capable of expanding to protect the entire European continent. However, credible leads should be explored as of now by French and European leaders to expand France’s ability to protect its European partners.

The literature about nuclear deterrence is plentiful and mainly focuses on the Cold War period. Concepts like mutually assured destruction, first and second-strike capability and arms control were born from the pen of western international relations scholars during that time. Furthermore, the current strategic context of Europe and the insistence of Macron to put French nuclear capabilities at the center of European strategic reinforcement forced international relations scholars and nuclear deterrence experts to take President Macron's claims seriously and produce books and articles analyzing the feasibility of his claims. This made research quite smooth, as many sources were available on the topic. Moreover, other primary resources like white papers and memos are available online for free, allowing for a historical comparative analysis. Despite the abundance of research on the topic, it is important to highlight that most of

it was produced by western researchers, showing that the topic of French nuclear deterrence is not central enough (or taken seriously ?) in other parts of the world.

Despite the literature being plentiful, it runs into some limitations. First, most data related to nuclear arsenals and nuclear doctrine are sensitive and not disclosed by states. This makes it difficult to accurately assess countries' arsenals and nuclear doctrines. Moreover, the full analysis and comprehension regarding this topic requires a multidisciplinary approach of international relations, political science, strategic studies, international and European law and ethics. Integrating elements from these fields into one essay can be complex, and requires a broad range of knowledge, experience and expertise, which are difficult to master.

To assess these issues, we must first analyze how the French nuclear doctrine and arsenal evolved since 1945. Subsequently, after analyzing the stance of other main European partners on nuclear proliferation, this essay will try to explore ways for France to deploy its arsenal with the collaboration of other European partners to ensure Europe cannot be threatened by a nuclear power again.

Brief overview of French nuclear arsenal and doctrine evolution (1945-present)

After World War II, France had just lost its status as a colonial empire, therefore losing its world stature (*grandeur*). To get part of this stature back, General Charles de Gaulle, who returned to power in 1958, made it his first foreign policy priority to acquire nuclear weapons (Młynarski 2024). According to Proliferation Strategy Theory, France should have stayed an insurance hedger and remain under the American nuclear umbrella (Narang 2022: 143). In 1945, France was considerably further away from the bomb than were Great Britain or the Soviet Union, as the occupation of its territory by Nazi Germany halted research. During the first years after the ending of the war, France accepted to keep its nuclear program purely peaceful and integrate the European Defense Community if Germany was kept in check and the U.S. accepted to extend their deterrence to Europe (ibid: 146). But in the mid-1950s, France started to become uneasy with the European security architecture. The main reason why France decided to pursue

nuclear weapons and contradict Proliferation Strategy Theory is that it felt abandoned by its American ally during the post-war period, mainly in Indochina (1954) and during the Suez crisis (1956). This convinced Paris that Washington would never wage a war, let alone a nuclear war, on France's behalf. As a result, relying on American security guarantees risked French security, and that its best option was to develop an independent nuclear deterrent. Although Washington felt uneasy about France acquiring nuclear weapons, it could do little to stop a determined France from nuclearizing (ibid: 158).

De Gaulle believes that a great power should not only possess nuclear weapons, but freely decide how to use them. This meant that France would not rely on any ally (*de facto* the U.S.) to assure its survival. This aligned perfectly with De Gaulle's spirit of non-alignment with the United States. This portrayed the French will to become a key power on the global stage and a leading power in Western Europe. De Gaulle followed through with this promise, creating the Committee for the Military Applications of Atomic Energy (*Comité des applications militaires de l'énergie atomique*) within the Ministry of Defense on October 26th, 1956 (ibid). Only four years later, the first French nuclear weapons titled *Gerboise Bleue* was detonated, unleashing the equivalent of 70 kilotons of TNT, approximately four times the power of the bomb detonated above Hiroshima ten years prior. This nuclear test, conducted in Algeria before it gained independence, left a permanent trace of French imperialism in Algeria in the form of radioactive contamination, environmental degradation and human suffering (IRG, 2025). After getting confirmation the weapons were operational, France moved its testing facilities to the Mururoa Atoll in French Polynesia. Nuclear weapons were so central to the French defense doctrine at the time that they accounted for more than half of France's defense budget (Młynarski 2024). Since then, France has never stopped reinforcing and modernizing its arsenal. As of today, France's nuclear arsenal is divided between two components : airborne and maritime. France used to have a ground component until 1998, but it decided to dismantle it in an effort to encourage the non-proliferation of nuclear weapons (France Diplomacy). Furthermore, France claims to have reduced its arsenal by half in under ten years, by cutting their fighter squadrons from three to two and nuclear-powered ballistic missile submarines from six to four (ibid). This leaves France with its nuclear weapons divided between the air and sea components. First, the Strategic Air Force (*forces aériennes stratégiques*) consists of two Rafale squadrons (~40 aircraft) coupled with the

Charles de Gaulle nuclear-powered aircraft carrier (Maitre 2025). These planes can carry improved air-to-ground medium-range cruise missiles, allowing for the power of about twenty “Little Boy” bombs to be deployed on a distance of about five hundred kilometers. These planes can be embarked on the plane carrier for further deployment. Second, the Strategic Ocean Force (*force océanique stratégique*) is composed of four nuclear-powered submarines taken into service between 1997 and 2010, each equipped with sixteen M51 missiles, capable of striking at a 9.000km distance (Młynarski 2024). Despite this well-established arsenal, the nuclear area has not ceased to receive constant funding. For example, a third generation of nuclear-powered submarines has been in the works since 2010 and is supposed to replace the second-generation submarines in 2035 (Naval Group 2024). In addition, a new generation nuclear-powered airplane carrier (*porte-avion nouvelle génération*) has been planned to replace the Charles de Gaulle carrier in 2035, with construction starting in 2026 (French Ministry of Defense, 2024).

Since General de Gaulle, French nuclear doctrine has been able to both keep key elements from his vision and add new elements as the international context evolved. French nuclear doctrine has been said to reach its maturity in the 1990s under Mitterrand’s presidency. Key elements like the “protection of exclusively vital national interests”, the “possibility of a nuclear warning” or “the ability to inflict unacceptable damage on an adversary on its territory under all circumstances” are all still part of the French nuclear doctrine today. As defined in the latest French White Paper published in 2013, nuclear weapons only serve a defensive purpose (Ministry of Defense, 2013: 75). Moreover, France willingly defines its vital interests in a vague way, allowing for an easy interpretation according to the current international context. The idea behind this policy is to give the President, i.e. the only authority authorized to launch nuclear weapons, the widest range of options when considering the use of nuclear weapons. This has allowed French Presidents to hint a will to extend “French vital interests” beyond the French sovereign territory, as former French President François Hollande did during a speech about nuclear deterrence back in 2015 : “France also has, with its European partners, a de facto and heart solidarity. Who could therefore believe that an attack, which would jeopardize the survival of Europe, would have no consequences ?” (Lozier 2023). In order to give the President the maximum amount of options when discussing the use of nuclear weapons, France has not participated in any binding nuclear strategic organization like the NATO Nuclear Planning

Group, and does not plan to do so in the future. Despite that, it has been a party to numerous treaties on nuclear proliferation like the Non-Proliferation Treaty since 1991 (although it was complying with the provisions since 1968), the Comprehensive Nuclear-Test-ban Treaty (1996) and the South Pacific Nuclear-Free Zone Treaty (1996).

While the French arsenal has decreased over the decades, French doctrine remains stable : the French nuclear weapons only serve a defensive purpose to defend whatever the French president defines as “French vital interests”. But can this uncompromising doctrine be accepted by France’s European partners ? If so, to what extent ?

Nuclear doctrine of main European powers : can they match France ?

While it is of course important to understand the roots and development of the French nuclear doctrine, in order to share its arsenal to European partners, said partners must also fall in line with Paris’ position on the matter. But is that already the case ? How did major European powers like Germany, Poland and Great Britain behave throughout decades regarding nuclear weapons, and have they recently changed course ? The analysis hereunder of three major European powers will bring light to the eventual deployment of French nuclear weapons in Europe.

Germany : a non-nuclear state ?

We often forget that the main nuclear talking point in Cold War Europe was not France, but West Germany. Due to its geographic proximity with Eastern Bloc members, Western Germany played a strategic role in strategic discussions regarding the opposition between the United States and the Soviet Union. Why then did it not pursue an independent nuclear weapon arsenal, to the likes of France and Great Britain ? After World War II, the strategic alliance between the Allies quickly disbanded as trust started to erode, as highlighted in 1948 by events such as the Czechoslovakian coup, the discussion surrounding the Brussels defense pact and the

Berlin blockade. This meant that Germany was not a defeated enemy anymore, but became “[...] one of the prizes to be won”. (MacArdle Kellher 1975: 13). Until 1954, all matters related to atomic matters were strictly controlled by the Allied High Commission, allowing for strict civilian use of nuclear power (ibid). But Western Germany was under enormous amounts of pressure. On one side, European allies (most notably the French) feared that any future industrial development of atomic energy would provide additional inputs for potential economic superiority, in turn allowing uncontrolled versions for military ambitions. On the other, a growing number of Germans demanded to be free from all control and discrimination based on their past. During the 1950s, Chancellor Adenauer was terrified of a potential military retreat of the United States of Europe and Germany, as it clearly stated in the so-called Radford proposal by the Joint Chiefs of Staff (National Security Archive). This amounted to Adenauer clearly stating to John F. Dulles that “Germany [...] has lost its confidence in the United States’ reliability.” (Narang 2021: 90). In this same letter, Adenauer hinted that he would be ready to pursue a national development of nuclear weapons if the United States didn’t divert from their “New Look” policy regarding Germany. This intense pressure led the United States to include Bonn in the NATO Nuclear Planning Group in 1954, which in return stated that “The Federal Republic undertakes not to manufacture in its territory any atomic weapons [...]” (MacArdle Kellher 1975, 11). To satisfy German demands, the United States carved out special provisions for Germany to give it a unique nuclear-sharing agreement. For example, non-nuclear states (including West Germany) were allowed to host American nuclear weapons and to participate in dual-key control procedures, making them, if needed, nuclear powers overnight (ibid, 94). Even today, according to some experts, Germany would be able to develop nuclear weapons very rapidly if needed (Mackby and Slocombe in Narang 2021: 96). But recent developments in international affairs, notably the Ukraine war, changed Germany’s security considerations.

In recent weeks, the newly elected Chancellor Friedrich Merz openly stated he wanted to “[...] strengthen Europe as quickly as possible so that, step by step, we can really achieve independence from the U.S.A.” (Zakaria, 2025). This is a major policy shift compared to previous Chancellors like Merkel and Scholz, who consistently ignored French demands to engage in a strategic dialogue. This new dynamic in the French German relationship brings hope for the potential europeanization of nuclear weapons.

Great Britain, or the special relationship with the U.S.

The British engaged very early in the nuclear arms race, as British scientists were a key part of the Manhattan project during World War II. Despite that, Great Britain was not a nuclear power when the war ended, and was even cut off from scientific collaboration on the matter by the McMahon Act of 1946 (Baylis 1995). This stirred up debates in the British leadership, but it finally came to the conclusion that *a)* it could not leave the U.S. be the only nuclear power and *b)* that the British nuclear program should remain secret (ibid: 54). From this moment on, and taking advantage of their previous knowledge on nuclear weapons, British scientists raced to produce a working bomb in the following years. The first successful British nuclear test was conducted on October 3rd, 1952, off the coast of Western Australia. Britain continued to research and developed weapons on its own, until it signed a Mutual Defense Agreement with the U.S. in 1958, resuming collaboration on nuclear matters. This allowed for the exchange of information, materials and technology. But instead of balanced bilateral cooperation, the U.K. rapidly became dependent on the United States for its nuclear weapons, as it lacked the resources to produce and design them. Furthermore, as part of the British strategic thinking, the entire nuclear deterrent is maritime based. The U.K. currently relies on four nuclear-powered *Vanguard*-class submarines, put into service between 1994 and 2001 (SIPRI 2024). This allows Britain to have one nuclear-powered submarine patrolling the oceans at all times, therefore creating a continuous-at-sea-deterrence (CASD). Today, it is estimated that the U.K. possesses a total of 225 warheads, with 120 of them ready to be deployed (ibid: 307). But this strategy has proven to be very costly. For example, the British government invested in a complete refit of one of its submarines, HMS Vanguard. While initially planned to cost about £200 million in 2015, it turned out to go well over £500 million in 2021. Moreover, this refit took 89 months, which is six months longer than it took to build the submarine from scratch (ibid : 304). This long refit for the Vanguard meant that the other three submarines were put under substantive pressure to assure CASD, meaning patrols extended from an original duration of 60 to 70 days to 150-200 days, putting the crews and deterrence of Britain at a greater risk (ibid, 305).

Compared to France, Great Britain has a more aggressive nuclear policy. In its 2025 Strategic Review, it states that “Any future crisis or conflict in which the U.K. is engaged may

include nuclear-armed or nuclear-aspiring states willing to use nuclear threats to compel U.K. and allied decision-making” (Strategic Defense Review 2025: 98). This wording goes beyond the simple French defensive posture. Furthermore, Great Britain is part of the NATO Nuclear Planning Group, making it integrated into a whole different chain of command. This puts the defense of NATO allies in Britain’s “vital interests” in a much more defined way than France. This doctrine brings less hope to a shared deterrence capability, as Great Britain is *a)* very dependent on the United States to manufacture and deploy its weapons and *b)* has a small sized arsenal and no plans to expand it in the future. This does not mean Great Britain should be excluded from any Europeans strategic talks, but the lack of an air component and its dependence on another country for production and deployment makes it a less relevant option.

Poland, or the frontline model ally

During a speech in March 2025, current Polish Prime Minister Donald Tusk stated that “A profound change in American geopolitics [had put Poland in an] objectively more difficult situation[...]”, implying Poland should “[...] reach for opportunities related to nuclear weapons [...]”. (New York Times, 2025). This speech, like other partners, highlights how Poland has shifted its position regarding nuclear weapons. Poland might not be a nuclear power like France or Great Britain or have access to nuclear technology and weapons like Germany. But it has had a growing importance in the recent strategic developments of Europe, occupying a central position while discussing the war in Ukraine for example. As a key NATO member, it carries great weight during these discussions alongside France, Germany and Great Britain.

While still a member of the Soviet Union, Poland had nuclear weapons stockpiled on its territory in the context of the Warsaw Pact. But the final detonation order was still detained by Moscow, despite the Polish population taking most of the risks. As the Soviet Union collapsed in 1991, Poland quickly joined NATO along with the Czech Republic and Hungary in 1999. This was mainly done because Poland has a historical fear that Russia will try to keep it in its sphere of influence no matter what. Since then, Poland has shown exemplary behavior, actively contributing to NATO policy and financially wise. Thanks to NATO, soldiers of the Polish armed forces have been able to participate in many stabilization missions, like in Kosovo for

example (Zygula 2024: 513). Poland was also the host of the 2016 NATO Leader's Meeting, marking a new chapter in NATO's military adaptation to the changing security environment. (ibid). Furthermore, Poland has been one of the only NATO members to match the spending cap of 2% of GDP, even going above to reach 4% of GDP in 2024 (Oleksiejuk 2025). Finally, Poland is home to the biggest American military presence in Europe with 10.000 troops currently stationed (Polish Ministry of National Defense).

More recently, Polish leadership has shown signs of wanting to play a greater role in the discussion about the Europeanization of nuclear weapons. First, it calls for the U.S. to move nuclear warheads to Polish territory as a way to deter Russia to further its offensive in the case it successfully invaded the rest of Ukraine (Reuters 2025). Second, it calls for France to rapidly extend its nuclear umbrella to European partners to make sure Ukraine will be the only European territory invaded by Russia (New York Times 2025 2). It is interesting to note that these calls have been made both by the Polish Prime Minister Donald Tusk and by the President Andrzej Duda, who are of opposite political formations, showing the security of Poland is a trans partisan issue.

All in all, the stance on nuclear weapons of these three main European powers depicts the strategic environment which France has to currently navigate. Although it has not been listened to during the last decades as European partners were scared to jeopardize their relationship with the United States, this changed both with the Russian aggression in Ukraine in 2022 and the accession to power of Donald Trump in 2025. This made the French proposal more audible and relevant, as countries slowly changed their stance on nuclear weapons. As we have seen, France has the will (and thinks it has the capacity) to extend its nuclear umbrella to European partners, while said partners are undergoing major nuclear doctrine transformations in order to make this extension possible. But if this extension of the French nuclear umbrella was ever to take place, under what form ? And financed by who, with what ? The following paragraphs will try to introduce some ways European partners can work together in order to achieve such a thing, or what limitations they might run into.

The deployment of the French nuclear umbrella : what practical implications ?

As the will for France to deploy its nuclear arsenal to its European partners grows stronger, a number of possibilities are possible. But in spite of everything, European partners will run into some structural limitations.

Ultimately, the most important aspect of France sharing its nuclear arsenal is not the presence of nuclear weapons on the territory of European allies but rather the ability (or not) of said allies to influence the decision-making process of triggering the bomb. In that case, France has repeatedly made the argument that it would maintain the last word over nuclear detonation of its weapons, no matter if on French soil or not (French White Paper, 2013: 75). This being said, an argument can be made that France, even if not sharing its capacity to detonate nuclear weapons to even the closest European ally, would accept sharing information and technology through a multilateral partnership. Of course, this sounds a lot like what NATO is already doing with the Nuclear Planning Group, to the difference where in this case, the United States would not be involved, and France would be in the center of the European defense architecture. Within this imaginary consultative body, both France and the U.K. could act as information goldmines for European partners seeking to develop knowledge in the nuclear domain. This security architecture perfectly aligns with France's and the U.K.'s security assessment that a threat to European security rhymes with a threat to their respective security interests. But as stated above, the U.K. will inevitably play a minor role, and that for many reasons. First, it only possesses a maritime component of nuclear deterrence, compared to the added air component of France through its two Rafal squadrons. Second, Great Britain, although having an official stockpile of 120 warheads ready to be used, it relies too much on the special relationship it entertains with the United States to design, produce and deploy its weapons, asking questions about its real deterrence capabilities. Finally, France already has launched many modernization programs for its nuclear arsenal and launching platforms, as mentioned above, while the U.K. struggles with expensive replacement programs for aging submarines. But if France is the only European nuclear power able to extend its nuclear umbrella, it should not bear the weight of European security alone.

The steps towards the acquisition of nuclear weapons are very slow and expensive, especially for countries who betted on early acquisition like the United States, the Soviet Union and France. While France could technically protect its European partners from weapons launched from its sovereign territory, better deterrence would be accomplished by deployed weapons on allied territory. But this very cost-heavy solution would require European partners to share the eventual burden with France. One could imagine a contribution based on economy size, population and exposure to threats, as all European countries are not exposed the same way to current threats. These funds would pay for infrastructure, maintenance, command and logistical costs. This would also imply for France to send and keep highly trained troops in other countries, which is a sacrifice it might not be able to make yet. Another financial solution would be an *à la carte* one, where partners specifically chose what type of nuclear support they want (knowledge on civil nuclear development, being taken into account in French vital interests, deployment of missiles on their soil, and so on). This could allow for a more flexible way to fund the French deployment of nuclear weapons, as European partners are currently under important economic pressure following the COVID-19 crisis and the Ukraine war. But although these solutions could be applied in the short- and long term, they run into some limitations.

One main drawback of the deployment of French nuclear weapons in Europe is that the French arsenal is currently too small to be deployed on such a large scale. The approximately 300 warhead stockpile pales in comparison to the one of the United States of about 5.100 (SIPRI 2024). If France was ever to replace or complement the United States in assuring European nuclear deterrence, it would have to considerably augment its stockpile. This proves challenging for two reasons. First, France dismantled all of its uranium enrichment facilities in the 1990s as an effort to comply with non-proliferation. Second, it would again create a very important financial burden in order to build the additional warheads and delivery systems. As it is difficult to accurately calculate how much it would cost, a single look at the development of new U.S. nuclear weapons makes it clear that France, in its current economic situation, would not be able to handle such dramatic expenditures, even if shared with other countries (CARNP 2024).

These few solutions could allow for a transfer of French and British nuclear knowledge, information and technology to allied partners in Europe. Although some important drawbacks should be taken into account, these credible leads should be explored by European leaders.

Conclusion

All in all, France should be relieved its call for a European strategic dialogue has finally been heard. Now, it needs to use this momentum wisely to step up for Europe's defense in a way that would be acceptable for European partners. France should be careful not to fall into a hubris-ridden project, where it would claim to be able to do more than it actually can. Since the Napoleonic era, France has considered itself a major power, although suffering crushing defeats in both world wars. Nuclear weapons were (and still are) a way for France to get some of its *grandeur* back. But this should not let France think it can boss its way around European partners solely because it possesses nuclear weapons and they do not. Naturally, Germans and other Europeans now looking to France or the U.K. for nuclear protection must consider how politically stable and dependable these nuclear powers truly are. It's a legitimate concern. In the U.K., for example, Nigel Farage and his far-right Reform U.K. party are gaining ground. Meanwhile, France could soon elect a president from the far-right or far-left—parties that may be opposed to sharing France's nuclear deterrent. Still, the alternatives are limited. The only real option for Germany aside from relying on a European nuclear umbrella would be to develop its own nuclear weapons—a path that, at present, would be politically explosive, financially burdensome, and time-consuming. It's simply not a practical or cost-effective solution. However, Germany should still hedge against future uncertainty by preserving nuclear latency—maintaining the technical and industrial capacity to develop nuclear weapons if no other option remains. This means reinvesting in civilian nuclear research, a move that makes strategic sense beyond defense: in an era of energy-hungry artificial intelligence and the urgent need to move away from fossil fuels, advancing nuclear technology is vital. As a global economic leader, Germany cannot afford to fall behind in the field of civilian nuclear innovation. Today, more than ever, France needs to step up to its status and become a central actor in the birth of a strategic Europe.

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